# COMMONWEALTH OF MASSACHUSETTS

SUFFOLK, ss.

SUPERIOR COURT DEPARTMENT OF THE TRIAL COURT CIVIL ACTION NO. 16-1888F

IN RE CIVIL INVESTIGATIVE DEMAND NO. 2016-EPD-36, ISSUED BY THE OFFICE OF THE ATTORNEY GENERAL

# SUPPLEMENTAL APPENDIX IN SUPPORT OF PETITIONER'S CONSOLIDATED MEMORANDUM IN FURTHER SUPPORT OF ITS EMERGENCY MOTION AND IN OPPOSITION TO RESPONDENT'S MOTION TO COMPEL COMPLIANCE WITH THE CIVIL INVESTIGATIVE DEMAND

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Counsel for Exxon Mobil Corporation

Exhibit	Description	Page(s)
N/A	Affidavit of Laura Bustard, dated August 31, 2016	N/A
N/A	Affidavit of Geoffrey Grant Doescher, dated August 31, 2016	N/A
N/A	Affidavit of Justin Anderson, dated September 6, 2016	N/A
EE	Letter from W.L. Ferrall to Dr. H.L. Hirsh (Oct. 16, 1979)	Supp. App. 001 - Supp. App. 027
FF	Memorandum from Roger W. Cohen to W. Glass (Aug. 18, 1981)	Supp. App. 028 - Supp. App. 032
GG	Letter from Roger W. Cohen to A.M. Natkin (Sept. 2, 1982)	Supp. App. 033 - Supp. App. 037
HH	Memorandum from M.B. Glaser, Manager, Environmental Affairs Programs, Exxon Research and Engineering Co. (Nov. 12, 1982)	Supp. App. 038 - Supp. App. 084
п	Henry Shaw, CO2 Greenhouse and Climate Issues (Mar. 28, 1984)	Supp. App. 085 - Supp. App. 099
IJ	E-mail from Joe Walker to an e-mail group identified as "Global Climate Science Team" (undated)	Supp. App. 100 - Supp. App. 109
KK	E-mail from Michael Meade of the Office of the New York Attorney General (Mar. 22, 2016, 4:51 PM)	Supp. App. 110 - Supp. App. 113
LL	Climate Change Coalition Common Interest Agreement	Supp. App. 114 - Supp. App. 133
MM	14 U.S. Sec. Law for Financial Trans. § 4:26 (2d ed.)	Supp. App. 134 - Supp. App. 136
NN	Letter from Juliana deHaan Rice, Deputy Chief, Government Bureau, Office of the Attorney General of the Commonwealth of Massachusetts, to Stephen Babbitt (Sept. 2, 2015)	Supp. App. 137 - Supp. App. 140
00	Stephen Seidel & Dale Keyes, U.S. Environmental Protection Agency, Can We Delay A Greenhouse Warming (1983)	Supp. App. 141 - Supp. App. 155
PP	Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act, EPA, https://www3.epa.gov/climatechange/endangerment (last visited Aug. 31, 2016)	Supp. App. 156 - Supp. App. 160

<u>Exhibit</u>	Description	Page(s)
QQ	Exxon Mobil Corp., Financial & Operating Review (2015)	Supp. App. 161 – Supp. App. 170
RR	Exxon Mobil Corp., Energy & Carbon – Managing the Risks (2014)	Supp. App. 171 – Supp. App. 201
SS	Statoil, Sustainability Report (2015)	Supp. App. 202 – Supp. App. 219
TT	Public letter by J.J. Traynor, Executive Vice President, Investor Relations, Royal Dutch Shell plc (May 16, 2014)	Supp. App. 220 – Supp. App. 240
UU	Intergovernmental Panel on Climate Change, Assessment Reports, <i>available at</i> https://www.ipcc.ch/publications_and_data/publications_and_data_reports.shtml (last visited Aug. 30, 2016)	Supp. App. 241 – Supp. App. 244
vv	U.S. Global Change Research Program, Previous Assessments, available at http://www.globalchange.gov/what-we-do/assessment/ previous-assessments (last visited Aug. 30, 2016)	Supp. App. 245 – Supp. App. 249
WW	U.S. Global Change Research Program, Assess the U.S. Climate, <i>available at</i> http://www.globalchange.gov/what-we-do/assessment (last visited Aug. 30, 2016)	Supp. App. 250 – Supp. App. 254
XX	The Attorney General of Massachusetts, AGO's Exxon Investigation, <i>available at</i> http://www.mass.gov/ago/bureaus/eeb/the-environmental -protection-division/exxon-investigation.html (last visited Aug. 29, 2016)	Supp. App. 255 – Supp. App. 258
YY	National Research Council, Changing Climate: Report of the Carbon Dioxide Assessment Committee (1983)	Supp. App. 259 – Supp. App. 277
ZZ	12 Blue Sky Law § 6:48	Supp. App. 278 – Supp. App. 283
AAA	Scott M. Matheson, Jr., <i>The Prosecutor, the Press, and Free Speech</i> , 58 Fordham L. Rev. 865 (1990)	Supp. App. 284 – Supp. App. 347

# COMMONWEALTH OF MASSACHUSETTS

SUFFOLK, ss. DEPARTMENT

# SUPERIOR COURT

# OF THE TRIAL COURT CIVIL ACTION NO. 16-1888F

IN RE CIVIL INVESTIGATIVE DEMAND NO. 2016-EPD-36, ISSUED BY THE OFFICE OF THE ATTORNEY GENERAL

# AFFIDAVIT OF LAURA BUSTARD

I, Laura Bustard, hereby depose and state under oath:

I am the Americas Communications Manager, Lubricants,
ExxonMobil Fuels, Lubricants & Specialties Marketing Company at Exxon Mobil
Corporation, I have held this position since 2010.

2. I submit this affidavit in support of Exxon Mobil Corporation's Consolidated Memorandum in Further Support of its Emergency Motion and in Opposition to Respondent's Motion to Compel. My statements in this affidavit are based on personal knowledge that I have obtained in my capacity as an employee of ExxonMobil<sup>1</sup>, from internal inquiries I made at ExxonMobil, from inquiries I made of ExxonMobil's advertising agents at BBDO Worldwide and Universal McCann Worldwide, and from an examination of ExxonMobil's records.

<sup>&</sup>lt;sup>1</sup> As used in this document, "ExxonMobil" refers to Exxon Mobil Corporation and/or one or more of its affiliated companies.

3. Between 2011 and June 15, 2016, ExxonMobil has run only the following Massachusetts-specific advertisements in the Commonwealth of

Massachusetts:

- Radio advertisements for Mobil Super passenger vehicle lubricants in 2011.
- b. Print advertisements for Mobil Super motor oil in the Boston Globe in 2014.
- Print advertisements for Mobil 1 passenger vehicle lubricants in the Lowell Sun in 2015.

Signed under the penalties of perjury, this <u>31</u> th day of August, 2016.

-

Laura Bustard

#### COMMONWEALTH OF MASSACHUSETTS

SUFFOLK, ss. DEPARTMENT

#### SUPERIOR COURT

OF THE TRIAL COURT CIVIL ACTION NO. 16-1888F

IN RE CIVIL INVESTIGATIVE DEMAND NO. 2016-EPD-36, ISSUED BY THE OFFICE OF THE ATTORNEY GENERAL

# AFFIDAVIT OF GEOFFREY GRANT DOESCHER

I, Geoffrey Grant Doescher, hereby depose and state under oath:

1. I am the U.S. Branded Wholesale Manager, ExxonMobil Fuels, Lubricants and Specialties Marketing Company at Exxon Mobil Corporation. I have held

this position since 2013.

2. I submit this affidavit in support of Exxon Mobil Corporation's Consolidated Memorandum in Further Support of its Emergency Motion and in Opposition to Respondent's Motion to Compel. My statements in this affidavit are based on personal knowledge that I have obtained in my capacity as an employee of

ExxonMobil,<sup>1</sup> from internal inquiries I made at ExxonMobil, and from an examination of ExxonMobil's records.

<sup>&</sup>lt;sup>1</sup> As used in this document, "ExxonMobil" refers to Exxon Mobil Corporation and/or one or more of its affiliated companies.

 Any service station or wholesaler in Massachusetts that sells fossil fuel derived products under an "Exxon" or "Mobil" banner is owned and operated independently pursuant to a Brand Fee Agreement ("BFA").

 ExxonMobil supplies routine service support to BFA holders, but it does not control the operations, staffing, sales, or marketing of BFA holders.

5. ExxonMobil provides brand guidelines to BFA-holders and reserves the right to review trademark usage for compliance, but it does not fund or control advertisements by BFA-holders.

6. ExxonMobil does not sell gasoline directly to branded service stations. The branded service stations purchase gasoline from wholesalers, who create ExxonMobil-branded gasoline by combining unbranded gasoline with ExxonMobilapproved additives obtained from a third party supplier, Afton Chemical Corporation.

7. Branded service stations participate in a quarterly quality monitoring program to ensure key gasoline and diesel qualities and a periodic mystery shopper program to ensure the quality of the customer experience. Signed under the penalties of perjury, this 31st day of August, 2016.

Geoffrey Grant Doescher

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I.

E

# COMMONWEALTH OF MASSACHUSETTS

SUFFOLK, ss.

SUPERIOR COURT DEPARTMENT OF THE TRIAL COURT CIVIL ACTION NO. 16-1888F

IN RE CIVIL INVESTIGATIVE DEMAND NO. 2016-EPD-36, ISSUED BY THE OFFICE OF THE ATTORNEY GENERAL

# AFFIDAVIT OF JUSTIN ANDERSON

I, Justin Anderson, hereby depose and state under oath:

I am a counsel with the law firm Paul, Weiss, Rifkind, Wharton & Garrison LLP.
I have held this position since October 2015. I am counsel of record for Exxon Mobil
Corporation ("ExxonMobil") in this matter

2. I submit this affidavit in support of ExxonMobil's Consolidated Memorandum in Further Support of Its Emergency Motion and in Opposition to Respondent's Motion to Compel Compliance with the Civil Investigative Demand. My statements in this affidavit are based on personal knowledge, which includes information obtained through conversations with others.

3. Attached to this affidavit as Exhibit EE is a copy of a letter from W.L. Ferrall to Dr. H.L. Hirsh, dated October 16, 1979. It was obtained from the appendix filed in support of the Commonwealth's Consolidated Memorandum Opposing Exxon's Motion to Set Aside or Modify the Civil Investigative Demand or For a Protective Order and Supporting the Commonwealth's Cross-Motion to Compel Exxon to Comply with the Civil Investigative Demand ("Opposition Appendix"). Attorney General Healey cites this document for the following proposition: "Exxon knew that 'should it be deemed necessary to maintain atmospheric  $CO_2$  levels to prevent significant climatic changes, dramatic changes in patterns of energy use would be required." Opp. 10.<sup>1</sup> In her discussion of this document, Attorney General Healey omits the following accompanying language:

a. "It must be realized that there is great uncertainty in the existing climatic models because of a poor understanding of the atmospheric/terrestrial/oceanic CO<sub>2</sub> balance.
Much more study and research in this area is required before major changes in energy type usage could be recommended." (Ex. EE at Supp. App. 2.)

b. "[T]he quantitative effect is very speculative because the data base supporting it is weak. The  $CO_2$  balance between the atmosphere, the biosphere and the oceans is very ill-defined. Also, the overall effect of increasing atmospheric  $CO_2$  concentration on the world environment is not well understood. Finally, the relative effect of other impacts on the earth's climate, such as solar activity, volcanic action, etc. may be as great as that of  $CO_2$ ." (Ex. EE at Supp. App. 4.)

c. "[P]redictions of the precise consequences of uncontrolled fossil fuel use cannot be made due to all of the uncertainties associated with the future energy demand and the global CO<sub>2</sub> balance." (Ex. EE at Supp. App. 4.)

d. "[I]t is not obvious whether these changes would be all bad or all good."
(Ex. EE at Supp. App. 2.)

e. "Too little is known at this time to recommend a major U.S. or worldwide change in energy type usage but it is very clear that immediate research is necessary to better

<sup>&</sup>lt;sup>1</sup> "Opp." refers to the Commonwealth's Consolidated Memorandum Opposing Exxon's Motion to Set Aside or Modify the Civil Investigative Demand or For a Protective Order and Supporting the Commonwealth's Cross-Motion to Compel Exxon to Comply with the Civil Investigative Demand, dated August 8, 2016; "Supp. App." refers to the supplemental appendix filed in support of ExxonMobil's Consolidated Memorandum in Further Support of Its Emergency Motion and In Opposition to Respondent's Motion to Compel Compliance with the Civil Investigative Demand.

model the atmosphere/terrestrial/oceanic  $CO_2$  balance. Only with a better understanding of the balance will we know if a problem truly exists." (Ex. EE at Supp. App. 5.)

4. Attached to this affidavit as Exhibit FF is a copy of a memorandum from Roger W. Cohen to W. Glass, dated August 18, 1981. It was obtained from the Commonwealth's Opposition Appendix. Attorney General Healey relies on this document for the proposition that "[o]ne Exxon scientist warned that it was 'distinctly possible' that the effects of climate change over time will 'indeed be catastrophic (at least for a substantial fraction of the earth's population)." Opp. 9. In her discussion of the document, Attorney General Healey omits the following language that undermines her assertion: "[O]ur best guess is that observable effects in the year 2030 are likely to be 'well short of catastrophic." (Ex. FF at Supp. App. 29.)

5. Attached to this affidavit as Exhibit GG is a copy of a letter from Roger W. Cohen to A.M. Natkin, dated September 2, 1982. It was obtained from the Commonwealth's Opposition Appendix. Attorney General Healey relies on this document for the following propositions:

a. "Exxon also understood in the early 1980s that doubling of atmospheric carbon dioxide would occur 'sometime in the latter half of the 21st century,' and that 'CO<sub>2</sub>-induced climate changes should be observable well before doubling." Opp. 9.

b. "Exxon's scientists agreed with the scientific consensus that 'a doubling of atmospheric CO<sub>2</sub> from its pre-industrial revolution value would result in an average global temperature rise of  $(3.0 \pm 1.5)$  [degrees Celsius]." Opp. 9.

c. "Exxon knew what that would mean for humanity and ecological systems:
'There is unanimous agreement in the scientific community that a temperature increase of this

magnitude would bring about significant changes in the earth's climate, including rainfall distribution and alterations in the biosphere." Opp. 9.

6. In her discussion of Exhibit GG, Attorney General Healey omits the following passages from the letter that undermine her characterization:

a. "It should be emphasized that the consensus prediction of global warming is not unanimous. Several scientists have taken positions that openly question the validity of the predictions of the models, and a few have proposed mechanisms which could mitigate a  $CO_2$ warming." (Ex. GG at Supp. App. 35.)

b. "The concerns surrounding the possible effects of increased  $CO_2$  have been based on the predictions of models which simulate the earth's climate. These models vary widely in the level of detail in which climate processes are treated and in the approximations used to describe the complexities of these processes. Consequently the quantitative predictions derived from the various models show considerable variation." (Ex. GG at Supp. App. 34.)

7. Attached to this affidavit as Exhibit HIH is a copy of a memorandum from M.B. Glaser, Manager, Environmental Affairs Programs, Exxon Research and Engineering Company, dated November 12, 1982, regarding the "CO<sub>2</sub> 'Greenhouse' Effect." Only an excerpt was contained in the Commonwealth's Opposition Appendix. The full document, which is attached here, was obtained from https://insideclimatenews.org/sites/default/files/documents/1982%20 Exxon%20Primer%20on%20CO2%20Greenhouse%20Effect.pdf. Attorney General Healey relies on this document for the following proposition: "Over three decades ago, Exxon understood that climate-driven risk to its businesses, recognizing in 1982, in a memorandum widely distributed to Exxon management, that '[m]itigation of the "greenhouse effect" would require major reductions in fossil fuel combustion." Opp. 3. In her discussion of the document,

Attorney General Healey omits following passages from the memorandum that undermine her characterization:

a. "There is currently no unambiguous scientific evidence that the earth is warming." (Ex. HH at Supp. App. 42.)

b. "Fossil fuel combustion and the clearing of virgin forests (deforestation) are believed to be the primary anthropogenic contributors although the relative contribution of each is uncertain." (Ex. HH at Supp. App. 42.)

c. "Considerable uncertainty also surrounds the possible impact on society of such a warming trend, should it occur." (Ex. HH at Supp. App. 42.)

d. "Making significant changes in energy consumption patterns now to deal with this potential problem amid all the scientific uncertainties would be premature in view of the severe impact such moves could have on the world's economies and societies." (Ex. HH at Supp. App. 43.)

e. "Key points needing better definition include the impact of fossil fuel combustion and the role of the oceans in the carbon cycle and the interactive effect of carbon dioxide and other trace atmospheric gases on climate." (Ex. HH at Supp. App. 74.)

f. "Given the long term nature of the potential problem and the uncertainties involved, it would appear that there is time for further study and monitoring before specific actions need be taken." (Ex. HH at Supp. App. 74.)

8. Attached to this affidavit as Exhibit II is a copy of a presentation by Henry Shaw titled  $CO_2$  Greenhouse and Climate Issues, dated March 28, 1984. It was obtained from the Commonwealth's Opposition Appendix. Attorney General Healey relies on this document for the following propositions:

a. "[I]n the early 1980s, Exxon's scientists were predicting significant increases in global temperature as a result of the combustion of fossil fuels, and that a two to three degree Celsius increase could lead to melting of polar ice, rising sea levels, 'redistribution of rainfall,' 'accelerated growth of pests and weeds,' 'detrimental health effects,' and 'population migration.'" Opp. 2.

b. "Over three decades ago, Exxon understood that climate-driven risk to its businesses, recognizing in . . . 1984, that '[w]e can either adapt our civilization to a warmer planet or avoid the problem by sharply curtailing the use of fossil fuels." Opp. 3.

9. In her discussion of Exhibit II, Attorney General Healey omits the following passages from the presentation that undermine her characterization:

a. "The time scale for such a catastrophe is measured in centuries." (Ex. II at
Supp. App. 99.)

b. "Our next task is to convert the amou[nt] of CO<sub>2</sub> emitted from fossil fuel oxidation into a projection of how it may impact on climate. This, however, requires a number of assumptions." (Ex. II at Supp. App. 98.)

c. "The general consensus is that society has sufficient time to technologically adapt to a CO<sub>2</sub> greenhouse effect. Our conclusion was recently reaffirmed by a number of studies which received wide press publicity. These studies include those of the EPA, NRC/NAS, and MIT/NSF." (Ex. II at Supp. App. 99.)

10. Attached to this affidavit as Exhibit JJ is a copy of an undated e-mail from Joe Walker to an e-mail group identified as "Global Climate Science Team," attaching a draft document titled "Global Climate Science Communications Action Plan." It was obtained from

the appendix filed in support of the Commonwealth's Opposition Appendix. Attorney General Healey cites this document for the following propositions:

a. "Despite its knowledge of the potentially 'catastrophic' impacts of climate change, Exxon appears to have engaged with other fossil fuel interests in a campaign from at least the 1990s onward to prevent government action to reduce greenhouse gas emissions." Opp. 11.

b. "In 1998, Exxon participated as a member of the 'Global Climate Science Communications Team, which engaged in a concerted effort to challenge the 'scientific underpinning of the global climate change theory' in the media, and which took the position, directly contrary to Exxon's internal knowledge at the time, that '[i]n fact, it [sic] not known for sure whether (a) climate change actually is occurring, or (b) if it is, whether humans really have any influence on it." Opp. 11.

c. "A draft plan prepared by that team noted that '[u]nless 'climate change' becomes a non-issue, meaning that the Kyoto proposal is defeated and there are no further initiatives to thwart the threat of climate change, there may be no moment when we can declare victory for our efforts." Opp. 11.

11. In her discussion of Exhibit JJ, Attorney General Healey omits the following explanatory language: "The advocates of global warming have been successful on the basis of skillfully misrepresenting the science and the extent of agreement on the science, while industry and its partners ceded the science and fought on the economic issues. Yet if we can show that science does not support the Kyoto treaty—which most true climate scientists believe to be the case—this puts the United States in a stronger moral position and frees it to negotiate from the need to make concessions as a defense against perceived selfish economic concerns.... The

climate change theory being advanced by the treaty supporters is based primarily on forecasting models with a very high degree of uncertainty." (Ex. JJ at Supp. App. 103-04.)

12. Attached to this affidavit as Exhibit KK is a copy of an e-mail sent by Michael Meade of the Office of the New York Attorney General, dated March 22, 2016. It was obtained from http://eelegal.org/wp-content/uploads/2016/04/Gore-is-adding-star-power-and-words-to-avoid.pdf.

 Attached to this affidavit as Exhibit LL is a copy of the Climate Change Coalition Common Interest Agreement. It was obtained from http://eelegal.org/wpcontent/uploads/2016/08/Climate-Change-CIA.pdf.

Attached to this affidavit as Exhibit MM is a copy of 14 U.S. Sec. Law for
Financial Trans. § 4:26 (2d ed.).

15. Attached to this affidavit as Exhibit NN is a copy of a letter from Juliana deHaan Rice, Deputy Chief, Government Bureau, Office of the Attorney General of the Commonwealth of Massachusetts, to Stephen Babbitt, dated September 2, 2015. It was obtained from http://www.mass.gov/ago/docs/government/2015-petitions/15-21-summary.pdf.

 Attached to this affidavit as Exhibit OO is an excerpt of Stephen Seidel & Dale Keyes, U.S. Environmental Protection Agency, *Can We Delay A Greenhouse Warming* (1983).
It was obtained from obtained from https://nepis.epa.gov/Exe/ZyNET.exe/9101HEAX.txt?Zy ActionD=ZyDocument&Client=EPA&Index=2011%20Thru%202015%7C1995%20Thru%2019 99%7C1981%20Thru%201985%7C2006%20Thru%202010%7C1991%20Thru%201994%7C19 76%20Thru%201980%7C2000%20Thru%202005%7C1986%20Thru%201990%7CPrior%20to %201976%7CHardcopy%20Publications&Docs=&Query=delay%20greenhouse%20warming% 20&Time=&EndTime=&SearchMethod=2&TocRestrict=n&Toc=&TocEntry=&QField=&QFiel dYear=&QFieldMonth=&QFieldDay=&UseQField=&IntQFieldOp=0&ExtQFieldOp=0&XmlQ uery=&File=D%3A%5CZYFILES%5CINDEX%20DATA%5C81THRU85%5CTXT%5C00000 024%5C9101HEAX.txt&User=anonymous&Password=anonymous&SortMethod=h%7C-& MaximumDocuments=15&FuzzyDegree=0&ImageQuality=r85g16/r85g16/x150y150g16/i500& Display=hpfr&DefSeekPage=x&SearchBack=ZyActionL&Back=ZyActionS&BackDesc=Result s%20page&MaximumPages=1&ZyEntry=1&SeekPage=x.

17. Attached to this affidavit as Exhibit PP is a copy of *Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act*, EPA, *available at* https://www3.epa.gov/climatechange/endangerment (last visited Aug. 31, 2016).

18. Attached to this affidavit as Exhibit QQ is an excerpt of Exxon Mobil Corp., Financial & Operating Review (2015). It was obtained from http://cdn.exxonmobil.com/ ~/media/global/files/financial-review/2015\_exxonmobil\_financial\_and\_operating\_review.pdf.

19. Attached to this affidavit as Exhibit RR is a copy of Exxon Mobil Corp., *Energy* & *Carbon – Managing the Risks* (2014). It was obtained from http://cdn.exxonmobil.com/~/ media/global/files/energy-and-environment/report---energy-and-carbon---managing-the-risks.pdf.

20. Attached to this affidavit as Exhibit SS is an excerpt of Statoil, *Sustainability Report* (2015). It was obtained from http://www.statoil.com/no/InvestorCentre/AnnualReport/ AnnualReport2015/Documents/DownloadCentreFiles/01\_KeyDownloads/2015\_Sustainability\_r eport.pdf.

21. Attached to this affidavit as Exhibit TT is a copy of a public letter by J.J. Traynor, Executive Vice President, Investor Relations, Royal Dutch Shell plc, dated May 16, 2014. It was obtained from http://s02.static-shell.com/content/dam/shell-new/local/corporate/corporate/ downloads/pdf/investor/presentations/2014/sri-web-response-climate-change-may14.pdf.

22. Attached to this affidavit as Exhibit UU is an excerpt of Intergovernmental Panel on Climate Change, Assessment Reports, *available at* https://www.ipcc.ch/publications\_and\_data/publications\_and\_data\_reports.shtml (last visited Aug. 30, 2016).

23. Attached to this affidavit as Exhibit VV is a copy of U.S. Global Change Research Program, Previous Assessments, *available at* http://www.globalchange.gov/ what-we-do/assessment/previous-assessments (last visited Aug. 30, 2016)

24. Attached to this affidavit as Exhibit WW is a copy of U.S. Global Change Research Program, Assess the U.S. Climate, *available at* http://www.globalchange.gov/what-wedo/assessment (last visited Aug. 30, 2016).

25. Attached to this affidavit as Exhibit XX is a copy of the official website of the Attorney General of Massachusetts, AGO's Exxon Investigation, *available at* http://www.mass.gov/ago/bureaus/eeb/the-environmental-protection-division/exxon-investigation.html (last visited Aug. 29, 2016).

26. Attached to this affidavit as Exhibit YY is an excerpt of National Research Council, *Changing Climate: Report of the Carbon Dioxide Assessment Committee* (1983). It was obtained from obtained from http://www.nap.edu/catalog.php?record\_ id=18714.

27. Attached to this affidavit as Exhibit ZZ is copy of 12 Blue Sky Law § 6:48.

28. Attached to this affidavit as Exhibit AAA is copy of Scott M. Matheson, Jr., *The Prosecutor, the Press, and Free Speech*, 58 Fordham L. Rev. 865 (1990).

29. I have reviewed the following advertisements, which are identified in the

Affidavit of Laura Bustard, dated August 31, 2016. None of them discuss the impact, causes, or magnitude of climate change.

- Radio advertisements for Mobil Super passenger vehicle lubricants in 2011;
- b. Print advertisements for Mobil Super motor oil in *The Boston Globe* in 2014; and
- c. Print advertisements for Mobil 1 passenger vehicle lubricants in *The Lowell Sun* in 2015.

Signed under the penalties of perjury, this 6th day of September, 2016.

Justin Anderson (janderson@paulweiss.com) (pro hac vice) Paul, Weiss, Rifkind, Wharton & Garrison LLP 2001 K Street, NW Washington, D.C. 20006-1047 (202) 223-7321 Fax: (202) 204-7394

# **Exhibit EE**

Supp. App. 001

Central Fila

# PROPRIETARY INFORMATION

P.O. BOX 101, FLORHAM PARK, NEW JERSEY 07932

EXXON ENGINEERING PETROLEUM DEPARTMENT

Cobie: ENGREXXON, N.Y.

R. L. MASTRACCHIO Managor L. E. Hill Senior Eng. Assoc.

October 16, 1979

Controlling Atmospheric CO.

79PE 554

Dr. R. L. Hirsch:

The attached memorandum presents the results of a study on the potential impact of fossil fuel combustion on the CO<sub>2</sub> concentration in the atmosphere. This study was made by Steve Knisely, a<sup>2</sup> summer employee in Planning Engineering Division.

The study considers the changes in future energy sources which would be necessary to control the atmospheric CO<sub>2</sub> concentration at different levels. The principle assumption for the CO<sub>2</sub> balance is that 50% of the CO<sub>2</sub> generated by fossil fuels remains in the atmosphere. This corresponds to the recent data on the increasing CO<sub>2</sub> concentration in the atmosphere compared to the quantity of fossil fuel combusted.

Present climatic models predict that the present trend of fossil fuel use will lead to dramatic climatic changes within the next 75 years. However, it is not obvious whether these changes would be all bad or all good. The major conclusion from this report is that, should it be deemed necessary to maintain atmospheric CO<sub>2</sub> levels to prevent significant climatic changes, dramatic changes in patterns of energy use would be required. World fossil fuel resources other than oil and gas could never be used to an appreciable extent.

No practical means of recovering and disposing of CO<sub>2</sub> emissions has yet been developed and the above conclusion assumes that recovery will not be feasible.

It must be realized that there is great uncertainty in the existing climatic models because of a poor understanding of the atmospheric/ terrestrial/oceanic CO<sub>2</sub> balance. Much more study and research in this area is required before major changes in energy type usage could be recommended.

WLF:ceg Attachment c: J. F. Black J. W. Herrmann L. E. Hill

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E. D. Hooper

F. J. Kaiser R. L. Mastracchio

W. H. Mueller

H. Shaw G. O. Wilhelm

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# PROPRIETARY INFORMATION

EXXON For Authorized Company Use Only

\_\_\_\_ Petroleum Department \_\_\_

# Engineering

79PE 554 October 16, 1979 EXXON RESEARCH AND ENGINEERING COMPANY

#### CONTROLLING THE CO2 CONCENTRATION IN THE ATMOSPHERE

The  $CO_2$  concentration in the atmosphere has increased since the beginning of the world industrialization. It is now 15% greater than it was in 1850 and the rate of  $CO_2$  release from anthropogenic sources appears to be doubling every 15 years. The most widely held theory is that:

- The increase is due to fossil fuel combustion
- Increasing CO2 concentration will cause a warming of the earth's surface
- The present trend of fossil fuel consumption will cause dramatic environmental effects before the year 2050.

However, the quantitative effect is very speculative because the data base supporting it is weak. The CO<sub>2</sub> balance between the atmosphere, the biosphere and the oceans is very ill-defined. Also, the overall effect of increasing atmospheric CO<sub>2</sub> concentration on the world environment is not well understood. Finally, the relative effect of other impacts on the earth's climate, such as solar activity, volcanic action, etc. may be as great as that of CO<sub>2</sub>.

Nevertheless, recognizing the uncertainty, there is a possibility that an atmospheric CO<sub>2</sub> buildup will cause adverse environmental effects in enough areas of the world to consider limiting the future use of fossil fuels as major energy sources. This report illustrates the possible future limits on fossil fuel use by examining different energy scenarios with varying rates of CO<sub>2</sub> emissions. Comparison of the different energy scenarios show the magnitude of the switch from fossil fuels to non-fossil fuels that might be necessary in the future. Non-fossil fuels include fission/fusion, geothermal, biomass, hydroelectric and solar power. The possible environmental changes associated with each scenario are also discussed.

#### CONCLUSIONS

As stated previously, predictions of the precise consequences of uncontrolled fossil fuel use cannot be made due to all of the uncertainties associated with the future energy demand and the global  $CO_2$ balance. On the basis that  $CO_2$  emissions must be controlled, this study examined the possible future fuel consumptions to achieve various degrees of control. Following are some observations and the principle conclusions from the study:

 The present trends of fossil fuel combustion with a coal emphasis will lead to dramatic world climate changes within the next 75 years, according to many present climatic models. c1798

- The CO<sub>2</sub> buildup in the atmosphere is a worldwide problem. U.S. efforts to restrict CO<sub>2</sub> emission would delay for a short time but not solve the problem.
- Warming trends which would move the temperate climate northward may be beneficial for some nations (i.e., the USSR, see Figure 1) and detrimental for others. Therefore, global cooperation may be difficult to achieve.
- Removal of CO<sub>2</sub> from flue gases does not appear practical due to economics and lack of reasonable disposal methods.
- If it becomes necessary to limit future CO<sub>2</sub> emissions without practical removal/disposal methods, coal and possibly other fossil fuel resources could not be utilized to an appreciable extent.
- Even with dramatic changes in current energy resource use, it appears unlikely that an increase of 50% over the pre-industrial CO<sub>2</sub> level can be avoided in the next century. This would be likely to cause a slight increase in global temperatures but not a significant change in climate, ocean water level or other serious environmental efforts.

The potential problem is great and urgent. Too little is known at this time to recommend a major U.S. or worldwide change in energy type usage but it is very clear that immediate research is necessary to better model the atmosphere/terrestrial/oceanic CO<sub>2</sub> balance. Only with a better understanding of the balance will we know if a problem truly exists.

#### Existing Data and Present Models

Since the beginning of industrialization, the atmospheric carbon dioxide concentration has increased from approximately 290 ppm in 1860 to 336 ppm today. Atmospheric CO<sub>2</sub> concentrations have been recorded on a monthly basis by C. D. Keeling since 1958 at Mauna Loa Observatory in Hawaii (see Figure 2). Seasonal variations are clearly shown with the CO<sub>2</sub> concentrations lowest during the North American and Eurasian summers, due to increased photosynthetic activities. Over the last ten years, the atmospheric concentration has been increasing at an average rate of about 1.2 ppm/year.

The present consumption of fossil fuels releases more than 5 billion tons of carbon as  $CO_2$  into the atmosphere each year. Data to date indicate that of the amount released approximately one-half is absorbed by the oceans. The other half remains in the atmosphere. There is some question as to whether the terrestrial biosphere is a sink, absorbing atmospheric  $CO_2$ , or a source of  $CO_2$  emissions, due to man's land clearing activities. Current opinion attributes the atmospheric  $CO_2$  increase to fossil fuels and considers the biosphere input to be negligible. c1798

- 3 -

Figure 3 shows the carbon cycle with the ocean and the biosphere as sinks for approximately 50% of the fossil fuel emissions. Most models show the ocean to be a major sink while the biosphere appears to be a much smaller sink if it absorbs any CO<sub>2</sub> at all. It is clear from Figure 3 that the net atmospheric increase in CO<sub>2</sub> is quite small compared to the quantities of CO<sub>2</sub> exchanged between the atmosphere and the earth. This makes it very difficult to analyze the fossil fuel impact on the overall carbon cycle.

The fossil fuel resource is very large compared to the quantity of carbon in the atmosphere. Therefore, if one half of the CO<sub>2</sub> released by combustion of fossil fuels remains in the atmosphere, only about 20% of the recoverable fossil fuel could be used before doubling the atmospheric CO<sub>2</sub> content.

The concern over the increasing CO<sub>2</sub> levels arises because of the radiative properties of the gas in the atmosphere. CO<sub>2</sub> does not affect the incoming short-wave (solar) radiation to the earth but it does absorb long-wave energy reradiated from the earth. The absorption of long-wave energy by CO<sub>2</sub> leads to a warming of the atmosphere. This warming phenomenom is known as the "greenhouse effect."

A vast amount of speculation has been made on how increased CO<sub>2</sub> levels will affect atmospheric temperatures. Many models today predict that doubling the 1860 atmospheric CO<sub>2</sub> concentration will cause a 1° to 5°C global temperature increase (see Figure 4). Extrapolation of present fossil fuel trends would predict this doubling of the CO<sub>2</sub> concentration to occur about 2050. A temperature difference of 5°C is equal to the difference between a glacial and an interglacial period. The temperature increases will also tend to vary with location being much higher in the polar region (see Figure 5). These temperature predictions may turn out too high or low by several fold as a result of many feedback mechanisms that may arise due to increased temperatures and have not been properly accounted for in present models.

#### These mechanisms include:

- A decrease in average snow and ice coverage. This is a positive feedback mechanism since it would result in a decrease of the earth's albedo (reflectivity) which would produce an added warming effect.
- <u>Cloud Cover</u>. This is considered the most important feedback mechanism not accounted for in present models. A change of a few percent in cloud cover could cause larger temperature changes than those caused by CO<sub>2</sub>. Increased atmospheric temperature could cause increased evaporation from the oceans and increased cloud cover.
- Ocean and Biosphere Responses. As the CO<sub>2</sub> level is increased and the ambient temperature rises, the ocean may lose some of its capacity to absorb CO<sub>2</sub> resulting in a positive feedback. However, increased CO<sub>2</sub> levels could increase photosynthetic activities which would then be a negative feedback mechanism.

As evidenced by the balance shown in Figure 3, the atmospheric carbon exchange with the terrestrial biosphere and the oceans is so large that small changes due to these feedback mechanisms could drastically offset or add to the impact of fossil fuel combustion on the earth's temperature.

Appendix A gives one, but not unanimous, viewpoint of how the environment might change if the feedback mechanisms are ignored. The contribution that will ultimately be made by these feedback mechanisms is unknown at present.

#### Energy Scenarios for Various CO2 Limits

Using the CO<sub>2</sub> atmospheric concentration data recorded to date, the correlation of these data with fossil fuel consumption and the proposed "greenhouse effect" models, this study reviews various world energy consumption scenarios to limit CO<sub>2</sub> atmospheric buildup. The concentration of CO<sub>2</sub> in the atmosphere is controlled in these studies by regulating the quantity of each type of fossil fuel used and by using non-fossil energy sources when required. The quantity of CO<sub>2</sub> emitted by various fuels is shown in Table 1. These factors were calculated based on the combustion energy/carbon content ratio of the fuel and the thermal efficiency of the overall conversion process where applicable. They show the high CO<sub>2</sub>/energy ratio for coal and shale and the very high ratios for synthetic fuels from these base fossil fuels which are proposed as fuels of the future.

The total world energy demand used in these scenarios is based upon the predictions in the Exxon Fall 1977 <u>World Energy Outlook</u> for the high oil price case for the years 1976 to 1990. It is assumed that no changes in the sources of supply of energy could be made during this period of time. Case A, which has no restrictions on CO<sub>2</sub> emissions, follows the high oil price predictions until 2000.

Petroleum production and consumption is the same in each scenario. The high oil price case predictions are followed until 2000. After 2000 petroleum production continues to increase until a reserve to production ratio (R/P) equals ten to one. Production peaks at this point and then continues at a ten to one R/P ratio until supplies run out.

The consumption of coal, natural gas and non-fossil fuels (fission/ fusion, geothermal, biomass, hydroelectric and solar power) vary with each scenario. Shale oil makes small contributions past the year 2000. It is not predicted to be a major future energy source due to environmental damage associated with the mining of shale oil, and also due to rather large amounts of CO<sub>2</sub> emitted per unit energy generated (see Table 1). If more shale oil were used, it would have the same effect on CO<sub>2</sub> emissions as the use of more coal. The fossil fuel resources assumed to be recoverable are tabulated in Appendix B.

#### A. No Limit on CO2 Emissions

In this scenario no limitations are placed upon future fossil fuel use. The use of coal is emphasized for the rest of this century and continues on into the next century. The development and use of non-fossil fuels continue to grow but without added emphasis. Natural gas production continues at a slowly increasing rate until an R/P ratio of 7/1 is reached around 2030. Production after 2030 continues at a 7/1 ratio until reserves run out. Figure 6 shows the future energy demand for this scenario.

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Figure 7 shows that the CO<sub>2</sub> buildup from this energy strategy is quite rapid. The yearly atmospheric CO<sub>2</sub> increase rises from 1.3 ppm in 1976 to 4.5 ppm in 2040. Noticeable temperature changes would occur around 2010 as the concentration reaches 400 ppm. Significant climatic changes occur around 2035 when the concentration approaches 500 ppm. A doubling of the pre-industrial concentration occurs around 2050. The doubling would bring about dramatic changes in the world's environment (see Appendix A). Continued use of coal as a major energy source past the year 2050 would further increase the atmospheric CO<sub>2</sub> level resulting in increased global temperatures and environmental upsets.

#### B. CO2 Increase Limited to 510 ppm

This energy scenario is limited to a 75% increase over the preindustrial concentration of 290 ppm. No limitations are placed on petroleum production. Natural gas production is encouraged beginning in 1990 to minimize coal combustion until non-fossil fuels are developed. Production of natural gas would increase until 2010 when an R/P ratio of 7/1 would be reached. Production would then continue at a R/P of 7/1 until supplies ran out. The development and use of nonfossil fuels are emphasized beginning the 1990's. Non-fossil fuels start to be substituted for coal in 1990's. Figure 8 shows the future energy demand by fuel for this scenario.

Figure 9 shows the atmospheric CO<sub>2</sub> concentration trends for this scenario. The lower graph shows the maximum yearly atmospheric CO<sub>2</sub> increase allowable for the 510 ppm limit. The yearly CO<sub>2</sub> increase peaks in 2005 when it amounts to 2.3 ppm and then steadily decreases reaching 0.2 ppm in 2100. A 0.2 ppm increment is equivalent to the direct combustion of 5.1 billion B.O.E. of coal. This would be approximately 2 to 3% of the total world energy demanded in 2100. (For more detail on the construction of Figure 9, see Appendix C.)

A comparison of the Exxon year 2000 predictions and this scenario's year 2000 requirements shows the magnitude of possible future energy source changes. The Exxon predictions call for nonfossil fuels to account for 18 billion B.O.E. in 2000. This scenario requires that 20 billion B.O.E. be supplied by non-fossil fuels by

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2000. This difference of 2 billion B.O.E. is equivalent to the power supplied by 214-1000 MW nuclear power plants operating at 60% of capacity. If it were supplied by methane produced from biomass, it would be equivalent to 80,000 square miles of biomass at a yield of 50 ton/acre, heat value of 6500 Btu/dry pound and a 35% conversion efficiency to methane. Therefore even a 20% increase in non-fossil fuel use is a gigantic undertaking.

The magnitude of the change to non-fossil fuels as major energy sources is more apparent when scenarios A and B are compared in the year 2025. Scenario B requires an 85 billion B.O.E. input from non-fossil fuels in 2025. This is almost double the 45 billion B.O.E. input predicted in scenario A. This 35 billion B.O.E. difference is approximately equal to the total energy consumption for the entire world in 1970.

The environmental changes associated with this scenario wouldn't be as severe as if the CO<sub>2</sub> concentration were allowed to double as in scenario A. Noticeable temperature changes would occur around 2010 when the CO<sub>2</sub> concentration reaches 400 ppm. Significant climate changes would occur as the atmospheric concentration nears 500 ppm around 2080. Even though changes in the environment due to increased atmospheric CO concentrations are uncertain, an increase to 500 ppm would probably bring about undesirable climatic changes to many parts of the earth although other areas may be benefitted by the changes. (See Appendix A, part 1).

#### C. CO2 Increase Limited to 440 ppm

This scenario limits future atmospheric CO<sub>2</sub> increases to a 50% increase over the pre-industrial concentration of 290 ppm. As in the previous case, no limitations are placed on petroleum production and increased natural gas production is encouraged. Much emphasis is placed on the development and use of non-fossil fuels. Non-fossil fuels are substituted for coal beginning in the 1990's. By 2010 they will have to account for 50% of the energy supplied worldwide. This would be an extremely difficult and costly effort if possible. In this scenario coal or shale will never become a major energy source. Figure 10 shows the future world energy demand by fuel for this scenario.

The atmospheric CO<sub>2</sub> concentration trends for this scenario are shown in Figure 11. To satisfy the limits of this scenario the yearly CO<sub>2</sub> emissions would have to peak in 1995 at 2.0 ppm, and then rapidly decrease reaching a value of 0.04 ppm in 2100. A 0.04 ppm maximum allowable increase means that unless removal/disposal methods for  $CO_2$  emissions are available only one billion B.O.E. of coal may be directly combusted in 2100 (or 1.4 billion Barrels of 0il). This would be less than 1% of the total energy demanded by the world in 2100.

To adhere to the 440 ppm limit, non-fossil fuels will have to account for 28 billion B.O.E. in 2000 as compared to 20 billion B.O.E. in scenario B and 18 billion B.O.E. in scenario A. This difference between scenarios A and C of 10 billion B.O.E. is equivalent to over 1000, 1000 MW nuclear power plants operating at 60% of capacity. Ten billion B.O.E. is also approximately equivalent to 400,000 square miles of biomass at 35% conversion efficiency to methane. This is equivalent to almost one-half the total U.S. forest land.

By 2025 the 110 billion B.O.E. input from non-fossil fuels called for in this scenario is more than twice as much as the 45 billion B.O.E. input predicted in scenario A. This difference of 65 billion is approximately equal to the amount of energy the entire world will consume in 1980. In terms of power plants, 65 billion B.O.E. is equivalent to almost 7000, 1000 MW nuclear power plants operating at 60% of capacity.

An atmospheric CO<sub>2</sub> concentration of 440 ppm is assumed to be a relatively safe level for the environment. A slight global warming trend should be noticeable but not so extreme as to cause major changes. Slight changes in precipitation might also be noticeable as the atmospheric CO<sub>2</sub> concentration nears 400 ppm.

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Fission/Fusion

Biomass

Solar

# Table 1

	CO2 EMISSIONS		
Fuel	1b CO <sub>2</sub> Emitted* 1000 Btu Fuel	% of Present CO <sub>2</sub> Output	
SNG from Coal	0,35	0	
Coal Liquids	0.32	0.	
Methanol from Goal	0.38	0	
H <sub>2</sub> from Coal Gasification	0,38	0	
Shale Oil	0,23	O	
Bituminous Coal	.21	38%	
Petroleum	.15	49%	
Natural Gas	.11	13%	

0

0

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\* Includes conversion losses where applicable.

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ALC: NOT THE OWNER OF

#### APPENDIX A

#### ECOLOGICAL CONSEQUENCES OF INCREASED CO2 LEVELS

From:

Peterson, E.K., "Carbon Dioxide Affects Global Ecology," Environmental Science and Technology 3 (11), 1162-1169 (Nov '69).

- 1. Environmental effects of increasing the CO<sub>2</sub> levels to 500 ppm. (1.7 times 1860 level)
  - A global temperature increase of 3°F which is the equivalent of a 1°-4° southerly shift in latitude. A 4° shift is equal to the north to south height of the state of Oregon.
  - The southwest states would be hotter, probably by more than 3°F, and drier.
  - The flow of the Colorado River would diminish and the southwest water shortage would become much more acute.
  - Most of the glaciers in the North Cascades and Glacier National Park would be melted. There would be less of a winter snow pack in the Cascades, Sierras, and Rockies, necessitating a major increase in storage reservoirs.
  - Marine life would be markedly changed. Maintaining runs of salmon and steelhead and other subarctic species in the Columbia River system would become increasingly difficult.
  - The rate of plant growth in the Pacific Northwest would increase 10% due to the added CO2, and another 10% due to increased temperatures.
- 2. Effects of a doubling of the 1860 CO2 concentration. (580 ppm)
  - Global temperatures would be 9°F above 1950 levels.
  - Most areas would get more rainfall, and snow would be rare in the contiguous states, except on higher mountains.
  - Ocean levels would rise four feet.
  - The melting of the polar ice caps could cause tremendous redistribution of weight and pressure exerted on the earth's crust. This could trigger major increases in earthquakes and volcanic activity resulting in even more atmospheric CO<sub>2</sub> and violent storms.
  - The Arctic Ocean would be ice free for at least six months each year, causing major shifts in weather patterns in the northern hemisphere.

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 The present tropics would be hotter, more humid, and less habitable, but the present temperature latitude would be warmer and more habitable.

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#### APPENDIX B

#### FOSSIL FUEL RESOURCES

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 Assume 1.6 trillion barrels of oil potentially recoverable as of 1975 (assuming the future recovery rate to be 40%). The minimum allowable Reserve to Production (R/P) ratio is ten one.

Shale Oil - Potential of 3.0 trillion B.O.E. but assuming 1977 technology only 200 billion B.O.E. actually recoverable.

Natural Gas - Approximately 1.6 trillion B.O.E. potentially recoverable. Minimum allowable R/P = 7.1.

Coal

Potential recoverable reserves equal approximately 12 trillion B.O.E. assuming a conservative 25% recoverability. Ъ1798

#### APPENDIX C

#### CONSTRUCTION OF SCENARIOS B AND C (Scenario A requires no CO<sub>2</sub> emissions control)

1. Scenario B

The CO<sub>2</sub> concentration vs. year curve in Figure 9 was generated • by the following equation:

#### after 1970 (t = 0), then '

\*C = 292 ppm + 219 ppm/[1 + 5.37 exp. (-t/24 years)]

where C = concentration in ppm

The curve on the lower section of Figure 9, atmospheric  $CO_2$ increase vs. years, is generated by finding the difference in the concentrations of successive years. This curve gives the maximum yearly increases allowable to stay within the limits placed on this scenario. The amount of fossil fuel that may be consumed in any given year can then be calculated by the lower curve. For example:

In 2100 the maximum allowable CO2 increase equals 0.2 ppm.

This is equivalent to:

for coal:

 $\frac{2 \text{ ppm}}{1 \text{ ppm}} \times \frac{2.1 \times 10^9 \text{ ton C}}{1 \text{ ppm}} \times \frac{2000 \text{ lb}}{\text{ton}} \times \frac{44 \text{ lb CO}_2}{12 \text{ lb C}} = 3.1 \times 10^{12} \text{ lb CO}_2$ 

 $3.1 \times 10^{12}$  lb CO<sub>2</sub> may be released by the combustion of:

 $\frac{3.1 \times 10^{12} \text{ 1b } \text{CO}_2}{.21 \text{ 1b } \text{CO}_2} \times \frac{1000 \text{ Btu}}{.21 \text{ 1b } \text{CO}_2} \times \frac{1 \text{ B.O.E.}}{5.8 \times 10^6} \text{ Btu}$ 

= 2.5 billion B.O.E. of coal

This scenario is based on the assumption that 50% of CO2 released each year will always be absorbed by the ocean and the rest will remain in the atmosphere.

\*Derived from an equation presented by U. Siegenthaler and H. Oeschger (1978) (see references).
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2. Scenario C

The equation for the generation of Figure 11 is derived to be,

after 1970 (t = 0), then

٠,

\*C = 292 ppm + 146 ppm/[1 + 3.37 exp. (-t/20 years)]

This scenario is the same as Scenario B only with different limits.



Figure 1



Figure 2





Figure 4



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Figure 5

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YEAR

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# **Exhibit FF**

NTER-OFFICE CORRESPONDENCE	
	DATE August 18, 1981
то	REFERENCE
W. Glass	SUBJECT
R. W. Cohen	

I have looked over the draft of the EED reply to the request from O'Loughlin. The only real problem I have is with the second clause of the last sentence in the first paragraph: "but changes of a magnitude well short of catastrophic ... " I think that this statement may be too reassuring. Whereas I can agree with the statement that our best guess is that observable effects in the year 2030 are likely to be "well short of catastrophic", it is distinctly possible that the CPD scenario will later produce effects which will indeed be catastrophic (at least for a substantial fraction of the earth's population). This is because the global ecosystem in 2030 might still be in a transient, headed for much more significant effects after time lags perhaps of the order of decades. If this indeed turns out to be case, it is very likely that we will unambiguously recognize the threat by the year 2000 because of advances in climate modeling and the beginning of real experimental confirmation of the CO, effect. The effects of such a recognition on subsequent fossil fuel combustion are unpredictable, but one can say that predictions based only on our knowledge of availability and economics become hazardous.

I would feel more comfortable if the first paragraph concluded with a statement to the effect that future developments in global data gathering and analysis, along with advances in climate modeling, may provide strong evidence for a delayed  $CO_2$  effect of a truly substantial magnitude, a possibility which increases the uncertainty surrounding the post-2000 CPD scenario.

ROGER W. COHEN

RWC: tmw

Attachment

cc: H. N. Weinberg A. J. Callegari ENELAL # 154-1-18

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**\*TER-OFFICE CORRESPONDENCE** 

DATE 8/14/81 O REFERENCE SUBJECT W. Glass

J. F. Black

R. W. Cohen

S. A. Diamond

H. Shaw

Morey O'Loughlin has asked Ed David for ER&E's views on the realism of CPD's projections for fossil fuel combustion out to 2030 (attached) in view of potential "greenhouse" and "acid rain" problems. I have been asked to draft a <u>short</u> reply.

A preliminary draft for EED's reply is attached. It is based not on any calculations but on my "understanding" of what I think I've heard you say and write in the past. I would appreciate your reviewing this preliminary draft very critically and letting me know promptly of any changes you would like to see. EED wants to get am answer back to MEJO'L by August 21.

Thank you for your cooperation.



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WG: bl Attachments

c: T. K. Kett

## DRAFT EED TO MEJO'L

You asked about our views on possible emission consequences of the CPD-projected fossil fuel consumption levels out to 2030. Much is still unknown about the sources and sinks for atmospheric  $CO_2$ , as well as about the climatic effect of increasing  $CO_2$  levels in the air, so that prognostications remain highly speculative. The models that appear most credible (to us) do predict measurable changes in temperature, rainfall pattern, and sea-level by the year 2030 for the postulated fossil fuel combustion rates, but changes of a magnitude well short of catastrophic and probably below the magnitude that need trigger otherwise noneconomic responses to the problem of energy supply.

The fossil fuel contribution to the localized problem of acid rain appears handlable by limiting the release of  $SO_X$ ,  $NO_X$ , and chlorides to the atmosphere--which would decrease but by no means eliminate the economic advantage of fossil fuels.

We would be happy to discuss this with you in greater detail.



Supp. App. 032

# **Exhibit GG**

0757-L-RWC

# EXON RESEARCH AND ENGINEERING COMPANY

CORPORATE RESEARCH SCIENCE LABORATORIES

DUANE G. LEVINE, Director

ROGER W.COHEN, Director Theoretical and Mathematical Sciences Laboratory

September 2, 1982

H. N. WEINBERG

P. O. Box 45, Linden, N. J. 07036

SEP 2 1982

Mr. A. M. Natkin Office of Science and Technology Exxon Corporation 1251 Avenue of the Americas New York, New York 10020

Dear Al:

I would like to summarize the findings of our research in climate modeling and place our results in the context of the existing body of knowledge of the CO<sub>2</sub> greenhouse effect.

Although the increase of atmospheric CO, is well documented, it has not yet resulted in a measurable change in the earth's climate. The concerns surrounding the possible effects of increased CO<sub>2</sub> have been based on the predictions of models which simulate the earth's climate. These models vary widely in the level of detail in which climate processes are treated and in the approximations used to describe the complexities of these processes. Consequently the quantitative predictions derived from the various models show considerable variation. However, over the past several years a clear scientific consensus has emerged regarding the expected climatic effects of increased atmospheric  $CO_2$ . The consensus is that a doubling of atmospheric  $CO_2$  from its pre-industrial revolution value would result in an average global temperature rise of  $(3.0 \pm 1.5)$  °C. The uncertainty in this figure is a result of the inability of even the most elaborate models to simulate climate in a totally realistic manner. The temperature rise is predicted to be distributed nonuniformly over the earth, with above-average temperature elevations in the polar regions and relatively small increases near the equator. There is unanimous agreement in the scientific community that a temperature increase of this magnitude would bring about significant changes in the earth's climate, including rainfall distribution and alterations in the biosphere. The time

<sup>+</sup>National Research Council Panel Report, <u>Carbon Dioxide and</u> <u>Climate: A Second Assessment</u>, National Academy Press, Washington, D.C., 1982. required for doubling of atmospheric CO<sub>2</sub> depends on future world consumption of fossil fuels. Current projections indicate that doubling will occur sometime in the latter half of the 21st century. The models predict that CO<sub>2</sub>-induced climate changes should be observable well before doubling. It is generally believed that the first unambiguous CO<sub>2</sub>-induced temperature increase will not be observable until around the year 2000.

It should be emphasized that the consensus prediction of global warming is not unanimous. Several scientists have taken positions that openly question the validity of the predictions of the models, and a few have proposed mechanisms which could mitigate a CO2 warming. One of the most serious of these proposals has been made by Professor Reginald Newell of MIT. Newell noted that geological evidence points to a relative constancy of the temperature of the equatorial waters over hundreds of millions of years. This constancy is remarkable in view of major climatic changes in other regions of the earth during this period. Newell ascribed this anchoring of the temperature of the equatorial waters to an evaporative buffering mechanism. In this mechanism, when heating increases at the equator, most of the extra energy induces greater rates of evaporation rather than raising temperatures. Newell proposed that this effect might greatly reduce the global warming effect of increased atmospheric CO2.

In our climate research we have explored the global effects of Newell's evaporative buffering mechanism using a simple mathematical climate model. Our findings indicate that Newell's effect is indeed an important factor in the earth's climate system. As Newell predicted, evaporative buffering does limit CO<sub>2</sub>-induced temperature changes in the equatorial regions. However, we find a compensatingly larger temperature increase in the polar regions, giving a global averaged temperature increase that falls well within the range of the scientific consensus. Our results are consistent with the published predictions of more complex climate models. They are also in agreement with estimates of the global temperature distribution during a certain prehistoric period when the earth was much warmer than today.

In summary, the results of our research are in accord with the scientific consensus on the effect of increased atmospheric CO<sub>2</sub> on climate. Our research appears to reconcile Newell's observations and proposed mechanism with the consensus opinion.

We are now ready to present our research to the scientific community through the usual mechanisms of conference presentations and publications in appropriate journals. I have enclosed a detailed plan for presenting our results.

As we discussed in the August 24 meeting, there is the potential for our research to attract the attention of the popular news media because of the connection between Exxon's major business and the role of fossil fuel combustion in contributing to the increase of atmospheric CO2. Despite the fact that our results are in accord with those of most researchers in the field and are subject to the same uncertainties, it was recognized that it is possible for these results to be distorted or blown out of proportion. Nevertheless the consensus position was that Exxon should continue to conduct scientific research in this area because of its potential importance in affecting future energy scenarios and to provide Exxon with the credentials required to speak with authority in this area. Furthermore our ethical responsibility is to permit the publication of our research in the scientific literature; indeed to do otherwise would be a breach of Exxon's public position and ethical credo on honesty and integrity.

Sincerely yours,

ROGER W. COHEN

RWC: tmc

Enclosure

- cc: A. J. Callegari
  E. E. David, Jr.
  B. P. Flannery
  M. B. Glaser
  D. G. Levine
  P. J. Lucchesi
  - H. N. Weinberg

CO<sub>2</sub> Climate Modeling Research: Timetable for Presentations and Publications

- I. Presentations
  - DOE Sponsored CO<sub>2</sub>-CLimate Meeting September 19-23, 1982 (West Virginia)
    - (a) Results pertaining to general aspects of the model to be presented in an informal session by our collaborator Professor M. I. Hoffert of NYU. The CO<sub>2</sub> calculations will not be included.
    - (b) Preprints of the paper [#(1) below] to be distributed at this meeting to general peer comments and discussion.\*
  - (2) Ewing Symposium (Lamont-Doherty/Exxon Foundation Supported) October 25-27, 1982
    - (a) Results concerning general aspects of the model and the CO<sub>2</sub> calculations to be presented by B. P. Flannery (CR).
- II. Publications
  - Manuscript developing general aspects of the model to be submitted for publication to the Journal of Geophysical Research, September, 1982.\*
  - (2) Manuscript on CO<sub>2</sub> related model predictions to be submitted in late 1982.

\* Provided formal publication clearance has been granted by this time.

# Exhibit HH

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# **XON** RESEARCH AND ENGINEERING COMPANY

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M. B. GLASER Manager Environmental Affairs Programs Cable: ENGREXXON, N.Y.

November 12, 1982

CO, "Greenhouse" Effect

82EAP 266

TO: See Distribution List Attached

Attached for your information and guidance is briefing material on the CO<sub>2</sub> "Greenhouse" Effect which is receiving increased attention in both the scientific and popular press as an emerging environmental issue. A brief summary is provided along with a more detailed technical review prepared by CPPD.

The material has been given wide circulation to Exxon management and is intended to familiarize Exxon personnel with the subject. It may be used as a basis for discussing the issue with outsiders as may be appropriate. However, it should be restricted -to-Exxon personnel and not distributed externally.

Very truly yours,

M. B. GLASER

MBG:rva

Attachments

H. M WEINBERG

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### SUMMARY

Atmospheric monitoring programs show the level of carbon dioxide in the atmosphere has increased about 8% over the last twenty-five years and now stands at about 340 ppm. This observed increase is believed to be the continuation of a trend which began in the middle of the last century with the start of the Industrial Revolution. Fossil fuel combustion and the clearing of virgin forests (deforestation) are believed to be the primary anthropogenic contributors although the relative contribution of each is uncertain.

The carbon dioxide content of the atmosphere is of concern since it can affect global climate. Carbon dioxide and other trace gases contained in the atmosphere such as water vapor, ozone, methane, carbon monoxide, oxides \_ of nitrogen, etc. absorb part of the infrared rays reradiated by the earth. This increase in absorbed energy warms the atmosphere inducing warming at the earth's surface. This phenomenon is referred to as the "greenhouse effect".

Predictions of the climatological impact of a carbon dioxide induced "greenhouse effect" draw upon various mathematical models to gauge the temperature increase. The scientific community generally discusses the impact in terms of doubling of the current carbon dioxide content in order to get beyond the noise level of the data. We estimate doubling could occur around the year 2090 based upon fossil fuel requirements projected in Exxon's long range energy outlook. The question of which predictions and which models best simulate a carbon dioxide induced climate change is still being debated by the scientific community. Our best estimate is that doubling of the current concentration could increase average global temperature by about 1.3° to 3.1°C. The increase would not be uniform over the earth's surface with the polar caps likely to see temperature increases on the order of 10°C and the equator little, if any, increase.

Considerable uncertainty also surrounds the possible impact on society of such a warming trend, should it occur. At the low end of the predicted temperature range there could be some impact on agricultural growth and rainfall patterns which could be beneficial in some regions and detrimental in others. At the high end, some scientists suggest there could be considerable adverse impact including the flooding of some coastal land masses as a result of a rise in sea level due to melting of the Antarctic ice sheet. Such an effect would not take place until centuries after a 3 C global average temperature increase actually occurred.

There is currently no unambiguous scientific evidence that the earth is warming. If the earth is on a warming trend, we're not likely to detect it before 1995. This is about the earliest projection of when the temperature

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might rise the 0.5° needed to get beyond the range of normal temperature fluctuations. On the other hand, if climate modeling uncertainties have exaggerated the temperature rise, it is possible that a carbon dioxide induced "greenhouse effect" may not be detected until 2020 at the earliest.

The "greenhouse effect" is not likely to cause substantial climatic changes until the average global temperature rises at least 1°C above today's levels. This could occur in the second to third quarter of the next century. However, there is concern among some scientific groups that once the effects are measurable, they might not be reversible and little could be done to correct the situation in the short term. Therefore, a number of environmental groups are calling for action now to prevent an undesirable future situation from developing.

Mitigation of the "greenhouse effect" would require major reductions in fossil fuel combustion. Shifting between fossil fuels is not a feasible alternative because of limited long-term supply availability for certain fuels although oil does produce about 18% less carbon dioxide per Btu of heat released than coal, and gas about 32% less than oil. The energy outlook suggests synthetic fuels will have a negligible impact at least through the mid 21st century contributing less than 10% of the total carbon dioxide released from fossil fuel combustion by the year 2050. This low level includes the expected contribution from carbonate decomposition which occurs during shale oil recovery and assumes essentially no efficiency improvements in synthetic fuels processes above those currently achievable.

Overall, the current outlook suggests potentially serious climate problems are not likely to occur until the late 21st century or perhaps beyond at projected energy demand rates. This should provide time to resolve uncertainties regarding the overall carbon cycle and the contribution of fossil fuel combustion as well as the role of the oceans as a reservoir for both heat and carbon dioxide. It should also allow time to better define the effect of carbon dioxide and other infrared absorbing gases on surface climate. Making significant changes in energy consumption patterns now to deal with this potential problem amid all the scientific uncertainties would be premature in view of the severe impact such moves could have on the world's economies and societies.

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# PROPRIETARY INFORMATION

FOR AUTHORIZED COMPANY USE ONLY

CO<sub>2</sub> GREENHOUSE EFFECT A TECHNICAL REVIEW

PREPARED BY THE

COORDINATION AND PLANNING DIVISION

EXXON RESEARCH AND ENGINEERING COMPANY

APRIL 1, 1982

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CO2 GREENHOUSE EFFECT

# A TECHNICAL REVIEW

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## CO, GREENHOUSE EFFECT

#### Background

The buildup of CO, in the atmosphere has been monitored continuously at the National Oceanic and Atmospheric Administration's (NOAA) Observatory at Mauna Loa, Hawaii, and periodically in other places since 1957. In addition to observing a trend between 1957-1979 that showed atmospheric CO, increasing from 315 to 337 ppm, Keeling and others also observed a seasonal variability ranging from 6 to 10 ppm between a low at the end of the summer growing season (due to photosynthesis) and a high at the end of winter (due to fossil fuel burning for heat, and biomass decay). There is little doubt that these observations indicate a growth of atmospheric CO<sub>2</sub> (see Figure 1). It is also believed that the growth of atmospheric  $CO_2$  has been occurring since the middle of the past century, i.e., coincident with the start of the Industrial Revolution. There is, however, great uncertainty as to whether the atmospheric CO, concentration prior to the Industrial Revolution (ca., 1850) was 290-300 ppm which one would arrive at by assuming atmospheric CO, growth is due to fossil fuel burning and cement manufacturing, or 260-270 ppm based on carbon isotope measurements in tree rings. The information on CO, concentration prior to 1850 is important because it would help establish the validity of climatic predictions with respect to the inception of a CO, induced "greenhouse effect".

The "greenhouse effect" refers to the absorbtion by CO<sub>2</sub> and other trace gases contained in the atmosphere (such as water vapor, ozone, carbon monoxide, oxides of nitrogen, freens, and methane) of part of the infrared radiation which is reradiated by the earth. An increase in absorbed energy via this route would warm the earth's surface causing changes in climate affecting atmospheric and ocean temperatures, rainfall patterns, soil moisture, and over centuries potentially melting the polar ice caps.

## Sources and Disposition of Atmospheric Carbon Dioxide - The Carbon Cycle

The relative contributions of biomass oxidation (mainly due to deforestation) and fossil fuel combustion to the observed atmospheric CO<sub>2</sub> increase are not known. There are fairly good indications that the annual growth of atmospheric CO<sub>2</sub> is on the order of 2.5 to 3.0 Gt/a\* of carbon and the net quantity of carbon absorbed by the ocean is similarly 2.5 to 3 Gt/a. Thus, these two sinks (atmosphere and ocean) can account for the total fossil carbon burned (including 0.3 GtC/a\*\* from cement manufacturing) which is on the order of 5-6 Gt/a and does not allow much room for a net contribution of biomass

\* Gt/a = gigatons per annum = 10<sup>9</sup> metric tons per year. \*\* GtC/a = gigatons carbon per annum = 10° metric tons of carbon per year.

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NOAA).

carbon. Yet, highly respected scientists such as Woodwell, Bolin and others have postulated a net biomass contribution to atmospheric CO, that ranges from 1 to perhaps 8 Gt/a of carbon. During 1980, a number of different groups produced new estimates of the contribution of organic terrestial fluxes to atmospheric CO<sub>2</sub>. A consensus has not been reached, but estimates of the net annual terrestial biosphere emissions to the atmosphere now range between a 4 GtC/a source and a 2 GtC/a sink. Figure 2 summarizes the fluxes and reservoirs for the carbon cycle. It should be noted that the net biosphere contribution was assumed to be O-2 GtC/a.

The rate of forest clearing has been estimated at 0.5% to 1.5% per year of the existing area. Forests occupy about 50 x 10 km<sup>2</sup> out of about 150 x 10 km<sup>2</sup> of continental land, and store about 650 Gt of carbon. One can easily see that if 0.5% of the world's forests are cleared per year, this could contribute about 3.0 Gt/a of carbon to the atmosphere. Even if reforestation were contributing significantly to balancing the CO<sub>2</sub> from deforestation, the total carbon stored in new trees tends to be only a small fraction of the net carbon emitted. It should be noted, however, that the rate of forest clearing and reforestation are not known accurately at this time. If deforestation is indeed contributing to atmospheric CO<sub>2</sub>, then another sink for carbon must be found, and the impact of fossil fuel must be considered in the context of such a sink.

The magnitude of the carbon fluxes shown in Figure 2 between the atmosphere and the terrestial biosphere, and the atmosphere and the oceans are not precisely known. The flow of carbon between these reservoir pairs is generally assumed to have been in equilibrium prior to the Industrial Revolution. However, the errors in the estimated magnitude of these major fluxes are probably larger than the magnitude of the estimated man-made carbon fluxes; i.e., fossil fuels and deforestation. The man-made fluxes are assumed to be the only ones that have disturbed the equilibrium that is believed to have existed before the Industrial Revolution, and they can be estimated independently of the major fluxes. The man-made carbon fluxes are balanced in Figure 2 between the known growth rate of atmospheric carbon and the oceans. The carbon flux to the atmosphere is 6Gt/a from fossil fuels and cement manufacturing (cement manufacturing contributes about 4% of non-biosphere anthropogenic carbon) and 2Gt/a from deforestation, while 4Gt/a return to the ocean, resulting in a 50% carbon retention rate in the atmosphere. One cannot rule out, in view of the inherent uncertainty of the major fluxes, that the biosphere may be a net sink and the oceans may absorb much less of the man-made CO,.

Projections of scientists active in the area indicate that the contribution of deforestation, which may have been substantial in the past, will diminish in comparison to the expected rate of fossil fuel combustion in the future. A few years ago a number of scientists hypothesized that a doubling of the amount of carbon dioxide in the atmosphere could occur as early as 2035. This hypothesis is generally not acceptable anymore because of the global curtailment of fossil fuel usage. Calculations recently completed at Exxon Research

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### FIGURE 2

## Exchangeable Carbon Reservoirs and Eluxes



.) = Size of Carbon Reservoirs in Billions of Metric Tons of Carbon

Fluxes (arrows) = Exchange of Carbon Between Reservoirs in Billions of Metric Tons of Carbon per Year

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and Engineering Company using the energy projections from the Corporate Planning Department's 21st Century Study<sup>4</sup>, indicate that a doubling of the 1979 atmospheric CO<sub>2</sub> concentration could occur at about 2090. If synthetic fuels are not developed and fossil fuel needs are met\_by new gas and petroleum discoveries, then the atmospheric CO<sub>2</sub> doubling time would be delayed by about 5 years to the late 2090's. Figure 3 summarizes the projected growth of atmospheric CO<sub>2</sub> concentration based on the Exxon 21st Century Study-High Growth scenario, as well as an estimate of the average global temperature increase which might then occur above the current temperature. It is now clear that the doubling time will occur much later in the future than previously postulated because of the decreasing rate of fossil fuel usage due to lower demand.

### Description of Potential Impact on Weather, Climate, and Land Availability

The most widely accepted calculations carried on thus far on the potential impact on climate of doubling the carbon dioxide content of the atmosphere use general circulation models (GCM). These models indicate that an increase in global average temperature of  $3^{\circ} \pm 1.5^{\circ}$ C is most likely. Such changes in temperature are expected to occur with uneven geographic distribution with greater warming occurring at the higher latitudes, i.e., the polar regions. This is due to increased absorption of solar radiation energy on the darker polar surfaces that would become exposed when ice and snow cover melt due to increasing temperature (see Figure 4). There have been other calculations using radiative convective models and energy balance models which project average temperature increases on the order of  $0.75^{\circ}$ C for a doubling of CO<sub>2</sub>. These calculations are compared in Figure 5. Figure 6 summarizes possible temperature increases due to various changes in atmospheric CO<sub>2</sub> concentration.

If the atmospheric CO<sub>2</sub> content had been 295 ppm prior to the Industrial Revolution, and an average global temperature increase above climate noise is detectable at the present time, this would add credibility to the general circulation models. However, if the CO<sub>2</sub> concentration and been 265 ppm prior to the Industrial Revolution, then detecting a temperature effect of 0.5 °C now would imply that the temperature for a doubling of CO<sub>2</sub> would be 1.9 °C. The projected temperatures for both alternatives fall within the 3  $^{\circ}$  ± 1.5 °C range. Temperature projections for alternate scenarios will be discussed later.

Climate modeling was studied by a committee of the National Research Council, chaired by Jules G. Charney of MIT, and the conclusions are summarized in

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<sup>\*</sup> The "21st Century Study" referred to here and in other places in this report has been superseded by a new energy study called the "2030 Study". The new study projects energy demands that are lower than the earlier figures, but not sufficiently different to change any of the conclusions of this report.





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Figure 4

Temperature Change (°C) Due to Doubling CO<sub>2</sub> Concentrations





---- Decrease in Temperature

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The change in globally averaged surface air temperature resulting from a doubling of atmospheric CO, as given by a variety of radiative-convective, energy balance, and global circulation (GCM) models. (From W. L. Gates, Oregon State University Technical Report no. 4.)



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Estimates of the Change in Global Average Surface Temperature Due to Various Changes in CO<sub>2</sub> Concentration. Shading Shows Present Range of Natural Fluctuations.





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Example of a scenario of possible soil moisture patterns on a warmer Earth. It is based on paleoclimatic reconstructions of the Altithermal Period (4500 to 8000 years ago), comparisons of recent warm and cold years in the Northern Hemisphere, and a climate model experiment. (For a discussion of these sources of information see Appendix C.) Where two or more of these sources agree on the direction of the change we have indicated the area of agreement with a dashed line and a label.

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their report titled, "Carbon Dioxide and Climate: A Scientific Assessment." This National Research Council study concluded that there are major uncertainties in these models in terms of the timing for a doubling of CO<sub>2</sub> and the resulting temperature increase. These uncertainties center around the thermal capacity of the oceans. The oceans have been assumed to consist of a relatively thin, well mixed surface layer averaging about 70 meters in depth in most of the general circulation models, and the transfer of heat into the deep ocean is essentially infinitely slow. The Charney panel felt, however, that the amount of heat carried by the deep ocean has been under estimated and the oceans will slow the temperature increase due to doubling of atmospheric CO<sub>2</sub>. The Charney group estimated that the delay in heating resulting from the effect of the oceans could delay the expected temperature increase due to a doubling of CO<sub>2</sub> by a few decades. Accordingly, the time when the temperature increases discussed above are reached must be assumed to have occurred at an instantaneous equilibrium.

Along with a temperature increase, other climatological changes are expected to occur including an uneven global distribution of increased rainfall and increased evaporation. These disturbances in the existing global water distribution balance would have dramatic impact on soil moisture, and in turn, on agriculture. Recently, Manabe et al., using GCM's calculated that the zonal mean value of soil moisture in summer declines significantly in two separate zones of middle and high latitudes in response to an increase in the CO<sub>2</sub> concentration of air. This CO<sub>2</sub> induced summer dryness results not only from the earlier ending of the snowmelt season, but also from the earlier occurrence of the spring to summer reduction in rainfall rate. The former effect is particularly important in high latitudes, whereas the latter effect becomes important in middle latitudes. Other statistically significant changes include large increases in both soil moisture and runoff rates at high latitudes during most of the annual cycle with the exception of the summer season. The penetration of moisture rich, warm air into high latitudes is responsible for these increases.

The state-of-the-art in climate modeling allows only gross global zoning while some of the expected results from temperature increases of the magnitude indicated are quite dramatic. For example, areas that were deserts 4,000 to 8,000 years ago in the Altithermal period (when the global average temperature was some 2°C higher than present), may in due time return to deserts. Conversely, some areas which are deserts now were formerly agricultural regions. It is postulated that part of the Sahara Desert in Africa was quite wet 2,000 to 8,000 years ago. The American Midwest, on the other hand, was much drier, and it is projected that the Midwest would again become drier should there be a temperature increase of the magnitude postulated for a doubling of atmospheric  $CO_{0}$  (see Figure 7).

In addition to the effects of climate on global agriculture, there are some potentially catastrophic events that must be considered. For example, if the Antarctic ice sheet which is anchored on land should melt, then this

could cause a rise in sea level on the order of 5 meters. Such a rise would cause flooding on much of the U.S. East Coast, including the State of Florida and Washington, D.C. The melting rate of polar ice is being studied by a number of glacialogists. Estimates for the melting of the West Anarctica ice sheet range from hundreds of years to a thousand years. EtKins and Epstein observed a 45 mm raise in mean sea level. They account for the rise by assuming that the top 70 m of the oceans has warmed by  $0.3^{\circ}$ C from 1890 to 1940 (as has the atmosphere) causing a 24 mm rise in sea level due to thermal expansion. They attribute the rest of the sea level rise to melting of polar ice. However, melting 51 Tt ( $10^{12}$  metric tonnes) of ice would reduce ocean temperature by  $0.2^{\circ}$ C, and explain why the global mean surface temperature has not increased as predicted by CO<sub>2</sub> greenhouse theories.

In an American Association for the Advancement of Science (AAAS) and Department of Energy (DOE) sponsored workshop on the environmental and societal consequences of a possible CO<sub>2</sub> induced climate change, other factors such as the environmental effects of CO<sub>2</sub> concentration on weeds and pests were considered. The general consensus was that these unmanaged species would tend to thrive with increasing average global temperature. The managed biosphere, such as agriculture, would also tend to benefit from atmospheric CO<sub>2</sub> growth. This is a consequence of CO<sub>2</sub> benefiting agriculture, provided the other key nutrients, phosphorous and nitrogen, are present in the right proportions. Agricultural water needs can be met by new irrigation techniques that require less water. In addition, with higher CO<sub>2</sub> and higher temperature conditions, the amount of water needed by agricultural plants may be reduced. It is expected that bioscience contributions could point the way for dealing with climatological disruptions of the magnitude indicated above. As a result of the workshop, research in 11 areas was recommended:

- CO, fertilization could have broad beneficial effects on agriculture. These effects need to be studied in detail and for a variety of plant, soil and climatic conditions.
- There is a need for a fuller understanding of the dynamics of currents and water masses in the Arctic Ocean.
- 3. It is necessary to determine whether there was deglaciation of the West Antarctic ice sheet about 120,000 years ago and whether this caused a rise in global sea levels at that time. If this occurred, then the information could serve as an analog of future deglaciation.
- 4. It is necessary to develop and use scenarios which integrate (a) information about population, resources, energy consumption and fuel mixes; (b) buildup of atmospheric CO<sub>2</sub>; (c) response of the climate system; (d) effects on various biological systems, especially agricultural, economic and social consequences, international and interregional conflicts; and (e) possible feedback among these forces.

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- 5. CO induced warming is predicted to be much greater at the polar regions. There could also be positive feedback mechanisms as deposits of peat, containing large reservoirs of organic carbon, are exposed to oxidation. Similarly, thawing might also release large quantities of carbon currently sequestered as methane hydrates. Quantitative estimates of these possible effects are needed.
- Although all biological systems are likely to be affected, the most severe economic effects could be on agriculture. There is a need to examine methods for alleviating environmental stress on renewable resource production — food, fiber, animal, agriculture, tree crops, etc.
- 7. Information exists on the relationship of cultivated and noncultivated biomes to climatic fluctuations. Similarly, there is considerable information on the response of various nations and economic sectors to climatic variations over the past few hundred years. This information, which is currently scattered and not \* uniformly presented or calibrated, is thus of limited usefulness.
- Studies of climate effects are recommended for the semi-arid tropics because of the relatively large populations in these countries and because of special sensitivity to climate.
- 9. There are situations (soil erosion, salinization, or the collapse of irrigation systems) which are recommended for study as indicators of how societies respond, and how they might learn to cope and adapt more effectively to a shift in global climate.
- 10. Research is recommended on the flow of information on risk perception and decision making to and from both laymen and experts, the physiological aspects of understanding and perception, and the factors that influence decision making.
- 11. There is a need to be sure that "lifetime" exposure to elevated CO poses no risks to the health of humans or animals. Health effects<sup>2</sup> associated with changes in the climate sensitive parameters, or stress associated with climate related famine or migration could be significant, and deserve study.

In terms of the societal and institutional responses to an increase in CO<sub>2</sub>, the AAAS-DOE workshop participants felt that society can adapt to the increase in CO<sub>2</sub> and that this problem is not as significant to mankind as a nuclear holocaust or world famine. Finally, in an analysis of the issues associated with economic and geopolitical consequences, it was felt that society can adapt to a CO<sub>2</sub> increase within economic constraints that will be existing at the time. Some adaptive measures that were tested would not consume more than a few percent of the gross national product estimated in the middle of the next century.

#### Major Research Programs Underway

The Department of Energy (DOE) which is acting as a focal point for the U.S. government in this area is planning to issue two reports to the scientific community and to policy makers. The first one, summarizing-five years of study is due in 1984, and the second one in 1989. The current plan is to invest approximately 10 years of research and assessment prior to recommending policy decisions in this area which impact greatly on the energy needs and scenarios for the U.S. and the world. The strategic elements of the United States national total CO<sub>2</sub> program are summarized in Figure 8.

Much of the government sponsored effort to date has focused on delineating the research needed to enhance our understanding of the potential problems. Accordingly, a number of workshops and symposia were held to this end. The consensus of the key research needs is summarized in Figure 8 under the heading "Research Program Results." To date, most of the research effort has been concentrated on the first two research categories. It should be noted, however, that this research started in 1979 and there are few results to report. The most ambitious project being conducted at this time is called "Transient Tracer in the Ocean (TTO)." This research, jointly funded by the DOE and the National Science Foundation (NSF), is a 4M\$ project to investigate ocean mixing processes in order to enhance the understanding of how surface water CO<sub>2</sub> is mixed into the deep ocean. Tracers normally found in the ocean, such as <sup>14</sup>C, <sup>5</sup>H, <sup>5</sup>He, <sup>65</sup>Kr and <sup>59</sup>Ar, are monitored in the North Atlantic Ocean from oceanographic vessels.

In addition to the mixing of surface waters into the bottom layers, carbon can be added to deep waters by the oxidation of organic matter and the dissolution of calcium carbonate. In order to separate these three processes and determine their relative significance, precise total carbon dioxide, alkalinity, and calcium concentration data are needed to construct and test mathematical models. Preliminary analysis of the limited data indicates that (1) lateral processes dominate the distribution of calcium and inorganic carbon in the deep oceans away from the polar regions, (2) the amount of calcium carbonate dissociated in the deep oceans is only a fraction of the previously estimated value, and (3) the excess CO<sub>2</sub> may have penetrated farther into the deep oceans than the currently available models predict.

Ultimately, CO in the air should find its way into the deep ocean sediments. As currently understood, the deeper sediments have thus far been little affected by the fossil fuel era because of the slow mixing of the ocean. A group of scientists examined the contention that some shallow water sediments could now be dissolving and thus providing a sink for atmospheric CO, and concluded that the extent of dissolution is not great enough to have a large effect on the global carbon cycle.

It would be helpful if reliable estimates of the CO<sub>2</sub> concentration in the air could be obtained for the years prior to 1957, when<sup>2</sup> the modern measurements

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#### A NATIONAL PROGRAM ON CARBON DIOXIDE, ENVIRONMENT AND SOCIETY

Figure 8

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began. Old Smithsonian Astrophysical Observatory plates of the solar spectrum taken in the early twentieth century might provide such an opportunity if they could be properly interpreted. A method for reducing the data has been developed and estimates of the CO<sub>2</sub> concentration should be available next year. As mentioned previously, determination of the CO<sub>2</sub> concentrations prior to the Industrial Revolution would help ascertain the validity of climate models, and thus the likely temperature due to a doubling of atmospheric CO<sub>2</sub>.

Groups in Europe have used Antarctic and Greenland ice cores to independently estimate the CO<sub>2</sub> concentrations in the more distant past. While it is difficult to measure the CO<sub>2</sub> content of the dated ice cores, the results suggest that the atmospheric CO<sub>2</sub> concentration during the height of the last ice age (about 18,000 years ago) may have been about half its present value. This is consistent with recently published speculations derived from examination of the composition of ocean sediment cores.

There are currently approximately 40 carbon cycle and climate research projects in about 25 different institutions. Many of these projects are either supported jointly by the DOE and other agencies or exclusively by other agencies. The 1982 Federal budget request for CO, research was 23.9M\$. The DOE, as the lead agency, would be allocated 14.0M\$, NSF 6.4M\$, NOAA 2.5M\$, and the Department of Agriculture 1.0M\$.

Future Energy Scenarios and Their Potential Impact on Atmospheric Carbon Dioxide

A number of future energy scenarios have been studied in relation to the CO problem. These include such unlikely scenarios as stopping all fossil fuel<sup>2</sup> combustion at the 1980 rate, looking at the delay in doubling time, and maintaining the pre-1973 fuel growth rate. Other studies have investigated the market penetration of non-fossil fuel technologies, such as nuclear, and its impact on CO<sub>2</sub>. It should be noted, however, that fuel technology would need about 50 years to penetrate and achieve roughly half of the total market. Thus, even if solar or nuclear technologies were to be considered viable alternatives, they would not really displace fossil fuel energy for the next 40 to 50 years, and CO<sub>2</sub> growth would have to be estimated based on realistic market displacement of<sup>2</sup> the fossil fuel technologies.

A draft report from Massachusetts Institute of Technology (MIT) and Oak Ridge (ORNL) authored by D. Rose and others considered the societal and technological inertia vis a vis decision making on the CO<sub>2</sub> issue. The CO<sub>2</sub> problem was considered as the major potential constraint on fossil fuel use. It was estimated in the study that the CO<sub>2</sub> problem may curtail fossil fuel use before physical depletion occurs. Considerable effort was devoted in the study to "option space," i.e., what are the potential energy alternatives, how long would it take to introduce them, and what type of material resources would be needed for effective market penetration. On reviewing the report we addressed only the technical questions relating to CO<sub>2</sub>, and did not evaluate the plausibility of the scenarios relating to energy use in the future.

The study considered the implications of limiting atmospheric CO2 at two different levels:

- 1. Rate of CO<sub>2</sub> addition to the atmosphere be limited to 450-500 ppm in 50 years.
- The concentration ceiling for atmospheric CO<sub>2</sub> be in the range of 500-1000 ppm.

The rationale for choosing these limits is economic. If the rate of CO increase is too rapid, then society may not be able to economically adapt to the resulting climate change. The second limit is based on a level where the harm due to CO, would greatly exceed the societal benefits that produced the CO. The second limit can be illustrated as an assumed threshold for inducing great irreversible harm to our planet, such as causing a large ocean level rise due to melting polar ice. In addition to improving the use of energy sources as a means of gaining time to understand the problem, it was concluded that vigorous development of non-fossil energy sources be initiated as soon as possible.

The study appears to be based on reasonable assumptions but has an inherent bias towards the accelerated development of non-fossil energy sources which, based on the present state-of-the-art, implies nuclear energy.

In his analysis, Rose introduced the concept of AIT (action initiation time), defined as the time when policies to modify or restrain fossil fuel use actually start to be effective. Based on this concept, Rose projects nonfossil growth rates of 6 to 9%/a over 40 to 50 years in order to limit atmospheric CO, to 500 to 700 ppm. These rates can be put in perspective by noting that such growth rates were achieved for natural gas introduction. However, nuclear or solar sources would have severe restrictions because such technologies are not as economically and politically attractive, technologically straightforward, and are encountering social and environmental opposition. In addition, Rose points out that the rate of growth of manufacturing facilities required to achieve a 6-9%/a growth rate in non-fossil fuel power generation is so large that it would be equivalent to increasing each year the U.S. power equipment manufacturing capability by an amount equivalent to the current capacity.

The study also indicated that other <u>energy-use-related</u> greenhouse gases (viz. carbon monoxide, methane, and oxides of nitrogen) may significantly contribute to a global warming. We believe the contribution of these gases to a global warming is highly speculative. Furthermore, N<sub>2</sub>O, the only oxide of nitrogen that could contribute to a global warming is produced primarily by the microbial oxidation of ammonia from fertilizer use, and to a lesser extent from the combustion of fossil fuels. Additionally, N<sub>2</sub>O is more reactive than CO<sub>2</sub> and is expected to have a relatively shorter atmospheric residence time. In

a similar vein, methane is primarily emitted to the atmosphere via the anaerobic fermentation of organic material. The contribution of anthropogenic activities (mining, industrial processes, and combustion) are 1% to 10% of the total atmospheric methane sources. The atmospheric destruction of methane is more rapid than that of CO, and tends to yield CO, water vapor and formaldehyde. Also, methane is believed to contribute to tropospheric ozone formation by oxidizing to CO.. The CO in the atmosphere can be traced to anthopogenic sources (50 to 60%) and to the atmospheric oxidation of methane (30%). The major CO sink is oxidation (70 to 90%) to CO2. One can therefore consider CO and methane as precursors to CO. Accordingly, CO and methane ultimately contribute to climatological effects as part of atmospheric CO2. The N20, on the other hand, may not be directly related to fossil fuel combustion. One should question whether the other "greenhouse" gases should be considered part of the CO, problem in view of the uncertainties regarding their connection to energy use. It is not clear, at this time, whether their effect would be additive to CO..

#### Forecast Based on Fossil Fuel Projected in Exxon's Long Range Energy Outlook

As part of the Exxon 21st Century Study, the rate of fossil fuel CO<sub>2</sub> emissions was estimated in late 1981. Specifically, the "High Case" volumetric data provided by the Corporate Planning Department was used to estimate the potential growth of atmospheric CO<sub>2</sub>. The volumetric data was converted to an energy basis (Quads/a = 10<sup>15</sup> Btu/year) using 5.55 MBtu/B for U.S., 5.64 MBtu/B for Canada and 5.85 MBtu/B for all other countries. In addition, a shale processing loss was added using a constant rate of 27.5% of the primary energy consumption from shale. This was based on the assumption that above ground retorting of relatively high quality oil shale (>30 gallons/ton) would be recovered with a thermal efficiency of 80%, and in-situ recovery of relatively poor oil shale (>15 gallons/ton) would be accomplished with a thermal efficiency of 65%. These efficiencies were averaged over the U.S. resource base to arrive at 72.5%. Table 1 summarizes the primary energy consumption of fossil fuels.

The total carbon dioxide that can be emitted from primary fossil fuels was estimated using the following factors:

Oil = 170 lb CO<sub>2</sub>/MBtu = 21.0 MtC\*/Quad. Gas = 115 lb CO<sub>2</sub>/MBtu = 14.2 MtC/Quad.

Coal = 207 1b CO2/MBtu = 25.6 MtC/Quad.

In addition, the quantity of carbon dioxide that could be emitted from the decomposition of carbonate minerals in processing U.S. oil shale was estimated by averaging this potentially large CO, source over the Green River formation resource base. It should be noted that poorer shale resources tend to

\* MtC = million metric tons of carbon.

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PRIMARY ENERGY CONSUMPTION OF FOSSIL FUELS 21st CENTURY STUDY--HIGH CASE

			Quads	/a		
	÷				-	
Year	1979	1990	. 2000	2015	2030	2050
oil ·	6 J. U.S.	20				
.U.S.	37.09	33.32	32.01	35.35	. 36.35	. 36.80
Canada	4.06	4.30	4.71	5.62	6.09	5.97
Others	96.62	111.93	128.16	139.63	148.57	132.75
Total	137.77	149.55	164.88	180.60	191.01	175.52
Gas						
U.S.	20.95	17.83	17.24	· 15.98	16.87	17.42
Canada	1.83	2.51	. 2.88	3.48	4.38	4.73
Others .	30.88	55.54	74.95	86.24	99.65	108.68
Total	53.66	75.88	95.07	1,05.70	120.90	130.83
Coal						
U.S.	14.69	20.14	28.66	37.19	43.17	55.10
Canada	0.80	1.37	1.98	2.72	3.62	5.35
Others	60.17	81.44	103.90	125.55	175.55	261.14
Total	75.66	102.95	134.54	" 165.41	222.54	321.59
Fossil Fuels			(4)			
	× ,		· · ·			
World Total	267.09	328.38	394.49	451.71	534.45	627.94
Rate %/a		1.90	1.85	0.91	1.13	0.81
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emit much more CO<sub>2</sub> from carbonate minerals than the more desirable high quality resources for the same quantity of shale oil produced. It was further assumed that 65% of the carbonate minerals decompose during processing. This very conservative assumption is based on the average of 100% decomposition that may occur in "hot spots" during in-situ recovery and 30% decomposition that is generally observed in above ground retorting. Table 2 summarizes the total CO<sub>2</sub> produced in GtC/a. Please note that CO<sub>2</sub> emissions resulting from CO<sub>2</sub> mixed with natural gas in producing wells can be substantial, but due to the unavailability of quantitative data this factor was assumed to contribute about 5% additional CO<sub>2</sub> currently rising to 15% in the year 2050. This trend of CO<sub>2</sub> contamination of natural gas is consistent with recent Exxon experience.

The contributions of shale oil to primary fossil fuel energy and primary fossil fuel carbon are summarized in Table 3. This table shows that the fraction of shale oil CO<sub>2</sub> emissions to total CO<sub>2</sub> is greater than the corresponding contribution of shale oil energy to total energy. Table 3 also indicates the breakdown between CO<sub>2</sub> generated in producing and consuming shale oil, and that due to carbonate mineral decomposition.

Table 4 presents the estimated total quantities of CO, emitted to the environment as GtC, the growth of CO in the atmosphere in ppm (v), and average global temperature increase in  $^\circ$ C over 1979 as the base year. In order to estimate the buildup of atmospheric CO,, it was assumed that the average atmospheric CO<sub>2</sub> concentration was 337 ppm in 1979. The fraction of CO<sub>2</sub> accumulated in the atmosphere was assumed to be 0.535 of the total fossil fuel CO.. This number is derived from the observed historic ratio of total atmospheric CO, to total fossil fuel CO,. Inherent in this number is the assumption that biomass and cement production did not contribute to atmospheric CO., It should be noted, however, that this method of calculation would tend to predict total anthropogenic CO, as long as the ratio of biomass and cement manufacture to fossil fuel consumption remains constant. The average temperature increase since 1979 was estimated, assuming that a doubling of CO<sub>2</sub> would cause an average global temperature increase of  $3.0^{\circ} \pm 1.5^{\circ}$ C. It was also assumed that fossil fuel carbon would grow at a rate of 0.8%/a between 2050 and 2080, which is a reasonable decrease from the 0.97%/a rate projected between 2030 and 2050. The following section analyzes the implications of the temperature rise due to CO, doubling with respect to initial detection of a greenhouse effect.

One variation of the High Case scenario was considered. It was assumed that adequate quantities of oil and gas would be discovered to exactly match those estimated to be produced from synthetic fuels in the High Case scenario, and thus balance the primary energy needs of the 21st Century Study. The net quantity of carbon that would be saved is summarized in Table 5. The implications of the synfuel losses are compared with the High Case in Figure 3. The overall impact is relatively minor.

		12	24
TABLE	2		

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	PRIMARY CARBON	DIOXIDE (AS .21st CENTU	CARBON) JRY STUDY	FORMATION H HIGH CASE	FROM FOSSIL FUELS	
. *·		1.0	GtC/a			
Year	1979	1990	2000	2015	2030	2050
Oil	2.90	3.15	3.47	- 3.79	4.01	3.69
Inorganic Carbon	<del>.</del> .	0.01	0.05	0.19	0.27	0.40
Total Oil	2.90	3.16	3.52	3.98	4.28	4.09
Gas	0.76	1.08	1.35	1.50	1.72	1.86
CO <sub>2</sub> in Gas	0.04	0.11	0.15	0.18	0.22	0.28
Total Gas	0.80	1.19	1.50	1.68	1.94	2.14
Total Coal	1.93	2.64	3.45	4.24	5.70	8.24
World Total	5.63	7.00	8.47	9.90	11.92	14.47
Rate %/a	2.00	1.92	1	.05	1.25 0.97	0.80

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#### OIL SHALE LIQUID FUELS PRIMARY ENERGY CONSUMPTION AND CARBON DIOXIDE (AS CARBON) PRODUCTION 21st CENTURY STUDY--HIGH CASE

Year	1979	1990	2000	2015	2030	2050
U.S. Shale, Quads/a		1.01	3.65	14.38	20.66	30.79
Other Shale		0,21	1.49	2.56	5.55	11.10
Total	·	1.21	5.14	16.94	26.21	41.89
<pre>% Primary Shale Energy/Primary Fossil Fuels Energy</pre>	<u>د</u>	0.35	1.30	3.75	4.90	6.67
Shale Carbon, GtC/A		0.03	0.11	0.36	0.55	0.88
Carbonate Carbon	· · · ·	0.01	0.05	0.19	0.27	0.40
.Total	· · · · ·	0.04	0.16	0.55	0.82	1.28
<pre>% Primary Shale Carbon/Primary Fossil Fuel Carbon</pre>	-	0.55	1.89-	5.55	6.87 :	8.85

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## ESTIMATED ATMOSPHERIC CO2 CONCENTRATION AND AVERAGE TEMPERATURE INCREASE 21st CENTURY STUDY--HIGH CASE

	Emitted, GtC		Stored in At	mosphere,GtC	Atmosph Concentrat	Average Temperature	
Year	Incremental	Cummulative	Incremental	Cummulative	Incremental	Cummulative	Increase, °C
		· ·					
1979			·	715		337	0
1990	69.3	69.3	37.1	752	17.5	355	0.22
2000	77.2	146.5	41.3	793	19.5	374	0.45
2015	137.5	284.0	73.6	867	34.7	409	0.84
2030	163.3	447.3	87.4	954	41.2	450	1.25 t
2050	263.5	710.8	141.0	1095	66.5	516	1.84
2080	490.6	1201.4	262.5	1358	123.7	640	2.78
2090	191.3	1392.7	102.3	<b>'1160</b>	48.2	688	3.09

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#### ESTIMATED INCREMENTAL CO<sub>2</sub> CONTRIBUTION FROM SYNTHETIC FUELS TO ATMOSPHERIC CO<sub>2</sub> CONCENTRATION AND AVERAGE GLOBAL TEMPERATURE INCREASE

GtC/a

	Year	1990	2000		2015	2030	2050		2080
	Shale Loss Carbonate Decomposition Total Shale	0.004 0.013 0.017	0.025 0.047 0.072	•	0.069 0.186 0.255	0.114 <u>0.267</u> 0.381	0.181 0.398 . 0.579		
	Coal Loss	0.018	0.067		0.136	0.276	0.535		
	Total Synfuels f.oss	0.035	0.139		0.391	0.657	1.114	9	
	Rate %/a	14.8	-	7.1		3.5	2.7	2.0	
	Incremental CO2, GtC	-	0.80		3.73	7.73	. 17.38		45.79
	Cummulative CO2, GtC	i se	0.80		4.53	12.26	29.64	4	75.43
	Incremental Atmospheric CO2, ppm	-	0.2		0.9	1.9	4.4		11.5
	Cummulative Atmospheric CO2, ppm	÷	0.2		i.1 ;	3.1	7.5	,	19
	Net Atmospheric CO2, ppm	355	374		407	. 446	506		616
Supp.	Average Temperature Increase, °C	0.22	0.45	÷	0.82	1.21	1.76		2.61
A								<u>,</u>	

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#### Detection of a CO<sub>2</sub> Greenhouse Effect

It is anticipated by most scientists that a general consensus regarding the likelihood and implications of a CO<sup>2</sup> induced greenhouse effect will not be reached until such time as a significant temperature increase can be detected above the natural random temperature fluctuations in average global climate. These fluctuations are assumed to be  $\pm 0.5$ °C. The earliest that such discreet signals will be able to be measured is one of the major uncertainties of the CO<sub>2</sub> issue.

A number of climatologists claim that they are currently measuring a temperature signal (above climate noise) due to a CO<sub>2</sub> induced greenhouse effect, while the majority do not expect such a signal to be detectable before the year 2000. In order to quantify the implications of detecting a greenhouse effect now, as opposed to the year 2000, estimates were made on temperature projections as a function of the CO<sub>2</sub> concentration that existed prior to the Industrial Revolution. Available data on CO<sub>2</sub> concentration prior to the Industrial Revolution tend to fall into two groups: 260 to 270 ppm or 290 to 300 ppm. In Table 6, possible temperature increases were estimated as a function of initial CO<sub>2</sub> concentrations of 265 and 295 ppm. Temperatures were projected for three cases, viz., (1) a temperature increase of 3°C occurs if current CO<sub>2</sub> concentration doubles, (2) the greenhouse effect is detectable now (1979), and (3) the greenhouse affect is detected in the year 2000.

One can see in Table 6 that if a doubling of atmospheric CO<sub>2</sub> will cause a 3°C rise in temperature, then we should have seen a temperature increase above climate noise if initial CO, concentration was 265 ppm, or be on the threshold of detecting such an effect now, if the initial concentration was 295 ppm. we assume that we are on the threshold of detecting a greenhouse effect, then the average temperature due to a doubling of CO, will be 1.9°C for an initial CO, concentration of 265, or 3.1°C for an initial concentration of 295 ppm. Finally, if the greenhouse effect is detected in the year 2000, then the doubling temperature for initial CO, concentrations of 265 and 295 ppm will be 1.3 and 1.7 C, respectively. Based on these estimates, one concludes that a doubling of current concentrations of CO, will probably not cause an average global temperature rise much in excess of 3°C, or the effect should be detectable at the present time. Alternatively, if the greenhouse effect is not detected until 2000, then the temperature due to a CO, doubling will probably be under 2°C. Using the Exxon 21st Century Study as a basis for fossil fuel growth patterns, the average global temperature increases due to CO, would range between 0.8 and 1.6°C by 2030. A doubling of atmospheric CO, would be extropolated from the fossil fuel consumption rates of the 21st Century Study to occur at about the year 2090 with the temperature increase ranging between 1.3° and 3.1°C. The projected range presented above is considerably lower than the generally accepted range of 1.5° to 4.5°C. Figure 9 illustrates

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EFFECT OF PRE-INDUSTRIAL ATMOSPHERIC CO2 CONCENTRATION ON GLOBAL AVERAGE TEMPERATURE INCREASE

	100 million (100 million)	Temperature, <sup>o</sup> C								
Atmospheric CO2	Time	Doublin	ng ~2090	Detecte	d 1979	Detec	ted 2000			
Concentration, ppm	(Instantaneous Equilibrium)	265	295	265	295	265	295			
1,000	~2140	4.3	4.4	2.8	4.6	· 1.9	2.5			
. 800	~2110	3.6	3.6	2.3	3.7	1.4	2.1			
674 (Doublin	g) ~2090	3.0	3.0	1.9	3.1	1.3	1.7			
451	2030	1.7	1.5	1.1	1.6	0.8	0.9			
375	2000	1.1	0.9	0.7	0.9	. 0.5	0.5			
337 (Current	) 1979	0.8	0.5	0.5	0.5	0.3	0.3			
295	~1850	0.3	0	0.2	0	0.2	0			
265	~1850	0	-	. 0	, <b>E</b>	0	101.4			

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#### Figure 9

Range of Global Mean Temperature From 1850 to the Present with the Projected Instantaneous Climatic Response to Increasing CO<sub>2</sub> Concentrations.



the behavior of the mean global temperature from 1850 to the present, contained within an envelop scaled to include the random temperature fluctuations, and projected into the future to include the 1.3° to 3.1°C range of uncertainty noted above for the CO<sub>2</sub> effect.

Depending on the actual global energy demand and supply, it is possible that , some of the concerns about CO<sub>2</sub> growth due to fossil fuel combustion may be reduced if fossil fuel use is decreased due to high price, scarcity, and unavailability.

The above discussion assumes that an instantaneous climatic response results from an increase in atmospheric CO<sub>2</sub> concentration. In actuality, the temperature effect would likely lag the CO<sub>2</sub> change by about 20 years because the oceans would tend to damp out temperature changes.

Given the long term nature of the potential problem and the uncertainties involved, it would appear that there is time for further study and monitoring before specific actions need be taken. At the present time, that action would likely be curtailment of fossil fuel consumption which would undoubtedly seriously impact the world's economies and societies. Key points needing -better definition include the impact of fossil fuel combusion and the role of - the oceans in the carbon cycle and the interactive effect of carbon dioxide and other trace atmospheric gases on climate.

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# **Exhibit II**

### CO2 GREENHOUSE AND CLIMATE ISSUES

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HENRY SHAW

PRESENTED AT

EUSA/ER&E ENVIRONMENTAL CONFERENCE

FLORHAM PARK, NEW JERSEY

MARCH 28, 1984

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RESULTS/EFFECTS

	EPA	NRC/NAS	MIT	EXXON
• TIME FOR CO2 DOUBLING	2060	2075	-	2090
AVERAGE TEMPERATURE RISE.	3 <sup>0</sup> C	∿ 2 <sup>0</sup> C	1.5-4.5 <sup>0</sup> C	1.3 - 3.1 <sup>0</sup> C
• OTHER GASES IMPACT	-1.6 to 3.3°C	∿1 <sup>0</sup> C	÷.	÷
• SEA LEVEL RISE	150 cm, 2040 215 cm, 2100	70 cm 2080 (3-4°C rise)	. <b>.</b> .	1÷1
<pre> PRECIPITATION </pre>	POSSIBLE MAJOR CHANGES	DRIER MIDWEST	SIGNIFICANT, BUT UNPREDICTABLE	-
• AGRICULTURAL	PLUSES & MINUSES	BENEFITS WILL BALANCE DEBITS	SIGNIFICANT, BUT UNPREDICTABLE	÷
• AIRBORNE CO <sub>2</sub> FRACTION	0.6 to 0.8	0.4 - 0.6	0.4 to 0.6	0.53
<ul> <li>IMPACT OF ALTERNATE ENERGY SOURCES</li> </ul>	SMALL	INSENSITIVE	LARGE	INSENSITIVE

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### EPA

THERE IS LITTLE WE CAN DO EXCEPT LEARN TO ADAPT TO A WARMER CLIMATE. LEGISLATION IS UNLIKELY TO HAVE MUCH EFFECT.

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### NRC 'NAS

WE MUST RESOLVE UNCERTAINTIES THROUGH RESEARCH ./ ENERGY TAXES CAN HAVE AN IMPACT.

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LEGISLATION IS PREMATURE.

### MIT/STANFORD

WE MUST START TALKING TO POLICY MAKERS. SUGGEST EXTREME REDUCTION IN FOSSIL FUEL USE THROUGH CONSERVATION AND ALTERNATE TECHNOLOGIES USING ELECTRICITY, NUCLEAR CAN HAVE IMPACT.

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INTERNATIONAL DEBATE ON LEGISLATION IS NEEDED.

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THERE IS ADEQUATE TIME TO STUDY THE PROBLEM. LEGISLATION IS PREMATURE.

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### GROWTH OF ATMOSPHERIC CO<sub>2</sub> AND INSTANTANEOUS GLOBAL TEMPERATURE INCREASE AS A FUNCTION OF TIME

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### QUANTITY OF CO2 PRODUCED FROM FUELS

MTC/EJ PRODUCT (% EFFICIENCY)

FUEL	PRODUCTION	REFINING	COMBUSTION	TOTAL	RATIO TO GAS
COAL	÷ .		24.3	24.3	1.8
PETROLEUM GASOLINE FUEL OIL		5,5(90) 1,9(95)	18.8 19.9	24.3	1.8 1.6
NATURAL GAS	i ne	÷ 7	13.5	13.5	1.0
COAL SYNTHETICS	i i			1	
H-COAL (GASOLINE)	18,5(65)	17,2(75)	18.8	54.5	4.1
EDS (GASOLINE)	18.5(65)	13.5(80)	18.8	50.8	3.8
SNG	27 (60)	-	13.5	40.5	3.0
SHALE OIL (GASOLINE)	13,9(75)	6,5(88)	. 18.8	39.2	2.9
ELECTRICITY FROM COAL	67,4(36)			67.4	5.0
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### CO2 GREENHOUSE AND CLIMATE ISSUES

AS PART OF CPPD'S TECHNOLOGY FORECASTING ACTIVITIES IN 1981, I WROTE A CO<sub>2</sub> GREENHOUSE FORECAST BASED ON PUBLICALLY AVAILABLE INFORMATION. SOON THEREAFTER, S&T REQUESTED AN UPDATE OF THE FORECAST USING EXXON FOSSIL FUEL PROJECTIONS. THIS REQUEST WAS FOLLOWED LATE IN 1981 WITH A REQUEST BY CPD FOR ASSISTANCE IN EVALUATING THE POTENTIAL IMPACT OF THE CO<sub>2</sub> EFFECT IN THE "2030 STUDY". AFTER MEETING CPD'S SPECIFIC NEED, A FORMAL TECHNOLOGY FORECAST UPDATE WAS ISSUED TO S&T IN THE BEGINNING OF APRIL 1982. IT WAS SUBSEQUENTLY SENT FOR REVIEW TO THE EXXON AFFILIATES. THE PRIMARY FOSSIL FUEL VOLUMETRIC PROJECTIONS WERE CONVERTED TO AN ENERGY BASIS IN QUADS/YEAR, AS SHOWN ON THE <u>FIRST VUGRAPH</u>. SINCE SHALE LOSSES WERE NOT INCLUDED BY CPD, THEY WERE ESTIMATED AND ADDED TO OIL ENERGY. THE TOTAL CARBON CONTENT PER UNIT ENERGY OF THE U.S. RESOURCES OF COAL AND OIL SHALE WERE AVERAGED IN ORDER TO CALCULATE LBS. CO<sub>2</sub>/MBTU FOR EACH RESOURCE:

			RATIO
OIL	=	170 LBS. CO <sub>2</sub> /MBTU	1.5
GAS	=	115	1.0
CÓAL	=	207	1.8

THESE NUMBERS WERE CHECKED AGAINST SOME INFORMATION ON WORLD RESOURCES AND FOUND TO BE ADEQUATE.

VG-1

VG-2

WE THEN ESTIMATED THE TOTAL CO2 EMITTED FROM THE OXIDATION OF THESE FUELS, AS SHOWN IN THIS VUGRAPH. THIS IS A SEMILOG PLOT WHICH TENDS TO PICTORIALLY OVEREMPHASIZE THE IMPORTANCE OF GAS. WE CHOOSE THIS TYPE OF GRAPH TO ENABLE US TO SHOW CERTAIN DETAILS THAT WOULD BE HARD TO DETECT ON A LINEAR PLOT. THE RATE OF CO2 EMISSIONS GROWS AT ABOUT A 20% HIGHER RATE THAN ENERGY. THIS IS DUE, IN PART, TO THE SHARP INCREASES IN THE USE OF COAL. OTHER FACTORS THAT CONTRIBUTE TO THE HIGHER CARBON GROWTH RATE ARE SHOWN ON OVERLAY #1 AND INCLUDE THE ENTRAINED CO2 ASSOCIATED WITH NATURAL GAS IN GAS OL-1 (RED) PRODUCTION GROWING FROM ABOUT 5% TO 15% IN 2050. SIMILARLY, U.S. OIL SHALES CONTAIN A FAIR AMOUNT OF CARBONATE-CONTAINING MINERALS CONSISTING PRIMARILY OF LIMESTONE AND DOLOMITE WHICH DECOMPOSE AS A FUNCTION OF RETORTING TEMPERATURE, FROM 25% AT RELATIVELY LOW TEMPERATURES SUCH AS CONVENTIONAL RETORTING TO 100% AT ELEVATED TEMPERATURES. WE ASSUMED, VERY CONSERVATIVELY, THAT 65% OF THE CARBONATE-CONTAINING MINERALS WOULD DECOMPOSE IN PRODUCING SHALE OIL. THE CO2 IN GAS PRODUCTION WAS ADDED TO THE CO, EMISSIONS FROM GAS, AND THE SHALE CARBONATE DECOMPOSITION WAS ADDED TO CO2 EMISSIONS FROM OIL. IN ADDITION, THE PROCESSING OF COAL AND OIL SHALE TO FUELS RESULTS IN A FAIR AMOUNT OF CO2 PRODUCTION. THIS IS SHOWN ON OVERLAY #2. 0L-2

(BLUE)

VG-2

THE CLIMATIC EFFECT OF NOT HAVING A SYNFUELS INDUSTRY AND NOT EMITTING CO2 IN NATURAL GAS PRODUCTION, I.E., SUBTRACTING THE CO2 PRODUCED FROM THE SOURCES MENTIONED IN THE TWO OVERLAYS OF VUGRAPH #2, WOULD BE TO DELAY THE DOUBLING TIME BY ABOUT 5 YEARS.

OUR NEXT TASK IS TO CONVERT THE AMOUTN OF  $CO_2$  EMITTED FROM FOSSIL FUEL DXIDATION INTO A PROJECTION OF HOW IT MAY IMPACT ON CLIMATE. THIS, HOWEVER, REQUIRES A NUMBER OF ASSUMPTIONS. FIRST OF ALL, WE MUST ESTIMATE HOW MUCH OF THE  $CO_2$  STAYS IN THE ATMOSPHERE. THIS MUST BE CHECKED BY CONDUCTING A CARBON BALANCE AROUND THE EARTH. WE ASSUMED THAT ABOUT 1/2 OF THE  $CO_2$ GENERATED FROM FOSSIL FUELS REMAINS IN THE ATMOSPHERE. THIS IS A CONSERVATIVE ASSUMPTION SINCE A FAIR AMOUNT OF  $CO_2$  CAN BE TRACED TO DEFORESTATION. SECOND, WE MUST ESTIMATE HOW MUCH  $CO_2$  EXISTED IN THE ATMOSPHERE PRIOR TO THE INDUSTRIAL REVOLUTION BECAUSE  $CO_2$  CONCENTRATION WAS ASSUMED CONSTANT UP TO THAT TIME. THERE ARE TWO SCHOOLS OF THOUGHT, DEPENDING ON THE METHOD OF CHEMICAL ANALYSIS. ISOTOPE MEASUREMENTS IN TREE-RINGS INDICATE THAT THE ATMOSPHERE CONTAINED 260 TO 270 PPM  $CO_2$  PRIOR TO THE INDUSTRIAL REVOLUTION. CORRECTIONS TO MEASUREMENTS ACTUALLY CARRIED OUT ABOUT THAT TIME INDICATE THE CONCENTRATION TO HAVE BEEN 290 TO 300 PPM  $CO_2$ . THIRD, WE MUST ESTIMATE WHEN THE  $CO_2$  EFFECT WILL EXCEED THE CLIMATIC NOISE THRESHOLD OF  $0.5^{\circ}C$ .

VG-3 <u>VUGRAPH</u>. MOST CLIMATOLOGISTS ASSUME THAT THE CO<sub>2</sub> EFFECT WILL BE DETECTABLE BY THE YEAR 2000. IF SO, WE MUST TAKE INTO ACCOUNT THAT IT TAKES ABOUT TWO DECADES TO EQUILIBRATE THE OCEANS TO A NEW TEMPERATURE. THUS, THE THRESHOLD WOULD OCCUR AT 340 PPM CO<sub>2</sub> AND WOULD CAUSE A TEMPERATURE RISE OF  $3^{\circ}$ C IN 2090 WHEN THE CURRENT AMOUNT OF ATMOSPHERIC CO<sub>2</sub> WOULD DOUBLE, IF THE PRE-INDUSTRIAL CONCENTRATION HAD BEEN BETWEEN 290 AND 300 PPM. IF THE PREINDUSTRIAL CO<sub>2</sub> HAD BEEN BETWEEN 260 AND 270 PPM, THEN A DOUBLING WOULD CAUSE A  $2^{\circ}$ C RISE IN GLOBAL AVERAGE TEMPERATURE. THESE VALUES FALL TOWARD THE LOWER END OF THE GENERALLY ACCEPTED TEMPERATURE RANGE FOR A DOUBLING OF 3 ± 1.5°C, AND ARE CONSISTENT WITH THE RECENTLY PUBLISHED 50TH PERCENTILE LINE IN THE NAS REPORT. A 2 TO 3<sup>o</sup>C INCREASE IN GLOBAL AVERAGE TEMPERATURE CAN BE AMPLIFIED TO ABOUT 10<sup>o</sup>C AT THE POLES. THIS COULD CAUSE POLAR ICE MELTING AND A POSSIBLE SEA-LEVEL RISE OF 0.7 METER BY 2080. THE TIME SCALE FOR SUCH A CATASTROPHE IS MEASURED IN CENTURIES. OTHER POTENTIAL EFFECTS ASSOCIATED WITH A HIGH ATMOSPHERIC CO<sub>2</sub> CONCENTRATION AND A WARMER CLIMATE ARE:

- REDISTRIBUTION OF RAINFALL
- POSITIVE AND NEGATIVE CHANGES IN AGRICULTURAL PRODUCTIVITY
- ACCELERATED GROWTH OF PESTS AND WEEDS
- DETRIMENTAL HEALTH EFFECTS
- POPULATION MIGRATION

SOCIETY MUST CAREFULLY STUDY THE PROBLEM IN ORDER TO ESTABLISH A DESIRABLE COURSE OF ACTION. WE CAN EITHER ADAPT OUR CIVILIZATION TO A WARMER PLANET OR AVOID THE PROBLEM BY SHARPLY CURTAILING THE USE OF FOSSIL FUELS. THE GENERAL CONCENSUS IS THAT SOCIETY HAS SUFFICIENT TIME TO TECHNOLOGICALLY ADAPT TO A CO<sub>2</sub> GREENHOUSE EFFECT.

OUR CONCLUSION WAS RECENTLY REAFFIRMED BY A NUMBER OF STUDIES WHICH RECEIVED WIDE PRESS PUBLICITY. THESE STUDIES INCLUDE THOSE OF THE EPA, NRC/N AS, AND MIT/ NSF AND ARE SUMMARIZED IN THE NEXT 4 VU-GRAPHS.

## **Exhibit JJ**

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us promised, a workshop läst, Adams for his workshop so q	disched is the distrational (7)m Priday: Thanks especially to the very helpful thoughts following uchty-	ata Science Communications Flan that wa sea of you who participated in the workshop pour meeting, and Alan Caudill for turning	developad dumity our 5, and in particular to John 3 amund the notes from our	
Please raviow	the plan and get back to ma wil	h your comments as soon as possible.		
As those of you harson on Find help us imove i That will be an	a who were at the Workshop kin ay, April 17, from 1 to 3 p.m. at I forward to potential funding so item for discussion on April 17.	w, ye have scheduled a follow-up learn m the API headquarters. After this, we kepe unve, perhaps starting with the global clim	seting to review the plan in to have a "plan chattipion" are "Coordinating Council."	
Again, thanks	for your hand work on this proje	st. Please o-mail, call orfax me with yourd	ountments, Thatika,	
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# Global Climate Science Communications

## Action Plan

## Project Goal

A majority of the American public, including industry leadership, recognizes that significant incortainties exist in climate edenor, and therefore raises questions among those (e.g. Congress) who chait the future U.S. course on global climate change.

Progress will be measured toward the goal. A measurement of the public's perspective on climate science will be taken before the plan is launched, and the same is implemented measurement will be taken at one or more as yet-to-be-determined intervals as the plan

## Victory Will Be Achieved When

- . recognition of uncertainties becomes pair of the "conventional wisdom" Average citizens "understand" (recognize) uncertainties in climate science;
- Media "understands" (recognizes) uncertainties in climate science
- Media coverage reflects balance on climate science and recognition of the validity of viewpoints that challenge the current "conventional wisdom"
- them stronger ambassadors to those who shape climate policy Industry sentor leadership understands uncertainties in climate science, making
- touch with reality. Those promoting the Kyoto treaty on the basis of extant science appear to be out of

## **Current Reality**

necessary to establish measurements for the science effort to track progress toward achieving the goal and strategic success. there may be no moment when we can declare victory for our efforts. It will be is defeated and there are no further initiatives to thwart the threat of climate change. Unless "climite change" becomes a non-issue, meaning that the Kypto proposal Because the science underpinning the global climate change theory has not been challenged effectively in the media or through other vehicles reaching the American public, there is widespread ignorance, which works in favor of the Kyoto treaty and against the best interests of the United States. Indeed, the public has been highly receptive to the Clinton Administration's plans. There has been little, if any, public resistance or pressure applied to Congress to reject the treaty, except by those "inside the Beltway" with vested interests.

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Moreover, from the political viewpoint, it is difficult for the United States to oppose the treaty solely on economic grounds, valid as the economic issues are. It makes it too easy for others to portray the United States as putting preservation of its own lifestyle above the greater concerns of mankind. This argument, in turn, forces our negotiators to make concessions that have not been well thought through, and in the end may do far more hann than good. This is the process that unfolded at Kyoto, and is very likely to be repeated in Buenos Aires in November 1998.

The advocates of global warming have been successful on the basis of skillfully misrepresenting the science and the extent of agreement on the science, while industry and its partners coded the science and fought on the economic issues. Yet if we can show that science does not support the Kyoto treaty — which most true climate scientists believe to be the case — this puts the United States in a stronger moral position and frees its negotiators from the need to make concessions as a defense against perceived selfish economic concettns.

Upon this tableau, the Global Climate Science Communications Team (GCSCI) developed an action plan to inform the American public that science does not support the precipitous actions Kyoto would dictate, thereby providing a climate for the right policy decisions to be made. The team considered results from a new public opinion survey in developing the plan.

Charlton Research's survey of 1,100 "informed Americans" suggests that while Americans currently perceive climate change to be a great threat, public opinion is open to change on climate science. When informed that "some scientists believe there is not enough evidence to suggest that [what is called global climate change] is a long-term change due to human behavior and activities," 58 percent of those surveyed said they were more likely to oppose the Kyoto treaty. Moreover, half the respondents harbored doubts about climate science.

GCSCT members who contributed to the development of the plan are A. John Adams, John Adams Associates; Candace Crandall, Science and Environmental Policy Project: David Rothbard, Committee For A Constructive Tomorrow; Jeffrey Salmon, The Marshall Institute; Lee Garrigan, Environmental Issues Council: Lynn Bouchey and Myron Ebell, Frontiers of Freedom: Peter Cleary, Americans for Tax Reform; Randy Randol, Exxon Corp.; Robert Gehri. The Southern Company; Sharon Kneiss, Chevron Corp: Steve Milloy, The Advancement of Sound Science Coalition; and Joseph Walker, American Petroleum Institute.

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### April 3, 1998

### Global Climate Science Communications

### Action Plan

### Situation Analysis

In December 1997, the Clinton Administration agreed in Kyoto, Japan, to a treaty to reduce greenhouse gas emissions to prevent what it purports to be changes in the global climate caused by the continuing release of such emissions. The so-called greenhouse gases have many sources. For example, water vapor is a greenhouse gas. But the Clinton Administration's action, if eventually approved by the U.S. Senate, will mainly affect emissions from fossil fuel (gasoline, coal, natural gas, etc.) combustion.

As the climate change debate has evolved, those who oppose action have argued mainly that signing such a treaty will place the U.S. at a competitive disadvantage with most other nations, and will be extremely expensive to implement. Much of the cost will be borne by American consumers who will pay higher prices for most energy and transportation.

The climate change theory being advanced by the treaty supporters is based primarily on forecasting models with a very high degree of uncertainty. In fact, it not known for sure whether (a) climate change actually is occurring, or (b) if it is, whether humans really have any influence on it

Despite these weaknesses in scientific understanding, those who oppose the treaty have done little to build a case against precipitous action on climate change based on the scientific uncertainty. As a result, the Clinton Administration and environmental groups essentially have had the field to themselves. They have conducted an effective public relations program to convince the American public that the climate is changing, we humans are at fault, and we must do something about it before calamity strikes.

The environmental groups know they have been successful. Commenting after the Kyoto negotiations about recent media coverage of climate change, Tom Wathen, executive vice president of the National Environmental Trust, wrote:

"...As important as the extent of the coverage was the tone and tenor of it. In a change from just six months ago, most media stories no longer presented global warming as just a theory over which reasonable scientists could differ. Most stories described predictions of global warming as the position of the overwhelming number of mainstream scientists. That the environmental community had, to a great extent, settled the scientific issue with the U.S. media is the other great success that began perhaps several months earlier but became apparent during Kyoto."

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### Strategies and Tactics

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National Media Relations Program: Develop and implement a national media relations program to inform the media about uncertainties in climate science; to generate national, regional and local media coverage on the scientific uncertainties, and thereby educate and inform the public, stimulating them to raise questions with policy makers.

Tactics: These tactics will be undertaken between now and the next climate meeting in Buenos Aires, Argentina, in November 1998, and will be continued thereafter, as appropriate. Activities will be launched as soon as the plan is approved, funding obtained, and the necessary resources (e.g., public relations counsel) arranged and deployed. In all cases, tactical implementation will be fully integrated with other elements of this action plan, most especially Strategy II (National Climate Science Data Center).

- Identify, recruit and train a team of five independent scientists to participate in media outreach. These will be individuals who <u>do not</u> have a long history of visibility and/or participation in the climate change debate. Rather, this feam will consist of new faces who will add their voices to those recognized scientists who already are vocal.
- Develop a global climate science information kit for media including peer-reviewed papers that undercut the "conventional wisdom" on climate science. This kit also will include understandable communications, including simple fact sheets that present scientific uncertainties in language that the media and public can understand.
- Conduct briefings by media-trained scientists for science writers in the top 20 media markets, using the information kits. Distribute the information kits to daily newspapers nationwide with offer of scientists to brief reporters at each paper. Develop, disseminate radio news releases featuring scientists nationwide, and offer scientists to appear on radio talk shows across the country.
- Produce, distribute a steady stream of climate science information via facsimile and e-mail to science writers around the country.
- Produce, distribute via syndicate and directly to newspapers nationwide a steady stream of op-ed columns and letters to the editor authored by scientists.
- Convince one of the major news national TV journalists (e.g., John Stossel) to
  produce a report examining the scientific underpinnings of the Kyoto treaty.

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 Organize, promote and conduct through grassroots organizations a series of campus/community workshops/debates on climate science in 10 most important states during the period mid-August through October, 1998.

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 Consider advertising the scientific uncertainties in select markets to support national, regional and local (e.g., workshops/debates), as appropriate.

National Media Program Budget

\$600,000 plus paid advertising

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II. Global Climate Science Information Source: Develop and Implement a program to inject credible science and scientific accountability into the global climate debate, thereby raising questions about and undercutting the "prevailing scientific wisdom." The strategy will have the added benefit of providing a platform for credible, constructive criticism of the opposition's position on the science.

Tactics: As with the National Media Relations Program, these activities will be undertaken between now and the next climate meeting in Buenos Aires, Argentina, in November 1998, and will continue thereafter. Initiatives will be launched as soon as the plan is approved, funding obtained, and the necessary resources arranged and deployed.

- Establish a Global Climate Science Data Center. The GCSDC will be established in.
   Washington as a non-profit educational foundation with an advisory board of
  - respected climate scientists. It will be staffed initially with professionals on loan from various companies and associations with a major interest in the climate issue. These executives will bring with them knowledge and experience in the following areas:
    - Overall history of climate research and the IPCC process;
    - Congressional relations and knowledge of where individual Senators stand on the climate issue;
    - Knowledge of key climate scientists and where they stand;
    - Ability to identify and recruit as many as 20 respected climate scientists to serve on the science advisory board;
    - Knowledge and expertise in media relations and with established relationships
    - : with science and energy writers, columnists and editorial writers;
    - Expertise in grassroots organization; and

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Campaign organization and administration.

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The GCSDC will be led by a dynamic senior executive with a major personal commitment to the goals of the campaign and easy access to business leaders at the CEO level. The Center will be run on a day-to-day basis by an executive director with responsibility for ensuring targets are met. The Center will be funded at a level that will permit it to succeed, including funding for research contracts that may be deemed appropriate to fill gaps in climate science (e.g., a complete scientific critique of the IPCC research and its conclusions).

- The GCSDC will become a one-stop resource on climate science for members of Congress, the media, industry and all others concerned. It will be in constant contact with the best climate scientists and ensure that their findings and views receive appropriate attention. It will provide them with the <u>logistical and moral</u> support they have been lacking. In short, it will be a sound scientific alternative to the IPCC. Its functions will include:
  - Providing as an easily accessible database (including a website) of all mainstream climate science information.
  - Identifying and establishing cooperative relationships with all major scientists whose research in this field supports our position.
  - Establishing cooperative relationships with other mainstream scientific organizations (e.g., meteorologists, geophysicists) to bring their perspectives to bear on the debate, as appropriate.
  - Developing opportunities to maximize the impact of scientific views consistent with ours with Congress, the media and other key audiences.
  - Monitoring and serving as and early warning system for scientific developments
    with the potential to impact on the climate science debate, pro and con.
  - Responding to claims from the scientific alarmists and media.
  - Providing grants for advocacy on climate science, as deemed appropriate.

Global Climate Science Data Center Budget

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\$5,000,000 (spread over two years minimum)

III. National Direct Outreach and Education: Develop and implement a direct outreach program to inform and educate members of Congress, state officials, industry leadership, and school teachers/students about uncertainties in climate science. This strategy will enable Congress, state officials and industry leaders will be able to raise such serious questions about the Kyoto treaty's scientific underpinnings that American policy-makers not only will refuse to endorse it, they will seek to prevent progress toward implementation at the Buenos Aires meeting in November or through other ways. Informing teachers/students about uncertainties in climate science will begin to erect a barrier against further efforts to impose Kyoto-like measures in the future.

Tactics: Informing and educating members of Congress, state officials and industry leaders will be undertaken as soon as the plan is approved, funding is obtained, and the necessary resources are arrayed and will continue through Buenos Aires and for the foreseeable future. The teachers/students outreach program will be developed and launched in early 1999. In all cases, tactical implementation will be fully integrated with other elements of this action plan.

- Develop and conduct through the Global Climate Science Data Center science briefings for Congress, governors, state legislators, and industry leaders by August 1998.
  - Develop information kits on climate science targeted specifically at the needs of government officials and industry leaders, to be used in conjunction with and "separately from the in-person briefings to further disseminate information on climate science uncertainties and thereby arm these influentials to raise serious questions on the science issue.

- Organize under the GCSDC a "Science Education Task Group" that will serve as the point of outreach to the National Science Teachers Association (NSTA) and other influential science education organizations. Work with NSTA to develop school materials that present a credible, balanced picture of climate science for use in classrooms nationwide.
- Distribute educational materials directly to schools and through grassroots
  organizations of climate science partners (companies, organizations that participate
  in this effort).

National Direct Outreach Program Budget - \$300,000

IV. Funding/Fund Allocation: Develop and implement program to obtain funding, and to allocate funds to ensure that the program it is carried out effectively.

Tactics: This strategy will be implemented as soon as we have the go-ahead to proceed.

- Fotential funding sources were identified as American Petroleum Institute (API) and its members; Business Round Table (BRI) and its members, Edison Electric Institute (EEI) and its members; Independent Petroleum Association of America (IPAA) and its members; and the National Mining Association (NMA) and its members.
  - Potential fund allocators were identified as the American Legislative Exchange Council (ALEC), Committee For A Constructive Tomorrow (CFACT), Competitive Enterprise Institute, Frontiers of Freedom and The Marshall Institute.

Total Funds Required to Implement Program through November 1998 -

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\$2,000,000 (A significant portion of funding for the GCSDC will be deferred until 1999 and beyond)

### Measurements

Various metrics will be used to track progress. These measurements will have to be determined in fleshing out the action plan and may include:

- Baseline public/government official opinion surveys and periodic follow-up surveys on the percentage of Americans and government officials who recognize significant uncertainties in climate science.
- Tracking the percent of media articles that raise questions about climate science.
- Number of Members of Congress exposed to our materials on climate science.
- Number of communications on climate science received by Members of Congress from their constituents.
- Number of radio talk show appearances by scientists questioning the "prevailing"

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 Number of school teachers/students reached with our information on climate science.

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 Number of science writers briefed and who report upon climate science uncertainties.

 Total audience exposed to newspaper, radio, television coverage of science uncertainties.

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## **Exhibit KK**

### Kline, Scot

From:	Michael Meado < Michael.Meade@ag.ny.gov>
Sent:	Tuesday, March 22, 2016 4:51 PM
To:	Kline, Scot: Morgan, Wendy
Cc:	Lemuel Srolovic: Peter Washburn; Eric Soufer; Damien LaVera; Daniel Lavoie; Natalia Salnado: Brian Mahanna
Subject:	RE: Climate Change Coalition

A couple of updates to report back to the group. First, after a follow up conversation with our AG, Al Gore will now be joining us for part of the day on 3/29. This will certainly add a little star power to the announcement!

We will also be joined by MA AG Healey, which will bring our total number of AG's to a grand total of 7. I'm waiting to hear back from New Mexico, which is our possible 8<sup>th</sup> Attorney General. On the staff side, a total of 16 states (including DC and USVI) will be joining us for the meetings.

From: Kline, Scot [mallto:scoLkline@vermont.gov] Sent: Tuesday, March 22, 2016 11:41 AM To: Michael Meade; Morgan, Wendy Cc: Lemuel Srolovic; Peter Washburn; Eric Soufer; Damien LaVera; Daniel Lavoie; Natalia Salgado; Brian Mahanna Subject: RE; Climate Change Coalition

### Mike:

Looks good. One suggestion. We are thinking that use of the term "progressive" in the pledge might alienate some. How about "affirmative," "aggressive," "forceful" or something similar?

Thanks.

Scot

From: Michael Meade <u>[mailto:Michael.Meade@ag.ny.gov]</u> Sent: Monday, March 21, 2016 2:59 PM To: Kline, Scot <<u>scot.kline@vermont.gov</u>>; Morgan, Wendy <<u>wendy.morgan@vermont.gov</u>> Cc: Lemuel Scolovic <<u>Lemuel.Scolovic@ag.ny.gov</u>>; Peter Washburn <Peter.<u>Washburn@ag.ny.gov</u>>; Eric Soufer <<u>Eric.Soufer@ag.ny.gov</u>>; Damien LaVera <<u>Damien.LaVera@ag.ny.gov</u>>; Daniel Lavoie <<u>Daniel.Lavoie@ag.ny.gov</u>>; Natalia Salgado <<u>Natalia.Salgado@ag.ny.gov</u>>; Brian Mahanna <Brian <u>Mahanna@ag.ny.gov</u>> Subject: Climate Change Coalition

Wendy and Scott,

Below are the broad goals and principles that we'd like to lay out as part of the coalition announcement next week. The filing of the brief and the defense of the EPA regs will highlight these principles. Let us know if you have any thoughts or edits to this. If it looks okay to you, I'll forward this around to the other offices when we have a draft release ready to go out. I'll also be asking the offices to contribute a quote from their respective AG's for the press release.

Let me know if you have any questions or comments.

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### Climate Coalition of Attorneys General

Principles:

Mike

### Climate Change is Real

The evidence that global temperatures have been rising over the last century-plus is unequivocal.

### Climate Change Pollution Is The Primary Driver

Natural forces do not explain the observed global warming trend.

### People Are Being Harmed

Climate change represents a clear and present danger to public health, safety, our environment and our economy - now and in the future.

### Immediate Action Is Necessary

Climate change – and its impacts – is worsening. We must act now to reduce emissions of climate change pollution to minimize its harm to people now and in the future.

### Pledge:

We pledge to work together to fully enforce the State and federal laws that require progressive action on climate change and that prohibit false and misleading statements to the public, consumers and investors regarding climate change.

### Support Progressive Federal Action; Act Against Federal Inaction

Support the federal government when it takes progressive action to address climate change, and press the federal government when it fails to take necessary action.

### Support State and Regional Action

Provide legal support to progressive state and regional actions that address climate change, supporting states in their traditional role as laboratories of innovation.

### Defend Progress

Serve as a backstop against efforts to impede or roll-back progress on addressing climate change.

### Support Transparency And Disclosure

Ensure that legally-required disclosures of the impacts of climate change are fully and fairly communicated to the public.

Engage The Public

Raise public awareness regarding the impacts to public health, safety, our environment and our economy caused by climate change.

**IMPORTANT NOTICE:** This e-mail, including any attachments, may be confidential, privileged or otherwise legally protected. It is intended only for the addressee. If you received this e-mail in error or from someone who was not authorized to send it to you, do not disseminate, copy or otherwise use this e-mail or its attachments. Please notify the sender immediately by reply e-mail and delete the e-mail from your system.

## **Exhibit LL**

### CLIMATE CHANGE COALITION COMMON INTEREST AGREEMENT

This Common Interest Agreement ("Agreement") is entered into by the undersigned Attorneys General of the States, Commonwealths, and Territories (the "Parties") who are interested in advancing their common legal interests in limiting climate change and ensuring the dissemination of accurate information about climate change. The Parties mutually agree:

1. <u>Common Legal Interests</u>. The Parties share common legal interests with respect to the following topics: (i) potentially taking legal actions to compel or defend federal measures to limit greenhouse gas emissions, (ii) potentially conducting investigations of representations made by companies to investors, consumers and the public regarding fossil fuels, renewable energy and climate change, (iii) potentially conducting investigations of possible illegal conduct to limit or delay the implementation and deployment of renewable energy technology, (iv) potentially taking legal action to obtain compliance with federal and state laws governing the construction and operation of fossil fuel and renewable energy infrastructure, or (v) contemplating undertaking one or more of these legal actions, including litigation ("Matters of Common Interest").

2. <u>Shared Information</u>. It is in the Parties' individual and common interests to share documents, mental impressions, strategies, and other information regarding the Matters of Common Interest and any related investigations and litigation ("Shared Information"). Shared Information shall include (1) information shared in organizing a meeting of the Parties on March 29, 2016, (2) information shared at and after the March 29 meeting, pursuant to an oral common interest agreement into which the Parties entered at the meeting and renewed on April 12, 2016, and (3) information shared after the execution of this Agreement.

3. <u>Legends on Documents</u>. To avoid misunderstandings or inadvertent disclosure, all documents exchanged pursuant to this Agreement should bear the legend "Confidential – Protected by Common Interest Privilege" or words to that effect. However, the inadvertent failure to include such a legend shall not waive any privilege or protection available under this Agreement or otherwise. In addition, any Party may, where appropriate, also label documents exchanged pursuant to this Agreement with other appropriate legends, such as, for example, "Attorney-Client Privileged" or "Attorney Work Product." Oral communications among the Parties shall be deemed confidential and protected under this Agreement when discussing Matters of Common Interest.

4. <u>Non-Waiver of Privileges</u>. The exchange of Shared Information among Parties including among Parties' staff and outside advisors—does not diminish in any way the privileged and confidential nature of such information. The Parties retain all applicable privileges and claims to confidentiality, including the attorney client privilege, work product privilege, common interest privilege, law enforcement privilege, deliberative process privilege and exemptions from disclosure under any public records laws that may be asserted to protect against disclosure of Shared Information to non-Parties (hereinafter collectively referred to as "Privileges").

5. <u>Nondisclosure</u>. Shared Information shall only be disclosed to: (i) Parties; (ii) employees or agents of the Parties, including experts or expert witnesses; (iii) government officials involved with the enforcement of antitrust, environmental, consumer protection, or securities laws who have agreed in writing to abide by the confidentiality restrictions of this Agreement; (iv) criminal enforcement authorities; (v) other persons, provided that all Parties consent in advance; and (vi) other persons as provided in paragraph 6. A Party who provides Shared Information may also impose additional conditions on the disclosure of that Shared Information. Nothing in this Agreement prevents a Party from using the Shared Information for law enforcement purposes, criminal or civil, including presentation at pre-trial and trial-related proceedings, to the extent that such presentation does not (i) conflict with other agreements that the Party has entered into, (ii) interfere with the preservation of the Privileges, or (iii) conflict with court orders and applicable law.

6. <u>Notice of Potential Disclosure</u>. The Parties agree and acknowledge that each Party is subject to applicable freedom of information or public records laws, and nothing in this Agreement is intended to alter or limit the disclosure requirements of such laws. If any Shared Information is demanded under a freedom of information or public records law or is subject to any form of compulsory process in any proceeding ("Request"), the Party receiving the Request shall: (i) immediately notify all other Parties (or their designees) in writing; (ii) cooperate with any Party in the course of responding to the Request; and (iii) refuse to disclose any Shared Information unless required by law.

7. <u>Inadvertent Disclosure</u>. If a Party discloses Shared Information to a person not entitled to receive such information under this Agreement, the disclosure shall be deemed to be inadvertent and unintentional and shall not be construed as a waiver of any Party's right under law or this Agreement. Any Party may seek additional relief as may be authorized by law.

8. <u>Independently Obtained Information</u>. Provided that no disclosure is made of Shared Information obtained pursuant to this Agreement, nothing in this Agreement shall preclude a Party from (a) pursuing independently any subject matter, including subjects reflected in Shared Information obtained by or subject to this Agreement or (b) using or disclosing any information, documents, investigations, or any other materials independently obtained or developed by such Party.

9. <u>Related Litigation</u>. The Parties continue to be bound by this Agreement in any litigation or other proceeding that arises out of the Matters of Common Interest.

10. <u>Parties to the Agreement</u>. This Agreement may be executed in counterparts. All potential Parties must sign for their participation to become effective.

11. <u>Withdrawal</u>. A Party may withdraw from this Agreement upon thirty days written notice to all other Parties. Withdrawal shall not terminate, or relieve the withdrawing Party of any obligation under this Agreement regarding Shared Information received by the withdrawing Party before the effective date of the withdrawal.

12. <u>Modification</u>. This writing is the complete Agreement between the Parties, and any modifications must be approved in writing by all Parties.

Dated: May 18 \_\_\_\_, 2016

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Michele Van Gelderen Supervising Deputy Attorney General Consumer Law Section Office of Attorney General Kamala D, Harris 300 South Spring Street, Suite 1702 Los Angeles, CA 90013 Tel, (213) 897-2000

Dated: May , 2016 3

Matthew I. Levine Assistant Attorney General Office of the Attorney General 55 Elm Street P.O. Box 120 Hartford, CT 06106

Dated: Mary 2 ,2016

Elizabeth Wilkins Senior Counsel to the Attorney General\* Office of the Attorney General for the District of Columbia 441 4th Street N.W. Suite 1100S Washington, D.C. 20001 (202) 724-5568 elizabeth.wilkins@dc.gov

\*Admitted to practice only in Maryland. Practicing in the District of Columbia under the direct supervision of Natalie O. Ludaway, a member of the D.C. Bar pursuant to D.C. Court of Appeals Rule 49(c).

Dated: May Z ,2016

James P. Gignac Environmental and Energy Counsel Illinois Attorney General's Office 69 W. Washington St., 18th Floor Chicago, IL 60602 (312) 814-0660 jgignac@atg.state.ll.us Dated: April 29, 2016

CHRISTOPHE COURCHESNE Assistant Attorney General Chief, Environmental Protection Division One Ashburton Place Boston, MA 02108 christophe.courchesne@state.ma.us

Dated: 1 4.1 10 , 2016

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Jushua N. Auerbach Assistant Attorney General 200 Saint Paul Place Baltimore, Maryland 21202 (410) 576-6311 jauerbach@oag.state.md.us

Dated: May 5, 2016

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Gerald D. Reid Assistant Attorney General Chief, Natural Resources Division Maine Office of the Attorney General (207) 626-8545 jerry.reid@maine.gov

Olion Date: 5/16/16 Signature:

Karen D. Olson Deputy Attorney General Minnesota Attorney General's Office 445 Minnesota Street, Suite 900 St. Paul, MN 55101 (651) 757-1370 karen.olson@ag.state.mn.us

Ξ.
Dated: April 29, 2016

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Dated: Thank 6 ,2016

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Tania Maestas Deputy Attorney General Civil Affairs Office of the New Mexico Attorney General PO Drawer 1508 Santa Fe, NM 87504

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Dated: Hay ,2016 01

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Monica Wagner Deputy Chief Environmental Protection Bureau Office of the Attorney General of New York 120 Broadway, 26<sup>th</sup> floor New York, NY 10271 212-416-6351 Dated: April 29 . , 2016

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Phul Garrahan

Attorney-in-Gharge | Natural Resources Section | General Counsel Division Oregon Department of Justice 1162 Court St. NE, Salem, OR 97301-4096 971.673.1943 (Tue, Thu, Fri) (Portland) 503.947.4593 (Mon, Wed) (Salem) 503.929.7553 (Mobile) . 2 . 10

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Z<u>8</u>,2016 Dated:

Gregory S. Schultz Special Assistant Attorney General Rhode Island Department of Attorney General 150 South Main Street Providence, RI 02903 Tel.: (401) 274-4400, Ext. 2400

5/9/16 Rhodes B. R. Cenon

Dated: May 9, 2016

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Dated: May 10, 2016

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Dated: 17pril 29,2016

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Dated: MAT 1 , 2016

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# **Exhibit MM**

### 14 U.S. Sec. Law for Financial Trans. § 4:26 (2d ed.)

# U.S. Securities Law for International Financial Transactions and Capital Markets Database updated December 2015 Guy P. Lander Chapter 4. Debt Offerings in the United States V. Commercial Paper

### § 4:26. Introduction

Commercial paper refers generally to unsecured, short-term promissory notes issued by commercial entities, and while maturities vary, they generally are less than nine months  $^1$  and typically are 30 days or less.  $^2$  These notes are usually: (a) issued in large denominations, (b) payable to the bearer, and (c) sold at a discount from face value.  $^3$  This discount represents an interest component to be paid to the holder at maturity. However, interest-bearing commercial paper is increasingly being offered.  $^4$ 

Commercial paper is one of many low-risk, highly liquid, short-term debt instruments that trade in the wholesale money market. This market permits organizations that desire short-term financing to issue commercial paper to other organizations seeking short-term investments for their current surplus of funds.<sup>5</sup> Commercial paper is issued either directly by the issuer or through one or more commercial paper dealers.<sup>6</sup>

Direct issuers, such as large financial companies, have consistent, sizeable commercial paper requirements which warrant the establishment of their own market placement facilities.<sup>7</sup> These large direct issuers do not need the market placement services of commercial paper dealers because of their firmly established high credit ratings and their own strong banking and money market relationships.<sup>8</sup>

In comparison, to fund their current operating expenses, industrial (i.e., nonfinancial) companies generally place their commercial paper in the market through a dealer, usually a large investment bank.<sup>9</sup> Where an industrial company establishes a commercial paper "program" for the issuance of its commercial paper, the mechanics of the program are performed by an issuing and paying agent, usually a money center bank with a specific department for this purpose.<sup>10</sup> The company then issues its commercial paper under the program from time to time depending on a variety of factors such as its funding needs and customer demand.<sup>11</sup> The necessary documentation has become largely standard, with relatively low transaction costs which are often less expensive than the cost to an issuer of using available commercial

credit (except where commercial paper is used for a complex financing such as a structured receivables program).<sup>12</sup> The procedure for establishing a commercial paper program has become more efficient with the use of a bookentry system for the issuance and payment of commercial paper under programs managed by The Depository Trust Company.<sup>13</sup>

Commercial paper programs are not registered with the SEC under the Securities Act because of the availability of three exemptions: Section 3(a)(3), Section 4(2), and Section 3(a)(2) of the Securities Act.<sup>14</sup> The exemption usually relied on is Section 3(a)(3), as it is available for most commercial paper.<sup>15</sup> Each of these exemptions is discussed below. Commercial paper that qualifies for any of these exemptions is also exempt from the requirements of the Trust Indenture Act.<sup>16</sup>

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### Footnotes

 Securities Industry Ass'n v. Board of Governors of Federal Reserve System, 468 U.S. 137, 104 S. Ct. 2979, 82 L. Ed. 2d 107, Fed. Sec. L. Rep. (CCH) ¶91,543 (1984).

1

- 2 1 Greene, et al., U.S. Regulation of the International Securities and Derivatives Markets, at 2-149 (9th ed. 2009).
- 3 Securities Industry Ass'n v. Board of Governors of Federal Reserve System, 468 U.S. 137, 104 S. Ct. 2979, 82 L. Ed. 2d 107, Fed. Sec. L. Rep. (CCH) ¶91,543 (1984); 1 Greene, et al., U.S. Regulation of the International Securities and Derivatives Markets, at 2-149 (9th ed. 2009).
- 4 Johnson, Jr. & McLaughlin, Corporate Finance and the Securities Laws, at 10-4 (4th ed. 2008, 2007, 2006).
- 5 Lowenstein, "The Commercial Paper Market and the Federal Securities Laws," 4 Corp. L. Rev. 128, at 129 (1981). Purchasers of commercial paper are almost exclusively institutions. The main purchasers of commercial paper are money market funds, bank trust departments, insurance companies, foreign central banks, pension funds and other managed accounts, and corporate treasury departments. Other important purchasers of commercial paper are state and local governments. Johnson, Jr. & McLaughlin, Corporate Finance and the Securities Laws, at 10-3, 10-6 (4th ed. 2008, 2007, 2006).
- 6 See Johnson, Jr. & McLaughlin, Corporate Finance and the Securities Laws, at 10-5 (4th ed. 2008, 2007, 2006).
- 7 Johnson, Jr. & McLaughlin, Corporate Finance and the Securities Laws, at 10-5 (4th ed. 2008, 2007, 2006).
- 8 Lowenstein, "The Commercial Paper Market and the Federal Securities Laws," 4 Corp. L. Rev. 128, at 131 (1981).
- 9 Lowenstein, "The Commercial Paper Market and the Federal Securities Laws," 4 Corp. L. Rev. 128, at 131–32 (1981).
- 10 See Johnson, Jr. & McLaughlin, Corporate Finance and the Securities Laws, at 10-10 (4th ed. 2008, 2007, 2006); 1 Greene, et al., U.S. Regulation of the International Securities and Derivatives Markets, at 2-149 (9th ed. 2009).
- 11 1 Greene, et al., U.S. Regulation of the International Securities and Derivatives Markets, at 2-149 (9th ed. 2009).
- 12 1 Greene, et al., U.S. Regulation of the International Securities and Derivatives Markets, at 2-149 to 2-150 (9th ed. 2009); see Johnson, Jr. & McLaughlin, Corporate Finance and the Securities Laws, at 10-6 (4th ed. 2008, 2007, 2006). See, e.g., General Host Corporation, SEC No-Action Letter, 1986 WL 65167 (Feb. 3, 1986) (issuer believed that the cost of issuing the shortterm notes would be less than the cost of using available commercial credit).
- 13 1 Greene, et al., U.S. Regulation of the International Securities and Derivatives Markets, at 2-150 (9th ed. 2009).
- 14 1 Greene, et al., U.S. Regulation of the International Securities and Derivatives Markets, at 2-150 to 2-152 (9th ed. 2009).
- 15 Johnson, Jr. & McLaughlin, Corporate Finance and the Securities Laws, at 10-10.1 to 10-11 (4th ed. 2008, 2007, 2006).
- 16 Johnson, Jr. & McLaughlin, Corporate Finance and the Securities Laws, at 10-11 (4th ed. 2008, 2007, 2006); see Trust Indenture Act § 304(a)(4)(A), (b), 15 U.S.C.A. § 77ddd(a)(4)(A), (b) (discussed in § 4:36).

End of Document

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# **Exhibit NN**



ATTORNEY GENERAL

THE COMMONWEALTH OF MASSACHUSETTS OFFICE OF THE ATTORNEY GENERAL

**ONE ASHBURTON PLACE** BOSTON, MASSACHUSETTS 02108

> TEL: (617) 727-2200 www.mass.gov/ago

September 2, 2015

Stephen Babbitt 17 Court Street Boston, MA 02108

Re:

Initiative Petition No. 15-21: A Law Relative to Preventing the Commonwealth of Massachusetts, Counties, Municipal Entities, and Public Institutions from Working with Holocaust **Denial Organizations** 

Dear Mr. Babbitt:

In accordance with the provisions of Article 48 of the Amendments to the Massachusetts Constitution, we have reviewed the above-referenced initiative petition, which was submitted to the Attorney General on or before the first Wednesday of August of this year.

I regret that we are unable to certify that the proposed law complies with the requirements of Article 48, the Initiative, Part 2, Sections 2 and 3. Section 2 states in pertinent part: "No proposition inconsistent with any one of the following rights of the individual, as at present declared in the declaration of rights, shall be the subject of an initiative or referendum petition: ... freedom of speech[.]" As explained below, the law proposed by this petition would discriminate against certain speech based on its content and therefore is inconsistent with this right as guaranteed in Article 16 of the Declaration of Rights, Mass. Const. Pt. I, as amended by Mass. Const. amend. art. 77 ("The right of free speech shall not be abridged.").<sup>1</sup> Our decision, as with all decisions on certification of initiative petitions, is based solely on art. 48's legal standards and it does not reflect any policy views the Attorney General may have on the merits of the proposed law.

The proposed law would exclude any "holocaust denial organization" from distributing information or facilitating activities on the premises of public institutions or to their employees, clients, and students. This prohibition would apply to any organization that denies the Jewish, Armenian, or Ukrainian holocausts; lobbies publicly or privately against their recognition; or is a

<sup>&</sup>lt;sup>1</sup> We need not now resolve whether the proposed law would be inconsistent with other enumerated rights set forth in Article 48, such as the right to peaceably assemble.

Stephen Babbitt September 2, 2015 Page 2

"front" for another organization that engages in such activities. The prohibition would apply on property owned by the state, counties, cities and towns, law enforcement organizations, and educational institutions receiving state funds. It would apply whether or not the information being distributed includes holocaust denial or arguments against official recognition of the Jewish, Armenian, or Ukrainian holocausts.

In interpreting the free speech protections of art. 16, the Supreme Judicial Court and the Justices have frequently looked for guidance to federal decisions interpreting the First Amendment of the federal constitution. <u>E.g.</u>, <u>Opinion of the Justices</u>, 430 Mass. 1205, 1208-09 & n.3 (2000). Under such decisions, "a content-based speech restriction . . . can stand only if it satisfies strict scrutiny. . . . If a statute regulates speech based on its content, it must be narrowly tailored to promote a compelling Government interest. . . . If a less restrictive alternative would serve the Government's purpose, the legislature must use that alternative." <u>U.S. v. Playboy</u> <u>Entertainment Group, Inc.</u>, 529 U.S. 803, 813 (2000) (citations omitted).

Governmental efforts to restrict speech because of content are presumptively invalid. <u>Commonwealth v. Lucas</u>, 2015 WL 4643550 (statute criminalizing false statements about political candidates was an unconstitutional restriction on free speech.) Content-based restrictions have historically been permitted for only a few specific categories of speech, including incitement, obscenity, defamation, speech integral to criminal conduct, so called "fighting words," child pornography, fraud, true threats, and speech presenting a grave and imminent threat. <u>United States v. Alvarez</u>, 132 S. Ct. 2537, 2544, 183 L.Ed.2d 574 (2012); <u>United States v. Stevens</u>, 559 U.S. 460, 468-470 (2010).

No exception allows content-based restrictions on false statements based on their falsity alone. <u>Alvarez</u>, 132 S. Ct. at 2544-2545. In <u>Alvarez</u>, the Supreme Court held that the remedy for speech that is false is speech that is true. 132 S. Ct. at 2550. Similarly, in <u>Lucas</u>, the SJC concluded that the First Amendment presupposes that right conclusions are more likely to be found from a multitude of voices rather than from an authoritarian selection of voices. 2015 WL 4643550. The Supreme Court has recognized that one of the costs of the First Amendment is protection of speech we detest as well as speech we embrace. <u>Alvarez</u>, 132 S. Ct. at 2551. Courts have generally applied "the most exacting scrutiny" to statutes restricting speech on the basis of content, <u>Alvarez</u>, 132 S. Ct. at 2548 (<u>cf</u>. concurring opinion in which Justices Breyer and Kagan apply intermediate scrutiny.)

Initiative Petition 15-21 would bar holocaust denial organizations from diffusing information, which act necessarily incorporates speech, on public property, which includes such traditional public forums as sidewalks and parks. The restriction would be content-based, as the prohibition would be triggered only based on the viewpoint held by these organizations. Restricting the speech of holocaust denial organizations does not seem to fall within any of the exceptions that allow for such restrictions, such as obscenity, defamation, fraud, incitement, and speech integral to criminal conduct. Even if the assertions of the holocaust denial organizations are false, that alone is not a basis for a content-based restriction.

Stephen Babbitt September 2, 2015 Page 3

As a content-based restriction on speech, it is difficult to see how such a law would survive strict scrutiny or even intermediate scrutiny. The interests that the proponents claim the proposed law seeks to advance are to prevent lobbying by holocaust denial organizations and to prevent such organizations from approaching schools in order to disseminate information denying the enumerated holocausts. It is unlikely that preventing organizations from engaging in lobbying to further their viewpoints would be considered a sufficient government interest to survive intermediate or strict scrutiny. Even if the government had a legitimate interest in restricting this information in public educational settings, there would be narrower means of advancing such an interest than the broad prohibitions proposed by this initiative petition.

For the foregoing reasons, we are unable to certify Petition 15-21 as meeting the requirements of art. 48.

Very truly yours

Juliana deHaan Rice Deputy Chief, Government Bureau 617-963-2583

cc: William Francis Galvin, Secretary of the Commonwealth

# **Exhibit OO**

United States Environmental Protection Agency

Strategic Studies Staff Office of Policy and Resources Management Washington, DC 20460 September 1983



# Can We Delay A Greenhouse Warming?



CAN WE DELAY A GREENHOUSE WARMING?

The Effectiveness and Feasibility

of Options to Slow a Build-Up

of Carbon Dioxide in the Atmosphere

STEPHEN SEIDEL U.S. Environmental Protection Agency

and

DALE KEYES Consultant

Strategic Studies Staff Office of Policy Analysis Office of Policy and Resources Management Washington, D.C. 20460

September 1983

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## GLOSSARY OF ENERGY UNITS

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## EXECUTIVE SUMMARY

Evidence continues to accumulate that increases in atmospheric carbon dioxide (CO<sub>2</sub>) and other "greenhouse" gases will substantially raise global temperature. While considerable uncertainty exists concerning the rate and ultimate magnitude of such a temperature rise, current estimates suggest that a 2°C (3.6°F) increase could occur by the middle of the next century, and a 5°C (9°F) increase by 2100. Such increases in the span of only a few decades represent an unprecedented rate of atmospheric warming.

Temperature increases are likely to be accompanied by dramatic changes in precipitation and storm patterns and a rise in global average sea level. As a result, agricultural conditions will be significantly altered, environmental and economic systems potentially disrupted, and political institutions stressed.

Responses to the threat of a greenhouse warming are polarized. Many have dismissed it as too speculative or too distant to be of concern. Some assume that technological options will emerge to prevent a warming or, at worst, to ameliorate harmful consequences. Others argue that only an immediate and radical change in the rate of CO<sub>2</sub> emissions can avert worldwide catastrophy. The risks are high in pursuing a "wait and see" attitude on one hand, or in acting impulsively on the other.

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This study aims to shed light on the debate by evaluating the usefulness of various strategies for slowing or limiting a global warming. Better information is essential if scientific researchers, policymakers, and private sector decisionmakers are to work together effectively in addressing the threat of climate change.

### FOCUS OF STUDY

Because increases in atmospheric CO<sub>2</sub> primarily result from the use of fossil fuels, one logical response to the threat of climate change is to reduce global dependence on these energy sources. This study takes a first look at whether specific policies aimed at limiting the use of fossil fuels would prove effective in delaying temperature increases over the next 120 years. Specifically, it examines whether a tax on the use of fossil fuels or a ban on the use of coal, shale oil, or synfuels could be effective in delaying a greenhouse warming. These policies are also evaluated for their economic and political feasibility. To put our findings in perspective, alternative, nonenergy approaches to limiting a greenhouse warming are also reviewed.

### METHODOLOGY

Evaluating the effectiveness of energy policies to reduce levels of  $CO_2$  requires the estimation of future patterns of energy use, the effect of these patterns on  $CO_2$  emissions, the

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fate of  $CO_2$  once emitted, and the relationship between levels of atmospheric  $CO_2$  and temperature. Three models were used in the estimation process:

- a world energy model to project future supply and demand for alternative fuels and to estimate CO<sub>2</sub> emissions based on fuel use mixes;
- a carbon cycle model to translate CO<sub>2</sub> emissions into increases in atmospheric CO<sub>2</sub> concentrations; and
- an atmospheric temperature model to estimate changes in temperature based on increases in atmospheric CO2 and other greenhouse yases.

We used these models to explore a range of possible assumptions about, energy demand and technologies, atmospheric responses, and policy alternatives.

We evaluated both medium-run (by the middle of the next century) and long-run (by 2100) effects, placing greater confidence in the shorter run results. The timing of a 2°C rise is employed as the measure of medium-run effectiveness. A temperature increase of this magnitude by mid-century would represent a dramatic departure from historical trends -- a rate of increase equal to roughly 0.3°C per decade, compared with a rise of 0.04°C per decade during the past 100 years. Over the long run, the absolute temperature rise in 2100 is used as the measure of effectiveness. Rough estimates of technical constraints, costs, and the need for political cooperation are used to judge feasibility.

### BASELINE TRENDS

We developed the Mid-range Baseline scenario as a "best quess" of future energy patterns. Under this scenario, atmospheric CO2 levels would reach 590 ppm, or double pre-industrial levels, by 2060, and a 2°C temperature rise would occur around 2040. By 2100, global warming would approach 5°C. These estimates are particularly sensitive to (1) the assumed temperature response to a doubling of CO2, and (2) the rate of increase of greenhouse gases other than CO2 (i.e., methane, nitrous oxide, and chlorofluorocarbons). By varying these factors within reasonable ranges, the projected date of a 2°C warming shifts from roughly 2015 to 2095. In direct contrast, changes in the projected costs of alternative fuels or in fuel users' behavior (i.e., the degree of conservation in response to rising energy prices and other factors) has almost no effect on the estimated timing of a 2°C rise in temperature. Specifically, scenarios reflecting significant reductions in the future cost of nuclear power and renewable energy, increased conservation, and expanded electrification have little influence on the date of a 2°C warming, and only a minor effect on the temperature rise in 2100 (5-10 percent). Similarly, significant reductions in the baseline costs of shale oil or synfuels fail to accelerate a projected 2°C warming, and estimated temperature in 2100 increases by less than 5 percent. These findings attest to the substantial momentum built into temperature trends, due to the effect of other greenhouse gases and to the difficulty in changing fuel-use patterns.

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### SUMMARY OF FINDINGS

Our analysis of energy and nonenergy policies to slow or limit a global warming produced the following results:

Only One of the Energy Policies Significantly Postpones a 2°C Warming

- Worldwide taxes of up to 300% of the cost of fossil fuels (applied proportionately based on CO<sub>2</sub> emissions from each fuel) would delay a 2°C warming only about 5 years beyond 2040.
- Fossil fuel taxes applied to just certain countries or applied at a 100% rate would not affect the timing of of a 2°C rise.
- A ban on synfuels and shale oil would delay a 2°C warming by only 5 years.
- Only a ban on coal instituted by 2000, would effectively slow the rate of temperature change and delay a 2°C change until 2055. A ban on both coal and shale oil would delay it an additional 10 years -- until 2065.

Major Uncertainties Include Growth of Other Greenhouse Gases and Temperature Sensitivity of the Atmosphere, but Not Baseline Energy Scenarios

- Uncertainties concerning the rate of growth of other greenhouse gases could advance the date of a 2°C warming by 15 years or delay it by 30 years.
- The plausible range of sensitivity of the atmosphere to increases in greenhouse gases creates a 35-year band of uncertainty around the projected year (2040) for a 2°C warming.
- In contrast, alternative energy futures, including significant shifts in the relative costs of fuels, changes in energy demand, and reduced economic growth, cause only minor (i.e., five years or less) changes in the date of a 2°C warming.

These findings are illustrated in the following chart. Each bar represents the number of years the 2°C date is delayed (bar above line) or advanced (bar below line), compared with the Mid-range Baseline projections. CHANGES IN THE DATE OF A 2° C WARMING

(PROJECTED DATE IN MID-RANGE BASELINE: 2040)



\*REFERS TO GREENHOUSE GASES OTHER THAN CO2: NITROUS OXIDE, METHANE, AND CHLOROFLUOROCARBONS.

TREFERS TO THE TEMPERATURE RISE IN RESPONSE TO A GIVEN INCREASE IN GREENHOUSE GASES ONCE AN EQUILIBRIUM HAS BEEN REACHED. Bans on Coal and Shale Oil Are Most Effective in Reducing Temperature Increases in 2100

- A worldwide ban on coal (and thus coal-derived synfuels) instituted by 2000 would reduce temperature change by 30% (from 5°C to 3.5°C).
- Together, a ban on shale oil and coal would reduce the projected warming in 2100 from 5°C to 2.5°C.
- Bans on shale oil alone or synfuels alone would be less effective.
- A 100% worldwide tax would reduce warming by less than 1.0°C in 2100.

## A Ban on Coal Seems Economically and Politically Infeasibile

- Though detailed estimates of total costs of a ban on coal were beyond the scope of this study, initial approximations based only on asset losses and increases in prices of alternative fuels suggest that a coal ban is economically infeasible.
- A worldwide ban on coal also appears to be politically infeasible. Because the burden would be unevenly distributed (e.g., most of the world's coal is concentrated in only three nations, and use of coal varies dramatically between developed and developing nations), worldwide cooperation required to ban coal is unlikely.

### At Best, Nonenergy Options to Limit Global Warming Are Highly Speculative

- Scrubbing CO<sub>2</sub> emissions from power plants is of limited effectiveness and prohibitively expensive.
- Capturing ambient CO<sub>2</sub> through massive forestation would place too great a burden on land, fertilizer, and irrigation requirements.
- In theory, adding SO<sub>2</sub> to the stratosphere might counterbalance the greenhouse warming effect, but at great cost. Moreover, the effectiveness and potential adverse environmental consequences of this proposal require much additional research.

### IMPLICATIONS OF FINDINGS

The implications of our findings point to action directed in the following three areas:

Accelerate and Expand Research on Improving Our Ability to Adapt to a Warmer Climate -- This research should focus on enhancing the positive and minimizing the negative aspects of a greenhouse warming. It should also address problems likely to occur during the transitional stage when social and economic systems are adapted to the consequences of increased CO<sub>2</sub> and temperature. A key element of this research must be developing regional climate scenarios that can be used to evaluate the costs and benefits associated with possible changes in climate and that can serve as a baseline against which possible adaptive actions can be evaluated.

<u>Narrow Uncertainties About the Future Effects Greenhouse</u> <u>Gases Other Than CO<sub>2</sub> -- Research relating to other greenhouse</u> gases should focus on developing a better understanding of the natural and man-made sources and sinks of these gases, of their interactions with other atmospheric gases, (especially their effects on atmospheric ozone), and of possible strategies to mitigate their influence on future global warming. <u>Atmosphere</u> -- Narrowing the range of uncertainty regarding the temperature sensitivity of the atmosphere to increases in greenhouse gases will depend on expanded modeling efforts. Cloud formation and ocean systems must be more realistically represented in climate models, and our ability to use these models in predicting transient warming effects must be improved.

Our analysis underscores the need to reduce remaining scientific uncertainties as quickly as possible. Substantial increases in global warming may occur sooner than most of us would like to believe. In the absence of growing international consensus on this subject, it is extremely unlikely that any substantial actions to reduce  $CO_2$  emissions could or would be taken unilaterally. Adaptive strategies undertaken by individual countries appear to be a better bet. But for these strategies to succeed, much more precise and detailed information will be needed on the timing and regionally disaggregated consequences of a global warming.

# **Exhibit PP**



final rule was effective January 14, 2010.

 Endangerment and Cause or Contribute Findings for Greenhouse Gases under the Clean Air Act (PDF) (52 pp, 308K)

Scientific and technical information summarized to support the Endangerment and Cause or Contribute Findings for Greenhouse Gases under the Clean Air Act can be found here:

Technical Support Document for the Findings (PDF) (210 pp, 2.5MB)

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Response to Comments

EPA's response to public comments received on the Proposed Findings and accompanying Technical Support Document may be found here:

- Volume 1: General Approach to the Science and Other Technical Issues Download a PDF version of Volume 1 (69 pp, 305K)
- Appendix A. IPCC Principles and Procedures (12 pp, 48K)
- Appendix B. USGCRP/CCSP Procedures and Responsibilities (30 pp, 151K)
- Appendix C. NRC Report Development Procedures (25 pp, 4.3MB)
- Volume 2: Validity of Observed and Measured Data Download a PDF version of Volume 2 (93 pp, 507K)
- o . Appendix A. Climate Research Unit (CRU) Temperate Data Web Site (5 pp, 61K)
- · Appendix B: CRU Statement on Data Availability (3 pp, 47K)
- Appendix C. United Kingdom Hadley Centre Statement on Release of CRU Data (1 pp, 28K)
- Appendix D. Response of Keith Briffa to Stephen McIntyre (2 pp, 40K)
- Volume 3: Attribution of Observed Climate Change Download a PDF version of Volume 3 (58 pp. 283K)
- Volume 4: Validity of Future Projections Download a PDF version of Volume 4 (81 pp, 418K)
- Volume 5: Human Health and Air Quality Download a PDF version of Volume 5 (95 pp, 557K)
- Volume 6: Agriculture and Forestry Download a PDF version of Volume 6 (43 pp, 191K)
- Volume 7: Water Resources, Coastal Areas, Ecosystems and Wildlife Download a PDF version of Volume 7 (65 pp, 290K)
- Volume 8: Other Sectors Download a PDF version of Volume 8 (25 pp, 112K)
- Volume 9: Endangerment Finding Download a PDF version of Volume 9 (37 pp, 159K)
- Volume 10: Cause or Contribute Finding Download a PDF version of Volume 10 (18 pp, 88K)
- Volume 11: Miscellaneous Legal, Procedural, and Other Comments Download a PDF version of Volume 11 (36 pp, 172K)
- Appendix A. Summary Comments Received Pertaining to Economic Issues (PDF) (3 pp. 21K)

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### Resources

- Press Release
- Press Kit
- Legal Basis (PDF) (1 p, 117K)
- Trasfondo legal (PDF) (2 pp, 32K)
- Health Effects (PDF) (1 p, 95KB)
- Efectos a la salud (PDF) (1 p, 79K)
- Environmental and Welfare Effects (PDF) (1 p. 45K)
- Efectos medioambientales (PDF) (2 pp, 32K)
- Climate Change Facts (PDF) (1 p, 39K)

### Endangerment and Cause or Contribute Findings for Greenhouse Gases under Section 202(a) of the Clean Air Act | Climate Change | US EPA

- Datos sobre el cambio clim?tico (PDF) (2 pp, 33K)
- Light Duty Vehicle Program (PDF) (1 p, 39K)
- Timeline (PDF) (1 p, 30K)
- Frequently Asked Questions (PDF) (3 pp, 38K)

To access materials related to the proposed finding, please visit the Proposed Endangerment and Cause or Contribute Findings for Greenhouse Gases under the Clean Air Act archive.

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Denial of Petitions for Reconsideration

EPA denied ten Petitions for Reconsideration of the Endangerment and Cause or Contribute Findings on July 29, 2010.

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Background

On April 2, 2007, in *Massachusetts v. EPA*, 549 U.S. 497 (2007), the Supreme Court found that greenhouse gases are air pollutants covered by the Clean Air Act. The Court held that the Administrator must determine whether or not emissions of greenhouse gases from new motor vehicles cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision. In making these decisions, the Administrator is required to follow the language of section 202(a) of the Clean Air Act. The Supreme Court decision resulted from a petition for rulemaking under section 202(a) filed by more than a dozen environmental, renewable energy, and other organizations.

On April 17, 2009, the Administrator signed proposed endangerment and cause or contribute findings for greenhouse gases under Section 202(a) of the Clean Air Act. EPA held a 60-day public comment period, which ended June 23, 2009, and received over 380,000 public comments. These included both written comments as well as testimony at two public hearings in Arlington, Virginia and Seattle, Washington. EPA carefully reviewed, considered, and incorporated public comments and has now issued these final Findings.

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Basic Information	Greenhouse Gas Emissions Overview of Gases	Science Overview	What EPA is Doing Evaluating Policy Options, Costs and Popofits	What You Can Do At Home On the Board
Newsroom	Global Data	Indicators of Climate Change	Regulatory Initiatives	In the Office
Related Links	National Data Facility Data	Future Climate Change Extreme Weather	Voluntary Programs State, Local, and Tribal	At School
Glossary	Individual Calculator		Partnerships	Climate Connections
		📕 🔲 Climate Change Impacts	International Partnerships	Clean Energy
Students' Site				Climate and Transportation
		Adapting to Change		Climate and Water
				Climate and Waste
				EPA Climate Science
				Research

Endangerment and Cause or Contribute Findings for Greenhouse Gases under Section 202(a) of the Clean Air Act | Climate Change | US EPA


# Exhibit QQ

# Financial & Operating Review

ExconMobil Energy lives here

STUDIES STORE STRANGE

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**bhil**in

COVER PHOTO: The Joliet, Illinois, refinery is one of the most energy efficient in the United States and benefits from its proximity to advantaged crude oils.

Statements of future events or conditions in this report; including projections, targets, expectations, estimates, and business plans, are forward-looking statements. Actual future financial and operating results, including demand growth and energy mix; capacity growth; the impact of new technologies; capital expenditures; production growth; project plans, dates, costs, and capacities; resource additions, i production rates, and resource recoveries; efficiency gains; cost savings; and product sales could differ materially due to, for example, changes in oil and gas prices or other market conditions affecting the oil and gas industry; reservoir performance; timely completion of development projects; war and other political or security disturbances; changes in law or government regulation, including environmental regulations and political sanctions, the actions of competitors and customers; unexpected technological developments; general economic conditions, including the occurrence and duration of economic recessions; the outcome of commercial negotiations; the impact of fiscal and commercial terms; unforeseen technical difficulties; unanticipated operational disruptions; and other factors discussed in this report and in Item 1A of ExxonMobil's most recent Form 10-K.

Definitions of "resources" and "resource base," as well as certain financial and operating measures and other terms used in this report, are contained in the section titled "Frequently Used Terms" on pages 90 through 93. In the case of financial measures, such as "Return on Average Capital Employed" and "Free Cash Flow," the definitions also include information required by SEC Regulation G.

"Factors Affecting Future Results" and "Frequently Used Terms" are also available on the "Investors" section of our website.

Prior years' data have been reclassified in certain cases to conform to the 2015 presentation basis.

The term "project" as used in this publication can refer to a variety of different activities and does not necessarily have the same meaning as in any government payment transparency reports.

# 2015 Financial & Operating Summary

# **Financial Highlights**

(millions of dollars, unless noted)	Earnings after Income Taxes	Average Capital Employed <sup>(1)</sup>	Return on Average Capital Employed (%) <sup>(1)</sup>	Exploration Expenditures <sup>(1)</sup>	
Upstream	7,101	169,954	4.2	25,407	
Downstream	6,557	23,253	28.2	2,613	
Chemical	4,418	23,750	18.6	2,843	
Corporate and Financing	(1,926)	(8,202)	N.A.	188	
Total	16,150	208,755	7.9	31,051	

# **Operating Highlights**

Liquids production (net, thousands of barrels per day)	2,345
Natural gas production available for sale (net, millions of cubic feet per day)	10,515
Oil-equivalent production <sup>(2)</sup> (net, thousands of oil-equivalent barrels per day)	4,097
Refinery throughput (thousands of barrels per day)	4,432
Petroleum product sales (thousands of barrels per day)	5,754
Chemical prime product sales <sup>(1)</sup> (thousands of tonnes)	24,713

Our 2015 results demonstrate the value of our strategy and relentless focus on business fundamentals. We achieved strong safety and environmental performance, and our integrated businesses generated solid cash flow to support our investment program and industry-leading shareholder distributions. We maintain a long-term view of the industry and continue to selectively develop a broad portfolio of attractive opportunities. These investments, along with our ongoing drive to lower costs and improve efficiency, position us to deliver long-term shareholder value.



(1) See Frequently Used Terms on pages 90 through 93.

(2) Natural gas converted to oil-equivalent at 6 million cubic feet per 1 thousand barrels.

(3) S&P 500 and CPI indexed to 1982 Exxon dividend.

(4) CPI based on historical yearly average from the U.S. Bureau of Labor Statistics.

(5) BP, Chevron, Royal Dutch Shell, and Total. Competitor data estimated on a consistent basis with ExxonMobil and based on public information.

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2015 Financial & Operating Summary

# **Results & Highlights**

- Strong environmental results and leading safety performance supported by effective risk management
- Earnings of \$16.2 billion and industry-leading return on average capital employed" of 7.9 percent
- Cash flow from operations and asset sales<sup>(1)</sup> of \$32.7 billion, demonstrating the resilience of our integrated business
- Dividends per share increased 5.8 percent in the second quarter of 2015, the 33rd consecutive year of dividend-per-share increases
- Total shareholder distributions<sup>(1)</sup> of \$15.1 billion
- Capital and exploration expenditures<sup>(1)</sup> of \$31.1 billion
- Proved oil and natural gas reserves<sup>(n)</sup> additions of 1.0 billion oil-equivalent barrels
- Completed six major Upstream projects with working interest production capacity of almost 300 thousand oil-equivalent barrels per day, highlighted by two deepwater projects offshore West Africa and an expansion of the Kearl development in Canada
- Progressed construction of a 400-thousand-tonnes-per-year specialty elastomers project in Saudi Arabia with our joint venture partner to supply a broad range of synthetic rubber and related products to meet growing demand in the Middle East and Asia Pacific
- Approved funding to expand the hydrocracker at our refinery in Rotterdam, Netherlands, utilizing
  proprietary technology to produce ultra-low sulfur diesel and Group II lube basestocks
- Made a significant oil discovery offshore Guyana, with additional exploration planned in 2016



### Functional Earnings and Net Income

See Frequently Used Terms on pages 90 through 93.
 Net income attributable to ExxonMobil.





# Creating Value Through the Cycle

**Operational Excellence** Our business success relies on our unwavering commitment to operational integrity and effective risk management, which are fundamental to our *Protect Tomorrow. Today.* program and to realizing our vision that *Nobody Gets Hurt.* We strive to ensure safe, efficient, and environmentally responsible operations, and in 2015, we achieved strong environmental and safety performance.

**Upstream** Upstream results underscore our exceptional project execution capabilities. We started up six major projects in 2015, adding almost 300 thousand oil-equivalent barrels per day of / working interest production capacity. This includes two capital-efficient subsea tiebacks offshore West Africa – Kizomba Satellites Phase 2 in Angola and Erha North Phase 2 in Nigeria. Both projects started up ahead of schedule and below budget. We plan to complete 10 projects in 2016 and 2017, and are progressing our inventory of short-cycle opportunities, primarily onshore in the United States. Our exploration program continues to add valuable new resource opportunities. We made a significant discovery offshore Guyana, with additional exploration drilling planned in 2016. The size and diversity of our industry-leading 91 billion oil-equivalent barrel resource base remains a competitive advantage, and our financial strength gives us the flexibility to advance the most attractive projects at the right time to capture lower costs and maximize value.

ExxonMobil is uniquely suited to create value through the cycle. The scale and diversity of our integrated businesses, along with our financial strength, underpin our leading shareholder distributions and position us to pursue new opportunities in this challenging industry environment.

Downstream and Chemical ExxonMobil's 2015 results highlight the value of our integrated business model. The Downstream and Chemical segments play an important, counter-cyclical role in contributing to our financial commitments, generating superior returns and solid cash flow. We remain focused on growing our advantage in these businesses by enhancing feedstock flexibility, increasing production of higher-value products, and expanding logistics capabilities. In 2015, we progressed construction of a joint venture specialty elastomers facility in Saudi Arabia that will produce higher-margin synthetic rubber products. We also announced an expansion at our Rotterdam Refinery in the Netherlands, which will utilize proprietary hydrocracking technology to produce high-quality lube basestocks and ultra-low sulfur diesel to meet growing demand.

Regardless of commodity prices, we relentlessly focus on the fundamentals – the factors we can control. Our continuous drive to operate safely and responsibly, reduce costs, increase productivity, and maximize value – particularly in today's challenging environment – has once again set us apart. ExxonMobil is well positioned for further success, and we will continue to deliver on our commitment to create long-term shareholder value.

Rex W. Tillerson, Chairman and CEO

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Upstream Opportunity Capture, continued

## Resources

In 2015, we continued to build our diverse global portfolio of resources and reserves by adding 1.4 billion oil-equivalent barrels. After adjusting for production, asset sales, and revisions to existing fields, the resource base totals approximately 91 billion oil-equivalent barrels. The size and diversity of ExxonMobil's global resource base – the largest held by an international oil company – provide us with unequaled investment flexibility to profitably develop new supplies of energy to meet future demand.

5-Year 2015 Average			
1.4	3.9		
(0.8)	(0.3)		
(1.5)	(1.6)		
(0.2)	(0.7)		
(1.1)	1.3		
	2015 A 1.4 (0.8) (1.5) (0.2) (1.1)		

We continue to increase the quality of our resource base through successful exploration drilling, capture of discovered undeveloped resources, strategic acquisitions, and increased recovery from existing fields. In 2015, resources were added in Argentina, Australia, Canada, Guyana, Iraq, Nigeria, Romania, and the United States.

Our exploration drilling program is focused on opportunities with projected profitability that is competitive with or superior to discovered assets in the existing portfolio. Additions from exploration drilling averaged approximately 2 billion oil-equivalent barrels per year over the last decade.

We assess our resource base annually to include new discoveries and changes in estimates for existing resources. Changes may result from additional drilling, revisions to recovery estimates, application of new technologies, or ongoing and rigorous geoscience and engineering evaluations. Resource base volumes are adjusted downward for volumes produced during the year and resources associated with asset divestments. Adjustments may also occur with changes to fiscal regimes, equity, or depletion plans.

The largest components of ExxonMobil's resource base remain conventional oil and gas, unconventional oil and gas, and heavy oil/oil sands resources, which comprise 73 percent of the total. LNG and deepwater developments account for about 13 percent of the total resource base. The remaining 14 percent consists of Arctic and acid/sour gas resources.

### **Global Upstream Portfolio**



(1) See Frequently Used Terms on pages 90 through 93.

### Proved Reserves

Our resource base includes nearly 25 billion oil-equivalent barrels of proved oil and gas reserves, which equates to 27 percent of our resource base. These reserves represent a diverse portfolio distributed across all geographic regions and development types, with liquids comprising almost 60 percent. Proved developed reserves, or reserves with installed production facilities, account for 73 percent of the proved reserves base. Our average reserves life of 16 years at current production rates leads competition, giving us greater financial flexibility in this challenging environment.

ExxonMobil has a successful track record of proved reserves replacement, demonstrating the strength of our global strategy to identify, evaluate, capture, and advance high-quality opportunities. Over the past 10 years, we replaced 115 percent of the reserves we produced, including the impact of asset sales. We added 18.1 billion barrels to proved reserves (67 percent liquids) while producing 15.7 billion oil-equivalent barrels. Proved reserves additions reflect funding and development of high-quality, long-life projects across geographies and development types.

Revisions to proved reserves additions have averaged 0.5 billion barrels per year over the past 10 years, driven by effective reservoir management, technological advances, and a strong focus on maximizing the value of base production. Proved reserves additions in 2015 replaced 67 percent of production, including a 219-percent liquids



We made a significant discovery offshore Guyana with the Liza-1 well, drilled by the Deepwater Champion drillship.

reserve replacement ratio. Looking forward, we will continue to selectively and patiently develop our industry-leading resource base as we progress an inventory of 100 projects. Proved reserve estimates are managed by a team of experienced reserve experts and are the result of a rigorous and structured management review process.



(1) See Frequently Used Terms on pages 90 through 93.

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Worldwide Upstream Operations

ExxonMobil has an active exploration or production presence in 36 countries and production operations in 24 countries.

### The Americas

Our Americas portfolio includes conventional onshore fields, ultra-deepwater developments, numerous unconventional gas and oil opportunities, and oil sands and heavy oil plays. Operations in the Americas accounted for 35 percent of net oil-equivalent production.

### United States

ExxonMobil is a leading reserves holder and producer of oil and Point Thomson IPS natural gas in the United States. We maintain a significant Alaska LNG position in all major producing regions, including offshore Gulf of Mexico. the Gulf Coast, onshore Texas and Louisiana, Flemish Pass forn River Hebro the mid-continent, California, Alaska, and Firebag eanne d'An Appalachia. Our U.S. portfolio includes ncrude Projects-Syncrude-Kearl E Hibernia WCCING SAGD mature conventional assets, emerging Montney/ Cold Lake unconventional developments, and new Dirver Hibern Cardiu Southern deepwater developments. With a focus on C A NA D Extension technological improvements, operational Bakken efficiency, and high-quality drilling programs, we are extending the lives of our base producing fields, some of which have been OLaBarge arcellus/Utica onstream for decades. Our portfolio is further Linta D UNITE OPiceano enhanced by activity in unconventional plays, S TA Ę S nine of which are estimated to contain Faye recoverable resources of greater than Santa Yoez Unit Woodfo 0 1 billion oil-equivalent barrels. Additional vkin H le Bay developments are also planned for ExxonMobil's extensive deepwater Gulf of Mexico acreage position. Key Producing Asset/Area OHorse Eagle F Major Project Heidelberg Gulf of Mexico/Gulf Coast Exploration Activity/Asset -Julia Phases 1 & 2 2015 net average production in the Gulf of Mexico was LNG Terminal Hoover-Diana -Hadrian South 64 thousand barrels of liquids per day and 257 million Golden Pass LNG Terminal Lucius

Golden Pass Products LNG Export

Americas Highlights

Acreage (gross acres, million)

Proved Reserves (oil-equivalent barrels, billion)

(1.9)

12.2

48.0 0.9

3.4

cubic feet of gas per day.

Deep Water • In the deepwater Gulf of Mexico, we operate the Hoover

platform, which is located in more than 4,800 feet of water and produces oil and gas from the Hoover field and several subsea tiebacks. In addition, we are a partner in seven deepwater fields, including the co-venturer-operated Thunder Horse field (ExxonMobil interest, 25 percent), where drilling is ongoing.

Activity continues in the Keathley Canyon (KC) area. We participate in the Anadarko-operated Lucius development (ExxonMobil interest, 23 percent) and operate the Hadrian South development (ExxonMobil interest, 47 percent) as a subsea tieback to the Lucius platform. Both Lucius and Hadrian South production started up in early 2015.

Also in this area, ExxonMobil and our co-venturers continue to progress concept selection activities for development of the Hadrian North oil discovery (ExxonMobil interest, 50 percent), which is situated in blocks KC-918 and KC-919.

The Julia Phase 1 project (ExxonMobil interest, 50 percent) in the Walker Ridge (WR) area is a subsea tieback to the Chevronoperated Jack-St. Malo host facility on block WR-718. Project execution continues with subsea construction activities. Start-up is planned for 2016.



ExxonMobil also participates in the Anadarko-operated Heidelberg project (ExxonMobil interest, 9 percent). The project develops resources located in a five-block unit in the Green Canyon area via subsea tieback to a spar facility. Well-drilling activities commenced in 2014, and the project started up in January 2016.

ExxonMobil was awarded 11 Outer Continental Shelf (OCS) blocks in Lease Sale 235, which was held in 2015. We continue to evaluate our substantial exploration portfolio of 1.1 million net acres in the Gulf of Mexico with investments in advanced seismic data to further enhance our understanding of the subsurface.

Conventional • The Mobile Bay development offshore Alabama contributed net production of 99 million cubic feet of gas per day during 2015. There are 610 billion cubic feet of remaining reserves, and we continue to cost-effectively produce from this resource.

LNG • Golden Pass Products LLC, a joint venture between ExxonMobil and Qatar Petroleum, is seeking federal authorization to construct an LNG export facility with the capability to export up to 15.6 million tonnes per year of LNG. This world-class LNG export project will involve an import facility at Sabine Pass, Texas, as well as modifications to the existing Golden Pass LNG terminal. It will also allow for import or export of natural gas in response to market conditions. The project received approval to export to any country that has a Free Trade Agreement (FTA) with the United States in 2012 and is awaiting approval to export to non-FTA countries. In 2014, environmental permit applications were submitted

to the Federal Energy Regulatory Commission, and in 2015, front-end engineering design was completed.

### U.S. Onshore Texas and Louisiana

ExxonMobil is a leading producer in Texas and Louisiana with strong positions in all of the major conventional and unconventional plays, including the Permian Basin. In 2015, onshore net production in Texas and Louisiana averaged 118 thousand barrels of liquids per day and 1.4 billion cubic feet of gas per day.

Subsea pile installation at the Julia Phase I project in the Gulf of Mexico.



# **Exhibit RR**

# Energy and Carbon -- Managing the Risks

ExxonMobil<sup>1</sup> engages in constructive and informed dialogue with a wide variety of stakeholders on a number of energy-related topics. This report seeks to address important questions raised recently by several stakeholder organizations on the topics of global energy demand and supply, climate change policy, and carbon asset risk.

As detailed below, ExxonMobil makes long-term investment decisions based in part on our rigorous, comprehensive annual analysis of the global outlook for energy, an analysis that has repeatedly proven to be consistent with the International Energy Agency *World Energy Outlook*, the U.S. Energy Information Administration *Annual Energy Outlook*, and other reputable, independent sources. For several years, our *Outlook for Energy* has explicitly accounted for the prospect of policies regulating greenhouse gas emissions (GHG). This factor, among many others, has informed investments decisions that have led ExxonMobil to become the leading producer of cleaner-burning natural gas in the United States, for example.

Based on this analysis, we are confident that none of our hydrocarbon reserves are now or will become "stranded." We believe producing these assets is essential to meeting growing energy demand worldwide, and in preventing consumers – especially those in the least developed and most vulnerable economies – from themselves becoming stranded in the global pursuit of higher living standards and greater economic opportunity.

1 -

<sup>&</sup>lt;sup>1</sup> As used in this document, "ExxonMobil" means Exxon Mobil Corporation and/or one or more of its affiliated companies. Statements of future events or conditions in this report are forward-looking statements. Actual future results, including economic conditions and growth rates; energy demand and supply sources; efficiency gains; and capital expenditures, could differ materially due to factors including technological developments; changes in law or regulation; the development of new supply sources; demographic changes; and other factors discussed herein and under the heading "Factors Affecting Future Results" in the Investors section of our website at: www.exxonmobil.com. The information provided includes ExxonMobil's internal estimates and forecasts based upon internal data and analyses, as well as publicly available information from external sources including the International Energy Agency. Citations in this document are used for purposes of illustration and reference only and any citation to outside sources does not necessarily mean that ExxonMobil endorses all views or opinions expressed in or by those sources.

# 1. Strong Correlation between Economic Growth and Energy Use

The universal importance of accessible and affordable energy for modern life is undeniable. Energy powers economies and enables progress throughout the world. It provides heat for homes and businesses to protect against the elements; power for hospitals and clinics to run advanced, life-saving equipment; fuel for cooking and transportation; and light for schools and streets. Energy is the great enabler for modern living and it is difficult to imagine life without it. Given the importance of energy, it is little wonder that governments seek to safeguard its accessibility and affordability for their growing populations. It is also understandable that any restrictions on energy production that decrease its accessibility, reliability or affordability are of real concern to consumers who depend upon it.



# Improved Living Standards Depend on Energy

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# 2. World Energy Needs Keep Growing

Each year, ExxonMobil analyzes trends in energy and publishes our forecast of global energy requirements in our *Outlook for Energy*. The Outlook provides the foundation for our business and investment planning, and is compiled from the breadth of the company's worldwide experience in and understanding of the energy industry. It is based on rigorous analyses of supply and demand, technological development, economics, and government policies and regulations, and it is consistent with many independent, reputable third-party analyses.

ExxonMobil's current *Outlook for Energy* extends through the year 2040, and contains several conclusions that are relevant to questions raised by stakeholder organizations. Understanding this factual and analytical foundation is crucial to understanding ExxonMobil's investment decisions and approach to the prospect of further constraints on carbon.

<u>World population increases</u>. Ultimately, the focus of ExxonMobil's *Outlook for Energy* – indeed, the focus of our business – is upon people, their economic aspirations and their energy requirements. Accordingly, our analysis begins with demographics. Like many independent analyses, ExxonMobil anticipates the world's population will add two billion people to its current total of seven billion by the end of the Outlook period. The majority of this growth will occur in developing countries.

<u>World GDP grows</u>. The global economy will grow as the world's population increases, and it is our belief that GDP gains will outpace population gains over the Outlook period, resulting in higher living standards. Assuming sufficient, reliable and affordable energy is available, we see world GDP growing at a rate that exceeds population growth through the Outlook period, almost tripling in size from what it was globally in 2000.<sup>2</sup> It is

<sup>&</sup>lt;sup>2</sup> We see global GDP approaching \$120 trillion, as compared to \$40 trillion of global GDP in 2000 (all in constant 2005 USA\$'s). GDP per capita will also grow by about 80 percent between 2010 and 2040, despite the increase in population.

largely the poorest and least developed of the world's countries that benefit most from this anticipated growth. However, this level of GDP growth requires more accessible, reliable and affordable energy to fuel growth, and it is vulnerable populations who would suffer most should that growth be artificially constrained.



# <u>Energy demand grows with population and GDP</u>. As the world becomes more populous and living standards improve over the Outlook period, energy demand will increase as well. We see the world requiring 35 percent more energy in 2040 than it did in 2010. The pace of this energy demand increase is higher than the population growth rate, but less than global GDP growth rate. Greater energy efficiency is a key reason why energy demand growth trails economic growth. We see society implementing policy changes that will promote energy efficiency, which will serve to limit energy demand growth. We also see many governments adopting policies that promote the switch to less carbonintensive fuels, such as natural gas. As noted in the chart above, energy demand in 2040 could be almost double what it would be without the anticipated efficiency gains.

# **Global Progress Drives Demand**

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ExxonMobil believes that efficiency is one of the most effective tools available to manage greenhouse gas emissions, and accordingly our company is making significant contributions to energy efficiency, both in our own operations and in our products.

<u>Energy-related CO2 emissions stabilize and start decreasing</u>. As the world's population grows and living standards increase, we believe GHG emissions will plateau and start decreasing during the Outlook period. In the OECD countries, energy-based GHG emissions have already peaked and are declining. Our views in this regard are similar to other leading, independent forecasts.<sup>3</sup>



As part of our Outlook process, we do not project overall atmospheric GHG concentration, nor do we model global average temperature impacts.<sup>4</sup> However, we do project an energy-related CO2 emissions profile through 2040, and this can be compared

<sup>&</sup>lt;sup>3</sup> For example, the IEA predicts that energy-related emissions will grow by 20%, on trend but slightly higher than our Outlook. See <u>www.worldenergyOutlook.org</u>.

<sup>&</sup>lt;sup>4</sup> These would require data inputs that are well beyond our company's ability to reasonably measure or verify.

to the energy-related CO2 emissions profiles from various scenarios outlined by the Intergovernmental Panel on Climate Change (IPCC). When we do this, our Outlook emissions profile through 2040 would closely approximate the IPCC's intermediate RCP 4.5 emissions profile pathway in shape, but is slightly under it in magnitude.<sup>5</sup>

<u>All economic energy sources are needed to meet growing global demand.</u> In analyzing the evolution of the world's energy mix, we anticipate renewables growing at the fastest pace among all sources through the Outlook period. However, because they make a relatively small contribution compared to other energy sources, renewables will continue to comprise about 5 percent of the total energy mix by 2040. Factors limiting further penetration of renewables include scalability, geographic dispersion, intermittency (in the case of solar and wind), and cost relative to other sources.



<sup>&</sup>lt;sup>5</sup> The IPCC RCP 4.5 scenario extends 60 years beyond our Outlook period to the year 2100, and incorporates a full carbon cycle analysis. The relevant time horizons differ and we do not forecast potential climate impacts as part of our Outlook, and therefore cannot attest to their accuracy.

The cost limitations of renewables are likely to persist even when higher costs of carbon are considered.



# 3. Climate Change Risk

ExxonMobil takes the risk of climate change seriously, and continues to take meaningful steps to help address the risk and to ensure our facilities, operations and investments are managed with this risk in mind.

Many governments are also taking these risks seriously, and are considering steps they can take to address them. These steps may vary in timing and approach, but regardless, it is our belief they will be most effective if they are informed by global energy demand and supply realities, and balance the economic aspirations of consumers.

# 4. Carbon Budget and Carbon Asset Risk Implications

One focus area of stakeholder organizations relates to what they consider the potential for a so-called carbon budget. Some are advocating for this mandated carbon budget in order to achieve global carbon-based emission reductions in the range of 80 percent through the year 2040, with the intent of stabilizing world temperature increases not to exceed 2 degrees Celsius by 2100 (i.e., the "low carbon scenario"). A concern expressed by some of our stakeholders is whether such a "low carbon scenario" could impact ExxonMobil's reserves and operations – i.e., whether this would result in unburnable proved reserves of oil and natural gas.

The "low carbon scenario" would require CO2 prices significantly above current price levels. In 2007, the U.S. Climate Change Science Program published a study that examined, among other things, the global CO2 cost needed to drive investments and transform the global energy system, in order to achieve various atmospheric CO2 stabilization pathways. The three pathways shown in the chart below are from the MIT IGSM model used in the study, and are representative of scenarios with assumed climate policies that stabilize GHGs in the atmosphere at various levels, from 650 ppm CO2 down to 450 ppm CO2, a level approximating the level asserted to have a reasonable chance at meeting the "low carbon scenario." Meeting the 450 ppm pathway requires large, immediate reductions in emissions with overall net emissions becoming negative in the second half of the century. Non-fossil energy sources, like nuclear and renewables, along with carbon capture and sequestration, are deployed in order to transform the energy system. Costs for CO2 required to drive this transformation are modeled. In general, CO2 costs rise with more stringent stabilization targets and with time. Stabilization at 450 ppm would require CO2 prices significantly above current price levels, rising to over \$200 per ton by 2050. By comparison, current EU Emissions Trading System prices are approximately \$8 to \$10 per ton of CO2.

In the right section of the chart below, different levels of added CO2 are converted to estimated added annual energy costs for an average American family earning the median

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income. For example, by 2030 for the 450ppm CO2 stabilization pathway, the average American household would face an added CO2 cost of almost \$2,350 per year for energy, amounting to about 5 percent of total before-tax median income. These costs would need to escalate steeply over time, and be more than double the 2030 level by mid-century. Further, in order to stabilize atmospheric GHG concentrations, these CO2 costs would have to be applied across both developed and developing countries.



# Substantial Costs for CO<sub>2</sub> Mitigation

In 2008, the International Energy Agency estimated that reducing greenhouse gas emissions to just 50 percent below 2005 levels by 2050 would require \$45 trillion in added energy supply and infrastructure investments.<sup>6</sup> In this scenario, the IEA estimated that *each year* between 2005 and 2050 the world would need to construct 24 to 32 onethousand-megawatt nuclear plants, build 30 to 35 coal plants with carbon capture and

<sup>&</sup>lt;sup>6</sup> See IEA Energy Technology Perspectives 2008, Scenarios & Strategies to 2050.

sequestration capabilities, and install 3,700 to 17,800 wind turbines of four megawatt capacity.

<u>Transforming the energy system will take time</u>. Energy use and mix evolve slowly due to the vast size of the global energy system. As shown in the chart below, biomass like wood was the primary fuel for much of humanity's existence. Coal supplanted biomass as the primary energy source around 1900; it was not until the middle of the 20<sup>th</sup> century before oil overtook coal as the primary source of energy. We believe the transition to lower carbon energy sources will also take time, despite rapid growth rates for such sources. Traditional energy sources have had many decades to scale up to meet the enormous energy needs of the world. As discussed above, renewable sources, such as solar and wind, despite very rapid growth rates, cannot scale up quickly enough to meet global demand growth while at the same time displacing more traditional sources of energy.



# Energy Use Evolves Over Time

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A "low carbon scenario" will impact economic development. Another consideration related to the "low carbon scenario" is that capping of carbon-based fuels would likely harm those least economically developed populations who are most in need of affordable, reliable and accessible energy.<sup>7</sup> Artificially restricting supplies can also increase costs, and increasing costs would not only impact the affordability and accessibility of energy, especially to those least able to pay, it could impact the rate of economic development and living standards for all. Increasing energy costs leads to a scarcity of affordable, reliable and accessible energy and can additionally lead to social instability. While the risk of regulation where GHG emissions are capped to the extent contemplated in the "low carbon scenario" during the Outlook period is always possible, it is difficult to envision governments choosing this path in light of the negative implications for economic growth and prosperity that such a course poses, especially when other avenues may be available, as discussed further below.



# All Scenarios Require Ongoing Development

<sup>7</sup> According to the International Energy Agency, 2.6 billion people still rely on biomass for cooking and over 15% of the world's population lacks access to electricity (<u>http://www.iea.org/topics/energypoverty/</u>).

Even in a "low carbon scenario," hydrocarbon energy sources are still needed. The IEA in its World Energy Outlook 2013 examined production of liquids from currently-producing fields, in the absence of additional investment, versus liquids demand, for both their lead "*New Policies Scenario*" and for a "450 Scenario." As shown in the chart above, in both scenarios, there remains significant liquids demand through 2035, and there is a need for ongoing development and investment. Without ongoing investment, liquids demand will not be met, leaving the world short of oil.

ExxonMobil believes that although there is always the possibility that government action may impact the company, the scenario where governments restrict hydrocarbon production in a way to reduce GHG emissions 80 percent during the Outlook period is highly unlikely. The Outlook demonstrates that the world will require all the carbon-based energy that ExxonMobil plans to produce during the Outlook period.<sup>8</sup> Also, as discussed above, we do not anticipate society being able to supplant traditional carbon-based forms of energy with other energy forms, such as renewables, to the extent needed to meet this carbon budget during the Outlook period.

# 5. Managing the Risk

ExxonMobil's actions. ExxonMobil addresses the risk of climate change in several concrete and meaningful ways. We do so by improving energy efficiency and reducing emissions at our operations, and by enabling consumers to use energy more efficiently through the advanced products we manufacture. In addition, we conduct and support extensive research and development in new technologies that promote efficiency and reduce emissions.

<sup>&</sup>lt;sup>8</sup> ExxonMobil's proved reserves at year-end 2013 are estimated to be produced on average within sixteen years, well within the Outlook period. See Exxon Mobil Corporation 2013 Financial & Operating Review, p. 22. It is important to note that this sixteen year average reserves-to-production ratio does not mean that the company will run out of hydrocarbons in sixteen years, since it continues to add proved reserves from its resource base and has successfully replaced more than 100% of production for many years. See Item 2 Financial Section of ExxonMobil's 2013 Form 10-K for ExxonMobil's proved reserves, which are determined in accordance with current SEC definitions.

In our operations, we apply a constant focus on efficiency that enables us to produce energy to meet society's needs using fewer resources and at a lower cost.

For example, ExxonMobil is a leader in cogeneration at our facilities, with equity ownership in more than 100 cogeneration units at more than 30 sites with over 5200 megawatts of capacity. This capacity, which is equivalent to the electricity needs of approximately 2.5 million U.S. households, reduces the burden on outside power and grid suppliers and can reduce the resulting emissions by powering ExxonMobil's operations in a more efficient and effective manner.

We also constantly strive to reduce the emission intensity of our operations. Cumulative savings, for example, between 2009 and 2012 amounted to 8.4 million metric tons of greenhouse gases.

Many of ExxonMobil's products also enable consumers to be more energy efficient and therefore reduce greenhouse gas emissions. Advancements in tire liner technology developed by ExxonMobil allow drivers to save fuel. Our synthetic lubricants also improve vehicle engine efficiency. And lighter weight plastics developed by ExxonMobil reduce vehicle weights, further contributing to better fuel efficiency. <sup>9</sup>

ExxonMobil is also the largest producer of natural gas in the United States, a fuel with a variety of consumer uses, including heating, cooking and electricity generation. Natural gas emits up to 60 percent less CO2 than coal when used as the source for power generation.

Research is another area in which ExxonMobil is contributing to energy efficiency and reduced emissions. We are on the forefront of technologies to lower greenhouse gas emissions. For example, ExxonMobil operates one of the world's largest carbon capture

<sup>&</sup>lt;sup>9</sup> Using ExxonMobil fuel-saving technologies in one-third of U.S. vehicles, for example, could translate into a saving of about 5 billion gallons of gasoline, with associated greenhouse gas emissions savings equivalent to taking about 8 million cars off the road.

and sequestration (CCS) operations at our LaBarge plant in Wyoming. It is a co-venturer in another project, the Gorgon natural gas development in Australia, which when operational will have the largest saline reservoir CO2 injection facility in the world. The company is leveraging its experience with CCS in developing new methods for capturing CO2, which can reduce costs and increase the application of carbon capture for society. ExxonMobil also is actively engaged, both internally and in partnership with renowned universities and institutions, in research on new break-through technologies for energy.

The company also engineers its facilities and operations robustly with extreme weather considerations in mind. Fortification to existing facilities and operations are addressed, where warranted due to climate or weather events, as part of ExxonMobil's Operations Integrity Management System.

ExxonMobil routinely conducts life cycle assessments (LCAs), which are useful to understand whether a technology can result in environmental improvements across a broad range of factors. For example, in 2011 we conducted a LCA in concert with Massachusetts Institute of Technology and Synthetic Genomics Inc. to assess the impact of algal biofuel production on GHG emissions, land use, and water use. The study demonstrated the potential that algae fuels can be produced with freshwater consumption equivalent to petroleum refining, and enable lower GHG emissions. A more recent LCA demonstrated that "well-to-wire" GHG emissions from shale gas are about half that of coal, and not significantly different than emissions of conventional gas.

In addition, ExxonMobil is involved in researching emerging technologies that can help mitigate the risk of climate change. For example, the company has conducted research into combustion fundamentals with automotive partners in order to devise concepts to improve the efficiency and reduce emissions of internal combustion engines.

ExxonMobil has also developed technology for an on-board hydrogen-powered fuel cell that converts other fuels into hydrogen directly under a vehicle's hood, thereby eliminating the need for separate facilities for producing and distributing hydrogen. This

technology can be up to 80 percent more fuel efficient and emit 45 percent less CO2 than conventional internal combustion engines. The company is also a founding member of the Global Climate and Energy Project at Stanford University, a program that seeks to develop fundamental, game-changing scientific breakthroughs that could lower GHG emissions.

<u>Government policy</u>. Addressing climate risks is one of many important challenges that governments face on an ongoing basis, along with ensuring that energy supplies are affordable and accessible to meet societal needs.

Energy companies like ExxonMobil can play a constructive role in this decision-making process by sharing our insights on the most effective means of achieving society's goals given the workings of the global energy system and the realities that govern it.

The introduction of rising CO2 costs will have a variety of impacts on the economy and energy use in every sector and region within any given country. Therefore, the exact nature and pace of GHG policy initiatives will likely be affected by their impact on the economy, economic competitiveness, energy security and the ability of individuals to pay the related costs.

Governments' constraints on use of carbon-based energy sources and limits on greenhouse gas emissions are expected to increase throughout the Outlook period. However, the impact of these rising costs of regulations on the economy we expect will vary regionally throughout the world and will not rise to the level required for the "low carbon scenario." These reasonable constraints translate into costs, and these costs will help drive the efficiency gains that we anticipate will serve to curb energy growth requirements for society as forecasted over the Outlook period.

We also see these reasonable constraints leading to a lower carbon energy mix over the Outlook period, which can serve to further reduce greenhouse gas emissions. For example, fuel switching to cleaner burning fuels such as natural gas has significantly contributed to the United States reducing greenhouse gas emissions last year to levels not seen since 1994. Furthermore, the impact of efficiency is expected to help stabilize and eventually to reduce GHG emissions over the Outlook period, as discussed previously. These constraints will also likely result in dramatic global growth in natural gas consumption at the expense of other forms of energy, such as coal.

We see the continued focus on efficiency, conservation and fuel switching as some of the most effective and balanced ways society can address climate change within the Outlook period in a manner that avoids the potentially harmful and destabilizing consequences that the artificial capping of needed carbon-based energy sources implied within the "low carbon scenario" can cause.<sup>10</sup>

# 6. Planning Bases and Investments

ExxonMobil is committed to disciplined investing in attractive opportunities through the normal fluctuations in business cycles. Projects are evaluated under a wide range of possible economic conditions and commodity prices that are reasonably likely to occur, and we expect them to deliver competitive returns through the cycles. We do not publish the economic bases upon which we evaluate investments due to competitive considerations. However, we apply prudent and substantial safety margins in our planning assumptions to help ensure robust returns. In assessing the economic viability of proved reserves, we do not believe a scenario consistent with reducing GHG emissions by 80 percent by 2050, as suggested by the "low carbon scenario," lies within the "reasonably likely to occur" range of planning assumptions, since we consider the scenario highly unlikely.

The company also stress tests its oil and natural gas capital investment opportunities, which provides an added margin of safety against uncertainties, such as those related to technology, costs, geopolitics, availability of required materials, services, and labor, etc.

<sup>&</sup>lt;sup>10</sup> Permitting the freer trade and export of natural gas is but one way, for example, where countries that rely on more carbon-intense forms of energy can increase their use of cleaner-burning fuels.

Such stress testing differs from alternative scenario planning, such as alternate Outlooks, which we do not develop, but stress testing provides us an opportunity to fully consider different economic scenarios in our planning and investment process. The Outlook is reviewed at least annually, and updated as needed to reflect changes in views and circumstances, including advances in technology.



We also address the potential for future climate-related controls, including the potential for restriction on emissions, through the use of a proxy cost of carbon. This proxy cost of carbon is embedded in our current *Outlook for Energy*, and has been a feature of the report for several years. The proxy cost seeks to reflect all types of actions and policies that governments may take over the Outlook period relating to the exploration, development, production, transportation or use of carbon-based fuels. Our proxy cost,

which in some areas may approach \$80/ton over the Outlook period<sup>11</sup>, is not a suggestion that governments should apply specific taxes. It is also not the same as a "social cost of carbon," which we believe involves countless more assumptions and subjective speculation on future climate impacts. It is simply our effort to quantify what we believe government policies over the Outlook period could cost to our investment opportunities. Perhaps most importantly, we require that all our business segments include, where appropriate, GHG costs in their economics when seeking funding for capital investments. We require that investment proposals reflect the climate-related policy decisions we anticipate governments making during the Outlook period and therefore incorporate them as a factor in our specific investment decisions.

When governments are considering policy options, ExxonMobil advocates an approach that ensures a uniform and predictable cost of carbon; allows market prices to drive solutions; maximizes transparency to stakeholders; reduces administrative complexity; promotes global participation; and is easily adjusted to future developments in climate science and policy impacts. We continue to believe a revenue-neutral carbon tax is better able to accommodate these key criteria than alternatives such as cap-and-trade.

Our views are based on our many years of successful energy experience worldwide and are similar to long-term energy demand forecasts of the International Energy Agency. As discussed previously, we see population, GDP and energy needs increasing for the world over the Outlook period, and that *all* economically viable energy sources will be required to meet these growing needs. We believe that governments will carefully balance the risk of climate change against other pressing social needs over the Outlook period, including the need for accessible, reliable and affordable energy, and that an artificial capping of carbon-based fuels to levels in the "low carbon scenario" is highly unlikely.

<sup>&</sup>lt;sup>11</sup> As noted in our Outlook, this amount varies from country to country, with that amount generally equating to OECD countries, and lower amounts applying to non-OECD countries.

# 7. Capital Allocation

ExxonMobil maintains capital allocation discipline with rigorous project evaluation and investment selectivity, while consistently returning cash to our shareholders. Our capital allocation approach is as follows:

- I. Invest in resilient, attractive business opportunities
- II. Pay a reliable and growing dividend
- III. Return excess cash to shareholders through the purchase of shares.

Although the company does not incorporate the "low carbon scenario" in its capital allocation plans, a key strategy to ensure investment selectivity under a wide range of economic assumptions is to maintain a very diverse portfolio of oil and gas investment opportunities. This diversity – in terms of resource type and corresponding development options (oil, gas, NGLs, onshore, offshore, deepwater, conventional, unconventional, LNG, etc.) and geographic dispersion is unparalleled in the industry. Further, the company does not believe current investments in new reserves are exposed to the risk of stranded assets, given the rising global need for energy as discussed earlier.

# 8. Optional Reserves Disclosure under SEC Rules

Some have suggested that ExxonMobil consider availing itself of an optional disclosure available to securities issuers under Item 1202 of SEC Regulation S-K.<sup>12</sup> That SEC item provides, among other things, that "the registrant may, but is not required to, disclose, in the aggregate, an estimate of reserves estimated for each product type based on different price and cost criteria, such as a range of prices and costs that may reasonably be

<sup>&</sup>lt;sup>12</sup> The rules were subject to comment at the time that they were proposed. See Modernization of Oil and Gas Reporting, Securities and Exchange Commission, 17 CFR Parts 210, 211, 229, and 249 [Release Nos. 33-8995; 34-59192; FR-78; File Nos. S7-15-08] at p. 66. (www.sec.gov/rules/final/2008/33-8995.pdf) ExxonMobil also provided comments to the proposed provision. See Letter of Exxon Mobil Corporation to Ms. Florence Harmon, Acting Secretary, Securities and Exchange Commission, September 5, 2008, File Number S7-15-08 – Modernization of the Oil and Gas Reporting Requirements at p. 24.

achieved, including standardized futures prices or management's own forecasts." Proponents ask the company to use this option to identify the price sensitivity of its reserves, with special reference to long-lived unconventional reserves such as oil sands.

We believe the public reporting of reserves is best done using the historical price basis as required under Item 1202(a) of Regulation S-K, rather than the optional sensitivity analysis under Item 1202(b), for several reasons. First and most importantly, historical prices are a known quantity and reporting on this basis provides information that can be readily compared between different companies and over multiple years.<sup>13</sup> Proved reserve reporting using historical prices is a conservative approach that gives investors confidence in the numbers being reported.

Using speculative future prices, on the other hand, would introduce uncertainty and potential volatility into the reporting, which we do not believe would be helpful for investors. In fact, we believe such disclosure could be misleading. Price forecasts are subject to considerable uncertainty. While ExxonMobil tests its project economics to ensure they will be robust under a wide variety of possible future circumstances, we do not make predictions or forecasts of future oil and gas prices. If reserves determined on a speculative price were included in our SEC filings, we believe such disclosure could potentially mislead investors, or give such prices greater weight in making investment decisions than would be warranted.

We are also concerned that providing the optional sensitivity disclosure could enable our competitors to infer commercial information about our projects, resulting in commercial harm to ExxonMobil and our shareholders. We note that none of our key competitors to our knowledge provide the Item 1202(b) sensitivity disclosure.

<sup>&</sup>lt;sup>13</sup> We note the rules under 1202(a) use an average of monthly prices over the year rather than a single "spot" price, thus helping to reduce the effects of short-term volatility that often characterize oil and gas prices.

Lastly, we note that even when sensitivity disclosure under Item 1202(b) is included in a filing, the price and cost assumptions must be ones the company believes are reasonable. This disclosure item is therefore not intended or permitted to be a vehicle for exploring extreme scenarios.

For all the above reasons, we do not believe including the sensitivity disclosure under Item 1202(b) in our SEC filings would be prudent or in the best interest of our shareholders.

# 9. Summary

In summary, ExxonMobil's *Outlook for Energy* continues to provide the basis for our long-term investment decisions. Similar to the forecasts of other independent analysts, our Outlook envisions a world in which populations are growing, economies are expanding, living standards are rising, and, as a result, energy needs are increasing. Meeting these needs will require all economic energy sources, especially oil and natural gas.

Our *Outlook for Energy* also envisions that governments will enact policies to constrain carbon in an effort to reduce greenhouse gas emissions and manage the risks of climate change. We seek to quantify the cumulative impact of such policies in a proxy cost of carbon, which has been a consistent feature of our *Outlook for Energy* for many years.

We rigorously consider the risk of climate change in our planning bases and investments. Our investments are stress tested against a conservative set of economic bases and a broad spectrum of economic assumptions to help ensure that they will perform adequately, even in circumstances that the company may not foresee, which provides an additional margin of safety. We also require that all significant proposed projects include a cost of carbon – which reflects our best assessment of costs associated with potential GHG regulations over the Outlook period – when being evaluated for investment. Our *Outlook for Energy* does not envision the "low carbon scenario" advocated by some because the costs and the damaging impact to accessible, reliable and affordable energy resulting from the policy changes such a scenario would produce are beyond those that societies, especially the world's poorest and most vulnerable, would be willing to bear, in our estimation.

In the final analysis, we believe ExxonMobil is well positioned to continue to deliver results to our shareholders and deliver energy to the world's consumers far into the future. Meeting the economic needs of people around the world in a safe and environmentally responsible manner not only informs our *Outlook for Energy* and guides our investment decisions, it is also animates our business and inspires our workforce.

# **10. Additional Information**

There were additional information requests raised by some in the course of engagement with the groups with whom we have been dialoguing. These are addressed in the Appendix.

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	United States	Canada/ S. Amer. (2)	Europe	Africa	Asia	Australia/ Oceania	Total	Worldwide	Canada/ S. Amer. (2)	Canada/ S. Amer. (2)	Total
				Crude Oil				Natural Gas Liquids (2)	Bitumen	Synthetic Oil	
Total liquids proved reserves (1) (millions of barrels)	2,338	284	273	1,193	3,308	155	7,551	1,479	3,630	579	13,239
				Natural Gas							_
Total natural gas proved reserves (1) (billions of cubic feet)	26,301	1,235	11,694	867	24,248	7,515	71,860			*	71,860
Oil-Equivalent Total All Products (3) (millions of oil-equivalent barrels)	6,722	490	2,222	1,338	7,349	1,407	19,528	1,479	3,630	579	25,216

# **EXXONMOBIL PROVED RESERVES - AT DECEMBER 31, 2013**

**Proved Reserves Distribution** (4) (percent, oil equivalent barrels)



- (1) Source: ExxonMobil 2013 Form 10-K (pages 103 and 106).
- (2) Includes total proved reserves attributable to Imperial Oil Limited, in which there is a 30.4 percent noncontrolling interest. Refer to ExxonMobil 2013 Form 10-K (pages 103, 104, and 106) for more details.
- (3) Natural gas is converted to oil-equivalent basis at six million cubic feet per one thousand barrels.
- (4) Source: ExxonMobil 2013 Financial and Operating Review (page 22).

# EXXONMOBIL RESOURCE BASE – AT DECEMBER 31, 2013 (1)



**Billion Oil-Equivalent Barrels (BOEB)** 

(1) Source: 2013 ExxonMobil Financial & Operating Review (page 21) and 2014 Analyst Meeting (slide 49).

**Note:** ExxonMobil's resource base includes quantities of oil and gas that are not yet classified as proved reserves under SEC definitions, but that we believe will ultimately be developed. These quantities are also not intended to correspond to "probable" or "possible" reserves under SEC rules.
#### **EXXONMOBIL OIL & GAS PRODUCTION OUTLOOK (1)**



- Total production outlook
  - 2014: Flat
  - 2015 2017: up 2-3% per year
- Liquids outlook
  - 2014: up 2%
  - 2015 2017: up 4% per year
- Gas outlook
  - 2014: down 2%
  - 2015 2017: up 1% per year
- (1) Source 2014 ExxonMobil Analyst Meeting (slide 32).
- (2) 2013 production excludes the impact of UAE onshore concession expiry and Iraq West Qurna 1 partial divestment. Production outlook excludes impact from future divestments and OPEC quota effects. Based on 2013 average price (\$109 Brent).

#### **EXXONMOBIL CAPEX OUTLOOK (1)**



Average < \$37B/year

- Expect to invest \$39.8B in 2014
  - Reduced Upstream spending
  - Selective Downstream and Chemical investments
- Average less than \$37B per year from 2015 to 2017

(1) Source 2014 ExxonMobil Analyst Meeting (slide 33).

#### EXXONMOBIL OIL & GAS EXPLORATION AND PRODUCTION EARNINGS AND UNIT PROFITABILITY (1)

The revenue, cost, and earnings data are shown both on a total dollar and a unit basis, and are inclusive of non-consolidated and Canadian oil sands operations.

	Total Revenues and Costs, Including Non-Consolidated Interests and Oil Sands							Revenues and Costs per Unit of Sales or Production (2)				
×	100004	Canada/				Austalia		11-2-1	Canada/	Outside		
	States	America	Europe	Africa	Asia	Australia/ Oceania	Total	States	America	Americas	Worldw ide	
2013	010100	(millions of dollars)					(dollars per unit of sales)					
Revenue										and the second		
Liquids	13,350	7,558	6,751	18,811	28,440	1,596	76,506	84.87	75.28	101.92	95.25	
Natural gas	3,880	360	11,384	6	13,477	539	29,646	3.00	2.80	8.77	6.86	
							(dollars per barrel of net oil-equivalent production)					
Total revenue	17,230	7,918	18,135	18,817	41,917	2,135	106,152	46.20	63.93	78.86	69.66	
Less costs:												
Production costs												
excluding taxes	4,742	3,965	3,318	2,396	2,423	654	17,498	12.72	32.02	8.56	11.48	
Depreciation and depletion	5,133	989	2,050	3,269	2,635	334	14,410	13.76	7.99	8.07	9.46	
Exploration expenses	413	386	260	288	997	92	2,436	1.11	3.12	1.59	1.60	
Taxes other than income	1,617	94	4,466	1,583	9,146	427	17,333	4.33	0.74	15.21	11.37	
Related income tax	1,788	542	4,956	6,841	14,191	202	28,520	4.79	4.38	25.50	18.72	
Results of producing activities	3,537	1,942	3,085	4,440	12,525	426	25,955	9.49	15.68	19.93	17.03	
Other earnings (3)	662	(495)	302	59	234	(118)	644	1.77	(4.00)	0.47	0.42	
Total earnings, excluding	1.512		1115	1555								
power and coal	4,199	1,447	3,387	4,499	12,759	308	26,599	11.26	11.68	20.40	17.45	
Power and coal	(8)				250	<u> </u>	242	1				
Total earnings	4,191	1,447	3,387	4,499	13,009	308	26,841	11.23	11.68	20.64	17.61	

Unit Earnings Excluding NCI Volumes (4) 18.03

(1) Source: ExxonMobil 2013 Financial and Operating Review (page 56).

- (2) The per-unit data are divided into two sections: (a) revenue per unit of sales from ExxonMobil's own production; and, (b) operating costs and earnings per unit of net oil-equivalent production. Units for crude oil and natural gas liquids are barrels, while units for natural gas are thousands of cubic feet. The volumes of crude oil and natural gas liquids production and net natural gas production available for sale used in this calculation are shown on pages 48 and 49 of ExxonMobil's 2013 Financial & Operating Review. The volumes of natural gas were converted to oil-equivalent barrels based on a conversion factor of 6 thousand cubic feet per barrel.
- (3) Includes earnings related to transportation operations, LNG liquefaction and transportation operations, sale of third-party purchases, technical services agreements, other nonoperating activities, and adjustments for noncontrolling interests.
- (4) Calculation based on total earnings (net income attributable to ExxonMobil) divided by net oilequivalent production less noncontrolling interest (NCI) volumes.

#### EXXONMOBIL

#### **PRODUCTION PRICES AND PRODUCTION COSTS (1)**

The table below summarizes average production prices and average production costs by geographic area and by product type.

	United	Canada/				Australia/				
	States	S. America	Енгоре	Africa	Asia	Oceania	Total			
During 2013		(dollars per unit)								
Total										
Average production prices (2)										
Crude oil, per barrel	95.11	98.91	106.49	108.73	104.98	107.92	104.01			
NGL, per barrel	44.24	44.96	65.36	75.24	61.64	59.55	56.26			
Natural gas, per thousand cubic feet	3.00	2.80	9.59	2.79	8.53	4.20	6.86			
Bitumen, per barrel		59.63		-	-	4	59.63			
Synthetic oil, per barrel		93.96		-		8	93.96			
Average production costs, per oil-equivalent barrel - total (3)	12.72	32.02	12.42	13.95	4.41	16.81	11.48			
Average production costs, per barrel - bitumen (3)		34.30			-	-	34.30			
Average production costs, per barrel - synthetic oil (3)		50.94	. 4			1.4	50.94			

(1) Source: ExxonMobil 2013 Form 10-K (page 9)

(2) Revenue per unit of sales from ExxonMobil's own production. (See ExxonMobil's 2013 Financial & Operating Review, page 56.) Revenue in this calculation is the same as in the Results of Operations disclosure in ExxonMobil's 2013 Form 10-K (page 97) and does not include revenue from other activities that ExxonMobil includes in the Upstream function, such as oil and gas transportation operations, LNG liquefaction and transportation operations, coal and power operations, technical service agreements, other nonoperating activities and adjustments for noncontrolling interests, in accordance with Securities and Exchange Commission and Financial Accounting Standards Board rules.

(3) Production costs per unit of net oil-equivalent production. (See ExxonMobil's 2013 inancial & Operating Review, page 56.) The volumes of natural gas were converted to oil-equivalent barrels based on a conversion factor of 6 thousand cubic feet per barrel. Production costs in this calculation are the same as in the Results of Operations disclosure in ExxonMobil's 2013 Form 10-K (page 97) and do not include production costs from other activities that ExxonMobil includes in the Upstream function, such as oil and gas transportation operations, LNG liquefaction and transportation operations, coal and power operations, technical service agreements, other nonoperating activities and adjustments for noncontrolling interests, in accordance with Securities and Exchange Commission and Financial Accounting Standards Board rules. Depreciation & depletion, exploration costs, and taxes are not included in production costs.





# **Exhibit SS**



## 2015 Sustainability report

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Cover photo: Øyvind Hagen

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## Climate change

How Statoil aims to stay competitive in the low-carbon future.

Statoil

Supp. App: 206

## a

## The Oil and Gas Climate Initiative (OGCI)

The OGCI is a CEO-led voluntary initiative set up in 2014 to accelerate and guide collective efforts towards a low-carbon future. It is made up of oil and gas companies that want to contribute to climate change solutions.

www.oilandgasclimateinitiative.com

#### The Global Gas Flaring Reduction partnership (GGFR)

The GGFR partnership is a World Bank initiative that aims to eliminate global flaring by 2050. Flaring of associated gas is a considerable source of  $CO_2$  emissions from the oil and gas industry.

www.worldbank.org/en/programs/gasflaring reduction

#### The Climate and Clean Air Coalition Oil and Gas Methane Partnership (CCAC OGMP)

The Climate and Clean Air Coalition (CCAC) is led by the United Nations Environment Programme and consists of several country partners and other key institutions.

Through the Oil and Gas Methane Partnership, the CCAC works with leading oil and gas companies to achieve substantial global methane reductions.

new.ccacoalition.org

#### The Business Partnership for Market Readiness (B-PMR)

The International Emissions Trading Association's Business Partnership for Market Readiness (B-PMR) supports countries to assess, prepare, and implement carbon pricing instruments in order to scale up greenhouse gas mitigation. It also serves as a platform for countries to share knowledge and work together to shape the future of cost-effective climate change mitigation.

www.thepmr.org

### Our position on climate change

#### Meeting the low-carbon challenge.

Statoil recognises the ambition to limit the average global temperature rise to below two degrees centigrade compared to pre-industrial levels. This will require a transition to a low-carbon economy over the next few decades and involve significant action from all parts of society, including companies, consumers and governments. The energy system, in particular, will have to undergo dramatic change in order to shrink its carbon emissions, while continuing to supply the growth in demand for energy in emerging markets.

The Paris Agreement on climate change negotiated in December 2015 provides the prospect of improved policy support around the world for accelerating the shift to low-carbon solutions. As a major provider of oil and gas, we recognise that we have a key role to play in making this transition work. We welcome the agreement and believe we are well positioned to play our part.

Our shareholders are increasingly asking for greater transparency about the measures we are taking to respond to climate risk and to ensure that our business model evolves in line with changing realities and expectations. In May 2015, our Annual General Meeting passed a shareholder resolution calling for greater disclosure around all aspects of how we are responding to climate change. Our initial response can be seen in this report.

#### Our approach to climate change

There are four key aspects to Statoil's response to climate change and we will explore each of these in more detail in this section of the report:

- Climate policy: supporting the development of viable policies and regulatory frameworks to accelerate an orderly transition to a low-carbon economy.
- Climate risk and portfolio resilience: ensuring that Statoil's business model evolves in parallel with the energy transition, allowing us to embrace lowcarbon solutions as an opportunity rather than a threat, while monitoring the regulatory, market, technological and physical impact of climate change.
- Emissions management: prioritising maximum carbon efficiency and energy savings across the entire value chain, linked to executive compensation (see page 7).
- Low-carbon technologies: harnessing our technological capacity to develop and explore a broad array of low-carbon energy solutions.

In 2015, we joined the Oil and Gas Climate Initiative, a voluntary, CEO-led grouping that aims to accelerate and guide the industry's shift towards a low-carbon world. This complements our participation in other significant initiatives such as the World Bank's Global Gas Flaring Reduction Initiative and the Climate and Clean Air Coalition Oil and Gas Methane Partnership, to mention a few (box, left).



#### Supporting climate policies

We work with governments, other companies and civil society organisations to facilitate the development of viable policies and regulatory frameworks.

Three key positions inform our climate advocacy efforts:

- Climate policy measures should be predictable, transparent and internationally applied in order to provide incentives for lower-carbon technologies, ensure cost effectiveness and create a level playing field in global markets.
- A price on greenhouse gas emissions based on the "emitter pays" principle should be the preferred climate policy framework, as we regarded this as the most effective measure.
- Climate policy measures should be technology and fuel-neutral to maximise innovation through market competition. Targeted public investment into research and development and market scaling support is needed to stimulate relevant new and emerging technologies. The level of support should be reduced over time and removed entirely for competitive technologies.

We firmly believe that a carbon price is the right way to incentivise the supply and use of lower-carbon options, enabling the world to move faster to a sustainable energy system, while meeting growing energy demand along the way. In Norway, Statoil operates successfully with a relatively high carbon tax (see page 15). We have shown that it's possible to prosper in a world of carbon pricing.

We are working with governments, businesses and organisations to develop policies for effective carbon pricing around the world. In June 2015, Statoil's CEO Eldar Sætre —together with the CEOs of BG Group, BP, ENI, Shell and Total—made a joint call for putting a price on carbon in an open letter addressed directly to the United Nations (UN) and heads of state.

#### The letter is available at

www.statoil.com/en/NewsAndMedia/News/2015/Pages/01Jun\_carbon.aspx.

In the EU, we have publicly declared our support for the approved 40% greenhouse gas emissions reduction target by 2030, as well as a significant strengthening of the EU Emissions Trading Scheme. Additionally, we are working through the World Bank's Business Partnership for Market Readiness (box, previous page) to contribute to the development of well-designed carbon pricing schemes in many countries.

Transparency is important to us. We openly engage with academics, politicians and industry peers in discussions around climate policy measures and how we can contribute to a low-carbon future.

An overview of our engagement with policy makers on climate change policy is available in our 2015 CDP reply, available at www.statoil.com/en/EnvironmentSociety/Sustainability.

"The Oil and Gas Climate Initiative's Joint Collaborative Declaration highlights the pivotal role that Statoil, and the oil and gas industry, can play in being part of the solution to climate change by harnessing your power and technical expertise to reduce greenhouse gas emissions. I am very grateful for your leadership at this time, and for your strong personal engagement to managing the impact of climate change – this is a fundamental obligation, and though there are many obstacles there is also great opportunity."

Ms. Christiana Figueres

Executive Secretary of the United Nations Framework Convention on Climate Change Contribution of technologies to global cumulative CO<sub>2</sub> reductions



Source: IEA data from Energy Technology Perspectives 2015 © OECD/IEA, modified by Statoll

## Climate risk and portfolio resilience

#### The place of oil and gas in a low carbon future.

If there is a concerted global effort to limit climate change over the next few decades, energy companies will be among the most strongly affected. We will have to respond to radical changes in our business environment, while continuing to supply energy to a growing world population and rapidly developing economies.

According to the Intergovernmental Panel on Climate Change (IPCC), limiting the average global temperature rise to two degrees centigrade above pre-industrial levels by 2100 will likely require a 40-70% reduction in greenhouse gas emissions by 2050 and net zero emissions well before the end of the century. To achieve this, there will be significantly stricter energy and climate regulations that will increase the cost of producing fossil fuels, while incentivising greater carbon efficiency and low-carbon solutions.

The pace and impact of this long-term shift is not a given and will depend on many factors: geopolitics, the implementation of energy and climate policies, resource shortages, technological progress and economic growth.

Shareholders are increasingly concerned to understand the impact that stricter climate change regulation and the physical impact of climate change may have on different parts of our business over the longer term. This entails getting a clearer picture of the pathway that we and other energy companies intend to take to ensure that our portfolio of assets remains relevant and profitable as realities and expectations change.

As a major provider of oil and gas, we are already responding to the prospect of higher carbon costs and stricter climate regulations. We focus on carbon efficiency in our own operations and incorporate a price on carbon in our investment analysis. We have been exposed to carbon taxation in Norway since 1991. We have also started to expand our portfolio of low-carbon energy solutions and to enhance the market value of existing low-carbon products, establishing a new business area, *New Energy Solutions*, in 2015.

#### **Energy perspectives**

In our.*Energy Perspectives 2015* report, we analysed three possible scenarios for the 25 years to 2040, each of which would have a different impact on our business.

The "Reform" scenario represents a gradual approach to tightening up climate change policy – one that would not be sufficient to ensure sustainability, but with significantly stricter energy and climate policies than today.

The 'Rivalry' scenario represents a failure to achieve a global agreement (such as the Paris agreement on climate change) and the further fragmentation of national efforts by governments relying more heavily on their own energy resources.

The "Renewal" scenario describes a rapid energy transition based on a global commitment to stay within a two-degree target. Since this scenario in most respects is the most challenging to oil and gas companies – we will explore its impact in more detail.



World energy demand per fuel







The Renewal scenario involves:

- a 40% reduction in carbon emissions by 2040, with peak emissions in 2020
  - ongoing decline in energy intensity, reducing energy demand growth to 0.2% a year
- global mechanisms for reducing emissions and pricing carbon
- the phasing out of fossil fuel subsidies worldwide.
- the focused financing of low and zero carbon energy systems including carbon capture and storage

A mix of policy, regulatory, behavioural and technological developments would transform the global energy system by 2040. Electricity would be widely used in all sectors of society, including transport, and represent 30% of final energy consumption, up from 19% today. It would be produced by smart, decentralised, efficient and consumer-centric infrastructures and involve cost-efficient energy storage,

The power sector would be significantly decarbonised. Renewables would represent 57% of electricity production up from 21% today, with solar and wind becoming universally cost competitive, with the challenges of intermittency overcome. Coal would represent only 10% of electricity generation (down from 40% today), with growth in China and India fuelled by alternative energy sources.

The transport sector would rely heavily on electrification, sustainable biofuels and other alternative vehicle technologies. This would reduce the share of oil in private road transport to less than 30% in Europe and North America and to around 50% in China and India.

#### The impact on oil and gas

Under the conditions described in our Renewal scenario, the global energy mix in 2040 would shift with a significantly lower share of coal and a significantly higher share of renewables and nuclear energy. Oil and gas would each account for a 24% share in 2040 ~ representing a reduction in oil usage (from 31% in 2012) and a rise in gas consumption (from 22%).

Nevertheless, oil and gas together still account for 48% of the global energy mix in 2040 – down from 53% in 2012. The IEA projects quite similar trends in its "450 ppm scenario" (hereafter "IEA 450 scenario"), with oil and gas together accounting for around 43% of the global energy mix in 2040 (World Energy Outlook (WEO) 2015). The IEA 450 scenario is compatible with a global warming of maximum of two degrees Celsius with more than 50% probability (two degree scenario).

In summary; in the Renewal scenario:

- Oil demand could fall by around 0.6% per year if there is a radical rethinking of transportation, but will still represent almost a quarter of the energy mix and be used for materials, transportation and other purposes.
- Natural gas demand could grow by 0.6% a year over the first few decades of the energy transition as coal-based power stations are closed and alternative energy systems are developed, but this would require the introduction of carbon pricing and technology-neutral policies.
- Renewable sources of energy are expected to grow very rapidly, with wind power supply growing by over 9% a year and solar by almost 16%.
- Carbon capture and storage could play an increasing role from the late 2020s, if solutions are found to develop it on a large scale.

These shifts are significant and require both short-term action and careful monitoring and responsiveness over the longer term. But they do not represent an immediate threat to Statoil's business. Oil and gas fields currently in production will provide just 20% of the oil and gas volume needed in 2040. In particular, the fear of "stranded assets" if oil and gas companies continue to explore for new reserves does not take into account the fact that the demand for oil and gas would be much

Statoil, Sustainability Report 2015 13 Supp. App. 210

#### Monitoring climate change impact

These are factors we monitor as we shape our asset portfolio for a low-carbon future

#### Regulatory

- Carbon pricing
- Regulations and/or cap on greenhouse gas emissions
- Tax systems and incentives, including for renewable energy
- Restrictions on access to and maturation of resources

#### Market

- Oil and gas prices
- Shift in demand for transportation fuels
- Cost of production and development
- Transition from coal to gas in the power sector
- Competitive potential of renewables.

#### Technological breakthrough

- Progress in scaling up carbon capture and storage (CCS)
- Development of energy storage technologies
- Carbon utilisation for new products or processes
- Emergence of disruptive low-carbon technologies

#### Physical

- Impact on our assets of more frequent extreme weather events
- Assessment of emergency response plans for extreme weather conditions
- Impact on water availability

#### Our approach to portfolio resilience

- We proactively identify and manage carbon risks and opportunities
- We focus on making our oil and gas production cost- and carbon efficient
- We invest in low-carbon solutions
- Our investments and projects are tested against stricter climate regulations
- We have flexibility in future investments

higher than what can possibly be produced from existing, producing oil and gas fields (graph, previous page).

New fields are urgently needed just to replace capacity. This is why continued exploration and investment in oil and gas production has to continue, along with increasing investments in low-carbon technologies such as renewables. Not all resources will be developed, however – we are exploring to find the most competitive barrels and that definition will be shaped by a combination of factors: the realities of oil and gas prices, the development of new technologies and the speed of decarbonisation.

#### Identifying climate related business risk and opportunities

We are responding now to enhance our resilience in a future environment with higher carbon costs and stricter climate regulations. Both our corporate executive committee and our board of directors frequently discuss the business risks and opportunities associated with climate change, including regulatory, market, technological and physical risk factors.

To ensure that we take relevant risk factors into account, we apply tools such as internal carbon pricing, scenario planning and stress testing of projects against various oil and gas price assumptions. We regularly assess how the development of technologies and changes in regulations, including the introduction of stringent climate policies, may impact the oil price, the costs of developing new oil and gas assets, and the demand for oil and gas. These assessments are incorporated into our scenarios (see *Monitoring climate change impact*, left). We are aware that disruptive technologies could potentially change our market fundamentally.

#### Asset portfolio resilience

We have analysed the sensitivity of our portfolio of projects to low oil price and high carbon price assumptions, using both our own planning assumptions and the assumptions laid out in the IEA Current Policies scenario, the IEA New Policies scenario and the IEA 450 scenario (WEO 2015). The analysis covers all accessed acreage, from exploration licences to fields in production, over the lifetime of the projects.

The analysis has been conducted using our own economic planning tool and assumptions, and the IEA's assumptions, which may differ from future oil, gas and carbon prices. Accordingly, there can be no assurance that the assessment is a reliable indicator of the actual impact of climate change on Statoil.

Energy scenarios are not predictions of the future, but analytical tools that we use as input to our strategy and planning. Various scenarios demonstrate the uncertainty in foreseeing future developments, and that several futures are possible.

In our analysis, we have replaced our own planning assumptions for carbon cost, oil and gas prices with the equivalent assumptions in these IEA scenarios. However, the projects and other operating conditions have not been further optimised beyond current status. We have assumed that non-sanctioned projects (exploration prospects and leads) with a negative net present value (NPV) will not be executed. Production, revenues, operating expenses and investments for these projects have been removed from the analysis.

We have tested our project portfolio for sensitivity towards carbon prices as set out in the different scenarios. We have used Statoil's internal carbon price as the minimum carbon price and in addition tested for sensitivity towards the IEA carbon price assumptions in the cases where the IEA carbon price is higher than our own carbon price.



Portfolio sensitivity in a two degree scenario (IEA 450 scenario)





The graph demonstrates the combined effect on NPV of changes in oil and gas prices and CO<sub>2</sub> prices as set out in the IEA 450 scenario, taking into account portfolio changes due to the NPV effect on particular projects.

The base case (0%) represents the NPV using Statoil's planning assumptions.

It should be noted that changes to our economic planning assumptions, as well as changes to the IEA scenarios, will influence the impact on the NPV in future years' analysis.

Forecast production of oil and gas by category



Equity production, including expected production from accessed exploration acreage. Our analysis demonstrated that the main contributor to changes in NPV for our asset portfolio is variations in oil and gas prices.

In our assessment, we have focused on the impact of the IEA 450 Scenario ("two degree scenario"). However, we have also analysed the resilience of our portfolio towards the IEA Current Policies scenario and the IEA New Policies scenario. In the two latter scenarios, we see a positive impact on our NPV compared to our own planning assumptions.

In our analysis, the IEA 450 scenario would have a negative impact of about 5% on Statoil's NPV compared to our own planning assumptions as of December 2015 (graph left). This reflects sensitivity to oil and gas prices and carbon price as well as changes to the portfolio due to the NPV effect on particular projects. The projects and other operating conditions have not been further optimised beyond current status.

The impact of the assumptions in the energy scenarios varies between projects and production segments.

- Our conventional oil and gas projects in general carry low climate related regulatory risk. This is due to the relatively low carbon intensity and already high CO<sub>2</sub> cost for many of these projects. Over 60% of our equity production takes place in Norway. These projects are subject to relatively high CO<sub>2</sub> costs of approximately NOK 520 per tonne of CO<sub>2</sub> (approximately USD 64 based on the annual average exchange rate in 2015), reflecting the cost of the Norwegian offshore CO<sub>2</sub> tax in addition to EU ETS quotas. We also incorporate a price on carbon in our investment analysis for international projects. Because of this, a significant increase of the cost of carbon to USD 125 per tonne of CO<sub>2</sub> equivalent in 2035 (as stipulated in the IEA 450 scenario) would only marginally impact the NPV for our conventional oil and gas portfolio.
- Our projects in shale oil and heavy and extra heavy oil are less robust towards higher carbon prices due to their higher carbon intensity. However, the greater flexibility in cost and production of shale oil and extra heavy oil to some extent counterbalances this impact in terms of resilience compared to other projects.
- Our low-carbon projects will benefit from stricter climate policies, subsidies
  and restrictions on emissions. This can open up opportunities for growth
  within renewable energy and other low-carbon energy solutions. Reaching
  scale on floating offshore wind farms will depend on continued subsidies. The
  successful introduction of carbon capture and storage on a large scale will also
  depend on the willingness to finance emission reductions by governments and
  private actors, as well as cost reductions due to technological advances.

To summarise, our analysis demonstrates that the IEA 450 scenario would have a limited impact on the resilience of our asset portfolio, compared to our own planning assumptions.

We are managing the business risks and opportunities brought by a low-carbon future on the basis of the following principles:

Carbon efficiency and large scale natural gas production: We are an industry leader in carbon efficiency and we aim to maintain a very large proportion of low carbon-intensity assets in our portfolio such as conventional oil and natural gas (pie chart, left). That is why we have set a long-term carbon intensity target for production (page 17).

## Non-sanctioned projects $2013 \rightarrow 2016$



The chart covers our total non-sanctioned portfolio (operated and non-operated) where projects have been continued since 2013 and have expected production start by the end of 2022. Gas accounts for 41% of our production. Over time, decarbonisation will require the world to move on from natural gas, but over the next few decades switching from coal, the most carbon-intensive fossil fuel, to natural gas can help cut emissions from electricity generation in half. This is because natural gas is less carbon intensive than other hydrocarbons because it contains more hydrogen relative to carbon.

Cost efficiency: Our comprehensive efficiency and cost reduction programme launched in 2013 has achieved cost reductions of USD 1.9 billion (NOK 15,3 billion) per year by the end of 2015, through various means including innovation through standardisation and simplification. As an example, we have significantly reduced the average break-even oil price of both our operated project portfolio sanctioned since 2013 and our non-operated project portfolio (illustration, left). We aim to achieve accumulated cost reductions of USD 2.5 billion (NOK 20.2 billion) per year from 2016.

Flexibility: We have significant flexibility to adjust investments over the next years, with only a small proportion of our forecast (i.e. expected) investments for 2025 already allocated. The share of investments allocated to producing fields and sanctioned projects (i.e. projects for which investment decisions have been made), decreases significantly in 2025 (pie charts, below).



Producing Sanctioned Development T Exploration and new business opportunities

CO<sub>2</sub> intensity (upstream)





CO, emissions

CO2 excluding flaring CO2 from flaring

Changes in CO<sub>2</sub> emissions

(million tonnes)





#### How we manage our emissions

#### Our approach to increasing carbon efficiency.

As a large producer of oil and gas, and therefore a significant emitter of greenhouse gases, we can and must contribute to providing more energy with lower emissions. Energy use for power and heat generation represents the largest direct source of greenhouse gas emissions from our operations. Flaring, venting and leakages represent smaller, but nevertheless significant, sources of emissions. Our efforts to reduce our direct emissions include:

- Improving energy efficiency
- Reducing methane emissions
- Eliminating routine flaring
- Scaling up carbon capture and storage

#### Carbon intensity target

In 2015, we established a 2020 carbon intensity target of 9 kg CO<sub>2</sub>/barrel of oil equivalent (boe) for our upstream (exploration and production) activities. The target is long-term, because carbon reduction initiatives may take years to implement. We believe that the target is ambitious, but achievable, and it reflects our ambition to be an industry leader in carbon efficiency.

To further enhance this ambition, upstream carbon intensity has been incorporated as a key performance indicator at corporate level for 2016. Our performance management model and the link to executive incentives are described on page 7.

Our performance in 2015 demonstrates that we are on our way to meeting our carbon intensity target. The carbon intensity of our upstream production improved to 10kg CO<sub>2</sub> per barrel of oil equivalent (graph, top left) - less than 60% of the industry average of 18kg as measured by the International Association of Oil and Gas Producers (IOGP) (Environmental Performance Indicators, 2014 data).

In addition to our upstream target, we have segment based targets because carbon intensity varies significantly between different types of oil and gas. Carbon intensity data and targets per production segment are described on page 41.

Our targets are subject to significant uncertainty because they relate to events and circumstances that will occur in the future. Changes in our asset portfolio and production disturbances can affect the result for a particular year.

#### Greenhouse gas emissions

Our operated production increased to 1,073 mmboe in 2015, up from 997 mmboe in 2014. Total emissions of carbon dioxide therefore increased slightly to 15.4 million tonnes in 2015 (graph, left). Methane emissions decreased significantly, from 40.6 thousand tonnes in 2014 to 36.3 thousand tonnes in 2015 (page 19).

Our direct (scope 1) greenhouse gas (GHG) emissions remained stable at 16.3 million tonnes. GHG emissions include emissions of carbon dioxide and methane. Other greenhouse gases are not included, as these are assessed to be insignificant for Statoil.

Scope 2 GHG emissions, which include emissions from energy imported from third parties, were 0.3 million tonnes  $CO_2$  equivalents in 2015, using a location based emission factor. More information about scope 2 GHG emissions and emission factors used is available on page 41.

In 2015, we paid approximately NOK 4 billion in CO2 tax and emission quotas.





#### Subsea technology milestone

Ten years ago, two of Statoil's subsea oil fields at *Asgard* in the Norwegian Sea were near closure since the reservoir pressure was too low to allow continued production.

Compressing injection gas on the existing platform was not an option. Building a modern new compression platform would have resulted in additional  $CO_2$  emissions of about 90,000 tonnes per year.

We decided to develop a technology to compress the gas at the seabed close to the wellhead. In 2015, Statoil completed this ground-breaking project, together with Aker Solutions, creating the world's first subsea gas compressions operation.

The technology has extended the reservoir's life to 2032, boosted oil recovery and reduced carbon intensity from 16kg to 9kg of CO<sub>2</sub> per produced barrel of oil equivalent.

Over the fields' lifetime, the avoided emissions will amount to around 1.4 million tonnes. The project is also the first step to realising an energy-efficient subsea processing plant.



#### **Emission reductions**

We follow up progress towards our carbon intensity target through emission reduction initiatives. For 2015, our target was to save 330,000 tonnes of CO<sub>2</sub> per year. Through systematic work in our internal energy efficiency network, we managed to implement initiatives accounting for nearly 550,000 tonnes of CO<sub>2</sub> per year.

Reduced flaring at *Bakken* (USA), was the most significant contributor to emission reductions in 2015. This contributed to almost 70% (over 370.000 tonnes) of the total emission reductions.

Energy efficiency improvements at our offshore and onshore facilities in Norway amounted to the rest of the reductions. As an example, at our processing facility Kārstø (Norway), we reduced emissions by over 20,000 tonnes of  $CO_2$  per year by optimising the operation of a stabiliser tower.

Our reduction target for 2016 is to save another 220,000 tonnes of  $CO_2$  per year. We expect to achieve these reductions through targeted projects to improve energy efficiency and reduce flaring, all with a positive net present value.

#### Energy efficiency on the Norwegian continental shelf

For our offshore operations in Norway, we are committed to delivering energy efficiency measures with total savings of 1.2 million tonnes of CO<sub>2</sub> per year between 2008 and 2020. The original target set in 2008 was to save a cumulative total of 800,000 tonnes of CO<sub>2</sub> per year by 2020. Over 250 large and small energy efficiency projects implemented by the end of 2015 enabled us to achieve that target already in 2015. As a result, we have raised the 2020 target by 50%.

Here are some examples of how we have improved energy efficiency:

#### Rebuilding compressors at Volve and Sleipner

We rebuilt a compressor at Volve in 2015 to optimise energy efficiency, and as a result we were able to shut down a gas turbine. These two measures combined ensured annual savings of 48,000 tonnes of CO<sub>2</sub>. At Sleipner, rebuilding a compressor ensured emission reductions of 14,000 tonnes of CO<sub>2</sub> per year.

#### Åsgard subsea compression

New developments represent an opportunity for avoiding emissions. One example is Åsgard, where seabed compression of gas avoids emissions of about 90,000 tonnes of  $CO_2$  per year compared to compressing the gas on a new compressor platform (box, left).

#### Eliminating routine flaring

We aim to avoid continuous production flaring in our operations. In 2012, as part of our commitment to the UN Sustainable Energy for All initiative, we announced a 2020 flaring intensity target of 2 tonnes of gas flared per 1,000 tonnes of hydrocarbons produced. We expect to meet this target. Through our collaboration with the Global Gas Flaring Reduction Partnership, we have set an additional target of bringing down continuous production flaring to zero by 2030.

At *Bakken*, USA, we have significantly reduced our flaring level over the past few years. We are working together with neighbouring partners and technology providers to develop flaring reduction solutions. We are required to coordinate our drilling operations with pipeline construction, to reduce the need for flaring. In 2015, we reduced our flaring volumes at *Bakken* with more than 40% compared to 2014, reaching a flaring level below 10% of produced gas in the last quarter of 2015. We thereby surpassed the state of North Dakota's established target to reduce flaring to less than 10% of produced gas by 2020.

#### Flaring intensity upstream



#### Why methane is important

- Methane (CH<sub>4</sub>) is the main component of natural gas.
- It is a short-lived, but potent, greenhouse gas with a global warming potential that is at least 25 times greater than that of CO<sub>2</sub> over a 100 year period and at least 72 times greater over a 20 year period.
- Methane emissions occur throughout the oil and gas value chain.
- Sources can include venting, inefficient flares and leakages from processing equipment.



In 2015, our total flaring volume was approximately 0.4 million tonnes of flared hydrocarbons, and our flaring intensity was approximately 3 tonnes of gas flared per 1,000 tonnes of hydrocarbons produced (or 0.3% of our production). This is significantly lower than the industry average of 15 tonnes of gas flared per1,000 tonnes of hydrocarbons produced (graph, left), as measured by the International Association of Oil and Gas Producers (IOGP) (Environmental Performance Indicators, 2014 data).

Safety flaring constitutes over 60% of our flaring, mostly from our offshore operations in Norway. In Norway, regulation combined with close proximity to gas infrastructure have been key to eliminating production flaring.

#### Reducing methane emissions

Addressing methane emissions is one of the most effective short term climate measures we can implement, and a pre-requisite for ensuring that gas is seen as a credible part of the future, lower carbon, energy mix. Methane emissions from oil and gas activities are receiving increasing interest in many countries, including in Norway and the USA, where most of our operated production takes place.

Methane emissions occur as a result of venting or leakages. As methane can be emitted from a variety sources, it can be challenging to accurately quantify emissions. This raises doubt about the magnitude of emissions.

In 2014 Statoil joined the Climate and Clean Air Coalition (CCAC) Oil and Gas Methane Partnership (OGMP) as a founding partner. Through this initiative, we are committed to systematically addressing methane emissions and report on annual progress. We submitted our initial implementation plan to the Partnership in June 2015, confirming the participation of all our Norwegian offshore operations. In the initial phase, we are focusing on our operated offshore installations in Norway. The results of the work done in 2015 to identify, quantify and mitigate methane emission sources will be reported to the initiative in May 2016.

We have also been involved in a collaborative project led by the Norwegian Environmental Agency to improve the identification and documentation of direct methane emission sources, assess quantification methods and identify reduction opportunities. As a result, the quantification methodologies used to report methane emissions to the Norwegian regulator are expected to be updated in 2017.

Through our participation in these initiatives, we have systematically assessed direct methane emissions for our offshore assets in Norway. We are using this learning to inform the planning of new facilities, through updates to our governing documents. This is intended to anchor best practice for methane reductions already in the design phase.

In 2015, we implemented emission reduction programmes for our US onshore assets, based upon learning from our participation in the University of Texas/Environmental Defense Fund study in 2014. The objective is to reduce fugitive methane emissions from the most dominant sources, including tank batteries, pneumatic devices and process leakages. As an example, *Eagle Ford* and *Marcellus* have several hundred pneumatic controllers. Our preventative maintenance programmes are being enhanced to include leak detection and repair activities for these devices and other equipment.

In order to improve technologies used for methane emissions management, we also joined the Environmental Defense Fund's Methane Detectors Challenge. Partners in the Challenge are supporting the identification and testing of new, cutting-edge methane sensing technologies that could help further reduce methane emissions.



#### GHG emissions scope 1 and 2\*

(million tonnes CO, equivalents)



#### GHG emissions scope 3\*



\*Scope 3 based on Statoil equity poduction

#### Emissions from our products

The greenhouse gas emissions related to the use of our products are almost twenty times as high as the direct emissions related to our production. These emissions come from use of our products in transportation, power generation, buildings and materials.

To significantly reduce greenhouse gas emissions related to the use of our products, technological development and efforts from many sectors are needed. Providing gas as a substitute for coal is one way in which we can contribute to an overall reduction of product emissions from fossil fuels (see graph, page 12). Another way is to support fuel and efficiency improvements in those parts of the transportation sector where we have significant involvement.

Energy efficiency is important for us when selecting suppliers and vessels for transportation. We work closely with our suppliers to explore new technologies, and in 2014 we entered into long term charter contracts for 14 new 'eco-design' vessels to be delivered in the next few years. Two shuttle tankers under this programme were delivered in 2015. In addition, a supply vessel was converted to a liquefied natural gas engine.

Between 2011 and 2015, emissions from vessel operations and helicopter services provided by our suppliers for our Norwegian offshore activities decreased from 460,000 tonnes of  $CO_2$  to about 365,000 tonnes of  $CO_2$  (16% reduction, adjusted for activity level).

#### How are Statoil's products used?



Based upon equity production figures. Gas usage figures me based on an assessment of Statoifs equity production and sales agreements Oil usage figures are based on typical Brent Blend refining yield.

#### **Floating innovations**

We have tested our unique floating offshore wind technology over the past six years through the single *Hywind Demo* turbine installed off the west coast of Norway.

Now we are building the *Hywind Scotland* offshore wind farm which is expected to produce 140 GWh per year and supply 20 000 Scottish households with renewable power. This is the world's first floating offshore wind park with several turbines installed and the next step towards developing a full scale commercial park. Costs have been reduced by as much as 70% from the demo to *Hywind Scotland* and cost parity for floating wind with other energy sources is targeted by 2030.

The Hywind technology opens up vast areas of development in places where conventional bottom fixed structures are not feasible. One of these areas is offshore Japan, where feasibility studies are underway.



Low carbon R&D expenses 2015 (operating expenses, NOK million)



### Low carbon technologies

#### The energy transition opens up new business opportunities.

Our approach to business and growth opportunities within renewables and new energy solutions includes both commercial investments and research and development (R&D):

- We have made investments in offshore wind projects.
- We continue to be engaged in carbon capture and storage (CCS).
- A significant proportion of our R&D efforts address energy efficiency, carbon capture and renewables.
- We have established an R&D partnership with GE to find sustainable solutions for the oil and gas industry.

In May 2015, Statoil announced a new business area for *New Energy Solutions* to drive further profitable growth within these areas. This reflects our aspirations to gradually complement our oil and gas portfolio with profitable renewable energy and other low-carbon energy solutions.

#### Renewable energy

Within renewables, we are focusing on strengthening our technology position in floating as well as fixed foundation offshore wind power. Statoil has been actively involved in offshore wind projects for more than ten years. We are looking to develop profitable offshore wind projects in selected markets, where the political support for renewable energy and the market incentive mechanisms are favourable.

Over the past few years, the market has become more mature, with increased competition for accessing incentives. Adopting an auctioning principle for awarding contracts has become a common approach. Developers must compete by providing plans for renewable energy at the lowest cost. This approach pushes the industry to further reduce costs and subsequently reduce the need for financial support from governments. We are working to increase cost competitiveness.

Our current offshore wind portfolio consists of ownership shares in the operating fields *Sheringham Shoal and Hywind Demo* and the development of the *Dudgeon, Hywind Scotland* and the *Dogger Bank* projects. The operating wind farms currently deliver renewable energy to more than 200,000 households in the UK. This number is expected to increase to more than 600,000 households when Dudgeon comes on stream in 2017.

In addition to these operations and projects, we are looking at future offshore wind prospects in Europe. Our ambition is to grow profitably and potentially expand into other sources of renewable energy. We will seek new opportunities to deliver attractive returns through innovation and venture activities. As an example, we are looking into pioneering hybrid concepts where offshore wind supplies power to offshore oil and gas installations. As a first step, Statoil has joined the WIN WIN Joint Industry Project, led by DNV GL, which will study the feasibility of a wind powered subsea water injection system.

In February 2016, Statoil launched a USD 200 million venture capital fund dedicated to investing in growth companies in renewable energy.

We monitor emerging technologies to assess their potential impact on the future energy landscape. This includes onshore wind, solar energy and energy storage technologies, but in a longer time perspective we are also following the development of more immature options such as hydrogen value chains, new CO<sub>2</sub> utilisation technologies and new marine renewable energy solutions.



#### **New Energy Solutions**

In operation:

- Hywind Demo 2.3 MW offshore floating wind, Norway, installed
- Sheringham Shoal, 317MW offshore wind (220,000 homes), UK, installed 2012, ownership share 40%
- Sleipner CCS, Norway, installed
- Snøhvit CCS, Norway, installed
- Technology Centre Mongstad, Norway

#### Planned:

- Dudgeon, 402MW offshore wind, start up 2017
- Hywind Scotland, 30MW offshore floating wind, start up 2017
- Doggerbank, 4,800MW offshore wind, consented in 2015

Total renewable energy delivered 2015 (based on Statoil's equity share)

0.5 TWh

#### CO2 captured and stored (accumulated): 19.5 million tonnes

Renewable energy venture capital fund: USD 200 million

## Cleaner Energy Initiative of the Year

Powering Collaboration was recognised by the Petroleum Economist with their "Cleaner Energy Initiative of Year" award.

The award, presented in September 2015, recognises outstanding efforts to promote cleaner energy and reduce pollution as well as carbon footprint.

#### Carbon capture and storage

Our engagement in CCS is an integrated part of our business. It is currently the main technology for decarbonising fossil fuels and we have been using it in some of our operations for more than twenty years. Our aim is to contribute to the development of commercial scale CCS projects, and we continue to enhance our knowledge and experience through ongoing research and operating activities.

The main focus for our carbon capture activities is related to the *Technology Centre Mongstad*, where proprietary and open technologies for CO<sub>2</sub> capture from flue gases have been successfully tested. We have shared the results with the international CCS community, contributing to an increased confidence in capture technologies.

We have installed CCS technology at *Sleipner* and *Snøhvit* in Norway. The accumulated volume of carbon captured and stored from these two assets was some 19.5 million tonnes by the end of 2015.

We are also investigating carbon reuse opportunities, related both to enhanced oil and gas recovery and the conversion to fuel and chemical technologies. This would improve the financial context for carbon capture and could potentially open up new business opportunities.

#### **Energy efficiency**

Many of our low carbon R&D efforts are related to improving energy efficiency, with more than 50 individual projects having energy efficiency benefits as a direct or indirect objective. Through energy efficiency improvements, we can combine emissions reductions with production efficiencies and cost savings.

R&D efforts related to energy efficiency and methane reduction initiatives represented more than half of our low carbon technology R&D expenses in 2015 (chart, previous page). Our total R&D expenses in 2015 were NOK 2.7 billion.

Sub-sea compression and processing which leads to considerable energy savings, and the development of more efficient gas turbines and more efficient turbine washing technology, are some focus areas. Another example is the Powering Collaboration partnership (below).

#### Powering Collaboration

The Powering Collaboration programme, launched in early 2015, is a step up in Statoil's collaboration with General Electric (GE). The programme aims to drive an industrial response to significant challenges associated with global energy production, including CO<sub>2</sub> and methane emissions and water usage.

Leveraging the companies' collective resources and competences, the programme focuses on developing new approaches to create efficient, low-cost technologies that can be broadly implemented.

Nearly 20 projects are underway, including new technologies in both offshore and onshore operations. Projects include the development of a lighter, more compact compressor engineered to deliver more power and lower emissions as well as more competitive solutions to capture energy from heat generated in operations. We are also testing the use of liquefied CO<sub>2</sub> stimulation to reduce water usage and increase production in shale wells. Other projects include piloting a new methane emission monitoring system and testing a new water treatment technology that uses oilfield wastes to treat water, produce electricity and capture CO<sub>2</sub>.

The partnership is using crowdsourcing to reach out to innovators around the world to source ideas. The first two open innovation challenges addressed reduced use of sand and water in onshore shale operations. GE Oil & Gas and Statoil will help fund the commercial development of the winning approaches.

Statoil, Sustainability Report 2015 22 Supp. App. 219

# Exhibit TT



May 16, 2014

Royal Dutch Shell plc PO Box 162 2501 AN The Hague The Netherlands Tel +31(0)70377 4540 Fax +31(0)70377 3115 Internet http://www.shell.com

To whom it may concern,

We are writing this letter in response to enquiries from shareholders regarding the "carbon bubble" or "stranded assets" issue. We have recently discussed this issue with a wider group of shareholders at our annual Socially Responsible Investor event (April 10<sup>th</sup>, 2014) and this material can be found at the following publically available link.

http://www.shell.com/global/aboutshell/investor/news-and-library/presentations-2014/sociallyresponsible-investors-briefing-london-april-10-2014.html

Shell believes that the risks from climate change will continue to rise up the public and political agenda. We are already taking steps to minimize our emissions, and we are preparing the company for when legislation and markets will support more significant action to mitigate CO2.

However, we concur with the view in the recent Intergovernmental Panel on Climate Change ("IPCC") report that there is a high degree of confidence that global warming will exceed 2°C by the end of the 21<sup>st</sup> century. Yet this is not to argue that today's low level of action will continue at this pace. Indeed, changes in regulatory priorities could well be relatively sudden. However, because of the long-lived nature of the infrastructure and many assets in the energy system, any transformation will inevitably take decades. This is in addition to the growth in energy demand that will likely continue until midcentury, and possibly beyond. The world will continue to need oil and gas for many decades to come, supporting both demand, and oil & gas prices. As such, we do not believe that any of our proven reserves will become "stranded".

While the "stranded asset" notion may appear to be a strong and thought-through case, it does have some fundamental flaws and there is a danger that some interest groups use it to trivialize the important societal issue of rising levels of CO2 in the atmosphere. The methodology has significant gaps, not least a failure to acknowledge the significant projected growth in energy demand, the role of CCS, natural gas, bioenergy and energy efficiency measures. Energy demand growth, in our view, will lead to



fossil fuels continuing to play a major role in the energy system – accounting for 40-60% of energy supply in 2050 and beyond, for example. The huge investment required to provide energy is expected to require high energy prices, and not the drastic price drop envisaged for hydrocarbons in the carbon bubble concept.

Our New Lens scenarios show that the world can tackle and resolve the climate issue over the course of this century, but not in less time than that. Our scenarios take as pre-determined that climate change will rise up the public and political agenda.

There is no doubt that we need a more robust and thoughtful societal debate on addressing CO2 emissions, but it needs to be one that recognises the possible and pays heed to the reality of the world today and is a frank acknowledgement of the cost to society inherent in large scale shifts of the energy system.

As highlighted by the recent IPCC working group III report, action needs to be taken on:

- Reducing emissions from power generation
- Adopting carbon capture and storage ("CCS") technology
- Increasing the role of bio-derived forms of energy

In summary, Shell does not believe that any of its proven reserves will become "stranded" as a result of current or reasonably foreseeable future legislation concerning carbon. There is a risk that focusing on "stranded assets" or the concept of the "carbon bubble" distracts attention away from the reality of a growing population, increasing prosperity and growing energy demand. A fundamental transition of the energy system will be needed but that will take considerably longer than some alarmist interpretations of the unburnable carbon issue would have the public believe. Shell is focused on finding real solutions based on current energy realities to the widely acknowledged and real threat of climate change.

Shell is actively managing its CO2 footprint through:

- growing our natural gas business
- investing in low carbon blo-fuels
- investing in CCS
- Investing in the energy efficiency of our own operations

We take account of future regulatory and price uncertainty into decision making by using project screening values of \$70 to \$110 USD / barrel for Brent crude, as well as a \$3 to \$5 / mmbtu range for Henry Hub gas. In addition we put a \$40 / tonne screening value on the CO2 emitted by our projects and, for those with a high exposure to carbon pricing/legislation, we perform in-depth analysis of the potential risks to profitability.



#### Shell and climate change

We will structure our more detailed response in 5 sections:

- The energy landscape and the 2°C scenario
- Shell's framework for evaluating price and carbon risk
- Reserve, resources and project life considerations
- Role of CCS and Shell's CCS portfolio
- Carmon Creek case study

Energy landscape and the 2°C scenario

Energy demand is expected to continue to increase, driven by population growth, and economic development, and improving living standards in many areas of the world. The energy ladder seen in figure 1 clearly demonstrates that as GDP rises in India, China and other developing countries energy demand will increase on this journey, Korea being perhaps the most pertinent example.





Figure 1: Energy demand drivers over time



Shell regularly publishes its views on the future energy landscape. In our major publications and in our shareholder material, we show a single projection of future energy demand by production/generation technology. This view takes into account energy efficiency gains, declining costs for early stage technology and is not a "static" view of the world. Figure 2 shows our current outlook for the global energy demand until 2050.



It is important to note that this aligns closely with various 3<sup>rd</sup> party viewpoints such as the IEA New policies scenario. In this outlook, fossil fuels still provide some 2/3rds of the total energy demand. Later in the letter in Figure 6 a comparison of the Shell and IEA scenarios can be found (until 2035 as this is the limit of the International Energy Agency (" IEA") scenarios).

For over 40 years Shell has been performing scenario based analysis of the energy system. In 2013 we released our New Lens Scenarios (see disclaimer). Our scenarios, Mountains and Oceans, explore two different futures, with varying take-up and differing speed of adoption of the various sources of energy. Relative to current policy realities, both our scenarios feature a strong climate policy framework. These energy demand outlook in these scenarios are shown in Figure 3.







In the Mountains scenario policy is driven top down, and is very much a supply side story. Wide scale development of shale gas, a declining demand for liquid fuels and early adoption of CCS all contribute to a "gas backbone" in the economy. Economic growth is moderated and renewables grow, but they do not dominate the mix until much later in the century. With CCS, the electricity sector is de-carbonized in 2060's.

In Oceans, empowered constituencies create growth, but new vested interests hinder policy progress until the stresses on food, water and energy lead to higher prices which in turn unlock new resources and drive efficiency. Liquid fuels and coal continue longer in an oceans world, until solar takes over in the later part of the century and electricity is finally de-carbonized in the 2090's. For more detail on the scenarios please visit <u>www.shell.com/scenarios</u>.

What is immediately obvious from figure 3, is that even with widely different assumptions, the energy system is too large to move quickly in any particular direction and only hints of the future energy mix begin to show in our scenarios to 2030 with real change only occurring much later.

Both of our scenarios face the reality of a population growing to some 9 billion, an expanding middle class who are joining the energy ladder, and continued emerging economies' growth, that in turn fuels



overall energy demand. The scenarios are not a prediction of likely events, but are plausible futures. They are also not developed with an end point in mind.

The IEA also produces 3 scenarios to 2035; "Current policies" that assume no concerted regulatory push to reduce greenhouse gas emissions, a "New policy" scenario which looks at a future where governments take action as well as a normative scenario based on a "450 ppm" of CO2 concentration in the atmosphere leading to stabilization of climate change at 2°C.

Each of our scenarios has an emissions profile associated with it and figure 4 compares our scenarios to an illustrative 2°C scenario which is back calculated or "normative". The emissions profiles of Oceans and Mountains broadly are in line with the IEA New policies scenario (the IEA scenarios only go until 2035). Both our scenarios and the IEA new Policies scenario (and our base case energy demand outlook) do not limit emissions enough to be consistent with the back calculated 450 ppm 2°C scenario. We also do not see governments taking the steps now that are consistent with the 2°C scenario.



#### Figure 4: Shell and IEA scenarios emissions profiles

We stress the difference between a set of outlooks which are forward looking and take into account today's realities (IEA New policies scenarios for example) and the ability of new technologies to grow versus the highly desirable, but less likely, scenario where you simply work backwards from the end goal of 450 ppm of CO2 in the atmosphere.

This does not, however, mean that in Shell's forward outlook, nor in the IEA scenarios, that the world is standing still. Strong levels of growth in renewable energy, gains in energy efficiency and most



importantly CCS are being adopted to varying degrees in each outlook. The sheer size and scale of the energy system mean that demand for hydrocarbons is likely to continue for the foreseeable future and hydrocarbons still make up more than half of total energy demand in 2050, down from more than 80% today although from a larger energy system overall.



#### World - Fossil Energy Share in 2035 - Shell NLS & IEA (2013)

and a second second

Figure 6: Comparison of Shell and IEA scenarios in 2035



#### Framework for evaluating price and carbon risk

The energy industry has for decades been exposed to the sorts of fundamental business risks outlined in your letter. These range from, but are not limited to, regulatory risks, price risks to project performance and competitiveness. Shell has a framework in place when making new investment decisions that is designed to evaluate the extent to which all of our projects are exposed to these various risks. An illustration of the type of analysis we perform is shown in figure 7.



#### Figure 7: Illustrative project economics

The set of risks that our projects are exposed to of course vary throughout the lifecycle of a project as well. Our exposure to our ability to correctly estimate the amount of capital required for construction gradually reduces during the actual construction phase while other risk factors might increase in importance like the reliability of our equipment as projects age.

In net present value analysis ("NPV"), the widely used analysis technique which discounts the importance of future cashflows at specific rate (to provide a proxy for the time value of money), the profitability of a project is much more dependent upon the cash flows in the early years of a project. In terms of the risks outlined in your letter, price and carbon regulatory, this short-term bias is important as, even though our projects can run for decades, the paypack periods are in general much shorter, in some cases ahead of when we expect impactful CO2 regulation.

For each of these risks we apply criteria when evaluating a potential investment decision to allow us to assess the potential impacts of a range of potential futures.

For price risks we use a project screening value of \$70 to \$110 USD for our base Brent benchmark. This range of prices which we test our projects against allows us to look at the overall performance of our portfolio in a range of potential oil price futures. We do not evaluate projects at a single price point as,



over the life of a 10,20 or 30 year project as history has shown, prices will be volatile over that period. In addition to the Brent price sensitivity, we also use project screening values of \$3 -\$5 /mmbtu for Henry Hub gas.

We also set a project screening value for CO2 to evaluate the potential economic impact of stricter CO2 related regulatory changes. This screening value is currently \$40 /tonne of CO2 emitted. This is applied as the economic base case across all of our projects. For short life assets or assets without significant CO2 emissions, the extent of the analysis is limited to the screening value. For longer life assets, or those with higher carbon risk profiles, known as "carbon critical projects", more extensive work is done.

Additional screening for carbon critical projects includes the use of lower and higher CO2 screening values . Current and future CO2 regulation policies of the markets into which the asset's products will be sold are evaluated including, for example, the possible impact of low carbon fuel standards. Design standards include a CO2 performance aspiration. All high CO2 risk projects have to complete a detailed Greenhouse Gas and Energy Management Plan for review as part of the Shell project maturation process. This includes analysis of abatement options, a deeper look at the future CO2 risks associated with the project and review of the project economics including the potential impacts of CO2 regulatory changes.



#### Reserve, resources and project life considerations

Shell publically reports on its reserves in our annual reports such as the form 20-F filed with the SEC. We also periodically update on our resources (2P + 2C) which are on-stream, in construction (or in execute phase), in front end engineering and design ("FEED" or definition phase) as well as projects in the select phase of our opportunity realization funnel. Figure 8 shows our resources in the project funnel as well as the capital investment along that same funnel.



Figure 8: Resources in the project funnel

Some 60% of our disclosed resource base is either under construction or in operation meaning that it is potentially less exposed to regulatory changes in 10, 20 or 30 years. The majority of our 2014 capital spending is associated with these projects under construction as shown in figure 8. More detailed granularity of our current capital spending profile can be seen in figure 9.







While we are working on projects that will span decades and on some that may not even start construction within a decade, the majority of our capital spending are on items with shorter time horizons. Our SEC proved reserves life (proved reserves divided by production) is some 11.5 years. Including Resources as defined above, this extends to some 25 years. We do not believe that at a minimum any of our proved reserves are at risk from any potential change in regulation from climate change or the "carbon bubble"/"stranded assets" concepts. Of course our projects and their associated reserves and resources are sensitive to commodity prices, but over the medium term we believe these prices will be more broadly associated with the traditional fundamentals of supply and demand and geopolitical factors than with climate change related factors.

To maintain current production levels across the oil and gas industry requires significant annual investment let alone that required to grow production to meet future growth in energy demand. The IEA has produced an outlook to 2035 in their New policies scenario (figure 10) which shows the new investment required to counteract this natural decline of oil fields in particular. The same concept also applies for natural gas. This re-enforces our assertion in this letter that our current capital spending is appropriate given the outlook in demand for oil and natural gas.





Figure 10: IEA new policies scenario showing natural decline and need to replace production, Source IEA world energy outlook 2012, p103

As stated before, the IEA produces 3 scenarios to 2035. The "high" scenario in terms of hydrocarbon use is the "Current policies" scenario. The "450 ppm" scenario (or 2°C) scenario uses the least amount of hydrocarbons. This can be seen in figure 11. Also highlighted in figure 11 is our current SEC proved reserves life as well as our additional resources in operation, construction and in selection/definition phases.



• Resources shown includes only resources in select or define phases (post feasibility study or in FEED) or are under execution or on stream.

#### Figure 11: Energy demand in IEA scenarios compared to SEC proved reserves and selected resources

As can be seen in figure 11 under the IEA "Current policies" scenario, oil & gas demand continues to grow in the period of our proved reserves and resources (as defined in figure 11) life. In the IEA "450


ppm" scenario it can be seen that the major impacts during the timeframe of our proved reserves and resources (as defined in figure 11) as actually not towards oil and gas but actually to the demand for coal. In fact the demand for oil only slightly drops and the demand for gas increases. In the short term, while CCS is in development and unabated thermal generation is still acceptable, increased use of natural gas can help reduce the prominence of coal in power and so reduce the sector's CO2 emissions. Our base outlook, our scenarios (Mountains and Oceans) and well as the IEA "New policies" scenario, are in between these IEA scenario extremes and again, our proved reserves and resources (as defined in figure 11) stay relevant.



# Role of CCS and Shell's CCS portfolio

The role of CCS in helping the world to avoid the worst effects of climate change is critical. Recognizing the central role in the energy system that hydrocarbons currently play, without CCS, emissions reduction will be more difficult, disruptive to the worlds economy, standard of living and cause more economic hardship. In fact the IEA believe that if CCS moves from demonstration phase to widespread use quickly, global CO2 emissions will be 15% lower by 2050. In addition, without CCS, the IEA reports costs to halve emissions by 2050 will be 40% higher. The UK Energy Technologies Institute (ETI) estimate that for the UK alone, the additional cost of not having CCS to assist in de-carbonizing the economy will be some £32 billion. It is telling that in the majority of the work done around the carbon bubble concept, or "stranded assets", it does not consider CCS in the analysis.

In the IPCC 5th Assessment Report "Mitigation of Climate Change" the importance of CCS is also highlighted. Figure 12, replicated from pg 18 of the report, gives the consumption losses and mitigation costs through to 2100, for scenarios ranging from 450ppm CO2eq up to 650 ppm CO2eq, with variations in the availability of technologies and the timing (i.e. delay) of mitigation actions. The centre section of this table is given below;

	Increase in total discounted mitigation costs in scenarios with limited availability of technologies [% increase in total discounted mitigation costs (2015–2100) relative to default technology assumptions]				
2100 Concentration (ppm CO <sub>2</sub> eq)	No CCS	Nuclear phase out	Limited Solar / Wind	Limited Bio- energy	
450 (430-480)	138 (29-297) [N: 4]	7 (4–18) [N: 8]	6 (2-29) [N: 8]	64 (44-78) [N: 8]	
500 (480-530)		Ē			
550 (530-580)	39 (18-78) [N: 11]	13 (2-23) [N: 10]	8 (5-15) [N: 10]	18 (4-66) [N: 12]	
580-650	1042 12	der.			

#### Figure 12: IPCC Report table SPM.2

Particularly for the lower concentration scenario (430-480 ppm) the table highlights the importance of carbon capture and storage. For the "No CCS" mitigation pathway, i.e. a pathway in which CCS isn't available as a mitigation option, the costs are significantly higher than the base case which has a full

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range of technologies available. This is still true for higher end concentrations, but not to the same extent. This underpins the argument that the energy system will take decades to see significant change and that therefore, in the interim at least, CCS becomes a key technology for delivering something that approaches the 2°C goal. For the higher concentration outcomes, immediate mitigation action is not so pressing and therefore the energy system has more time to evolve to much lower emissions without CCS – but of course with the consequence of elevated global temperatures. A similar situation is seen in the Shell Scenarios.

CCS costs can compare well with the alternative renewable technologies such as offshore wind and solar which would offer the scale to make significant market share impacts in the global energy system. In many developed nations the era of "easy renewables" is over as, for example, many of the windy sites away from population centres, are already developed. This means that as alternatives grow, the focus would be on incrementally more expensive technologies or less productive sites for existing competitive technologies. Figure 13 illustrates this below.





Shell has an active program of CCS research and development programs, demonstration programs as well as commercial sized projects underway. Our Quest project in Canada (Shell equity 60%) is expected to capture and store over 1 million tonnes of CO2 per year from the Scotford oil sands upgrader, more than 30% of the current upgrader emissions. In the UK we have recently entered into front end engineering and design ("FEED") on the SSE Peterhead gas plant CCS project (Shell equity 100%). If and

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when we take a decision to go ahead with the project this would be the world's first commercial gas power plant based CCS project. Shell also participates in the >3 million tonne per annum CCS project at the Gorgon LNG facility (Shell equity 25%) in Australia. Our technology subsidiary Cansolv provides the sulphur and CO2 recovery technology for other CCS demonstration projects and commercial scale plants around the world. Figure 14 shows our CCS activites mapped out in relation to the specific competences that Shell is developing.

	Shell operated Quest	Non operated		In FEED Peterhead	
				Telenedu	
Onshore storage	✓		1		
Offshore storage				<ul> <li>✓</li> </ul>	
Saline aquifer storage	1		1		
Depleted reservoir storage				1	
Pre-combustion capture	1				
Post-combustion capture		<ul> <li>✓</li> </ul>		~	
Contaminated gas			1		
Heavy oil	1				
Refining		~			
Gas fired power				1	

Figure 14: Shell's major CCS activities



### Carmon Creek case study

On October 31, 2013 Shell announced its decision to proceed with its Carmon Creek project in Alberta, Canada, which when complete is expected to produce up to 80,000 barrels of oil per day. Carmon Creek is a thermal in situ project that is 100 per cent Shell owned and will be part of the company's broader production, refining and marketing business across the full value chain in North America.

Carmon Creek will build on Shell's more than 30 years of experience developing its Peace River heavy oil leases and established relationships with local communities and First Nations. It is expected to employ more than 1,000 local tradespeople and contractors during peak construction periods.

Shell submitted its regulatory application for Carmon Creek in 2010 and received approval from the Alberta Energy Regulator in April 2013, following a rigorous and transparent review process. The project is expected to provide a secure, reliable energy source for more than 35 years.





When evaluating a project the abatement curve for the asset is looked at, or in other words, what individual projects or pieces of technology can be implemented to remove X amount of carbon at Y dollars/tonne. These opportunities are ranked – and the most appropriate options given the risk profile of the project and the economic benefit/burden are evaluated. In the case of Carmon Creek, we selected 3 abatement options of the 5 that were evaluated. These are;

- Cogeneration of steam and electricity
- Heat integration and
- Capture and injection of the produced CO2 co-absorbed in the acid-gas treating with the produced H2S



Options that we looked at, but did not employ, were an increased amount of CO2 captured and injected from the acid gas treating process, as well as post-combustion CCS. These were not selected for commercial reasons when compared to the potential costs associated with the carbon emissions in the timeframe of this project. In future phases of the project, these options would be re-evaluated and if appropriate they would be re-visited.

The Cogeneration units are expected to produce an annual average of up to 630 megawatts (MW) of electricity, of which about 500 MW is expected to be sold to the northwest Alberta power grid. Cogeneration produces both electricity and steam within a single facility from a single fuel (gas). For the Carmon Creek project fuel gas energy is converted to electricity within a gas turbine generator. Exhaust energy from the gas turbine is further utilized to generate steam for the thermal extraction process. By making use of the waste from one process in the production of the other, substantial gains in energy efficiency can be realized.

When operational, direct emissions associated with the project total some 3.1 million tonnes per year of CO2. However, it is important to keep in mind that only half of the emissions are for steam generation and the rest of the emissions generated are attributable to the electricity generated that will be sold to the grid. The power sold to grid has 50-70% lower emissions associated with it than if it were generated through coal-fired generation which is predominant in the Alberta power generation sector. This also ensures we have a partial hedge against the carbon price through the electricity market, reducing our CO2 risks.



An example of the project economics associated with Carmon Creek can be seen in figure 16.

Figure 16: Economic impact of various carbon scenarios on the Carmon Creek project (\$40/tonne NPV base case)

It is important to note that with the current carbon legislation we actually have upside in our project economics versus our more stringent base case.



# In summary

Shell is actively managing its CO2 footprint through:

- growing our natural gas business
- investing in low carbon bio-fuels
- investing in CCS
- investing in the energy efficiency of our own operations

We take account of future regulatory and price uncertainty into decision making by using project screening values of \$70 to \$110 USD / barrel for Brent crude, as well as a \$3 to \$5 / mmbtu range for Henry Hub gas. In addition we put a \$40 / tonne screening value on the CO2 emitted by our projects and, for those with a high exposure to carbon pricing/legislation, we perform in-depth analysis of the potential risks to profitability.

Shell does not believe that any of its proven reserves will become "stranded" as a result of current or reasonably foreseeable future legislation concerning carbon. There is a risk that focusing on "stranded assets" or the concept of the "carbon bubble" distracts attention away from the reality of a growing population, increasing prosperity and growing energy demand. A fundamental transition of the energy system will be needed, but that will take considerably longer than some alarmist interpretations of the unburnable carbon issue would have the public believe. Shell is focused on finding real solutions based on current energy realities to the widely acknowledged and real threat of climate change.

Yours Sincerely,

Dr JJ Traynor

Executive Vice President, Investor Relations

Royal Dutch Shell plc



#### Definitions and cautionary note:

Reserves: Our use of the term "reserves" in this presentation means SEC proved oil and gas reserves.

Resources: Our use of the term "resources" in this presentation includes quantities of oil and gas not yet classified as SEC proved oil and gas reserves. Resources are consistent with the Society of Petroleum Engineers 2P and 2C definitions.

Organic: Our use of the term Organic includes SEC proved oil and gas reserves excluding changes resulting from acquisitions, divesiments and yearaverage pricing impact.

Resources plays: our use of the term 'resources plays' refers to light, shale and coal bed methane oil and gas acreage.

The companies in which Royal Dutch Shell pic directly and indirectly owns investments are separate entities. In this letter "Shell", "Shell group" and "Royal Dutch Shell" are sometimes used for convenience where references are made to Royal Dutch Shell pic and its subsidiaries in general, Likewise, the words "we", "us" and "our" are also used to refer to subsidiaries in general or to those who work for them. These expressions are also used where no useful purpose is served by identifying the particular company or companies. "Subsidiaries", "Shell subsidiaries" and "Shell companies" as used in this letter refer to companies over which Royal Dutch Shell pic either directly or indirectly has control. Companies over which Shell has joint control are generally referred to "joint ventures" and companies over which Shell has significant influence but neither control nor joint control are referred to as "associates". In this letter, joint ventures and associates may also be referred to as "equily-accounted investments". The term "Shell Interest" is used for convenience to indicate the direct and/or indirect (for example, through our 23% shareholding in Woodside Petroleum Ltd.) ownership interest held by Shell in a venture, partnership or company, after exclusion of all third-party interest.

This letter contains forward-looking statements concerning the financial condition, results of operations and businesses of Royal Dutch Shell. All statements other than statements of historical fact are, or may be deemed to be, forward-looking statements. Forward-looking statements are statements of future expectations that are based on management's current expectations and assumptions and involve known and unknown risks and uncertainties that could cause actual results, performance or events to differ materially from those expressed or implied in these statements. Forwardlooking statements include, among other things, statements concerning the potential exposure of Royal Dutch Shell to market risks and statements expressing management's expectations, beliefs, estimates, forecasts, projections and assumptions. These forward-looking statements are identified by their use of terms and phrases such as "anticipate", "believe", "could", "estimate", "expect", "goals", "intend", "may", "objectives", "outlook", "plan", "probably", "project", "risks", "schedule", "seek", "should", "larget", "will" and similar terms and phrases. There are a number of factors that could affect the future operations of Royal Dutch Shell and could cause those results to differ materially from those expressed in the forward-looking statements included in this letter, including (without limitation): (a) price fluctuations in crude oil and natural gas; (b) changes in demand for Shell's products; (c) currency fluctuations; (d) drilling and production results; (e) reserves estimates; (f) loss of market share and industry competition; (g) environmental and physical risks; (h) risks associated with the identification of suitable potential acquisition properties and targets, and successful negotiation and completion of such transactions; (i) the risk of doing business in developing countries and countries subject to international sanctions; (j) legislative, fiscal and regulatory developments including regulatory measures addressing climate change; (k) economic and financial market conditions in various countries and regions; (I) political risks, including the risks of expropriation and renegotiation of the terms of contracts with governmental entities, delays or advancements in the approval of projects and delays in the reimbursement for shared costs; and (m) changes in trading conditions. All forward-looking statements contained in this letter are expressly qualified in their entirety by the cautionary statements contained or referred to in this section. Readers should not place undue reliance on forward-looking statements. Additional risk factors that may affect future results are contained in Royal Dutch Shell's 20-F for the year ended December 31, 2013 (available at www.shell.com/investor and www.sec.gov ). These risk factors also expressly qualify all forward looking statements contained in this presentation and should be considered by the reader. Each forward-looking statement speaks only as of the date of this letter, 16 May 2014. Neither Royal Dutch Shell plc nor any of its subsidiaries undertake any obligation to publicly update or revise any forward-looking statement as a result of new information, future events or other information. In light of these risks, results could differ materially from those stated, implied or inferred from the forward-looking statements contained in this letter,

We may have used certain terms, such as resources, in this letter that United States Securities and Exchange Commission (SEC) strictly prohibits us from including in our filings with the SEC. U.S. Investors are urged to consider closely the disclosure in our Form 20-F, File No 1-32575, available on the SEC website www.sec.gov. You can also obtain these forms from the SEC by calling 1-800-SEC-0330.

The New Lens Scenarios are part of an ongoing process used in shell for 40 years to challenge executives' perspectives on the future business environment. We base them on plausible assumptions and quantification, and they are designed to stretch management to consider even events that may be only remotely possible. Scenarios, therefore, are not intended to be predictions of likely future events or outcomes and investors should not rely on them when making an investment decision with regard to Royal Dutch Shell plc securities.

# **Exhibit UU**







Working Group I Report "The Physical Science Basis"

CLICK HERE



Working Group II Report "Impacts, Adaptation and Vulnerability" CLICK HERE



Working Group III Report "Mitigation of Climate Change"

CLICK HERE



The AR4 Synthesis Report

CLICK HERE



Working Group I: The Scientific Basis



Working Group II: Impacts, Adaptation and Vulnerability



Working Group III: Mitigation

CLICK HERE



Synthesis Report

IPCC Second Assessment Report: Climate Change 1995 (SAR)

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IPCC, 2012 - Field, C.B., V. Barros, T.F. Stocker, D. Qin, D.J. Dokken, K.L. Ebi, M.D. Mastrandrea, K.J. Mach, G.-K. Plattner, S.K. Allen, M. Tignor, and P.M. Midgley (Eds.)

Available from Cambridge University Press, The Edinburgh Building, Shaffesbury Road, Cambridge CB2 8RU ENGLAND, 582 pp. Available from June 2012

Summary for Policymakers IPCC, Geneva, Switzerland, 28 pp. Available from the IPCC Secretariat in Arabic, Chinese, English, French, Spanish and Russian.

# **Exhibit** VV

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# **Previous Assessments**



# First National Climate Asssessment

The First National Climate Assessment, entitled *Climate Change Impacts on the United States: The Potential Consequences of* <u>Climate Variability</u> and Change, was published in 2000 and was a major landmark in the ongoing effort to understand what <u>climate</u> <u>change</u> meant for America. This assessment began a national process of research, analysis, and dialogue about the coming changes in climate, their impacts, and what Americans can do to adapt to an uncertain and continuously changing climate.

- First National Climate Assessment Overview
- First National Climate Assessment Foundation Report
- First National Climate Assessment meeting and workshop reports
- All the archived material from the first National Climate

# ASSESS THE U.S. CLIMATE

Sustained Assessment: Fourth National Climate Assessment | Sustained Assessment Engagement | NCA4 Engagement

Third National Climate Assessment: web | downloads | engageme nt & input | Development Advisory Committee

Previous Assessments

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Assessment is available in The Collected Works of the 2000 National Assessment – Climate Change Impacts on the United States: The Potential Consequences of Climate Variability and Change

# Second National Climate Assessment

The Second National Climate Assessment, entitled *Global Climate Change Impacts in the United States*, was published in 2009 and summarized the science of climate change and its impacts on America, now and in the future. It identified key climatic vulnerabilities of particular regions and sectors, in the context of other changes in the Nation's environment, resources, and economy. It also identified potential measures to adapt to climate variability and change. Finally, the Second National Climate Assessment identified the highest priority uncertainties about which further study is needed to understand climate impacts, vulnerabilities, and America's ability to adapt.

- Website of the Second National Climate Assessment
- Second National Climate Assessment Report

# Interim Assessments

From 2002 to 2009, USGCRP was known as the U.S. Climate Change Science Program (CCSP). CCSP created a series of 21 Synthesis and Assessment Products (SAPs) that integrated research on key climate science issues and aimed to support informed discussion by decision makers (such as resource managers and policymakers), stakeholders, and the general public.

Final reports and process-related documents for all SAPs

Change Assess the U.S. Climate Coordinate Internationally Link Climate & Health Provide Data & Tools Make Our Science Accessible

# MORE INFO

2012-2021 Strategic Plan Our Changing Planet FY 2015 Staff Previous Assessments | GlobalChange.gov

The SAPs are also available in our Reports Library

In 2008, the National Science and Technology Council (NSTC) and CCSP released the *Scientific Assessment of the Effects of* <u>Global</u> <u>Change on the United States</u>, which placed special emphasis on climate change. This assessment analyzed the effects of global change on natural and human environments, agriculture, water resources, social systems, energy production and use, transportation, and human health. It analyzed existing trends in global change, both natural and human-induced, and projected major trends for the future. Like the SAPs and other assessment products, it was intended to support informed discussion by decision makers, stakeholders, and the public.

2008 Scientific Assessment Report

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# **Exhibit WW**

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# WHAT WE DO

# Assess the U.S. Climate





Scientific assessments are essential tools for linking science and decision making. They survey and synthesize science, within and between disciplines and across sectors and regions. They highlight key knowledge that can improve policy choices and identify significant gaps that can limit effective decision making. Assessments also track progress by identifying changes in the condition of the Earth, changes in human response, and advances in science over time.

Assessments have been integral components of USGCRP since our inception. We have a legal mandate to conduct a National Climate

# http://www.globalchange.gov/what-we-do/assessment[8/31/2016 11:43:53 AM]

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Sustained Assessment: Fourth National Climate Assessment | Sustained Assessment Engagement | NCA4 Engagement

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Previous Assessments

# WHAT WE DO

Advance Global Change Science Prepare the Nation for

Assessment (NCA) every four years, the third and most recent of which was released in May 2014.

- Third NCA on the web
- Third NCA downloads and materials

The Fourth NCA is in development.

The NCA:

- Informs the Nation about observed changes, the current status of the climate, and anticipated trends for the future;
- Integrates scientific information from multiple sources and sectors to highlight key findings and significant gaps in knowledge;
- Establishes consistent methods for evaluating climate impacts in the United States in the context of broader global change; and
- Is used by the U.S. Government, citizens, communities, and businesses as they create more sustainable and environmentally sound plans for the future.

An emerging area of focus for USGCRP is strengthening our capacity to conduct assessments on a sustained basis. We are building a sustained assessment process that will ultimately facilitate continuous and transparent participation of scientists and stakeholders across regions and sectors, enabling new information and insights to be synthesized as they emerge. An important part of the sustained assessment process is the development of a set of national climate change indicators. Change Assess the U.S. Climate Coordinate Internationally Link Climate & Health Provide Data & Tools Make Our Science Accessible

# QUICK LINKS

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To learn more about proposed activities in support of the sustained assessment process, see the sustained assessment Assess and Engage pages.

More information:

- USGCRP's Interagency National Climate Assessment Working Group (INCA)
- NCAnet, a network of partner organizations working to extend the reach of the NCA
- Process and engagement activities in support of the First NCA, Third NCA, and sustained assessment
- Partial Spanish translation and videos related to the Third NCA
- USGCRP participation in international assessment efforts
- Contact the NCA staff

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- June 15, 2016 ExxonMobil's Complaint for Declaratory Relief and Injunctive Relief 2
- June 15, 2016 Memorandum of Law in Support of Plaintiff ExxonMobil Corporation's Motion for Preliminary Injunction 📆 2MB
- June 15, 2016 Plaintiff ExxonMobil Corporation's Motion for Preliminary Injunction (Proposed Order)
- June 15, 2016 Appendix in Support of Plaintiff Exxon Mobil Corporation's Motion for Preliminary Injunction 📆 4мв
- June 15, 2016 Notice of Related Case 📆

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- August 08, 2016 Opposition of AG Healey to Plaintiff ExxonMobil Corporation's Motion for Preliminary Injuction 📆
- August 08, 2016 Memorandum of Law in Support of Defendant AG Healey's Motion to Dismiss 📆
- August 08, 2016 Opposition Appendix of AG Healey to Plaintiff Exxon Mobil Corporation's Motion for Preliminary Injunction 7/2 39MB
- August 08, 2016 Memorandum of Law for Amici Curiae States of MD, NY, IL, IA, ME, MN, MS, NM, OR, RI, VT, WA, D.C., and U.S. Virgin Islands in Support of Defendant's Motion to Dismiss and In Opposition to Plaintiff's Motion for a Premilinary Injunction 📆
- Aug 17, 2016 Amended Memo of Law for Amici Curiae Sts. of MD, NY, AK, CT, HI, IL, IA, KY, ME, MN, MS, NJ, NM, OR, RI, VT, VA, WA, D.C., & USVI in Support of Defendant's Motion to Dismiss and In Opposition to Plaintiff's Motion for a Premilinary Injunction 201
- August 24, 2016 Reply in Support of Exxon Mobil Corporation's Motion for a
  Preliminary Injunction
- August 24, 2016 Supplemental Appendix in Support of Exxon Mobil Corporation's Motion for a Preliminary Injunction 73 34MB

#### Documents filed in the Commonwealth of Massachusetts, Superior Court

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- June 16, 2016 Emergency Motion of ExxonMobil Corporation to Set Aside or Modify the Civil Investigative Demand or Issue a Protective Order 12 1MB
- June 16, 2016 Memorandum of ExxonMobil Corporation in Support of Its Emergency Motion to Set Aside or Modify the Civil Investigative Demand or Issue a Protective Order (72)
- June 16, 2016 Appendix in Support of Petition and Emergency Motion of ExxonMobil Corporation to Set Aside or Modify the Civil Investigative Demand or Issue a Protective Order → 11MB
- June 16, 2016 Notice of Special Appearance on Behalf of Petitioner ExxonMobil Corporation
- June 22, 2016 Joint Motion for Enlargement of Time to Respond to Emergency Motion and Petition, with Proposed Briefing Schedule and REquest for Leave to File Replies 📆

August 08, 2016 The Commonwealth of Massachusetts Answer to the Petition

of ExxonMobil Corporation to Set Aside or Modify the Civil Investigative Demand or Issue a Protective Order

# Correspondence with the House Science Space and Technology Committee

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- July 6, 2016 Letter to AG Healey from Chairman Lamar Smith, House Science Space and Technology Committee 32
- July 13, 2016 Letter from Richard Johnston, Chief Legal Counsel, to Chairman Lamar Smith, House Science Space and Technology Committee T BMB
- July 13, 2016 Subpoena issued by Chairman Lamar Smith, House Science Space and Technology Committee, to Attorney General Maura Healey 📆 2мв
- July 26, 2016 Letter from Richard Johnston, Chief Legal Counsel, to Chairman Lamar Smith, House Science Space and Technology Committee 72 4MB
- August 3, 2016 Letter from the Massachusetts Congressional Delegation to Chairman Lamar Smith, House Science Space and Technology Committee 1MB

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# **Exhibit YY**

Changing Climate

Report of the Carbon Dioxide Assessment Committee

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# **Executive Summary**

1. Carbon dioxide  $(CO_2)$  is one of the gases of the atmosphere important in determining the Earth's climate. In the last generation the  $CO_2$  concentration in the atmosphere has increased from 315 parts per million (ppm) by volume to over 340 ppmv. (Chapters 3, 4)

2. The current increase is primarily attributable to burning of coal, oil, and gas; future increases will similarly be determined primarily by fossil fuel combustion. Deforestation and land use changes have probably been important factors in atmospheric  $CO_2$  increase over the past 100 years. (Chapters 2, 3)

3. Projections of future fossil fuel use and atmospheric concentrations of  $CO_2$  embody large uncertainties that are to a considerable extent irreducible. The dominant sources of uncertainty stem from our inability to predict future economic and technological developments that will determine the global demand for energy and the attractiveness of fossil fuels. We think it most likely that atmospheric  $CO_2$  concentration will pass 600 ppm (the nominal doubling of the recent level) in the third quarter of the next century. We also estimate that there is about a 1-in-20 chance that doubling will occur before 2035. (Chapters 2, 3)

4. If deforestation has been a large net source of  $CO_2$  in recent decades, then the models that we are using to project future atmospheric concentrations are seriously flawed; the fraction of man-made  $CO_2$  remaining airborne must then be lower, and  $CO_2$  increase will probably occur more slowly than it otherwise would. (Chapter 3)

5. Estimates of effects of increasing  $CO_2$  on climate also embody significant uncertainties, stemming from fundamental gaps in our understanding of physical processes, notably the processes that determine cloudiness and the long-term interactions between atmosphere and ocean. (Chapter 4)

6. Several other gases besides  $CO_2$  that can affect the climate appear to be increasing as a result of human activities; if we project
increases in all these gases, climate changes can be expected significantly earlier than if we consider  $CO_2$  alone. (Chapter 4)

7. From climate model simulations of increased  $CO_2$  we conclude with considerable confidence that there would be global mean temperature increase. With much less confidence we infer other more specific regional climate changes, including relatively greater polar temperature increase and summer dryness in middle latitudes (e.g., the latitudes of the United States). (Chapter 4)

8. Results of most numerical model experiments suggest that a doubling of  $CO_2$ , if maintained indefinitely, would cause a global surface air warming of between 1.5°C and 4.5°C. The climate record of the past hundred years and our estimates of  $CO_2$  changes over that period suggest that values in the lower half of this range are more probable. (Chapters 4, 5)

9. By itself,  $CO_2$  increase should have beneficial effects on photosynthesis and water-use efficiency of agricultural plants, especially when other factors are not already limiting growth. (Chapters 3, 6)

10. Analysis of the effects of a warmer and drier climate on rainfed agriculture in the United States suggests that over the next couple of decades negative effects of climate change and positive effects from  $CO_2$  fertilization both will be modest and will approximately balance. The outlook is more troubling for agriculture in lands dependent on irrigation. Longer-term impacts are highly uncertain and will depend strongly on the outcome of future agricultural research, development, and technology. (Chapter 6)

11. Changes in temperature and rainfall may be amplified as changes in the annual discharge of rivers. For example, a 2°C warming could severely reduce the quantity and quality of water resources in the western United States. (Chapter 7)

12. (a) If a global warming of about 3 or 4°C were to occur over the next hundred years, it is likely that there would be a global sea-level rise of about 70 cm, in comparison with the rise of about 15 cm over the last century. More rapid rates could occur subsequently, if the West Antarctic Ice Sheet should begin to disintegrate. (Chapter 8)

(b) Such a warming might also bring about changes in Arctic ice cover, with perhaps a disappearance of the summer ice pack and associated changes in high-latitude weather and climate. (Annex 1)

13. Because of their large uncertainties and significant implications, it is important to confirm the various predictions of climate changes at the earliest possible time and to achieve greater precision. This can best be done through carefully designed monitoring programs of long duration emphasizing the ensemble of variables believed to influence climate or to reflect strongly the effect of  $CO_2$ . (Chapter 5) 14. The social and economic implications of even the most carefully constructed and detailed scenarios of  $CO_2$  increase and climatic consequences are largely unpredictable. However, a number of inferences seem clear:

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(a) Rapid climate change will take its place among the numerous other changes that will influence the course of society, and these other changes may largely determine whether the climatic impacts of greenhouse gases are a serious problem.

(b) As a human experience, climate change is far from novel; large numbers of people now live in almost all climatic zones and move easily between them.

(c) Nevertheless, we are deeply concerned about environmental changes of this magnitude; man-made emissions of greenhouse gases promise to impose a warming of unusual dimensions on a global climate that is already unusually warm. We may get into trouble in ways that we have barely imagined, like release of methane from marine sediments, or not yet discovered.

(d) Climate changes, their benefits and damages, and the benefits and damages of the actions that bring them about will fall unequally on the world's people and nations. Because of real or perceived inequities, climate change could well be a divisive rather than a unifying factor in world affairs. (Chapter 9)

15. Viewed in terms of energy, global pollution, and worldwide environmental damage, the " $CO_2$  problem" appears intractable. Viewed as a problem of changes in local environmental factors--rainfall, river flow, sea level--the myriad of individual incremental problems take their place among the other stresses to which nations and individuals adapt. It is important to be flexible both in definition of the issue, which is really more climate change than  $CO_2$ , and in maintaining a variety of alternative options for response. (Chapter 9)

16. Given the extent and character of the uncertainty in each segment of the argument--emissions, concentrations, climatic effects, environmental and societal impacts--a balanced program of research, both basic and applied, is called for, with appropriate attention to more significant uncertainties and potentially more serious problems. (Chapter 1)

17. Even very forceful policies adopted soon with regard to energy and land use are unlikely to prevent some modification of climate as a result of human activities. Thus, it is prudent to undertake applied research and development--and to consider some adjustments--in regard to activities, like irrigated agriculture, that are vulnerable to climate change. (Chapters 1, 9)

18. Assessment of the  $CO_2$  issue should be regarded as an iterative process that emphasizes carry over of learning from one effort to the next. (Chapter 1)

19. Successful response to widespread environmental change will be facilitated by the existence of an international network of scientists

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conversant with the issues and of broad international consensus on facts and their reliability. Sound international research and assessment efforts can turn up new solutions and lubricate the processes of change and adaptation. (Chapter 1)

20. With respect to specific recommendations on research, development, or use of different energy systems, the Committee offers three levels of recommendations. These are based on the general view that, if other things are equal, policy should lean away from the injection of greenhouse gases into the atmosphere.

(a) Research and development should give some priority to the enhancement of long-term energy options that are not based on combustion of fossil fuels. (Chapters 1, 2, 9)

(b) We do not believe, however, that the evidence at hand about  $CO_2$ -induced climate change would support steps to change current fuel-use patterns away from fossil fuels. Such steps may be necessary or desirable at some time in the future, and we should certainly think carefully about costs and benefits of such steps; but the very near future would be better spent improving our knowledge (including knowl-edge of energy and other processes leading to creation of greenhouse gases) than in changing fuel mix or use. (Chapters 1, 2, 9)

(c) It is possible that steps to control costly climate change should start with non-CO<sub>2</sub> greenhouse gases. While our studies focused chiefly on CO<sub>2</sub>, fragmentary evidence suggests that non-CO<sub>2</sub> greenhouse gases may be as important a set of determinants as CO<sub>2</sub> itself. While the costs of climate change from non-CO<sub>2</sub> gases would be the same as those from CO<sub>2</sub>, the control of emissions of some non-CO<sub>2</sub> gases may be more easily achieved. (Chapters 1, 2, 4, 9)

21. Finally, we wish to emphasize that the  $CO_2$  issue interacts with many other issues, and it can be seen as a healthy stimulus for acquiring knowledge and skills useful in the treatment of numerous other important problems. (Chapter 1) suggest design changes for overland vehicles, construction equipment, pipelines, and buildings. On a different plane, concern arises about possible loss of habitats and the conservation of nature; polar regions are among the wilder and more pristine environments remaining.

In contrast to polar and sea-level change, not much consideration has been given by those who study increasing  $CO_2$  and climate change to any possible direct effect on human health or the animal population from  $CO_2$  in the air we breathe. The natural a priori concern with the health effects of a doubling or quadrupling of an important gas in the air we breathe—the substance that actually regulates our breathing rate—is relieved by the observation that for as long as people have been living indoors, not to mention burning fuel to heat themselves, they have been spending large parts of their lives—virtually entire lives in the case of people who work indoors and travel in enclosed vehicles—in an atmosphere of elevated  $CO_2$ . Doubling or even quadrupling  $CO_2$  would still present a school child with a lesser concentration during outdoor recess than the child faces in today's average classroom.

There is, furthermore, no documented evidence that  $CO_2$  concentrations of five or ten times the normal outdoor concentration damage human or animal tissue, affect metabolism, or interfere with the nervous system. Nor is there a theoretical basis for expecting direct effects on health from the kinds of  $CO_2$  concentrations anticipated.

But even though this answer is reassuring, the question has to be faced. It will occur to people who hear about changes in the atmosphere that their grandchildren are going to breathe. And experiments have not been carried out with either people or large animals whose whole lives, including prenatal life, were spent in an environment that never contained less than, say, 700 ppmv of  $CO_2$ . So the question deserves attention, even though there is no known cause for alarm.

Probably more serious is the effect of elevated temperatures on health and welfare. If a 3 or 4°C increase in average temperatures occurs, as might be expected in different parts of the United States with a  $CO_2$  doubling, extreme summer temperatures in warm years might rise by an equal amount. Excess human death and illness are already characteristic of summer "hot spells," and these might be worsened by much higher extreme summer temperatures. And, climatic shifts may change the habitats of disease vectors or the hosts for such vectors.

#### 1.3.3 The Problem of Unease about Changes of This Magnitude

Enveloping our specific and more speculative concerns about impacts of climatic change on water resources, sea level, and other areas discussed is a profound uneasiness about inducing environmental changes of the magnitude envisaged with major increases in atmospheric  $CO_2$  and other greenhouse gases.

To establish a context, consider, for example, the most frequently quoted index--change in global average surface temperature. This crude measure of climate tells us little about what temperature change to expect for specific regions and nothing about the type of climate that Changing Climate: Report of the Carbon Dioxide Assessment Committee http://www.nap.edu/catalog.php?record\_id=18714

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would be experienced. Global average surface temperature has come to such prominence in large part because it represents a relative measure of CO<sub>2</sub> effects among climate models. Indeed, for many models it is the only result with much scientific validity. Nevertheless, changes in average surface temperature may suggest well the nature of our unease.

Increasing CO2 is expected to produce changes in global mean temperature that, in both magnitude and rate of change, have few or no precedents in the Earth's recent history. Consider the ranges of temperature experienced in various periods in the past (Figure 1.14). A range of less than a degree was experienced in the last century, less than 2°C in the last thousand years, and only 6 or 7°C in the last million years. The development of civilization since the retreat of the last glaciation has taken place in a global climate never more than 1°C warmer or colder than today's. Despite the modest decline of time-averaged global-mean temperatures since the 1940s, we are still in an unusually warm period in the Earth's history. Indeed, according to one source (Jones, 1981), 1981 was the warmest year on record. Thus, the temperature increases of a couple of degrees or so projected for the next century are not only large in historical terms but also carry our planet into largely unknown territory. Increasing CO2 promises to impose a warming of unusual magnitude on a global climate that is already unusually warm.

Furthermore, the question of threshold responses arises. It is possible that a change in the central tendency of climate will come about smoothly and gradually. It is also possible that discontinuities will occur. For example, Lorenz (1968) and others have suggested the possibility of more than one climatic equilibrium.

As Schelling (Chapter 9) points out, our calm assessment of the CO<sub>2</sub> issue rests essentially on the "foreseeable" consequences of climatic change. Less well-seen aspects remain troubling. We have mentioned the possible release of methane clathrates from ocean sediments. We have also mentioned melting of the central Arctic sea ice. Disappearance of the permanent Arctic ice would result in a marked increase in the thermal asymmetry of the planet, with only one pole still glaciated. Such asymmetric conditions could produce further, unanticipated climatic changes (Flohn, 1982). Warming amplified at high-latitude regions could also affect major features of the oceanic circulation, and these too could lead to unexpectedly different climatic conditions, as well as changes in the capacity of the oceans to absorb CO<sub>2</sub>. At the level of ecosystems, surprising changes may also result from climatic shifts.

We are not complacent about global-average temperature changes that sound small; very serious shifts in the environment could well be implied. There is probably some positive association between what we can predict and what we can accommodate. To predict requires some understanding, and that same understanding may help us to overcome the problem. What we have not predicted, what we have overlooked, may be what we least understand. And when it finally forces itself on our attention, it may appear harder to adapt to, precisely because it is not familiar and well understood. There may yet be surprises. AnticiChanging Climate: Report of the Carbon Dioxide Assessment Committee http://www.nap.edu/catalog.php?record\_id=18714





FIGURE 1.14 An approximate temperature history of the northern hemisphere for the last 850,000 years. The panels are at the same vertical scale. The top panel shows the past million years, the second panel amplifies the past 100,000 years, the third panel the past 10,000 years, and the bottom panel the past 1000 years. The horizontal line at 15°C is included simply for reference. Considerable uncertainty attaches to the record in each panel, and the temperature records are derived from a variety of sources, for example, ice volume, as well as more direct data. Spatial and temporal (e.g., seasonal) variation of data sources is also considerable. From Clark (1982). Original data from Matthews (1976), Mitchell (1979), and National Research Council (1975).

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pating climate change is a new art. In our calm assessment we may be overlooking things that should alarm us.

At the same time, one might observe that -- barring the kind of surprises mentioned above -- the climate changes under consideration are not large in comparison with the climate changes individuals and social groups have undergone historically as a result of migration. Table 1.10 shows U.S. population for 1800, 1860, 1920, and 1980, distributed according to the climatic zones in Figure 1.15. These data have been transformed into a series of maps of the United States in which the areas of our various climatic zones are drawn so as to be proportionate to their populations at various times (see Chapter 9). The maps seemingly depict massive climate change; formerly empty, thus small, climatic zones become heavily populated and grow large. But it is not that deserts have expanded or that the climate has changed from permafrost to rain forest, or from prairie to Mediterranean west coast, or to places where it gets cold but does not quite freeze from where it got a little colder and did freeze. People have moved, and to all climates, to places of enormous extremes like the Dakotas and places of little change like Puerto Rico. People have moved from the seacoast to the prairie, from the snows to the Sun Belt.

Not only have people moved, but they have taken with them their horses, dogs, children, technologies, crops, livestock, and hobbies. It is extraordinary how adaptable people can be in moving to drastically

Climatic		Population			
ZoneC	Description	1800	1860	1920	1980
Aw	Tropical wet and dry	0	2,996	129,741	2,793,140
BS and BSk	Semiarid and steppe	0	64,018 ( 1)	4,291,664	21,000,465
BWh	Tropical and subtropical desert	0	28,029 ( 1)	743,263 ( 1)	4,955,742
Caf	Humid subtropical (warm summer)	2,034,536 (42)	9,426,517 (32)	32,360,561 (29)	71,932,014
СЬ	Marine (cool summer)	0	39,246	1,795,406 (2)	4,447,811 (2)
Св	Dry-summer subtropical (Mediterranean)	0	202,420	1,636,597	8,675,763
Daf	Humid continental (warm summer)	2,348,030 (49)	16,074,866 (54)	59,811,474 (54)	90,882,262
Dbf	Humid continental (cool summer)	435,665	3,586,555	9,394,792 (8)	13,710,636
B	Undifferentiated highlands	0	184,896 ( 1)	1,559,963 (1)	9;147,733 (4)

TABLE 1.10 U.S. Population by Climatic Zoneª, b, C

Asource: U.S. Census Bureau, 1800, 1860, 1920, 1980. Data compiled by Clark University Cartographic Service. Prigures in parentheses are percentage of total population in that climate zone. Colimatic zones shown in Figure 1.15.

Aw-Tropical Wet and Dry(Savanna) BS -Semiarid or Steppe BSk-Middle Latitude Steppe BWh-Tropical and Subtropical Desert Cef-Humid Subtropical (Warm Summer) Cb-Marine (Cool Summer) Cs-Dry Summer Subtropical (Mediterranean) Def-Humid Continental (Warm Summer) Def-Humid Continental (Cool Summer) M-Undifferentiated Highlands

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Source: Trewartha "The Earth's Problem Climates", 1961.

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FIGURE 1.15 Climatic zones of the United States. Prepared by Clark University Cartographic Service.

different climates. That adaptability may suggest that if climates change only by shifting familiar climates around the world, it is not altogether different from leaving the climates alone and moving the people around. Of course, when people moved from England to Massachusetts or from the East Coast to the Great Plains, there were substantial difficulties in adapting; and if the climate changes and people stay, they may also have substantial difficulties. But it appears that a change in the climates where people live may not be altogether different from people moving to another climate. It may be that what we have to look forward to is not quite so historically unusual as a human experience as the descriptions from the paleoclimatic record would suggest. We have really become accustomed to marked climate change. For the individual, in contrast to the environment, the idea of climate change in a generation or two is far from novel.

While people may be able to adapt readily to climatic change, they may be unwilling to accept climatic changes imposed on them involuntarily by the decisions of others. Thus, in trying to clarify our unease about CO2-induced climatic change, it is necessary to point out the potentially divisive nature of the issue. It is important to recognize the distribution of incentives for, and effects of, humaninduced climatic changes. Although it might be in the interest of the world economy to restrict, at some cost, the use of fossil fuels, it is probably not in the interest of any single region or nation to incur on its own the cost of reduction in global CO2. For example, countries that view heavy rains as disasters and countries that view them as water for their crops would have different preferences about which, if any, rains to avoid or restore and whether they or another country should forgo (or burn) fossil fuels to help effect the change. The marginal effects of climatic change on the distribution of wealth may range from quite positive to quite negative. In short, CO2-induced climatic changes, and more generally weather and climate modification, may be a potent source of international conflict.

#### 1.4 POSSIBLE RESPONSES

So far we have developed an outlook for  $CO_2$ -induced climate change and made some tentative evaluations of the seriousness of possible changes in prospect. In the preceding discussions we have occasionally referred to potential societal responses, for example, taxes on  $CO_2$ emissions, agricultural adjustments, and migration. Now we discuss possible responses in a more systematic fashion and offer two sets of comments. One set relates to flexibility in defining the issue, the other to specific categories of response.

#### 1.4.1 Defining the Problem

As Schelling points out in Chapter 9, how one defines a problem or issue often governs or biases the search for solutions and sometimes in a way that puts emphasis on more difficult or less attractive solutions.

# **Exhibit ZZ**

12 Blue Sky Law § 6:48

Blue Sky Law June 2016 Update Joseph C. Long, Michael J. Kaufman, John M. Wunderlich Updates for 2014 and 2015 by Philip A. Feigin Chapter 6. Securities Exemptions<sup>\*</sup> XI. Commercial Paper Exemption

#### References

### § 6:48. Generally

The Uniform Securities Act 1956 provides for the exemption of commercial paper:

Any commercial paper which arises out of a current transaction or the proceeds of which have been or are to be used for current transactions, and which evidences an obligation to pay cash within nine (9) months of the date of issuance, exclusive of days of grace, or any renewal of such

paper which is likewise limited, or any guarantee of such paper or of any such renewal. 1

Unfortunately, neither the exemption nor the Uniform Securities Act 1956 in general further defines the concept of commercial paper<sup>2</sup> or provides any insight into the way that the commercial paper market works. However, the trial court opinion in *Alton Box Board Co. v. Goldman, Sachs & Co.*<sup>3</sup> provides such an insight. The court first points out that the commercial paper market is merely one subsector within the larger national money market. It is used by banks and other large corporations to deal with their large and recurrent short-term borrowing and investment needs. The essential function served by this market is to allow the temporary surplus of one firm or bank to be used to meet the temporary deficits of another firm or bank. In this way, the commercial paper market generally smoothes the capital flow throughout the entire money market system.

Commercial paper is usually an unsecured obligation of the issuer that is solely supported by the general credit of the borrowing bank or corporation. Because of this unsecured nature, only the larger corporations and banks that have well-established names and reputations are normally able to participate in the market by issuing commercial paper. Commercial paper is typically issued with varying maturities to fit the cash needs of the issuer, but also to provide a readily marketable security that fits the investment needs of the potential purchaser or purchasers. It is usually sold in discount form. Thus, the selling price will be lower than the face amount of the paper by the amount of the stated interest rate. The interest or discount rate generally follows the interest rate in the money market as a whole. However, as a general rule, the commercial paper rate will tend to follow the rate for other government or corporate obligations. It may also be affected by the current money market policies of the Federal Reserve Bank.

The commercial paper market is largely a professional market in which virtually the only participants are knowledgeable financial officers of substantial corporations, insurance companies, banks, mutual funds, and others acting with similar professional advice. As a result, commercial paper is rarely sold in units of less than \$100,000, with the average purchase unit being approximately \$1 million. Most commercial paper transactions take place between 9:00 a.m. and 12:30 p.m. Eastern Time (ET) with delivery and payment taking place the same afternoon. Delivery and payment is normally arranged through the investor's bank, and the entire transaction must be completed by 3:00 p.m. ET when most banks close their security delivery windows.

The typical investment decision to purchase commercial paper involves a two- or three-minute telephone conversation between the purchasing investor and a commercial paper salesman for one of the large broker-dealers such as Goldman, Sachs & Co. that are actively making a market in commercial paper. After determining the investor's maturity, along with the face amount and perhaps the rate requirements, the salesman will offer the potential investor

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commercial paper written by a number of issuers from his inventory that meet these requirements. The investor then selects which items he wishes to purchase.

The need for such speed in the execution and delivery of commercial paper transactions becomes obvious when viewed against the size of the total market and each individual purchase. Each trading day the volume of trading in the commercial paper market ranges into the billions of dollars. As noted above, the average transaction amounts to over \$1 million with the interest on a single unit amounting in some cases to several hundred thousand dollars a day. Since the market generally involves the employment of temporary short-term investments of surplus funds, most purchasers move in and out of the commercial paper market rapidly, often holding a particular investment no more than 24 hours. This description by the *Alton Box Board* court indicates a very specialized market involving extremely large transactions between very knowledgeable persons where speed and simplicity in the execution of the transaction is essential. The sophistication of the investors and the need for speed in the completion of the transaction provide adequate policy reasons for creating an exemption from the registration provisions of the securities act. However, the exemption should be treated as a narrow and specialized one that is not generally available for paper or transactions that do not come within the policy reasons for its creation. As a result, over the years, it has become clear that the

definition of "commercial paper" found in the Uniform Commercial Code or other commercial statute will not apply.<sup>4</sup> As a result, not all notes issued by a company to finance its accounts receivable or current operating expenses will be exempt.<sup>5</sup>

This point was forcefully made in the case of *People v. Dempster*.<sup>6</sup> The Dempster Investment Company was engaged in the general mortgage brokerage and financial business. It offered open-end trust fund securities to the general public. These funds were not registered, but were sold under a claim to the commercial paper exemption. The president of the company was criminally prosecuted for selling unregistered securities. At trial she claimed that the funds were commercial paper under Section 3.805 of the Michigan Uniform Commercial Code<sup>7</sup> and that this definition of commercial paper should control under the Securities Act. Mrs. Dempster's claim was supported by Professor James

J. White of the Michigan Law School who testified that in his opinion the open-end trust fund was "a horribly drafted non-negotiable note," <sup>8</sup> but would be commercial paper under the Uniform Commercial Code definition. The court rejected the applicability of the Uniform Commercial Code definition saying:

The application of the UCC concept of commercial paper is singularly inappropriate in this setting. The UCC is intended to "simplify, clarify and modernize the law governing commercial transactions." MCLA 440.1102(2)(a); MSA 19.1102(2)(a). The Uniform Securities Act, however, is intended to prevent an offering to the public of securities without first giving the Securities Bureau an opportunity to investigate the venture and determine whether sound policy justifies permitting the issuer to offer these securities for sale. Schmidt & Cavitch, Michigan Corporation Law (1974), p. 1071. The broad concept of commercial paper that might be appropriate under the UCC provisions to facilitate commerce is, therefore, at odds with the purpose of the Securities Act to protect against swindles. The Uniform Securities Act was drafted as a means of discouraging swindlers from selecting a particular state in which to operate.<sup>9</sup>

Instead, the court elected to follow the gloss that has developed surrounding this term under the Securities Act.<sup>10</sup> Much of this gloss has arisen under the equivalent federal securities exemption.<sup>11</sup>

As one author points out, this gloss began to develop even before the federal exemption was passed.<sup>12</sup> It was understood by the House supporters of the bill, which later became the 33 Act, that the concept of commercial paper was not intended to include notes like those sold by the Dempster Investment Company to members of the general public, rather, it was limited to commercial paper sold only to banks. The Senate version of the original bill specifically included a clause to this effect. However, the Senate version was amended to delete the clause. The text of the Senate deleting motion made clear, however, that the exemption was not to cover commercial paper sold to the general public, and the alteration was made so that other types of financial paper included within the purview of the exemption and could be sold to the general public.<sup>13</sup>

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Much of the remaining gloss that had developed over the years on the federal exemption was solidified by the SEC in a 1933 Act Release that read, in part:

The legislative history of the Act makes clear that section 3(a)(3) applies only to prime quality negotiable commercial paper of a type not ordinarily purchased by the general public, that is, paper issued to facilitate well recognized types of current operational business requirements and of a type eligible for discounting by Federal Reserve banks.<sup>14</sup>

This formulation of commercial paper has been widely accepted at both state <sup>15</sup> and federal <sup>16</sup> levels for use under the securities acts. In addition to carrying forward the concept developed earlier that such paper could not be sold to the general public, Release Number 4412 identified three new characteristics for exempt commercial paper. First, the commercial paper must be prime quality commercial paper. Second, the paper has to be discounted at the member banks of the Federal Reserve System. <sup>17</sup> Third, the paper must be negotiable paper. Nonnegotiable paper will not come within the exemption, at least at the federal level.

The Uniform Act provision specifically identifies two further requirements for exempt commercial paper.

To these three requirements must be added two other requirements found in the original federal exemption <sup>18</sup> and carried forward in the Uniform Act exemption:

(1) The paper must arise out of current transactions or, in the alternative, the proceeds from the paper must be used for current transactions.

(2) The paper must represent an obligation to pay cash within nine months of its issuance.<sup>19</sup>

Each of these five requirements will be examined below.<sup>20</sup>

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Footnotes

- Nov. 2015 update by Philip A. Feigin, Senior Partner at Lewis Roca Rothgerber LLP (Denver, Colorado and Tucson, Arizona offices).
- 1 Uniform Securities Act 1956 § 402(a)(10). See Sloulin v. Intermark Intern., Inc., 1992 WL 67089 (Ohio Ct. App. 9th Dist. Summit County 1992), for discussion of the commercial paper exemption under the Ohio Act.
- 2 The Supreme Court has given a generic definition to "commercial paper" as unsecured short-term promissory notes issued by commercial entities with maturities usually of nine months or less. Securities Industry Ass'n v. Board of Governors of Federal Reserve System, 468 U.S. 137, 151, 104 S. Ct. 2979, 82 L. Ed. 2d 107, Fed. Sec. L. Rep. (CCH) ¶91543 (1984). This definition was adopted for use under the Oregon Securities Act in State v. Crooks, 84 Or. App. 440, 734 P.2d 374, Blue Sky L. Rep. (CCH) ¶72512 (1987). See also Securities Industry Ass'n v. Board of Governors of Federal Reserve System, 807 F.2d 1052, Fed. Sec. L. Rep. (CCH) ¶93011 (D.C. Cir. 1986).

The Missouri Securities Commissioner by rule has defined "commercial paper":

The "commercial paper" exempted by Section 409.402(a)(10) of the Act applies to notes, drafts, bills of exchange and similar securities that are offered in commercial transactions through broker-dealers, banks and other financial institutions purchasing such paper for their own account or for the accounts of their customers. The exemption is not available for the unregistered offering of promissory or collateral trust notes or similar evidences of debt of any issuer directed to the public through public advertising or by means of solicitations directed to the issuer's customers.

Mo. Code Regs. tit. 15, 30-54.080 (Nov. 25, 1974), 2 Blue Sky L. Rep. (CCH) ¶35,508; See also Wis. Adm. Code, CH. SEI 2, § 2.01(4), 3 Blue Sky L. Rep. (CCH) ¶64,511 (Jan. 1, 1989). The ability of the securities agencies to define "commercial paper" by administrative rule was held constitutional in State v. Newman, 458 N.W.2d 532 (Wis. 1990).

Another working definition of commercial paper was offered in Comment: The Commercial Paper Market and the Securities Acts, 39 U. Chi. L. Rev. 362, 363-364 (1972):

Commercial paper consists of unsecured, short-term promissory notes issued by sales and personal finance companies; by manufacturing, transportation, trade, and utility companies; and by the affiliates and subsidiaries of commercial banks. The notes are payable to the bearer on a stated maturity date. Maturities range from one day to nine months, but most paper carries an original maturity between thirty and ninety days. When the paper becomes due, it is generally rolled over—that is, reissued—to the sale or a different investor at the market rate at the time of maturity.

This definition was quoted with approval by the court in Dist. Col. Cir. Securities Industry Ass'n v. Board of Governors of Federal Reserve System, 627 F. Supp. 695, 696 n.1, Fed. Sec. L. Rep. (CCH) ¶92456 (D.D.C. 1986).

- 3 Alton Box Bd. Co. v. Goldman, Sachs & Co., 418 F. Supp. 1149, Fed. Sec. L. Rep. (CCH) 195737 (E.D. Mo. 1976).
- 4 See, e.g., People v. Dempster, 396 Mich. 700, 242 N.W.2d 381, Blue Sky L. Rep. (CCH) ¶71308, 19 U.C.C. Rep. Serv. 845, 84 A.L.R.3d 562 (1976).
- 5 State v. Crooks, 84 Or. App. 440, 734 P.2d 374, Blue Sky L. Rep. (CCH) ¶72512 (1987).
- 6 See, e.g., People v. Dempster, 396 Mich. 700, 242 N.W.2d 381, Blue Sky L. Rep. (CCH) ¶71308, 19 U.C.C. Rep. Serv. 845, 84 A.L.R.3d 562 (1976).
- 7 Section 3.805 of the UCC reads: "This article applies to any instrument whose terms do not preclude ransfer and that is otherwise negotiable within this article but that is not payable to order or to bearer, except that there can be no holder in due course of such an instrument."
- 8 People v. Dempster, 396 Mich. 700 at 708, 242 N.W.2d 381 at 835, 19 U.C.C. Rep. Serv. 845, 84 A.L.R.3d 562 (1976).
- 9 People v. Dempster, 396 Mich. 700 at 708, 242 N.W.2d 381 at 835, 19 U.C.C. Rep. Serv. 845, 84 A.L.R.3d 562 (1976).
- 10 A similar approach has subsequently been used in State v. Crooks, 84 Or. App. 440, 734 P.2d 374, Blue Sky L. Rep. (CCH) ¶72512 (1987), and State v. Sheets, 94 N.M. 356, 1980-NMCA-041, 610 P.2d 760, Blue Sky L. Rep. (CCH) ¶71559 (Ct. App. 1980).
- 11 33 Act Section 3(a)(3), 15 U.S.C.A. § 77c(a)(3) (1984), which reads:

any note, draft, bill of exchanges, or bankers" acceptance that arises out of current transactions or the proceeds of which have been or are to be used for current transactions, and that has a maturity at the time of issuance of not exceeding nine months, exclusive of days of grace, or any renewal thereof the maturity of which is likewise limited.

For an excellent discussion of this exemption, see Comment: The Commercial Paper Market and the Securities Acts, 39 U. Chi. L. Rev. 362 (1972).

- 12 Comment: The Commercial Paper Market and the Securities Acts, 39 U. Chi. L. Rev. 362 (1972).
- 13 Comment: The Commercial Paper Market and the Securities Acts, 39 U. Chi. L. Rev. 362, 385 (1972). It would appear as a result that the federal exemption is broader than the Uniform Securities Act 1956 exemption. 33 Act Section 3(a)(3) exempts "Any note, draft, bill of exchange, or bankers' acceptance ..., "15 U.S.C.A. § 77c(a)(3) (1982), while the Uniform Act is limited to "commercial paper." Uniform Securities Act 1956 § 402(a)(10). The federal language is intended to cover other types of financial paper not included within the definition of "commercial paper."
- 14 SEC Securities Act Release No. 4412, 1 Fed. Sec. L. Rep. (CCH) ¶2,045 to 2,046 (Sept. 20, 1961).
- See, e.g., People v. Dempster, 396 Mich. 700, 242 N.W.2d 381, Blue Sky L. Rep. (CCH) ¶71308, 19 U.C.C. Rep. Serv. 845, 84 A.L.R.3d 562 (1976); People v. Walberg, 263 Cal. App. 2d 286, 69 Cal. Rptr. 457, Blue Sky L. Rep. (CCH) ¶70787 (2d Dist. 1968); Op. Ind. Att'y Gen. No. 20, (Aug. 1, 1969); Blue Sky L. Rep. (CCH) ¶70,824; Op. Att'y Gen. Md. (July 14, 1972), Blue Sky L. Rep. (CCH) ¶71,037; Ala. Sec. Comm'r, Interpretive Op., 1 Blue Sky L. Rep. (CCH) ¶7,552 (Aug. 9, 1976). This acceptance of Release Number 4412 by state courts and agencies is entirely proper since the Uniform Act exemption is admittedly patterned on the federal exemption. See "Official Comments to § 402(a)(1)," L. Loss, Commentary at 116 (1976).
- 16 See, e.g., Zeller v. Bogue Elec. Mfg. Corp., 476 F.2d 795, Fed. Sec. L. Rep. (CCH) ¶93903 (2d Cir. 1973); Sanders v. John Nuveen & Co., Inc., 463 F.2d 1075, Fed. Sec. L. Rep. (CCH) ¶93517, 16 Fed. R. Serv. 2d 267 (7th Cir. 1972).
- 17 See In re Manufacturer & Farmers Commercial Funding Corp., Blue Sky L. Rep. (CCH) ¶71,204 (Iowa Ins. Comm'r. 1974).
- 18 33 Act Section 3(a)(3), 15 U.S.C.A. § 77c(a)(3) (1986). The text of the federal exemption is reproduced in 33 Act Section 3(a) (3), 15 U.S.C.A. § 77c(a)(3)(1984) that reads:

Any note, draft, bill of exchanges, or bankers' acceptance that arises out of current transactions or the proceeds of which have been or are to be used for current

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transactions, and that has a maturity at the time of issuance of not exceeding nine months, exclusive of days of grace, or any renewal thereof the maturity of which is likewise limited.

#### 19 Release No. 4412 also commented upon these requirements, saying:

[T]he staff of the Commission has interpreted Section 3(a) to exclude as not satisfying the nine-month maturity standard, obligations payable on demand or having provision for automatic "roll over." Furthermore, the current transactions standard is not satisfied where the proceeds are to be used for the discharge of existing indebtedness unless such indebtedness is itself exempt under Section 3(a) (3); the purchase or construction of a plant; the purchase of durable machinery or equipment; the funding of commercial real estate development or financing; the purchase of real estate mortgages or other securities; the financing of mobile homes or home improvements; or the purchase or establishment of a business enterprise.

#### 1 Fed. Sec. L. Rep. (CCH) ¶2,045 at p. 2565.3.

20 Most of the authorities discussing these requirements at the federal level are no-action letters from the SEC staff. For a general discussion of these letters see R. Haft, Analysis of Key SEC No-Action Letters, Ch. 5, Commercial Paper: Section 3(a)(3) Exemption (Clark Boardman Callaghan, 1995–1996 ed.).

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# **Exhibit AAA**

58 Fordham L. Rev. 865

# Fordham Law Review April, 1990

# THE PROSECUTOR, THE PRESS, AND FREE SPEECH

# Scott M. Matheson, Jr. al

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\*866 The theory of our system is that the conclusions to be reached in a case will be induced only by evidence and argument in open court, and not by any outside influence, whether of private talk or public print.<sup>1</sup>

The Attorney General assures me that our case [against General Manuel Noriega] is strong, our resolve is firm and our legal representations are sound.<sup>2</sup>

### INTRODUCTION

The scenes are familiar. A United States Attorney calls a press conference to announce the indictment in a high-profile prosecution. A reporter calls or stops by the district attorney's office, obtains "off the record" information from a lawyer about an upcoming trial, and publishes it. A prosecutor gives an interview on the courthouse steps during a criminal jury trial.

Such scenes, though familiar, are not the norm for criminal prosecutions-- most charges prosecuted in state and federal courts receive neither public comment from prosecutors nor press interest or coverage.<sup>3</sup> \*867 Enough charges do receive such attention, however, to raise questions about the constitutional rights of free speech and fair trial, the integrity of the judicial process, the interaction between lawyers and journalists, and the professional obligations of attorneys.

Some of those questions concern extrajudicial public comment from prosecutors about pending criminal cases, a phenomenon that appears to be on the rise.<sup>4</sup> There is no definitive Supreme Court precedent concerning the scope of first amendment protection for such speech, though the Court said in 1966 that "[c]ollaboration between counsel and the press as to information affecting the fairness of a criminal trial is not only subject to regulation, but is highly censurable and worthy of disciplinary measures."<sup>5</sup>

Lawyer speech is strictly regulated in the courtroom. Rules of procedure and evidence and the need to preserve some degree of order and decorum strictly limit what lawyers and other trial participants can say, especially in the presence of the jury.<sup>6</sup> For example, the prosecutor is barred from expressing a personal opinion on the guilt of the accused,<sup>7</sup> from referring to evidence that may be relevant but has not been admitted because it is unduly prejudicial (prior criminal record) or was obtained improperly (coerced confession), or from alluding to plea bargain \*868 negotiations.<sup>8</sup> No serious first amendment claim can be made that such courtroom speech should be free from restriction.<sup>9</sup>

But what happens when the prosecutor steps outside the courtroom? Lawyers cannot go directly to jurors before or during trial and advocate their case out of court <sup>10</sup>--why should they be able to do so publicly when jurors or prospective

jurors might hear them?<sup>11</sup> Can the court or the lawyer disciplinary process impose limits on such speech without running afoul of the first amendment? Is the prosecutor entitled to as much constitutional protection as is afforded to the press or the general public, or should it be easier to gag the prosecutor than the press?<sup>12</sup>

Most commentary on extrajudicial lawyer speech has focused on criminal defense counsel; <sup>13</sup> several authors have argued that defense attorneys should enjoy freedom from ethical rules limiting extrajudicial comment. <sup>14</sup> No one makes such arguments on the prosecutor's behalf, for it is the prosecutor's extrajudicial publicizing, not defense counsel's, that might imperil the defendant's fair trial right. The prevailing view is that prosecutor statements are more likely to influence prospective jurors <sup>15</sup> \*869 and that prosecutors, more than defense lawyers or lawyers in other settings, may more readily violate no-comment rules. <sup>16</sup>

Lawyers, especially prosecutors, should not, in my judgment, "try their cases in the press" and should confine to the courtroom what they say in public about a pending case. Notwithstanding what may be desirable and prudent, "[w]e must not confuse what is 'good,' 'desirable,' or 'expedient' with what is constitutionally commanded by the First Amendment." <sup>17</sup> Not long ago it was readily assumed that, although the press generally could not be restrained from, or punished for, publishing information about matters of public concern, lawyers were amenable to court discipline for statements that might affect the right to a fair trial. <sup>18</sup> Cases in the lawyer advertising area, however, have shown that official efforts to discipline lawyer speech are subject to first amendment scrutiny. <sup>19</sup>

The extreme cases are easy to resolve. Few, if any, would justify a prosecutor calling a press conference on the eve of trial to reveal that a defendant in a high-profile case had been on the verge of entering a plea agreement. Conversely, few would question the right of a prosecutor to disclose publicly, in advance of trial, the identity of another prosecutor who would be assisting in the courtroom. In many instances, however, the answers are not so clear. Courts, prosecutors, and the press need to know the scope of permissible prosecutor speech.

\*870 The prosecutor does not relinquish free speech rights by virtue of being a prosecutor. <sup>20</sup> The press and the public have a first amendment interest in receiving his statements. <sup>21</sup> Accordingly, the prosecutor merits free speech shelter. However, his role in the criminal justice system and the accused's fair trial and other rights complicate the first amendment analysis. Indeed, of all lawyers, criminal and civil, the prosecutor wishing to make a public comment about a pending case faces the most difficult considerations in deciding what he can say. Also, of all lawyers, prosecutors generally are considered to be the least entitled to make public comment on a pending case. <sup>22</sup>

It is under precisely these circumstances--uncertainty about limits and general sentiment that a particular speaker should be regulated--when great care is needed to reconcile free expression with competing interests. Although the Supreme Court has held consistently that restraints on free expression may be "permitted for appropriate reasons,"<sup>23</sup> the challenge in regulating prosecutor speech is to resist unnecessary compromise of speech values.

Restrictions on prosecutor speech relating to a pending case constitute content regulation, which normally is subject to the most stringent first amendment scrutiny. The context of extrajudicial prosecutor speech, however, justifies regulation under certain circumstances. This Article briefly reviews the evolution of government restrictions on lawyer comment about pending cases, largely an interplay between the formulation of rules limiting lawyer speech and landmark judicial opinions in fair trial and free press cases. The Article then examines the competing values at issue when prosecutor speech occurs and identifies common features of the situations in which such speech takes place. It next presents a constitutional analysis of speech limits based on the government interests involved and relevant features of these contexts. The Article attempts to account for the clash of values and the complexity of context **\*871** without surrendering the search for practical standards to accommodate those values and guide conduct. It attempts to avoid slavish adherence to formal

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abstractions of decisional law without breaking unrealistically from first amendment doctrine that courts are likely to follow and respect.

The Article concludes that rules in this area have been evolving in an appropriate direction but that refinements are needed to better account for the unique role of the speaker, the changing context of the speech, and the competing interests at stake. Those refinements concern degree of threatened harm, burden of proof, intent of the speaker, timing of the speech, identity of the factfinder, and the form of regulation. The Article suggests that it is preferable for the trial judge in a particular case to address prejudice problems posed by extrajudicial prosecutor speech rather than rely on the lawyer disciplinary process.

# I. RESTRICTIONS ON EXTRAJUDICIAL LAWYER COMMENT

[T]rial by newspaper is a real problem in this country, especially in criminal trials.... I do not think that the newspapers should be blamed for this or that anything should be done to curb them from printing anything to which they can get access.... However, we would eliminate a large part of this prejudicial publicity if we would only enforce the canons of ethics that now exist. I do not think that any lawyer, whether defense or prosecution, should ever make a comment to the press evaluating his case or any evidence.<sup>24</sup>

Restrictions on extrajudicial lawyer comment about pending cases have taken two principal forms: (1) disciplinary or court rules governing extrajudicial lawyer speech; and (2) judicial restraining orders. There are others. For example, prosecutor speech may also be regulated by employers, possibly based on agency regulations<sup>25</sup> or informal personnel action.<sup>26</sup> \*872 Alternatively, defendants have sued prosecutors to recover civil damages for deprivation of fair trial rights caused by prejudicial publicity.<sup>27</sup> Most states and the federal system prohibit government attorneys from disclosing matters presented before a grand jury.<sup>28</sup> Another regulatory possibility is disqualification of the prosecutor from the case.<sup>29</sup> The focus of this Article, however, is on the two principal forms of restraint outside the grand jury context.<sup>30</sup>

#### A. Disciplinary Rules

The regulation of lawyer speech by rule has developed mainly through attorney codes of ethics. Most states have adopted a form of the American Bar Association ("ABA") model ethical rules on extrajudicial lawyer \*873 comment. <sup>31</sup> Violation of the lawyer no-comment rules could subject a lawyer to disciplinary action, which can result in sanctions ranging from private reprimand to disbarment.

During the twentieth century, the ABA has promulgated three model no-comment rules. Canon 20 of the 1908 ABA Canons of Professional Ethics "generally" condemned lawyer comment to the press about pending or anticipated litigation to preserve an aura conducive to a fair trial.<sup>32</sup> This standard was so vague that it was difficult to apply and did not adequately warn speakers what was permitted and what was proscribed.<sup>33</sup> Canon 20 was rarely enforced.<sup>34</sup>

Fair trial and free speech issues received pronounced attention as a result of press coverage of the Kennedy assassination and the Supreme Court's 1966 decision in *Sheppard v. Maxwell*, <sup>35</sup> which condemned as a violation of due process the impact on a criminal trial of publicity aided and abetted by the trial participants. The Warren Commission Report <sup>36</sup> kindled an ABA study and the promulgation in 1968 of fair trial and free speech standards limiting lawyer publicity which poses a reasonable likelihood of preventing a fair trial.<sup>37</sup> The "reasonable likelihood" language was taken from the Court's opinion in *Sheppard*.<sup>38</sup> At the same time, the **\*874** ABA was revising the 1908 Canons, and eventually adopted the ABA Code of Professional Responsibility in 1969.<sup>39</sup> The 1969 Code incorporated the 1968 fair trial and free press standards on extrajudicial lawyer comment in Disciplinary Rule 7-107 ("DR 7-107"). DR 7-107 contains various lawyer no-comment directives and is reproduced in Appendix I to this Article. Although the rule is a narrower proscription than Canon 20, the primary concern in light of *Sheppard* and the Warren Commission Report was curbing extrajudicial lawyer comment rather than safeguarding lawyer speech rights.<sup>40</sup>

DR 7-107 contains ten subsections. The first five address four phases of criminal prosecutions. First, DR 7-107(A) lists five types of information that may be disclosed in an extrajudicial statement during a criminal investigation and proscribes elaboration of other information. <sup>41</sup> Permitted topics include public record information, information that the investigation is in progress, a description of the offense, a request for help in apprehending the suspect, and any public dangers. Second, DR 7-107(B) lists six types of information that may not be disclosed following initiation of charges. <sup>42</sup> These include the character or criminal record of the accused, the possibility of a guilty plea, the existence or contents of a confession, and opinion on the merits of the case. DR 7-107(C) lists eleven types of information that DR 7-107(B) does not preclude a lawyer from announcing, <sup>43</sup> such as basic biographical data on the accused, the nature of the charges, and the accused's denial of the charges.

Third, DR 7-107(D) prohibits statements during jury selection or trial about the "trial, parties, or issues in the trial or other matters that are reasonably likely to interfere with a fair trial." <sup>44</sup> Reference to public records is permissible. Fourth, after trial or disposition without trial but before sentencing, DR 7-107(E) proscribes statements that are "reasonably **\*875** likely to affect the imposition of sentence." <sup>45</sup> Each rule applies only to extrajudicial statements that one would reasonably expect the press to report. The no-comment rules governing investigation and pretrial periods do not expressly require any showing that the extrajudicial statement threatened to or in fact interfered with a fair trial or the administration of justice. The trial and post-trial rules adopt a reasonable likelihood of threat standard. <sup>46</sup>

Fair trial and free press issues took center stage again in 1976 when the Supreme Court decided *Nebraska Press Association v. Stuart.*<sup>47</sup> The Court struck down as violative of the first amendment a state trial court gag order prohibiting news reporting or commentary on public judicial proceedings in a high profile homicide case. *Nebraska Press* spurred an ABA study on fair trial and free press issues.<sup>48</sup> In 1978 the ABA Standards for Criminal Justice: Fair Trial and Free Press were revised to permit more speech by incorporating a "clear and present danger" test to govern restriction of extrajudicial lawyer speech.<sup>49</sup> At about the same time, the ABA appointed a committee--the Kutak Commission--to redraft the 1969 Code of Professional Responsibility. The Model Rules of Professional Conduct, adopted by the ABA House of Delegates in 1983, relied on the 1978 ABA fair trial and free press standards in formulating Model Rule 3.6 on trial publicity.<sup>50</sup>

Reproduced in Appendix II to this Article, MR 3.6 proscribes extrajudicial lawyer <sup>51</sup> comment when "the lawyer knows or reasonably should \*876 know that [the comment] will have a substantial likelihood of materially prejudicing an adjudicative proceeding" and when the reasonable speaker would "expect" the comment to be publicized. Rule 3.6(b) lists six types of statements that "ordinarily" would have such an effect. <sup>52</sup> The six categories are similar to those in DR 7-107(B), although the latter are prescriptive and the former are at most presumptive. Rule 3.6(c) lists seven types of statements that may be made without elaboration, and they track the list found in DR 7-107(C).

There are several major differences between the 1969 and 1983 formulations. First, the degree of potential harm in MR 3.6 is phrased as "substantial likelihood," as opposed to the "reasonable likelihood" test that appears in portions of DR

7-107; <sup>53</sup> while the "reasonable likelihood" test appears only in some portions of DR 7-107, the "substantial likelihood" test appears to apply to all stages of a criminal prosecution. Second, MR 3.6 contains a scienter element--"the lawyer knows or reasonably should know" that the statement will pose the threatened harm. Third, the prejudice standard is phrased more strongly in MR 3.6--"materially prejudicing." Fourth, unlike DR 7-107, MR 3.6 does not specify different phases of criminal investigation and prosecution. <sup>54</sup> Finally, as the comment to MR 3.6 notes, the rule "transforms the particulars in DR 7-107 into an illustrative compilation that gives fair notice of conduct ordinarily posing unacceptable dangers to the fair administration of justice." <sup>55</sup>

The Model Rules appear to confirm the generally accepted view of the \*877 relative potency of extrajudicial prosecutor statements. Model Rule 3.8(e) requires prosecutors to exercise reasonable care to ensure that law enforcement personnel do not make extrajudicial comments that the prosecutor is prohibited from making by MR 3.6. <sup>56</sup> No similar responsibility is imposed expressly on other lawyers. Neither DR 7-107 nor MR 3.6 distinguishes between extrajudicial statements by prosecutors and extrajudicial statements by defense counsel. Proscriptions in both rules concerning disclosure of the accused's confessions or admissions and other information, however, clearly are directed at prosecutors. Neither rule draws any distinctions based on whether a case is tried to a judge rather than a jury.

# B. Court Rules

Most federal district courts adopted rules proscribing broad categories of statements presumed to be highly prejudicial to a criminal defendant. For example, the categories include all statements about the accused's prior criminal record or any confessions or admissions. <sup>57</sup> In 1980 Judge Collins J. Seitz chaired a committee to review the free press and fair trial issue; the committee issued a revised set of guidelines, including a recommended rule concerning release of information by attorneys in criminal cases ("Seitz Report"). <sup>58</sup>

The recommended rule is similar to DR 7-107 and adopts the test of reasonable likelihood of interference with fair trial as a prerequisite to restrictions on extrajudicial lawyer speech.<sup>59</sup> Unlike DR 7-107, however, the rule eliminates any restraint on comment pending sentencing and strictly limits comment during the grand jury phase. Most federal district courts have adopted some form of this rule.<sup>60</sup>

## **C.** Judicial Restraints

The other major form of regulation of extrajudicial lawyer speech is the restraining order that enjoins a lawyer from commenting publicly on a pending case. In crafting such orders, courts often have relied on preexisting no-comment rules modeled on the ABA disciplinary rules rather **\*878** than fashioning ad hoc no-comment rules.<sup>61</sup> Nonetheless, the Seitz Report <sup>62</sup> recommended that each district court adopt a rule providing for issuance of a restraining order in "a widely publicized or sensational criminal case." <sup>63</sup> Some district courts have followed this recommendation. <sup>64</sup>

Court orders restraining lawyer speech are prior restraints and courts have recognized that the first amendment is a significant barrier to such orders. <sup>65</sup> Accordingly, orders restraining lawyers have been upheld only if less restrictive alternatives were not available, the order was specific and clear, and the speech posed either a reasonable likelihood of or serious and imminent threat to the fair administration of justice. <sup>66</sup>

# II. THE CONTEXT OF EXTRAJUDICIAL PROSECUTOR SPEECH

The[] expressly guaranteed freedoms [of the first amendment] share a common core purpose of assuring freedom of communication on matters relating to the functioning of government. Plainly it would be difficult to single out any aspect of government of higher concern and importance to the people than the manner in which criminal trials are conducted ....  $^{67}$ 

We have always held that the atmosphere essential to the preservation of a fair trial--the most fundamental of all freedoms--must be maintained at all costs.<sup>68</sup>

Context is critical to first amendment analysis of prosecutor speech restraints.<sup>69</sup> Beyond the unique circumstances of a particular case, the pertinent common conditions of prosecutor speech are complex. Although attempting to capture basic features risks underinclusiveness, this section defines four broad categories of basic features. The first consists of interests that may be at stake when the state regulates extrajudicial prosecutor speech. The second category of features reviews the role of the prosecutor. The third category canvasses the relationships of the prosecutor with others in the criminal justice system and with the press as they bear on extrajudicial speech. The fourth category addresses various aspects of the regulatory context--the role of the judiciary, the audience **\*879** of primary concern, the timing of the speech, and the problem of predicting or determining the impact of the speech.

# A. The Competing Values: Free Speech, Fair Trial, and Other Concerns

# 1. Nature of the Speech and Free Expression Values

Prosecutor speech on a pending case may address countless aspects of the criminal justice process, a subject of profound public concern. <sup>70</sup> Such statements often touch upon alleged criminal activity, law enforcement, and judicial administration. Many individuals with public responsibilities in these areas--judges, prosecutors, sheriffs, police chiefs--are elected or hold office through political appointment. Their speech is inextricably tied to the self-government ideal of the first amendment, <sup>71</sup> "the highest rung of the hierarchy of First Amendment values." <sup>72</sup> Protecting such speech serves the first amendment's "core purpose of assuring freedom of communication on matters relating to the functioning of government." <sup>73</sup> The general audience for such speech has a first amendment interest in receiving it. <sup>74</sup> The speech may be exaggerated, sensational, unfair, vindictive, and only marginally relevant to the criminal justice system, but it is information about events having legal consequences, <sup>75</sup> and accordingly, relates to a "matter of political, social, or other concern to the community." <sup>76</sup>

\*880 In Bridges v. California, <sup>77</sup> the leading first amendment decision concerning out-of-court criticism of the judicial process, the Supreme Court stated, "[I]t is a prized American privilege to speak one's mind, although not always with perfect good taste, on all public institutions." <sup>78</sup> Prosecutor speech may serve a safety valve function through expression of grievances and perceived wrongs that, if left unexpressed, could fester and grow. <sup>79</sup> Although defense counsel speech may more commonly challenge official actions, prosecutor speech also may serve what Professor Blasi identified as "the checking value"; that is, speech "checking the abuse of power by public officials." <sup>80</sup> Extrajudicial prosecutor statements may also support the familiar principle that speech promotes the discovery of truth. <sup>81</sup>

The Court has been receptive to a range of values protected by the first amendment, <sup>82</sup> and first amendment scholarship offers a rich debate about an array of free speech values. <sup>83</sup> Whether one examines prosecutor speech from the perspective of the self-governance ideal, the checking or safety valve functions, the marketplace of ideas, the "self-fulfillment" of the

speaker, <sup>84</sup> or the "autonomy of the listener," <sup>85</sup> there is no reason based on the general nature of the speech to conclude that the first amendment interest in protecting prosecutor expression is diminished.

Prosecutors do not lose their first amendment protections because they are prosecutors or because their speech is based on information they have **\*881** obtained by virtue of their public responsibilities.<sup>86</sup> It is well settled that "litigants do not 'surrender their First Amendment rights at the court-house door"<sup>87</sup> and that attorneys retain first amendment rights despite their positions as officers of the court.<sup>88</sup> The Supreme Court has made clear that first amendment expression made possible by the government generally cannot be restricted by the government.<sup>89</sup>

In particular circumstances, however, first amendment rights may be subordinated to dominant government interests in regulation. Therefore, while recognizing that the speech in question is entitled to undiminished first amendment protection, <sup>90</sup> it becomes necessary to focus on the nature of the governmental interests.

## 2. Constitutional Protections for the Accused

First amendment issues arise from conflicts between free speech and other interests. For example, the issue in the defamation area ensues from the clash between free speech values and the state interest in protecting reputation.<sup>91</sup> The competing interests involved in prosecutor speech differ from other speech contexts because there is potential conflict between interests based on constitutional rights. On one hand, there is the right of free speech; on the other, the "no less precious" due process right of the accused to the fair and impartial administration of justice.<sup>92</sup> Indeed, the Supreme Court has referred to the defendant's right to fair trial as "the most fundamental of all freedoms."<sup>93</sup> Accordingly, as the basis for regulating extrajudicial lawyer comment, the state interest in safeguarding the defendant's right to fair and impartial adjudication is especially strong. Moreover, because this constitutional right protects \*882 the accused, its reconciliation with lawyer speech rights suggests that prosecutors may be subjected to more stringent restraints than defense counsel.<sup>94</sup>

Pretrial publicity can endanger other constitutional rights of the accused. For example, if a court employs a continuance to blunt any prejudicial effect of pretrial publicity, the defendant's sixth amendment speedy trial guarantee may be compromised.<sup>95</sup> Change of venue could prevent the accused from exercising the constitutional guarantee of being tried in the jurisdiction in which the alleged crime was committed.<sup>96</sup> The right to a fair trial, however, is the primary competing interest based on the accused's constitutional protections.

# 3. Fair and Efficient Administration of Justice

The state has interests independent of protecting defendants' fair trial rights. <sup>97</sup> For example, the Supreme Court has identified "disorderly and unfair administration of justice" as a basis to restrict speech about pending litigation because "trials are not like elections, to be won through the use of the meeting-hall, the radio, and the newspaper." <sup>98</sup> In *Wood v. Georgia*, <sup>99</sup> the Supreme Court declared, "We start with the premise that the right of the courts to conduct their business in an untrammeled way lies at the foundation of our system of government." <sup>100</sup> In short, the state has a substantial interest in affording a fair and efficient trial to both **\*883** the prosecution and the defense. <sup>101</sup>

Part of the institutional context of prosecutor speech is the adversary balance reflected in the rules of procedure and evidence. Use of extrajudicial publicity to gain advantage at trial, a possible prosecutorial motive and a likely effect, may interfere with that aspect of the criminal justice process.<sup>102</sup> Protecting the integrity of the adversarial criminal litigation

process from external influences is a state concern complementary to but independent of the interest in protecting the individual rights of the accused.<sup>103</sup> Both prosecutor and defense counsel's speech can affect this interest;<sup>104</sup> when prosecutors speak, however, the state interest in guarding fair trial rights of the accused and in the fair and efficient administration of justice overlap. The governmental interest in protecting the function of the criminal justice process is similar to the recognized interest of public employers in managing the workplace effectively by regulating the speech of their employees.<sup>105</sup>

#### 4. Public Confidence in the Judicial Process

The Court has recognized a state interest in fostering confidence in and preventing public misunderstanding of the judicial process. Lawyer disciplinary rules, including no-comment provisions, "were adopted in order to maintain absolute confidence in the integrity of the Bar." <sup>106</sup> In reviewing a conviction for violation of a Louisiana statute prohibiting picketing outside a courthouse, Justice Goldberg wrote for the Court:

A State may also properly protect the judicial process from being misjudged in the minds of the public. Suppose demonstrators paraded and picketed for weeks with signs asking that indictments be dismissed, and that a judge, completely uninfluenced by these demonstrations, dismissed the indictments. A State may protect against the possibility of a conclusion by the public under these circumstances that the judge's action was in part a product of intimidation and did not flow only from

the fair and orderly working of the judicial process. 107

This interest embodies the public's expectation that the criminal justice system will afford a fair trial with an impartial jury. In this regard, "the \*884 court should make a reasonable effort to provide precisely what the people expect." <sup>108</sup>

As a basis for speech regulation, this interest, however important and legitimate, should not be accorded substantial weight. Secrecy regarding the administration of justice may have a detrimental effect on public confidence. Indeed, in reviewing a contempt citation based on judicial criticism, the Court gave little weight to the government's related interest in respect for the judiciary: "The assumption that respect for the judiciary can be won by shielding judges from published criticism wrongly appraises the character of American public opinion." <sup>109</sup> In his concurring opinion in support of a constitutional right to attend a criminal trial, Justice Brennan wrote that "access is essential . . . if trial adjudication is to achieve the objective of maintaining public confidence in the administration of justice." <sup>110</sup>

## 5. Reputation, Privacy, and Security Interests of the Accused, Victim, and Witnesses

Certain individuals participating in a criminal prosecution, such as victims and witnesses, would prefer not to have their involvement publicized. Indeed, many newspapers refrain from publishing the names of crime victims. <sup>111</sup> The wrenching experience of participating in a prosecution as a rape victim or victim of another violent crime can be exacerbated when the crime and the victim's identity are reported to the community. The point is not limited to violent crime; the victim of investment fraud may wish to avoid publication of this information.

Witnesses rarely have the same degree of interest in a prosecution as the victim and yet are subject to subpoen to testify. For the most part, they would prefer to avoid publicity. In addition to the sensitive and private nature of information about witnesses and victims, there also may be security concerns.

Publishing that someone has committed a crime may be devastating to that person's reputation.<sup>112</sup> Moreover, the nature of the crime may also implicate the accused's privacy interests. The presumption of innocence **\*885** does not shield the accused from reputational or invasion of privacy damage and acquittal does not necessarily repair that damage.

In spite of the foregoing reputational and privacy interests, the intricate web of defamation, privacy, privilege, and access law that has been shaped by first amendment claims and defenses as well as safeguards built into the criminal prosecution process suggests that these interests, though important, should not be primary considerations in determining the generally permissible scope of extrajudicial prosecutor speech based on no-comment rules. <sup>113</sup> A court considering a restraining order directed at extrajudicial prosecutor speech, however, should not be foreclosed from taking victim and witness interests into account. Moreover, both no-comment rules and restraining orders could include provisions for cases in which publicity poses a threat to personal security. <sup>114</sup>

#### B. Prosecutor Role

#### 1. Unique Advocate

A lawyer "may take whatever lawful and ethical measures are required to vindicate a client's cause or endeavor." <sup>115</sup> In a legal system based on party representation, the prosecutor does not represent a victim, the police, the mayor, or the governor. He represents the community, which includes the foregoing as well as the accused. That fact has a profound impact on his duty: "A prosecutor has the responsibility of a minister of justice and not simply that of an advocate. This responsibility carries with it specific obligations to see that the defendant is accorded procedural justice and that guilt is decided upon the basis of sufficient evidence." <sup>116</sup> The prosecutor's goal is not to "win a case, but that justice **\*886** shall be done." <sup>117</sup> By contrast, defense counsel's loyalty is to the individual defendant: he must "defend his client whether he is innocent or guilty," and "we countenance or require conduct which in many instances has little, if any, relation to the search for truth." <sup>118</sup>

The prosecutor represents the state, which is attempting to deprive the accused of life, liberty, or property, and the state is limited in doing so by the requirements of due process of law.<sup>119</sup> The prosecutor, in short, is subject to broader duties, <sup>120</sup> and the Supreme Court has declared that one of those duties is to ensure that guilt be based on the evidence presented in court and that the defendant receive a fair trial.<sup>121</sup> When the prosecutor speaks publicly about a pending case, he cannot separate his representational role from his speech, and he thereby involves the state in the extrajudicial comment.<sup>122</sup> Indeed, a prosecutor, because he is a state actor, could be sued for violation of the accused's constitutional fair trial right as a result of prejudicial extrajudicial comment.<sup>123</sup>

# 2. Officer of the Court

Lawyers are "officers of the court" because their duty to clients must be fused with their duty as participants in the governmental function of protecting the judicial process from extraneous influences that impair its fairness.<sup>124</sup> The lawyer's responsibilities as an officer of the court vary depending on whether the attorney is immediately engaged in litigation. Courts have distinguished the constitutional scope of restrictions on lawyers **\*887** who are actively participating in criminal trials and those who are not.<sup>125</sup> When the prosecutor secures access to information by virtue of his participation as counsel for the state in a criminal procedure and a fair decision.<sup>126</sup> The prosecutor's access to sensitive information makes him a good press source for information about a case and creates an obligation to exercise care in disseminating information.

#### 3. Executive Branch Employee

Although prosecutors are deemed officers of the court and have responsibilities to the judiciary as lawyers and prosecutors, they are also executive branch officials at the federal, state and local levels. Most are merit or career service employees and subject to the protections and sanctions of the grievance and disciplinary systems. As in any hierarchy that is accountable to the public and therefore concerned about how and what information is disseminated, subordinate attorneys are subject to discipline from their superiors for statements they make to the press. Regulation of government employee speech has received substantial attention recently from courts <sup>127</sup> and commentators. <sup>128</sup> Part of the context of prosecutor speech is potential discipline by the prosecutor's employer, <sup>129</sup> who has an interest in curbing speech that is disruptive to the workplace. The impetus for such regulation may stem from the need to ensure a fair trial to the accused and the fair administration of justice generally, but it may be derived as much or more from management or political considerations. The primary focus of this Article is on judicial regulation of prosecutor speech by rule or restraining order. For this source of speech restraint, the prosecutor is in a different position from the court clerk, bailiff and other court personnel. The regulator is not the prosecutor's employer and, in fact, constitutes a separate branch of government.

#### \*888 4. Political Actor

United States Attorneys are political appointees and many move from that position into partisan elective politics. State attorneys general, county attorneys, and district attorneys generally are elected and many seek re-election or election to another office. <sup>130</sup> Notable examples include Thomas E. Dewey, Rudolph W. Giuliani, Elizabeth Holtzman, and Richard Thornburgh. <sup>131</sup> Even though the assistant attorneys who work as prosecutors may be merit or career service employees, they work in political offices and have pursued political careers as well. Prosecutors are publicly accountable; their accountability is measured in part through public information about the prosecutor's office, and about particular cases. Indeed, it is generally accepted that elected prosecutors have an obligation to inform the community about the functioning of their offices. <sup>132</sup>

#### 5. Prosecutor Role and Motives

Because of their multifaceted role in the criminal justice system, prosecutors may have a variety of motives--some legitimate, some arguably not-- to comment outside the courtroom about their cases. The motive may be informational-- to advise the press and the public about the nature and status of the case <sup>133</sup> and the activities of a public law office. This motive may be difficult to distinguish or separate from political motivations, especially when the prosecutor or his boss is facing re-election. <sup>134</sup> The political motive may be to enhance the prosecutor's image or to promote the institutional standing of the prosecutor's office. <sup>135</sup> Another related motive is economic. Publicity may help the prosecutor secure private sector legal employment and clients sometime in the **\*889** future. <sup>136</sup> Finally, lawyers generally may seek press attention to enhance their community status.

Attorneys may also be motivated by a desire to establish and foster a satisfactory working relationship with the press. Giving information to a tenacious reporter may make life easier for the prosecutor by keeping the press at bay and by producing a favorable account of his actions. Prosecutors also may speak out to curry favor with other constituencies, such as the law enforcement community, victims' rights groups, or the state legislature.

Another possible motive is tactical and completely at odds with the prosecutor's role. Defense lawyers especially may suspect that an overzealous prosecutor comments publicly to increase the probability of conviction by influencing

prospective jurors, <sup>137</sup> examples of which can be cited. <sup>138</sup> Bad faith extrajudicial prosecutor speech may also be directed at gaining advantage over or cooperation from defendants in plea bargaining negotiations. <sup>139</sup>

#### C. Working Relationships and Prosecutor Speech

#### 1. Prosecutor and Press

Strong pressures bring prosecutors and journalists together. Pulitzer Prize winning journalist and lawyer Clark R. Mollenhoff posits that the prosecutor cannot ignore the press: "The public's perception of how he is doing his job can have a significant impact on crime and criminals and on public support of law enforcement." <sup>140</sup> By limiting public statements to the courtroom, a prosecutor risks being misunderstood, ignored or unfairly portrayed by defense counsel. <sup>141</sup> Another commentator who has served as both a journalist and prosecutor observed that "whether we [prosecutors] like it or not, the news media is the conduit through which we must communicate with the public." Because the public's knowledge of the criminal justice system comes almost exclusively through the press, television programs, and motion pictures, prosecutors must "take every opportunity to communicate their position on important issues affecting **\*890** the criminal justice system to the public." <sup>142</sup>

For the press, the prosecutor can be the best source of information concerning a criminal investigation and prosecution.<sup>143</sup> He has access to the government's evidence, including witnesses. He is trained and experienced in explaining the steps in the process and putting issues in context. Especially during the investigation and pretrial phases, a journalist might find it difficult to obtain information about a case from other sources. The prosecutor interacts with law enforcement personnel, judges, court employees, defense counsel, corrections officials, social service agencies, and interested citizens. These contacts put the prosecutor in a unique position to comment on the case. Indeed, reporters have argued successfully that they have a first amendment news-gathering interest in having a prosecutor source unencumbered by speech restraints.<sup>144</sup>

The prosecutor-press relationship can range from friendly to antagonistic, arm's length to social, trusting to suspicious, and can involve other features that render the interaction subtle and complex. Press-prosecutor communication can occur in a press conference, chance meeting, office interview, or telephone conversation. Prosecutors and journalists can, but do not necessarily, have one-case encounters. The working relationship can extend for a long period on one case or involve numerous cases and other issues. Prosecutors and journalists know the prosecutor's office is a political one and that press coverage can affect the credibility of the office and the attorneys. With recurring contact, mutual understanding can develop about the manner in which information is provided and used. <sup>145</sup> Nonetheless, the fact that prosecutors are under legal and ethical restrictions not to release certain information about ongoing investigations and untried charges is not well understood by the press and can place prosecutors and reporters at odds. <sup>146</sup>

Though a prime source, the prosecutor is rarely the reporter's only source regarding a case and may at times serve only to confirm information obtained from others. Prosecutor speech, therefore, often becomes mixed in with information from many other sources that is disseminated to the public, which compounds the difficulty of assessing the impact of the prosecutor speech. Moreover, what a prosecutor says and what is reported may be different. <sup>147</sup> As in other areas of press interest, prosecutors **\*891** often serve as confidential or "off the record" sources, <sup>148</sup> which naturally hampers enforcement of lawyer no-comment rules. <sup>149</sup> A prosecutor could also evade no-comment rules by putting information intended for press dissemination in a court document--a motion or pretrial brief--and filing it with the court. <sup>150</sup> Unless the defense can secure an order sealing the document, it is fair game for press review. <sup>151</sup>

Finally, the information can flow in both directions. Investigative reporting has led to prosecution, as the Watergate scandal dramatically illustrated.<sup>152</sup> This may be the result of collaboration between reporters and law enforcement officials, or published stories alone may stimulate criminal investigations.<sup>153</sup> Collaboration can take many forms. For example, to protect confidential sources, the reporter may resist supplying information that would aid a criminal prosecution.<sup>154</sup> But even when a reporter is trying to protect a confidential source, that reporter may be working in association with the prosecutor's office in supplying information.<sup>155</sup>

# 2. Relations with Victims, Witnesses, Law Enforcement Officials, and Defense Counsel

The prosecutor normally has direct contact with all participants in a criminal prosecution, which makes him an excellent press source. His working relationship with the other participants can render them conduits of information to the press. For example, a law enforcement official who has investigated criminal activity and who will be a prospective witness may be an attractive press source. He also works with the prosecutor at various stages of the prosecution. He could divulge, with or without the prosecutor's blessing, information that includes statements by the prosecutor. Moreover, the prosecutor knows that the law enforcement officer is or may be a prime target for press inquiry. For this reason, **\*892** MR 3.8 imposes upon the prosecutor the responsibility to prevent law enforcement officials and others associated with a prosecution from making public comments that are proscribed for the prosecutor under MR 3.6.

Similar points can be made about victims, witnesses, and defense counsel, although the working relationship with the prosecutor varies in each instance, including the prosecutor's ability to manage press contact. Through each of these participants the prosecutor could end up serving as an indirect source for press coverage.

From the standpoint of publicity, the relationship between prosecutor and defense counsel can be dynamic and volatile. Defense counsel justify press statements about the case on the grounds that something must be done to counter coverage of the arrest or filing of charges or that prosecutors or law enforcement officials have leaked information damaging to the accused. Statements from one side may prompt press pressure on the other side for a response. The publicity can escalate based on an opponent's perceived attempts to manipulate the press. <sup>156</sup> Conversely, a restrained response to press inquiries may quiet the other side.

# D. Regulatory Context: The Role of the Court, the Audience of Primary Concern, the Timing of the Speech, and the Problem of Assessing Prejudice

## 1. Role of the Trial Judge

In Sheppard v. Maxwell, <sup>157</sup> the Supreme Court placed on the trial judge the burden of ensuring that press coverage does not compromise the fairness of the proceeding: "The courts must take such steps by rule and regulation that will protect their processes from prejudicial outside interferences." <sup>158</sup> To meet this duty, trial judges should consider continuance, \*893 change of venue, jury sequestration, or granting a new trial. The Sheppard Court stated that the trial court "should have made some effort to control the release of leads, information, and gossip to the press by . . . counsel for both sides," <sup>159</sup> and recommended the gagging of trial participants "where there is a reasonable likelihood that prejudicial news . . . will prevent a fair trial." <sup>160</sup> The Court declared that new trials should be ordered when publicity has prejudiced the fairness of a trial, but it stressed that "reversals are but palliatives; the cure lies in those remedial measures that will prevent the prejudice at its inception." <sup>161</sup> A decade later, the Court again emphasized the trial judge's "major responsibility" for acting "to mitigate the effects of pretrial publicity." <sup>162</sup> If judges take their cue from *Sheppard*, they should understand their role is to be the guardians against the taint of prejudicial publicity. The cases indicate that judges take this function seriously. <sup>163</sup>

# 2. Prospective and Actual Factfinders as the Audience of Primary Concern

The primary aim of limiting lawyer speech about pending cases is to insulate the factfinder from influences other than evidence and argument presented in the courtroom. <sup>164</sup> Lawyers cannot communicate with jurors outside the courtroom before or during trial and advocate the case. Why should they be able to advocate a case publicly when jurors or prospective jurors might hear them?

The circumstances of lawyer speech change significantly once jury selection begins. Before that point, the factfinder is either the trial judge or a collection of unknown individuals who are citizens of the court's jurisdiction, who will be selected for jury duty and to serve on the trial jury, and who may pay attention to and remember press reports about the case. Because the pool of potential jurors is large, restrictions on lawyer comment cannot be tailored to avoid the ultimate factfinder and yet \*894 reach everyone else. <sup>165</sup> Experienced criminal trial attorneys have reported that many prospective jurors do not pay attention to pretrial publicity and otherwise do not recall the content of the publicity by the time of trial. <sup>166</sup> This anecdotal information no doubt varies with the type of case, the size and nature of the community, and the efficacy of voir dire. <sup>167</sup> Once jury selection has begun, the audience of primary concern is very small. Consequently, the risks of prejudicial publicity change and different safeguards against jury taint from publicity are available.

The factfinder might be a judge rather than a jury. Because waiver of the jury may not occur until the eve of trial, the publicity concern about prospective jurors may apply during the preliminary phase of judge-tried cases. Once it is clear that there will be a bench trial, however, the concern about publicity is different and diminished. Information commonly thought highly prejudicial to impartial jury consideration--a suppressed confession, prior criminal convictions, the possibility of a plea bargain--is often already known to the judge. Moreover, whatever biases may exist based on position and experience, trial judges generally are considered resistant to the influence of prejudicial publicity, <sup>168</sup> though not completely immune. <sup>169</sup> This may vary depending on how judges are selected and retained; the judge may be appointed or elected, subject to contested or retention re-election, or enjoy life tenure. <sup>170</sup> The judicial role in assessing publicity is different in a bench trial because the factfinder must decide the potential impact of publicity on himself.

# 3. The Timing of the Statements

DR 7-107 divides the criminal proceeding into four stages. MR 3.6 does not. The audience of primary concern and the practicality of narrowly tailored regulation of speech to avoid prejudicial publicity change depending on the stage of the proceeding. At the investigatory stage, the audience of primary concern is the potential factfinder, including any judge who may be assigned the case and the individuals in the jury pool who may be selected for the petit jury. At this point it is unlikely that **\*895** the putative defendant, if known, could seek court assistance in restraining prosecutor or law enforcement statements about the case because the individual may not have the assistance of counsel or because no case has been filed. Accordingly, the prospect of court-ordered restrictions on speech narrowly tailored for the circumstances is impractical and points to the need for general rules if some restraint is necessary. On the other hand, there will be ample opportunity to bar from the jury venire those individuals who learned of the case. <sup>171</sup> A change of venue or continuance may also be used. Publicity immediately before or during trial generally is considered to have greater potential for prejudice than publicity months in advance of trial. <sup>172</sup> Moreover, the chances of any given case reaching trial at this point are remote.

The second stage of a prosecution begins at the initiation of formal charges and ends with the commencement of trial. The defendant and the court are then in a better posture to consider whether any restrictions on extrajudicial lawyer comment are necessary. There is less need for broad restrictive rules. Moreover, there continues to be opportunity to screen out jurors arguably influenced by publicity during jury selection or to grant a change of venue or continuance.

The third stage is jury selection and trial. At this point, the court not only is in a position to tailor any speech restrictions; it also has some control over the jury itself. The court may instruct the jury not to receive any news accounts of the case and, if necessary, may sequester the jury. On the other hand, once the jury has been selected, there is limited opportunity to eliminate those jurors who receive publicity about the case, though the selection of alternate jurors provides some flexibility.

The fourth stage is the period between disposition or trial and sentencing. The concern is the influence of publicity on the sentencer, most often the judge.

The investigative stage provides the greatest justification for general rules on publicity. After that, when the court has jurisdiction, there is less need for generally applicable rules. The practical justification for speech restrictions by rule seems to be especially weak in the pretrial phase, when all of the antidotes to publicity are at the court's disposal. The justifications are stronger at the third stage, however, in part because the factfinder will hear the evidence and should not be distracted by information from extrinsic sources, no matter how relevant. In addition, there is limited opportunity to screen out jurors without starting over.

\*896 This discussion suggests that narrow restraining orders, when practicable, are preferable to rules because they are more effective and can be narrowly drawn even though they may have more difficulty passing first amendment muster.

# 4. The Problem of Determining Potential and Actual Prejudice

Unlike defamation law, which focuses on redressing actual harm, the challenge in the area of prosecutor speech is to prevent harm from occurring. That involves an inherently speculative prediction by the speaker or by the courts as to whether a particular communication will prevent a fair trial. For example, pretrial prosecutor statements revealing prior convictions of a person charged with crime may come at a time when it is unknown whether there will be a trial, whether the defendant would remain silent at trial, whether the prior convictions could or would be used to impeach the defendant if he does testify, or whether procedural techniques such as change of venue and continuance would prevent prejudice. Finally, it is unknown whether individuals who would serve on the jury would know of this extrajudicial comment and, if they know, whether they could be fair and impartial factfinders based on evidence presented in court. <sup>173</sup>

Apart from specific information such as a criminal record or an unconstitutionally coerced confession, in a highly publicized case the saturation of the community with news about the case can be a factor in making the prediction of whether the publicity might prevent a fair trial. <sup>174</sup> Moreover, the variety of information sources for the press as well as the many ways information about a case can be disseminated compound the problem of evaluating the potential impact of publicity and render even more difficult the task of assessing the potential impact of prosecutor statements.

Determining possible prejudicial impact remains just as challenging after the speech has occurred. This is reflected in the practical difficulty of measuring impact by looking at the sources and scope of the publicity, the voir dire record, the trial record, and post-trial interviews with jurors.<sup>175</sup>

## \*897 III. CONSTITUTIONAL ANALYSIS

In the borderline instances where it is difficult to say upon which side the alleged offense falls, we think the specific freedom of public comment should weigh heavily against a possible tendency to influence pending cases.<sup>176</sup>

In Sheppard v. Maxwell, <sup>177</sup> the Supreme Court noted that "[t]he prosecution repeatedly made evidence available to the news media which was never offered in the trial. Much of the 'evidence' disseminated in this fashion was clearly inadmissible." <sup>178</sup> Although the Court encouraged use of rules to regulate extrajudicial lawyer comment about criminal cases tried before a jury, neither Sheppard<sup>179</sup> nor succeeding cases <sup>180</sup> decided what degree of regulation would be compatible with the first amendment. <sup>181</sup> The preceding discussion attempted to identify competing interests as well as particular features of prosecutor speech and the regulatory context that may be relevant to the constitutional analysis. The following section suggests how the competing interests in prosecutor speech could be balanced without unnecessary compromise. The suggestions are not meant to be rigid calibrations but attempt to develop a more refined framework to address prosecutor speech.

#### A. Introduction: Content Regulation of Extrajudicial Lawyer Speech

Regulation of lawyer speech about a pending case is inescapably content-based \*898 <sup>182</sup> because the speech's message may produce harm that the government seeks to prevent. <sup>183</sup> Such content regulation aimed at communicative impact conflicts with orthodox first amendment doctrine that "government has no power to restrict expression because of its message, its ideas, its subject matter, or its content." <sup>184</sup> Accordingly, the Supreme Court normally applies the "most exacting scrutiny" <sup>185</sup> to restrictions aimed at the communicative impact of expression. Such regulation violates the first amendment unless it is "necessary to serve a compelling state interest and . . , narrowly drawn to achieve that end." <sup>186</sup>

When the government attempts to control speech to avert harm to an important state interest, the issue is what degree of threatened harm justifies \*899 restraint.<sup>187</sup> How much peril must prosecutor speech pose to governmental interests to justify the restraint or sanction of expression? How should the burden of proving the risk of danger be allocated? Do the answers differ depending on the timing of the speech and whether a rule or a restraining order is involved? The answers to these questions must take into account considerations of overbreadth and vagueness, the role of the speaker, the audience of primary concern, the type of factfinder, and the institutional setting of the speech.

#### B. Overbreadth and Vagueness

Traditionally courts have determined the constitutionality of a law as it is applied to facts on a case-by-case basis. The first amendment overbreadth doctrine, on the other hand, tests the constitutionality of a law in terms of its potential applications. <sup>188</sup> To be invalid, a law must pose a significant likelihood of deterring protected speech. <sup>189</sup> A law is void if it "does not aim specifically at evils within the allowable area of [[[government] control but . . . sweeps within its ambit other activities that in ordinary circumstances constitute an exercise" of protected first amendment rights. <sup>190</sup> The problem with such a law is that it "hangs over [[[people's] heads like a Sword of Damocles.' That judges will ultimately rescue those whose conduct in retrospect is held protected speech. <sup>191</sup> Although courts use the overbreadth doctrine "sparingly and only as a last resort," <sup>192</sup> overbreadth problems should be a primary concern in formulating rules and restraining orders to regulate extrajudicial lawyer speech.

Vagueness is separate from but related to overbreadth. As a matter of due process, a law is void if it is so vague that persons "of common intelligence must necessarily guess at its meaning and differ as to its application." <sup>193</sup> The vagueness doctrine has special bite in the first amendment area because uncertain rules induce self-censorship of protected speech **\*900** and precise rules give assurance that the lawmaker has focused on reconciling speech and governmental interests supporting regulation. <sup>194</sup> As a result, the Supreme Court has required more specificity for rules potentially applicable to first amendment speech than to other areas. <sup>195</sup> The rule should be voided unless it "conveys sufficiently definite warning as to the proscribed conduct." <sup>196</sup>

Overbreadth and vagueness, though primarily doctrinal tools used by courts in assessing the constitutionality of statutes, are useful in the analysis of regulating extrajudicial lawyer speech, in particular to determine whether no-comment rules or restraining orders are "narrowly drawn." A rule that a lawyer shall not comment on a pending case when that comment threatens to prejudice a fair trial or the administration of justice is vague because it does not provide notice about what may or may not be said. <sup>197</sup> A rule that a lawyer may not comment about the character of a witness <sup>198</sup> is overbroad because it includes speech that in many cases does not threaten fair trial or judicial administration. <sup>199</sup> By combining a threat of harm standard with specific statements, a rule offers guidance about what should not be said and limits its application to statements that would produce the threatened harm.

Overbreadth and vagueness concerns were central to the Seventh Circuit's analysis in *Chicago Council of Lawyers v. Bauer.*<sup>200</sup> In *Bauer*, the Seventh Circuit reviewed a first amendment attack on a district court's local criminal rule governing extrajudicial lawyer speech and on DR 7-107 (which the district court had assumed was incorporated in the court's local rules).<sup>201</sup> The local rule closely resembled the criminal proceeding portions of DR 7-107, including the "reasonable likelihood of interference with a fair trial" standard and the division of the criminal process into several stages.<sup>202</sup> The plaintiffs contended that the "reasonable likelihood" test was too restrictive and that the rules were vague and overbroad.

The Seventh Circuit in *Bauer* went further than any court has gone in \*901 attempting to protect the extrajudicial free speech interests of lawyers.<sup>203</sup> The court found that the test of "reasonable likelihood that such comment will interfere with a fair trial" was too broad to meet the requirement of *Procunier v. Martinez*<sup>204</sup> that "the limitation of First Amendment freedoms must be no greater than is necessary or essential to the protection of the particular governmental interest involved."<sup>205</sup> Although there was little explanation why "reasonable likelihood" is more restrictive of speech than is necessary or essential to protect the government interest in a fair trial, the court preferred a test that limits only those comments which pose a "serious and imminent threat" of interference with a [[[fair trial]" as more in keeping with "objectives of clearness, precision, and narrowness."<sup>206</sup> The "serious and imminent threat" test must be combined with "specific rules . . . to avoid vagueness."<sup>207</sup> The court proceeded to evaluate specific no-comment rules to determine whether they posed overbreadth and vagueness problems.<sup>208</sup> \*902 Four years later, in *Hirschkop v. Snead*, <sup>209</sup> the Fourth Circuit reviewed the constitutionality of DR 7-107 as adopted by the Virginia Supreme Court and relied on vagueness and overbreadth to hold certain no-comment provisions of the rule unconstitutional.<sup>210</sup>

Model Rule 3.6 attempts to meet the vagueness and overbreadth problems by "adopt[ing] the general criteria of 'substantial likelihood of materially prejudicing an adjudicative proceeding' to describe impermissible conduct" and by including "an illustrative compilation that gives fair notice of conduct ordinarily posing unacceptable dangers to the fair administration of justice." <sup>211</sup> For the trial and sentencing phases of a prosecution, DR 7-107 applies when the speech is "reasonably likely to interfere with a fair trial" or "to affect the imposition of sentence." <sup>212</sup> Courts have found such a "reasonable likelihood" limitation implicit in other provisions of the rule <sup>213</sup> because otherwise "one may imagine some

situations which ought not to result in the filing of [disciplinary] charges."<sup>214</sup> In reviewing DR 7-107(B), for example, the New Jersey Supreme Court observed that "[a]s a blanket prohibition, these restraints would be unconstitutionally overbroad." It was necessary to construe the no-comment rules as "imposing the reasonable likelihood test."<sup>215</sup> The model no-comment rules have been drafted accordingly and interpreted with overbreadth and vagueness considerations in mind. However, provisions remain in Model Rule 3.6 that are open to vagueness and overbreadth questions, such as the blanket proscription on "any opinion \*903 as to the guilt or innocence of a defendant."<sup>216</sup>

The same overbreadth and vagueness considerations apply to court orders restricting lawyer speech. Indeed, a wellsettled prerequisite for such an order is that it be clearly and narrowly drawn. The *Nebraska Press* Court found that the part of the final gag order prohibiting the publication of "information strongly implicative" of the accused's guilt was both too vague and too broad to survive the scrutiny required of restraints on first amendment rights. <sup>217</sup> The Ninth Circuit more recently held that an order proscribing attorney statements bearing "upon the merits to be resolved by the jury" was overbroad because it encompassed speech that presented no danger to the administration of justice. <sup>218</sup>

The enforcement context of disciplinary and court rules proscribing categories of statements is pertinent to the overbreadth analysis. Prohibiting statements about the accused's prior criminal record or any confessions or admissions, all of which may be highly prejudicial, can be grossly overinclusive because the risk that such publicity will taint a trial outcome is slight. Only a small percentage of criminal cases ever go to jury trial, <sup>219</sup> most jury trials generate no publicity, and much crime news goes unnoticed. <sup>220</sup> In addition, exposure to prejudicial information about a case does not automatically prevent a jury from rendering an impartial verdict, particularly if the prejudicial information is later admitted as evidence **\*904** at trial. <sup>221</sup> For the small portion of remaining cases, less restrictive alternatives such as change of venue, continuance, jury voir dire, admonitions to the jury, and jury sequestration are available to mitigate the adverse impact of prejudicial publicity. These points should be considered in assessing what degree of threatened harm is sufficient to overcome overbreadth concerns about a no-comment rule.

## C. The Speaker, the Audience, and the Institutional Setting

#### 1. Speaker

Should it make any difference to the scope of first amendment protection that a prosecutor rather than the press or someone else disseminates information about a criminal prosecution? For several reasons, the presumptive first amendment shelter against content regulation ordinarily does not vary with the identity of the speaker. First, the first amendment attempts to secure "the widest possible dissemination of information from diverse and antagonistic sources," <sup>222</sup> thereby achieving "a profound national commitment to the principle that debate on public issues should be uninhibited, robust, and wide-open." <sup>223</sup> Second, because the first amendment protects the free flow of ideas and information, its guarantees apply to the speech involved, not just to the source. In *First National Bank of Boston v. Bellotti*, <sup>224</sup> for example, which struck down a state ban on corporate advocacy, the Court decided that protected speech does not lose its constitutional shield simply because its source is a corporation. <sup>225</sup> The Court emphasized that the first amendment interests of the potential audience are independent of the identity of the speaker. <sup>226</sup> Third, one danger of restrictions based on the status of a speaker <sup>227</sup> is that they bear \*905 a disturbing resemblance to viewpoint discrimination, <sup>228</sup> which "is censorship in its purest form" <sup>229</sup> and traditionally has been subjected to the highest level of scrutiny. <sup>230</sup>

The first amendment aversion to speaker-based restrictions<sup>231</sup> is premised on the same free speech values served by prosecutor expression. Nonetheless, the speaker's identity is relevant to the prosecutor's speech rights because such rights

cannot be defined apart from the context in which they are asserted.<sup>232</sup> The prosecutor's role in the criminal justice system and considerations of less restrictive alternatives to blunt prejudicial publicity point to a distinction between the prosecutor and the press or the public.<sup>233</sup>

The prosecutor's role as representative of the state is to discharge the prosecutorial function without violating due process rights of the accused. <sup>234</sup> Although *Sheppard* placed upon the trial judge primary responsibility for securing those rights against prejudicial publicity, the prosecutor and other state officials share that duty with the court because they carry out the government action that threatens the liberty of the accused. Publicity can affect the fair administration of justice regardless of source, but the press is not liable for this constitutional obligation. Thus, when the prosecutor speaks publicly about a pending criminal case, he does so with a due process limitation that does not constrain the press or the public. <sup>235</sup>

A second consideration is that restriction of prosecutor speech to limit prejudicial publicity ordinarily impinges less on first amendment interests \*906 than restraining the press or the public. Courts and committees that have examined this issue have endorsed a focus on the source of potentially prejudicial statements rather than on the publisher of those statements. <sup>236</sup> A rule or order attempting to restrict the press from reporting certain information about a criminal prosecution would constitute a more pervasive restraint on expression than rules limiting only the extrajudicial speech of trial participants. <sup>237</sup> The Supreme Court appeared to embrace this view through the opinions of both Chief Justice Burger and Justice Brennan in *Nebraska Press Association v. Stuart*, <sup>238</sup> which overturned a trial court's publication restraint imposed on the press. <sup>239</sup>

Chief Justice Burger's opinion for the Court stressed the trial court's duty to use measures short of restraints on the press to mitigate prejudicial publicity, and cited limits on what contending lawyers may say as one of the alternatives.<sup>240</sup> In his concurring opinion, Justice Brennan concluded that "there can be no prohibition on the publication by the press of any information pertaining to pending judicial proceedings or the operation of the criminal justice system," <sup>241</sup> but he also declared that "judges may stem much of the flow of prejudicial publicity at its source, before it is obtained by representatives of the press." <sup>242</sup> He said that "attorneys have a fiduciary responsibility not to engage in public debate that will redound to the detriment of the accused or that will obstruct the fair administration of justice" and doubted that courts lack power to control lawyer speech in "appropriate cases." <sup>243</sup>

#### 2. Audience

The same concern about speaker restrictions turning on viewpoint discrimination also applies when the nature or reaction of the audience is the basis for speech regulation.<sup>244</sup> To consider the audience irrelevant in \*907 the prosecutor speech context, however, would be to ignore the tension at the root of the fair trial and free press conundrum. Prosecutors contacting actual or prospective jurors outside the courtroom and speaking about the case is unethical,<sup>245</sup> may constitute jury tampering, and certainly is not protected first amendment speech.<sup>246</sup> Prosecutors speaking through press intermediaries to a public that includes actual or prospective jurors serve a first amendment informing function, but also risk causing the taint that direct contact could produce.<sup>247</sup> To preserve the informing function and avoid that taint, the Supreme Court has urged the use of change of venue, continuance, voir dire, instructions to the jury, and jury sequestration. These techniques are employed to shield the factfinder from prejudicial impact regardless of the speech source.<sup>248</sup>
There is a parallel to the "heckler's veto" problem, which concerns whether authorities may silence a provocative speaker or instead must control a hostile audience when an expressive act seems likely to touch off a violent response. <sup>249</sup> A recurring theme in court decisions is that the speaker cannot be silenced if his identity is the primary factor offered to justify the conclusion that audience violence is imminent. <sup>250</sup> Also, the government may not suppress otherwise protected speech if imminent spectator violence can be prevented or curbed with reasonable crowd control techniques. <sup>251</sup> Finally, if reasonable crowd control is not satisfactory, **\*908** the state can suppress the speech if it is the apparent cause of the impending disorder. <sup>252</sup> The problem with prosecutor speech is not incitement of violence from a hostile audience, but rather the prejudicial publicity influencing the factfinder. The "heckler's veto" authority counsels that the prosecutor should not be silenced without efforts to shield the factfinder from the speech or to remedy the prejudicial impact of any publicity. Further, speech restrictions must be based on a finding that the speech is the likely cause of incurable jury taint.

Does the audience of primary concern point to different first amendment protection for prosecutor speech? A prosecutor's extrajudicial statements may receive more dissemination and attention and may have greater influence over the audience of primary concern--the factfinder--than comments by a mere observer of the case. <sup>253</sup> Standing alone, however, the scope of dissemination and impact of the speech are relevant to assessing potential harm in a given case but not in formulating the first amendment standard. The interactive roles of prosecutor and jury, however, should be relevant. The latter is to decide guilt or innocence based only on evidence presented and admitted in the courtroom. Because prosecutors, not other out-of-court speakers, are responsible for presenting this evidence, there is reason for heightened concern about out-of-court prosecutor speech concerning the case. <sup>254</sup>

When the factfinder in a criminal case is the judge rather than a jury, the fair trial and free press balance shifts. The judge rules on admissibility of evidence and therefore is aware of information that is not to be considered in deciding guilt or innocence, regardless of whether such information is published outside the courtroom. Judges are trained and experienced in courtroom procedure and aware that factfinding must be based on admitted evidence. The disciplinary rules do not distinguish between bench and jury trials, and courts have reacted differently to this distinction. The *Bauer* court rejected a distinction between bench and jury trials on the ground that the no-comment rules could prevent certain prejudicial information from ever coming to the attention of a judge.<sup>255</sup> In*Hirschkop*, by contrast, the court held that "when it becomes **\*909** apparent that the case is to be tried by a judge alone, we see no compelling reason for restricting lawyers' comments in order to assure a fair trial."<sup>256</sup> *Hirschkop* cited lack of evidence that pretrial publicity has interfered with the fairness of bench trials and noted that judges routinely become aware of evidence that is inadmissible or has no direct bearing on guilt or innocence.<sup>257</sup> The court upheld the no-comment rule for the sentencing phase only when a jury has responsibility for sentencing.<sup>258</sup>

The need for general no-comment rules is diminished under these circumstances, but not absent. Judges are not necessarily immune from the influence of publicity, especially when publicity has saturated the community and the judge is subject to the elective process.<sup>259</sup> Moreover, the *Sheppard* publicity management function is complicated by the judge trying to determine whether he needs to protect himself from publicity. Under these circumstances, the no-comment rules have a constitutional basis, but the balance should more strongly favor speech. This could be done by rejecting any presumption that prosecutor speech poses the threatened harm <sup>260</sup> and by a rule requiring a showing that the prosecutor speech did, in fact, prejudice the judicial proceeding. The scope of protection should extend as far as those decisions holding that extrajudicial comment cannot be punished as contempt absent a clear and present danger that it would cause a judge to yield to public pressure. <sup>261</sup>

#### 3. Institutional Setting

Institutional context has been important in court decisions upholding speech limits in the military, <sup>262</sup> prisons, <sup>263</sup> schools, <sup>264</sup> and government employment, <sup>265</sup> but "the Court has not developed a systematic approach \*910 for the application of First Amendment standards to the management of government institutions." <sup>266</sup> The difficulty in identifying unifying principles is rooted in the diverse features of the institutions and different contexts of the speech at issue. Moreover, the danger in seeking rules for each "special context" risks failing to identify and assess the competing interests at stake in particular cases and abandoning established first amendment principles. <sup>267</sup> Although this Article eschews that approach in favor of analysis that accounts for the competing values and the complexity of context, the Court's decisions in some of these cases can be instructive, especially those involving speech regulation in government employment and civil litigation discovery.

Supreme Court decisions have attempted to balance the right of free speech of the public employee and his listeners against the danger that the employee's speech poses to the institutional efficiency of the governmental agency that employs him. The Court has established that the first amendment rights of government employees are not coextensive with those of private individuals.<sup>268</sup> The closest analogy from these cases is when government agencies attempt to regulate employee speech that occurs outside the workplace.

In *Pickering v. Board of Education*, <sup>269</sup> a teacher had been fired for criticizing the school board in a letter to the editor. Because the teacher's speech neither "impeded [his] proper performance of his daily duties in the classroom" nor "interfered with the regular operation of the schools generally," the Court concluded that "the interests of the school administration" in controlling the speech were "not significantly greater than its interest in limiting a similar contribution by any member of the general public." <sup>270</sup>

\*911 Like the teacher, the prosecutor is participating in an institutional process. Like the school board, the trial judge or the lawyer disciplinary authority has an interest in protecting the judicial process from adverse interference, whether the speech threatens the constitutional rights of the accused or the administration of justice generally. Unlike the government employee cases, however, the prosecutor is not a court employee but is part of the executive branch. Although the prosecutor has responsibilities to the court as an advocate for the community and officer of the court, he is accountable as well to his office or the political process that employed him.

When the Justice Department or a district attorney's office regulates or disciplines its attorneys for speech related to employment and about a matter of public concern, the employee's interest in free speech must be balanced with the government employer's interest in managing the workplace.<sup>271</sup> The Court's cases on employer regulation of public employee speech, though fluctuating between deference to the state as an employer<sup>272</sup> and recognition of the public employee's right to speak on public issues,<sup>273</sup> serve as the starting point in the analysis.

Judicial regulation of prosecutor speech, either through discipline for violation of no-comment rules or restraining orders, shares with these cases the management interest in ensuring that the criminal justice process operates fairly and efficiently. Moreover, the prosecutor is an officer of the court and subject to a trial court's jurisdiction during the case. The government interest in effective performance of an institution in which the prosecutor is a participant is analogous to the interest of government employers in the public employee speech cases.

The judge-prosecutor relationship is not one of employer-employee, however, and the prosecutor serves in a different branch of the government than does the judge. He can, through his speech, serve a checking function on the judicial branch and on some executive branch agencies, such as the police. <sup>274</sup> He has an employment loyalty and is subject to the \*912 management authority of his office. At the same time, the prosecutor is a participant in the criminal justice

process and is subject to the direction of a trial court with a responsibility for managing a fair and efficient proceeding. He consequently stands in different shoes for commenting on a pending case than do the press or the public.

This conclusion receives support and further direction from a 1984 Supreme Court decision that analyzed the constitutional rules governing protective orders that prohibit the disclosure of information received in civil discovery. *Seattle Times v. Rhinehart*<sup>275</sup> involved the tension between free speech and management of pretrial discovery. The Court, speaking through Justice Powell, held that although litigants had first amendment interests in the dissemination of information gained through discovery, the State's "substantial interest in preventing... abuse of its processes" justified delegation of "broad discretion on the trial court to decide when a protective order is appropriate and what degree of protection is required." There was to be "no heightened First Amendment scrutiny."<sup>276</sup>

A criminal trial court's *Sheppard* responsibility to foster fair adjudication through a variety of management tools, including restraints on extrajudicial lawyer speech, is similar to a civil trial judge's duty to manage pretrial discovery, which may involve, as it did in *Seattle Times*, protective orders barring disclosure of discovery information. Extrajudicial prosecutor speech may be based on information derived outside any discovery process, and the interests in preventing disclosure of civil discovery are based more on protecting the parties from harassment, embarrassment, or commercial appropriation than on the fairness of the litigation.<sup>277</sup> Nonetheless, the lawyers in both instances are not employed by but are officers of the court,<sup>278</sup> the trial court's action is taken to facilitate the judicial process, and the restraints curb speech outside the courtroom.

Justice Powell announced early in his *Seattle Times* opinion that the constitutionality of the rule authorizing the protective order would turn on the same test quoted in *Bauer* and *Hirschkop* and taken from *Procunier v. Martinez*, <sup>279</sup> a case dealing with the censorship of prisoners' mail:

\*913 whether the "practice in question . . . [furthers] an important or substantial governmental interest unrelated to the suppression of expression," and whether the limitation of First Amendment freedoms [is] no greater than is necessary or essential to the protection of the particular governmental interest involved. <sup>280</sup>

Although the Court focused on the need to prevent discovery abuse as an "interest unrelated to suppression of expression," <sup>281</sup> the interests supporting a protective order there--protection of the privacy interests of the litigants and third parties <sup>282</sup> --were not so unrelated because the threatened harm turned precisely on the fact that the dispute was over the impact of disseminating discovery information. <sup>283</sup> The first element of *Procunier* similarly is not met when the state attempts to regulate prosecutor speech because the governmental interest, while important and substantial, is not unrelated to the suppression of expression. <sup>284</sup> The *Seattle Times* Court further concluded, with little explanation, that substantial trial court discretion is "necessary" to protect the interest in preventing discovery abuse. <sup>285</sup>

Despite these conclusory affirmations of the *Procunier* tests and the Court's deference to speech restraints based on the "good cause" standard of the civil discovery rules, <sup>286</sup> the need for effective management of the judicial process formed the basis for imposing speech limits more readily in this than in other contexts. <sup>287</sup> The Court found support from references in decisions limiting trial participant speech to protect the accused's fair trial rights. <sup>288</sup> Because the information at issue was obtained through the use of the discovery process, the Court did not consider the protective orders the "kind of classic prior restraint that requires exacting First Amendment scrutiny." <sup>289</sup> The prosecutor's sources of information for extrajudicial speech may not derive exclusively from legal **\*914** process, but he does have much of his information about a case because he is a participant in that process.

#### 4. Distinguishing the Prosecutor from the Press

The prosecutor's role as representative of the state and officer of the court and the limits the criminal justice process prescribes for the prosecutor to communicate information to a jury point to a stronger justification for limiting prosecutor speech than speech of the press and the public.<sup>290</sup> In addition, the cases about public employee speech and restraints on dissemination of civil discovery information illustrate a stronger management justification to limit extrajudicial prosecutor speech than speech of those observing and reporting on the criminal justice process.

The Court foreshadowed such a conclusion in *Landmark Communications, Inc. v. Virginia.*<sup>291</sup> In *Landmark,* the Court held that prosecution of a newspaper owner for publishing an article about judicial conduct commission proceedings that were confidential under state law was a violation of the first amendment. The Court was careful to point out that it was not addressing a constitutional challenge to a state's power to punish participants for breach of confidentiality.<sup>292</sup> Moreover, the *Sheppard* Court, which suggested limits on extrajudicial comments by trial participants, was careful to avoid suggesting that a court could take action directed against publication of whatever information the press did obtain or whatever comments the press might choose to publish.

### D. Probability of Harm Standard

The "clear and present danger" doctrine is concerned with distinguishing protected advocacy from unprotected incitement of violent or illegal conduct. Its development through landmark Supreme Court decisions from *Schenck v*. *United States*<sup>293</sup> in 1919 to *Brandenburg v*. *Ohio*<sup>294</sup> in \*915 1969 "lies close to the heart of the American free speech tradition." <sup>295</sup> Although developed in the context of subversive advocacy, the clear and present danger doctrine has served as authority to test government regulation of speech in other circumstances. <sup>296</sup> The Supreme Court has relied on it to determine the constitutionality of contempt citations, in the absence of a prior court order, based on out-of-court statements critical of the administration of justice in ongoing judicial proceedings.

The leading case that defines when an extrajudicial statement becomes a punishable attempt to interfere with the administration of justice is *Bridges v. California.*<sup>297</sup> In *Bridges*, the Court overturned a contempt citation based on union leader Harry Bridges' public release of a telegram he had sent the Secretary of Labor "predicting" a massive strike if a California state court attempted to enforce its decision against Bridges' union in a jurisdictional dispute over representation of West Coast dock workers. A motion for new trial was pending at the time Bridges made his telegram public.<sup>298</sup> In a companion case, *Times-Mirror Co. v. Superior Court*,<sup>299</sup> the Court reversed a contempt conviction where *The Los Angeles Times* had editorially warned a judge, while sentence was pending, against making a "serious mistake" if he granted probation to two convictions of a Teamster's Union "goon squad." <sup>300</sup> Writing for the majority in both cases, Justice Black stated that, before the state could abridge freedom of expression, the danger of prejudice to the disposition of the pending adjudication must be "extremely serious and the degree of imminence extremely high." <sup>301</sup> Applying this test, the Court found that the release of Bridges' telegram and publication of the editorial did not present "a clear and present danger" of interference with the administration of justice. <sup>302</sup>

The Court uniformly has reversed contempt convictions for out-of-court statements. In *Wood v. Georgia*, <sup>303</sup> a sheriff's open letter to the press and grand jury criticizing the jury's investigation into charges of \*916 electoral corruption against his county involving bloc voting by blacks was held to be protected speech. In *Craig v. Harney*, <sup>304</sup> the Court overturned a newspaper's contempt conviction for criticizing an elected county judge's mishandling of a civil case involving a veteran. In *Pennekamp v. Florida*, <sup>305</sup> a conviction was overturned for articles critical of local judges' reliance on "legal

technicalities" to turn criminals loose. Commenting on these cases in his opinion for the Court in *New York Times v. Sullivan*, <sup>306</sup> Justice Brennan wrote that "[s]uch repression [(criminal contempt of criticism of the judge or his decision)] can be justified, if at all, only by a clear and present danger of the obstruction of justice." <sup>307</sup> The right to engage in outof-court publicity concerning a pending criminal proceeding was not absolute, but a restriction could be justified only on a showing of a clear and present danger of actual interference with the fair administration of justice.

Four formulations of threatened harm have been advanced to determine whether extrajudicial lawyer speech can be regulated under nocomment rules. First, the Seventh Circuit in *Bauer* held that serious and imminent threat to the fair administration of justice is needed to accommodate speech interests. <sup>308</sup> Second, *Hirschkop*, relying on general references to fair trial rights and "officer of the court" status of lawyers, held that the "more appropriate standard is that the publication present a reasonable likelihood that it will be prejudicial to the fair administration of justice," <sup>309</sup> and that limitation is appropriate only to account for "extraordinary circumstances [[[when] there is no likelihood of a prejudicial effect." <sup>310</sup> In 1982 the New Jersey Supreme Court ruled on the constitutional scope of DR 7-107(D), which restricts attorney extrajudicial speech in the criminal trial setting. *In re Hinds* <sup>311</sup> arose from a disciplinary proceeding against a lawyer who was cooperating with a defense of a criminal prosecution and who publicly criticized the trial judge's conduct of the trial. Applying the *Procunier* test, the court upheld the constitutionality of the "reasonable likelihood" standard, citing defendant's fair trial right and the state's interest in protecting the integrity of the judicial process, while also stressing the "officer of the court" role of lawyers. <sup>312</sup>

Third, one month before the Seventh Circuit's decision in *Bauer*, a New York appellate court in *Markfield v. Association* of the Bar of the \*917 City of New York<sup>313</sup> reviewed a disciplinary action taken against an attorney who had participated on a radio panel discussion concerning prison rebellions at the same time he was counsel in a criminal trial. The court held that use of DR 7-107(D) should be restricted to those situations in which it is found that the extrajudicial statements presented a clear and present danger to the administration of justice. <sup>314</sup> Finally, MR 3.6 adopts the standard of substantial likelihood of materially prejudicing an adjudicative proceeding. <sup>315</sup>

The "clear and present danger" and "serious and imminent threat" standards have been viewed as "substantively indistinguishable." <sup>316</sup> Both were articulated in *Bridges* and represent the first amendment standard protecting out-of-court speech from contempt sanctions. MR 3.6's "substantial likelihood of material prejudice" is meant to approximate the clear and present danger formulation. <sup>317</sup> Accordingly, the competing standards are reasonable likelihood versus a stronger and more immediate threat.

The Supreme Court has not considered a case in which a lawyer was cited for contempt or disciplined under a nocomment rule for extrajudicial statements about a pending case. <sup>318</sup> The Seventh Circuit in *Chicago Council of Lawyers v. Bauer* <sup>319</sup> found the "reasonable likelihood" test overbroad and incompatible with the "objectives of clearness, precision, and narrowness." <sup>320</sup> Because no-comment rules apply generally to extrajudicial lawyer speech, their enforcement is at least a step removed from the *Sheppard* trial court's fair trial management function. The rules' general applicability calls for a high threat of harm standard to guard against punishment of speech that otherwise should be protected in the circumstances of a particular case. Although some courts <sup>321</sup> and commentators <sup>322</sup> \*918 have argued that the competing formulations may in practice be distinguishable only in terms of semantic emphasis, the narrower and arguably more protective "serious and imminent threat" or "substantial likelihood" test is the more sound constitutional starting point. The latter appears in Model Rule 3.6.

Model Rule 3.6 needs revision or clarification, however. Instead of calling for proof that an extrajudicial statement posed a substantial likelihood of prejudice, it proscribes comment that the "lawyer knows or reasonably should know . . . will

have a substantial likelihood" of prejudice. The rule should address both speaker knowledge and actual threat. <sup>323</sup> The comment to Model Rule 3.6 appears to assume that some showing of threatened harm is required. <sup>324</sup>

## E. Proving Probability of Harm

When difficulties inherent in proof reach an impasse, the law often resorts to the procedural escape of recognizing a presumption. For example, proof of fact A (that a prosecutor spoke publicly about a subject proscribed by a no-comment rule) is sufficient to find fact B (that the statement actually threatened a fair trial), and the party denying the existence of fact B (the prosecutor) must then attempt to prove its nonexistence. <sup>325</sup> In *Bauer*, the court thought it "proper to formulate rules which would declare that comment concerning certain matters will presumptively be deemed a serious and imminent threat to the fair administration of justice," even though such a "presumption is itself a serious limitation of free speech." <sup>326</sup> In *In re Rachmiel*, <sup>327</sup> the New Jersey Supreme Court reviewed disciplinary action taken against a former prosecutor for public comments about whether a fourth prosecution should be instituted against a defendant whose conviction for murder, which Rachmiel prosecuted, had been overturned for the third time. The court regarded the no-comment rules of DR 7-107(B)(6) as creating a rebuttable presumption that statements on the proscribed topics are reasonably likely to interfere with a fair trial, but the state would still bear the ultimate burden of proving by clear and convincing evidence that the speech **\*919** was reasonably likely to affect trial fairness. <sup>328</sup> Unlike *Bauer* and *Rachmiel*, there was no mention in *Hirschkop*, *Markfield*, or other cases about implicit presumptions that speech violating the rules is reasonably likely to interfere with a fair trial. <sup>329</sup>

Allocating burdens of proof in this manner can be dispositive when fact-finding cannot resolve the issue of threat of harm. <sup>330</sup> The creation of a presumption is critical because of the proof problems in ascertaining potential or actual harm. As a result, the presumption may be more significant in assessing the accommodation of competing values than in the verbal formulation of the degree of potential harm required to find a violation--"reasonable likelihood" as opposed to "clear and present danger" or "serious and imminent threat."

If a prosecutor speaks in violation of one of the Rule 3.6 no-comment proscriptions, should a court presume that such speech posed a serious threat to a fair trial? That is precisely how Rule 3.6 is framed, and the reporter for the rules has described the list of specific no-comment rules as "*presumptions*." <sup>331</sup> How could the presumption of prejudicial publicity be rebutted-- before, during, or after trial? The speculative nature of the determination, whether by the speaker or by the courts, that a particular communication will or did prevent a fair trial can render the determination uncertain for the speaker or the court, but the presumption will produce a result. Nonetheless, the "power to create presumptions is not a means of escape from constitutional restrictions." <sup>332</sup>

Reliance on impasse alone to create a presumption is arbitrary. Presumptions are created and designed based on various factors, such as the probability of the presumed fact, one party's superior access to proof, and policy considerations that favor the contention receiving the benefit of the presumption.<sup>333</sup> The probability and policy factors apply to presumptions \*920 about the impact of lawyer speech.<sup>334</sup>

The probability of the fact--prejudicial impact--is difficult to gauge for the very reason that the presumption may be needed in the first place-- difficulty of proof in a particular case. Nonetheless, probability considerations generally counsel against the presumption. In the vast majority of criminal cases, pretrial publicity and extrajudicial statements by trial attorneys have no impact, <sup>335</sup> in large part because most cases do not reach trial. Moreover, even when there is publicity and a trial, there are measures short of restricting speech to prevent or ameliorate prejudicial impact. As the Court observed in *Nebraska Press*, "[i]n the overwhelming majority of criminal trials, pretrial publicity presents few unmanageable threats to this important right." <sup>336</sup>

The policy considerations can be framed as follows: Assigning to the disciplinary authority the burden of showing a threat to fair trial may result in erroneous denial of a valid claim of trial unfairness arising from improper prosecutor speech. Placing on the speaker the burden to show lack of threat, however, may mistakenly sanction speech that should be protected. The Supreme Court generally has refused to accept a presumption that speech causes harm. In *Landmark Communications, Inc. v. Virginia*, <sup>337</sup> it declined to defer to the finding of the Virginia legislature that the divulgence of confidential proceedings of a judicial conduct commission automatically created a clear and present danger to the orderly administration of justice. <sup>338</sup> Even if a prosecutor knows that his comments to the press will have no effect on the prospective factfinder, he \*921 may be deterred from speaking because of "doubt whether [(no threat to fair trial)] can be proved in court or fear of the expense of having to do so." <sup>339</sup> Presuming that speech is protected unless the state proves otherwise limits the tendency to self-censor otherwise protected expression. <sup>340</sup> However, the prosecutor's role is an important consideration in limited circumstances.

The prosecutor has a duty to secure fair trial interests because he is representing the state, and protecting the constitutional guarantees of fair trial and due process are the state's obligation. The prosecutor does not sacrifice first amendment rights and can play an important informing function in furtherance of first amendment values, but his roles as officer of the court and representative of the state in a criminal prosecution point to imposing part of the risk of uncertainty upon the prosecutor when statements are made that violate narrowly framed no-comment rules.

If such out-of-court statements are made, under certain circumstances the prosecutor should bear the burden of production to show that the statements did not pose a serious and imminent threat to fair judicial administration. First, the presumption would apply only to statements made before the trial court has effective jurisdiction to perform its *Sheppard* management functions. After that point, general rules pose larger overbreadth concerns. Second, the presumption would apply only if the prosecution proceeded to jury selection, or if there is evidence that extrajudicial prosecutor speech influenced a plea disposition or selection of the factfinder. <sup>341</sup> Each of those circumstances should supply a source of evidence to fulfill the burden of production. Absent those two conditions, imposing the obligation to prove a negative undercuts the degree of harm showing deemed essential by courts for first amendment protection. The disciplinary complainant would in all instances bear the ultimate burden of persuasion that the speech in fact posed a serious and imminent threat. <sup>342</sup> This allocation is consistent with the general practice of placing the burden of proof on the party charging a violation to establish each element of the claim. <sup>343</sup>

Policy considerations inform not only the allocation of proof but also \*922 the degree of proof required. For example, in *New York Times Co. v. Sullivan*, <sup>344</sup> the Supreme Court held that a public official defamation plaintiff must prove with the "convincing clarity which the constitutional standard demands" <sup>345</sup> that the defendant published false and defamatory statements with actual malice. In *Gertz v. Robert Welch, Inc.*, <sup>346</sup> the Court reaffirmed the view that public officials and public figures must prove actual malice by "clear and convincing" evidence. <sup>347</sup> The "clear and convincing proof" burden reflected a judgment that reducing the risk of invading free expression rights justified departure from the preponderance of evidence norm. <sup>348</sup> Comparable use of this procedural device may be employed in the extrajudicial lawyer speech area. <sup>349</sup> For example, when the case is tried to the bench, requiring that threat to trial fairness be proved by clear and convincing evidence that occurs when a case is tried to a judge rather than a jury. <sup>350</sup>

#### F. Scienter

Model Rule 3.6 contains two scienter elements. First, the no-comment rules apply to statements "that a reasonable person would expect to be disseminated by means of public communication," an objective standard. Second, the rule proscribes statements that the lawyer "knows or reasonably should know . . . will have a substantial likelihood of materially prejudicing an adjudicative proceeding," a standard with objective and subjective alternatives. <sup>351</sup> Rule DR 7-107 contains the first requirement only, and is in this respect constitutionally vulnerable in not expressly requiring a showing that the speaker knew or should have known the speech was threatening to fair judicial process. <sup>352</sup>

Model Rule 3.6 arguably goes further than the first amendment may require in a situation in which the prosecutor intends to influence the \*923 outcome of the trial through extrajudicial publicity. This would violate the prosecutor's duty as representative of the state to safeguard the fairness of the criminal justice process. When proof of intent to prejudice the factfinder through extrajudicial publicity is available, a lesser standard of threatened prejudice, such as reasonable likelihood, should be compatible with free speech values. <sup>353</sup> Requiring proof of threatened harm would respond to the first amendment self-censorship and informing function concerns, but the state's interest in safeguarding fair judicial administration should afford it some leeway in preventing a state representative from employing speech directed to undermining that goal. <sup>354</sup> Self-censorship may arise when a prosecutor wishes to speak, is not attempting to taint the process, but fears a disciplinary process will reach an erroneous finding on intent or potential harm. Nonetheless, in light of the interest in fair adjudication and the prosecutor's duty to secure it, striking the balance of competing values by requiring proof of reasonable likelihood of harm accommodates speech interests in a manner similar to the balance struck in the public person defamation area, which ensures the speaker that only awareness of falsity will expose him to liability. <sup>355</sup>

Chief Justice Rehnquist wrote for the Court in *Hustler Magazine v. Falwell*<sup>356</sup> that "in the world of debate about public affairs, many things done with motives that are less than admirable are protected by the First Amendment." <sup>357</sup> However, when the representative of the state who has a constitutional obligation to respect fair trial rights acts with intent to undermine those rights, and has a reasonable likelihood of succeeding, such a combination should overcome the prosecutor's and public's first \*924 amendment interests. <sup>358</sup>

## G. Timing of the Speech

A natural reaction to extrajudicial prosecutor speech is the following: "Wait and say it after the trial" or "Let someone else make those statements." The Court's answer has been that government may not justify content-based regulations by claiming that other speakers have expressed the information or ideas or that the expression may be voiced in another place, at another time, or in another manner.<sup>359</sup> The "after the trial" suggestion, whether embodied in a rule imposing subsequent punishment for speech or in a judicial prior restraint, would allow the government to destroy the immediacy of the intended speech.<sup>360</sup> Limitations on "utterances made during the pendency of a case . . . produce their restrictive results at the precise time when public interest in the matters discussed would naturally be at its height."<sup>361</sup>

Nonetheless, the point at which the speech occurs has implications for analysis of the competing interests. A court does not have jurisdiction during the initial investigative phase, and the defendant may not have counsel who is aware of the investigation. Under these circumstances, it \*925 is unlikely that the eventual trial court can perform the *Sheppard* management function to ensure a fair proceeding. <sup>362</sup> It is therefore at this stage that the general no-comment rules play their most important role. Once the case has been charged and a trial court has jurisdiction, the trial court can take steps to deal with publicity problems. <sup>363</sup>

Because the Sheppard Court expected the trial judge to take primary responsibility for this task, and because the judge can tailor limits on public comment more narrowly than the no-comment rules, some reasons for reliance on no-comment

rules to preserve fair judicial administration disappear once the trial judge has jurisdiction over the case. The rules are still needed when the trial judge is unwilling or unable to restrain counsel intent on and effective at influencing judicial proceedings with out-of-court statements. Once the court has jurisdiction, however, concern about the breadth of nocomment rules should be higher; accordingly, when the prosecutor makes a statement falling within one of the proscribed areas of comment, there should be no presumption of a threatened prejudicial impact.

Finally, the justification for no-comment rules is weakest during the post-trial or post-disposition sentencing phase when the judge is the sentencer. The sentencing inquiry is ordinarily very broad, both as to the kind of information considered and its source. <sup>364</sup> Both *Bauer* and *Hirschkop* held that restrictions on comment could not be imposed pending sentencing because the sentencing judge is entitled to conduct a broad inquiry and consider almost any factor in exercising his sentencing discretion. <sup>365</sup>

### H. Restraining Orders

Sheppard and Nebraska Press stressed the trial court's responsibility to use various techniques, including curbs on extrajudicial lawyer speech, to \*926 prevent prejudice from publicity. <sup>366</sup> The judge is in the best position to assess and implement what the Sheppard Court called "remedial measures that will prevent the prejudice at its inception." <sup>367</sup> Relying on appellate review is disfavored because "reversals are but palliatives." <sup>368</sup> By implication, discipline of lawyers for violation of no-comment rules is also disfavored.

Balanced against the remedial preference for restraining orders over rules is the first amendment tradition disfavoring prior restraints. The Supreme Court consistently has viewed prior restraints as especially burdensome on free expression, as reflected in its striking a statute authorizing newspaper nuisance prior restraints in *Near v. Minnesota ex rel. Olson*<sup>369</sup> and rejecting judicial restraints in *New York Times Co. v. United States*<sup>370</sup> and *Nebraska Press Association v. Stuart.*<sup>371</sup> Although the doctrine has been used to "invalidate such a variety of restrictions on speech"<sup>372</sup> that some have questioned the conceptual clarity of the term prior restraint, <sup>373</sup> an order restricting extrajudicial lawyer speech manifests the central feature of prior restraints: government suppression of speech prior to publication.

The Supreme Court has declared repeatedly that "[a]ny system of prior restraints . . . comes to this Court bearing a heavy presumption against its constitutional validity." <sup>374</sup> One reason is that prior restraints can effectively destroy the immediacy of the intended speech, <sup>375</sup> in part because ignoring an injunction against speech may forfeit the right to assert a first amendment constitutional defense in a subsequent prosecution for contempt under the collateral bar rule. <sup>376</sup> The rule, applicable to injunctions generally, is that an injunction "must be obeyed until it is set aside, and that persons subject to the [injunction] who disobey it may not defend against the ensuing charge of criminal contempt on the ground that the order was erroneous or even unconstitutional." <sup>377</sup>

\*927 Nebraska Press reviewed a court order prohibiting the reporting of the existence or nature of any confessions, admissions, or other information "strongly implicative" of an accused murderer's guilt. The case involved the brutal slaying of six members of a family in a small Nebraska town; the autopsies contained evidence of necrophilia. Immediate widespread publicity included reports of incriminating statements by the accused. <sup>378</sup>

Chief Justice Burger, joined by four other members of the Court, wrote that "prior restraints on speech and publication are the most serious and the least tolerable infringement on First Amendment rights."<sup>379</sup> To determine whether such an order can be justified, a court must consider (1) the nature and extent of news coverage, (2) alternative measures to mitigate prejudicial publicity, and (3) the effectiveness of a restraining order.<sup>380</sup> Although the Nebraska trial judge

could reasonably have predicted that a large portion of the venire would be exposed to the publicity, he could only speculate that jurors exposed to such information would be unable to render a fair and impartial verdict.<sup>381</sup> The gag order was therefore defective because the state courts had failed to find that measures short of an order restraining all publication--change of venue, postponement of the trial, voir dire of the jury panel for bias, instructions to the jury to consider only the evidence presented in court, and jury sequestration--would not effectively mitigate any adverse impact of publicity.<sup>382</sup> Indeed, because it would be speculative to conclude that any such measure would have failed, the Court must have meant that the alternatives should be tried before any restraint is imposed.<sup>383</sup>

\*928 Restraining prosecutor speech would leave the press free to report on the criminal proceedings. Although courts have recognized that such orders raise free press issues by impeding the ability to gather news and therefore have granted the press standing to challenge them, <sup>384</sup> there is little support for the notion that a press or lawyer challenge to such restraints should be judged as strictly as the prior restraints in *Near* or *Nebraska Press*. <sup>385</sup> Courts recognize a material difference between restraining orders against the press and restraining orders against trial participants. <sup>386</sup> In *Nebraska Press*, both Chief Justice Burger's opinion for the Court and Justice Brennan's concurrence recognized limits on lawyer comment as a preferable alternative to gagging the press. <sup>387</sup>

In view of the trial court's responsibility under *Sheppard* to foster and safeguard a fair trial, the prosecutor's role as an advocate for the community, and the much narrower scope of a restraint on trial participants than one on the press, the cases properly regard a restraint on the prosecutor as less threatening to first amendment values than one on the press. There must be, of course, a finding that extrajudicial prosecutor statements are likely to be made and that such statements may prejudice the proceedings.<sup>388</sup> The test of reasonable likelihood of serious threat should be compatible with the prosecutor's and the court's roles.<sup>389</sup> In accord **\*929** with *Nebraska Press* and the first amendment sensitivity to prior restraints, the trial court must examine the following three factors: the nature and extent of publicity, alternative measures to mitigate the prejudicial effects of publicity, and the effectiveness of a restraining order in preventing the threatened danger.<sup>390</sup> The *Nebraska Press* directive that alternatives to restraint be exhausted would, as applied here, create a hierarchy. If restraint on the press is the last resort (assuming that it continues to be an alternative at all), restraints on the trial participants should be a second-to-last resort.<sup>391</sup> Such consideration of less restrictive alternatives has been the required course in lawyer speech restraint cases since *Nebraska Press*.<sup>392</sup> One possible exception to lawyer restraint as a second-to-last resort may be jury sequestration,<sup>393</sup> with its attendant inconvenience, expense, and potential for skewing the jury, especially if there is evidence that the prosecutor's out-of-court statements are being made with the intent to bias the proceeding.<sup>394</sup>

## I. Judicial Review

In many jurisdictions, enforcement of the no-comment rules originates in bar administrative proceedings and is subject to judicial review. Because the factual questions concerning degree of harm and knowledge or intent of the speaker can be exceptionally difficult to resolve and because free speech is at stake, it is important that application of the no-comment rules shows "the necessary sensitivity to freedom of expression." <sup>395</sup> One lesson of the obscenity cases is that a judicial body, following an adversary **\*930** hearing, must decide the protected character of speech. <sup>396</sup> This principle rests on differences between courts and administrative agencies in their capacity to protect constitutional rights. <sup>397</sup> A related principle of review in cases involving first amendment interests is that appellate courts should independently examine the record to ensure that government action "does not constitute a forbidden intrusion on the field of free expression." <sup>398</sup> Courts reviewing administrative findings of no-comment rule violations accordingly should conduct independent reviews

of the record, <sup>399</sup> as should courts reviewing a trial court's determination of the need for restraining extrajudicial lawyer comment.

### CONCLUSION

This discussion leads to several general conclusions: (1) prosecutor speech is entitled to first amendment protection because the prosecutor retains a constitutional right to self-expression and because the speech informs the public about matters of public concern; (2) such speech may not be subject to regulation unless it threatens to undermine the accused's fair trial rights or the fair and efficient administration of justice; and (3) the first amendment precludes sanctions or restraints on the press or public that may be imposed on the prosecutor because the prosecutor performs a unique role in the criminal justice system.

Accommodation of the competing values in the complex and changing context of prosecutor speech calls for adjustments in the manner and scope of regulation that is applicable to prosecutors. This is necessary to avoid unnecessary compromise of either free speech or fair trial values. This Article has suggested how these adjustments could be structured within the prevailing system of disciplinary or court rules and restraining orders. The complex and changing context also suggests that fair trial \*931 and administration of justice concerns are not the exclusive interests that may justify limits. For example, if they are narrowly drafted and if a sufficient showing of threat and the absence of alternative protective measures can be made, a rule or restraining order may properly be enforced to protect personal security interests of witnesses and victims.

Rules and restraints must be assessed on overbreadth and vagueness grounds. The disciplinary and court rules have evolved in response to both concerns, combining specific categories of potentially threatening statements with a requirement of a specific degree of threatened harm. Courts properly have found the need for the latter to avoid overbreadth and have ruled the former vague and overbroad in particular cases. Indeed, provisions remain in Model Rule 3.6 that are open to vagueness and overbreadth questions.<sup>400</sup> The specific categories should serve both the notice-giving and least restrictive limit functions. Overbreadth concerns can vary depending on the timing of the speech and the identity of the factfinder. Accordingly, the suggestions summarized below are based in part on sensitivity to overbreadth.

Disciplinary or court rules controlling prosecutor speech should address the degree of harm, burden of proof, knowledge and intent of the speaker, timing of the speech, and identity of the factfinder. It is virtually impossible to discuss one of these factors without reference to another, and the following summary reflects this overlap.

Degree of harm: In general, prosecutor speech should not be subject to regulation unless it poses a serious and imminent threat of prejudice to a judicial proceeding. Factors relating to intent of the speaker, type of factfinder, and timing of the speech would allow for adjustment of the degree of harm showing to account for a shifting balance in the speech and fair trial interests.

*Knowledge or intent:* Prosecutor speech should not be subject to discipline unless the prosecutor knows or reasonably should know that his extrajudicial comments will be reported publicly and will pose a substantial threat of prejudice to the judicial process. In light of the prosecutor's obligation to secure due process, if there is proof that the prosecutor knew or intended that the speech would prejudice the judicial proceeding, the reasonable likelihood standard should apply.

Burden of proof: If the prosecutor reveals information proscribed by a narrowly drawn no-comment rule before a court has jurisdiction to address publicity problems, and if the case proceeds to jury selection or his public comment influences a plea disposition or choice of factfinder, he will need to produce evidence to rebut a presumption that the speech posed the requisite degree of harm to justify discipline. The burden of persuasion on whether the statement was made and on

the degree of harm would rest in all instances on the complainant. To avoid self-censorship, \*932 the burden of proving a no-comment rule violation should be clear and convincing evidence.

*Identity of factfinder:* The balance of interests shifts when it is known there will be no jury. Violation of a no-comment rule would not create a presumption about the threat of potential harm unless there is evidence that a jury was waived as a result of prosecutor publicity. Absent such evidence, clear and convincing proof should be required to establish a violation, as should a showing of actual prejudice. Because a sentencing judge can receive and take into consideration a wide range of information, the justification for no-comment rules is weakest during the sentencing phase and only a clear and convincing showing of actual prejudice would justify discipline.

*Timing of speech:* To blunt the impact of prejudicial publicity without using speech restraints, all burdens of production and proof to justify discipline should shift toward the disciplinary authority if the speech occurred when the court has jurisdiction. The period between guilt determination and sentencing should be governed by the standards applicable to the trial and should vary depending on whether the judge or jury is responsible for sentencing.

*Restraining orders:* Restraining extrajudicial speech in a particular case, although a disfavored remedy, can and should be more narrowly restrictive than general disciplinary rules and can also better safeguard the fair trial interests. Lawyer discipline under the no-comment rules, like reversals, are palliatives in terms of reaching a practical and effective accommodation of interests. Unlike free speech issues that focus on redressing consummated harm, such as defamation, the challenge here is to prevent harm from occurring. The fair trial cases accordingly tend "to concentrate on highly i dividualized factual" considerations. <sup>401</sup> Whether reasonable or serious and imminent likelihood of prejudice is the standard for such a restraint, the critical protection for prosecutor free speech interests is the court's obligation to consider alternatives to speech restraints and whether restraints would be effective under the circumstances. Factual findings on these issues must be made to support any limits.

The foregoing analysis of prosecutor speech points to emphasis and refinement in accommodating free speech interests of the prosecutor and the public, fair trial for the accused, and fair and efficient judicial administration. The emphasis should be on the responsibility of the trial judge to address problems with prosecutor speech in the least restrictive and most effective manner. The refinement should occur in the framing and application of restraining orders and rules with sensitivity to overbreadth and vagueness and the other factors mentioned above. The approach presented here implies that defense counsel should have broad, though not unlimited, first amendment protection for their extrajudicial \*933 speech. <sup>402</sup> It also leaves ample constitutional latitude for prosecutor speech, more latitude than many, including myself, think is wise or prudent.

The substantial first amendment protection for prosecutor speech suggests the importance of inculcating fair trial values in legal education and journalism training, of dispensing professional disapproval short of formal discipline in appropriate circumstances, and perhaps the even greater importance of developing and enforcing policies within prosecutors' offices regarding public comment on pending cases. The last measure is subject to first amendment scrutiny <sup>403</sup> and may not always be effective, especially as applied to the top elected or appointed prosecutor. But addressing the issue as an office policy matter, as many have attempted to do, <sup>404</sup> may be the most practical way of dealing with the prosecutor speech phenomenon. Accordingly, the law and journalism classrooms, the newsrooms, the bar associations' continuing legal education programs, and the prosecutors' offices are places where the constitutional and prudential concerns are more often likely to be reconciled than in the trial courts and in attorney disciplinary proceedings. By developing in these settings a deeper understanding of the competing interests and the context of the speech, the first amendment values served by prosecutor speech can be fostered, and the impact of the speech on competing values tempered.

Footnotes

- al Visiting Associate Professor in the Frank Stanton Chair on thE First Amendment, Joan Shorenstein Barone Center on the Press, Politics and Public Policy, John F. Kennedy School of Government, Harvard University (1989-90); Associate Professor of Law, College of Law, University of Utah.
- 1 Patterson v. Colorado, 205 U.S. 454, 462 (1907) (Holmes, J.).
- 2 Transcript of Bush News Conference on Noriega and Panama, N.Y. Times, Jan. 6, 1990, at 10, col. 1.
- See A. Friendly & R. Goldfarb, Crime and Publicity 55-72 (1967); R. Graber, Crime News and the Public 40, table 2.9 (1980) (finding Chicago Tribune reported only .65 of 1 percent of crimes in Chicago); Antunes & Hurley, The Representation of Criminal Events in Houston's Two Daily Newspapers, 54 Journ. Q. 756 (1977) (Houston dailies published stories on no more than .75 of 1 percent of crimes reported to police); Cohen, A Comparison of Crime Coverage in the Detroit and Atlanta Newspapers, 52 Journ. Q. 726 (1975) (Detroit newspapers covered 1.9 percent and Atlanta papers 3.19 percent of reported crimes); Frasca, Estimating the Occurrence of Trials Prejudiced by Press Coverage, 72 Judicature 162, 165 (Oct.-Nov. 1988) (estimating 7 percent of all felony cases resulting in arrest are reported by metropolitan newspapers). Judge J. Skelley Wright once estimated that less than one percent of all criminal cases receive publicity. See Wright, Fair Trial--Free Press, 38 F.R.D. 435, 436 (1966).
- 4 See Association of the Bar of the City of New York, Report of the Ad Hoc Committee on Pretrial Publicity 3 (1987) [hereinafter Ad Hoc Report on Publicity].
- 5 Sheppard v. Maxwell, 384 U.S. 333, 363 (1966). The Court recently denied certiorari in a Tennessee case which concerned the discipline of a prosecutor for public statements about two of his cases. See Zimmerman v. Board of Professional Responsibility, 764 S.W.2d 757 (Tenn.), cert. denied, 109 S. Ct. 3160 (1989).

Justice Rehnquist, acting as Circuit Justice, expressed some views on this issue in KPNX Broadcasting Co. v. Arizona Superior Court, 459 U.S. 1302 (1982). Press applicants requested a stay of an Arizona trial court's order restricting criminal trial participants, including counsel, from speaking with the press. The judge appointed a court employee as a press liaison. Denying the application, Justice Rehnquist wrote that the language in *Sheppard, see supra* text accompanying note 3, "goes far towards sustaining the action of the trial court." *KPNX Broadcasting*, 459 U.S. at 1306. "The mere potential for confusion if unregulated communication between trial participants and the press at a heavily covered trial were permitted is enough to warrant a measure such as the trial judge took in this case." *Id.* at 1307.

- 6 "[C]ourts of justice are universally acknowledged to be vested . . . with power to impose silence, respect and decorum in their presence, . . . and as a corollary to this proposition, to preserve themselves and their officers from the approach and insults of pollution." Anderson v. Dunn, 19 U.S. (6 Wheat.) 204, 227 (1821). In Bridges v. California, 314 U.S. 252 (1941), the Court imposed strict limitations on a trial judge's capacity to punish by contempt the out-of-court speech of nonparties but strongly reaffirmed the constitutional power of trial judges "to protect themselves from disturbances and disorder in the court room by use of contempt proceedings." Id. at 266.
- 7 See United States v. Smith, 778 F.2d 925, 929 (2d Cir. 1985); Wilson v. State, 371 So. 2d 126, 127 (Fla. 1978); Hoerner v. State, 246 Ga. 374, 375, 271 S.E.2d 458, 460 (1980); Model Code of Professional Responsibility EC 7-24 (1981).
- 8 Indeed, "[a] prosecutor may not directly refer to or even allude to evidence that was not adduced at trial." United States v. Murrah, 888 F.2d 24, 26 (5th Cir. 1989).
- 9 In Smith v. United States, 431 U.S. 291 (1977), Justice Stevens stated broadly that "offensive language in a courtroom . . . may surely be regulated." Id. at 318 (Stevens, J., dissenting).
- 10 The ethical rules flatly prohibit such contact. Disciplinary Rule ("DR") 7-108(A) provides that "[b]efore the trial of a case a lawyer . . . shall not communicate with . . . anyone he knows to be a member of the venire." Model Code of Professional Responsibility DR 7-108(A) (1981). DR 7-108(B) provides that during the trial of a case a lawyer connected with the case "shall not communicate with . . . any member of the jury." Model Code of Professional Responsibility DR 7-108(B) (1981). DR 7-108(B) rovides that during the trial of a case a lawyer connected with the case "shall not communicate with . . . any member of the jury." Model Code of Professional Responsibility DR 7-108(B) (1981). Model Rule ("MR") 3.5 provides that a lawyer shall not "seek to influence a judge, juror, prospective juror or other official

by means prohibited by law" or "communicate ex parte with such a person except as permitted by law." Model Rules of Professional Conduct Rule 3.5 (1987).

- 11 The answer does not emerge from designation of courtrooms and lawyer-juror out-of-court communications as non-public forums, See Perry Educ. Ass'n v. Perry Local Educators' Ass'n, 460 U.S. 37, 46 (1983), because the speech regulation at issue is not content-neutral and categorical forum designation would otherwise cloud first amendment analysis. See L. Tribe, American Constitutional Law § 12-24, at 986-97 (2d ed. 1988); infra text accompanying notes 262-289.
- 12 See Sack, Principle and Nebraska Press Association v. Stuart, 29 Stan. L. Rev. 411, 429-30 (1977) (distinguishing restraints on the press from restraints on lawyers and parties).
- 13 See, e.g., Swift, Model Rule 3.6: An Unconstitutional Regulation of Defense Attorney Trial Publicity, 64 B.U.L. Rev. 1003, 1033-41 (1984); Note, First Amendment Protection of Criminal Defense Attorneys' Extrajudicial Statements in the Decade Since Nebraska Press Association v. Stuart, 8 Whittier L. Rev. 1021 (1987).
- 14 See, e.g., Freedman & Starwood, Prior Restraints on Freedom of Expression by Defendants and Defense Attorneys: Ratio Decidendi v. Obiter Dictum, 29 Stan. L. Rev. 607, 613-19 (1977); Comment, Silence Orders-- Preserving Political Expression by Defendants and Their Lawyers, 6 Harv. C.R.-C.L. L. Rev. 595, 604, 606-08 (1970).
- See, e.g., Chicago Council of Lawyers v. Bauer, 522 F.2d 242, 253 (7th Cir. 1975) (prosecutors "are a prime source of damaging statements"), cert. denied, 427 U.S. 912 (1976); In re Rachmiel, 90 N.J. 646, 658, 449 A.2d 505, 512 (1982) (prosecutor's statements "particularly telling").
- 16 See C. Wolfram, Modern Legal Ethics 635 (1986). Several cases have reviewed extrajudicial prosecutor speech in light of attorney no comment rules. See, e.g., United States v. Troutman, 814 F.2d 1428, 1444-45 (10th Cir. 1987); Owens v. State, 613 P.2d 259, 262 (Alaska 1980); State v. Bracy, 145 Ariz. 520, 526, 703 P.2d 464, 470 (1985), cert. denied, 474 U.S. 1110 (1986); Hughes v. State, 437 A.2d 559, 575-76 (Del. Super. Ct. 1981); Bludworth v. Palm Beach Newspapers, Inc., 476 So. 2d 775, 780 (Fla. Dist. Ct. App. 1985); Williams v. State, 258 Ga. 305, 313-14, 369 S.E.2d 232, 238 (1988), cert. denied, 109 S. Ct. 225 (1988); Elder v. Commonwealth, 385 Mass. 128, 129-30, 431 N.E.2d 571, 573 (1982); State ex rel. Coburn v. Bennett, 202 Mont. 20, 655 P.2d 502, 509 (1982); State v. Rife, 215 Neb. 132, 139, 337 N.W.2d 724, 729 (1983), cert. denied, 464 U.S. 1070 (1984); State v. Beigenwald, 106 N.J. 13, 37, 524 A.2d 130, 144 (1987); In re Rachmiel, 90 N.J. 646, 652-62, 449 A.2d 505, 509-14; In re Grand Jury Investigation, 23 Ohio App. 3d 159, 161, 492 N.E.2d 459, 460 (1985); Harvell v. State, 742 P.2d 1138, 1140 (Okla, Crim. App. 1987); In re Lasswell, 296 Or. 121, 123-30, 673 P.2d 855, 856-60 (1983); In re Burrows, 290 Or. 131, 134-36, 618 P.2d 1283, 1284-85 (1980); Commonwealth v. Anderson, 294 Pa. Super. 1, 11-12, 439 A.2d 720, 725 (1981); Commonwealth v. Scarpino, 494 Pa. 421, 429-33, 431 A.2d 926, 930-32 (1981); Zimmermann v. Board of Professional Responsibility, 764 S.W.2d 757, 758-63 (Tenn.), cert. denied, 109 S. Ct. 3160 (1989); In re Hansen, 584 P.2d 805, 806-07 (Utah 1978); State v. Hohman, 138 Vt. 502, 505-08, 420 A.2d 852, 855-56 (1980); State v. Wixon, 30 Wash. App. 63, 69-71, 631 P.2d 1033, 1038-39 (1981); State v. Moss, 376 S.E.2d 569, 573-74 (W. Va. 1988).
- 17 Houchins v. KQED, 438 U.S. 1, 13 (1978) (plurality).
- 18 See Ad Hoc Report on Publicity, supra note 4, at 1.
- 19 See, e.g., Shapero v. Kentucky Bar Ass'n, 486 U.S. 466 (1988) (ban on lawyer direct mail solicitation involving truthful and nondeceptive letters to potential clients known to face legal problems unconstitutional as violation of first and fourteenth amendments), cert. denied, 109 S. Ct. 3160 (1989); Bates v. State Bar of Arizona, 433 U.S. 350 (1977) (total ban on advertising of prices by private attorneys violates first and fourteenth amendments).
- 20 See In re Hinds, 90 N.J. 604, 614, 449 A.2d 483, 489 (1982) ("Like other citizens, attorneys are entitled to the full protection of the First Amendment, even as participants in the administration of justice.").
- 21 See Richmond Newspapers, Inc. v. Virginia, 448 U.S. 555, 575-76 (1980). Courts have recognized that gag orders restraining extrajudicial lawyer speech raise free press issues by impeding the newsgathering ability and thereby grant the press standing to challenge them. See, e.g., In re Dow Jones & Co., 842 F.2d 603, 606-08 (2d Cir.) (gag order restraining communications with trial participants), cert. denied, 109 S. Ct. 377 (1988); Radio & Television News Ass'n v. United States Dist. Ct., 781 F.2d

1443, 1445 (9th Cir. 1986) (court order denying media access to trial counsel); National Broadcasting Co. v. Cooperman, 116 A.D.2d 287, 289, 501 N.Y.S.2d 405, 406 (1986) (gag order on all trial counsel gives standing to press).

- "[T]he Court believes that of the three separate groups subject to the restraints [on extrajudicial speech] (Government, defendants, defense counsel), the Government is most susceptible to supervision by the Court." United States v. Simon, 664 F. Supp. 780, 785 n.9 (S.D.N.Y. 1987), affd sub nom. In re Dow Jones & Co., 842 F.2d 603 (2d Cir.), cert. denied, 109 S. Ct. 377 (1988); See Levine v. United States Dist. Ct., 764 F.2d 590, 602 (9th Cir. 1985) (Sneed, J., concurring), cert. denied, 476 U.S. 1158 (1986).
- 23 Elrod v. Burns, 427 U.S. 347, 360 (1976).
- 24 Schwab, Interview with Edward Bennett Williams, Litigation 28, 30-31 (Winter 1986).
- Government attorney offices have promulgated rules and guidelines governing prosecutor interaction with the press. The most notable are the rules imposed by the Department of Justice. See 28 C.F.R. § 50.2 (1989). Since 1965 Justice Department regulations, known as the Katzenbach restrictions, have banned the release of certain information relating to pending proceedings. These regulations are supplemented in 2 The Department of Justice Manual 1-7.001 (1987), which sets forth several policies, including that "news conferences should not be held to announce investigations, indictments, or arrests." *Id.* at 1-285. Like DR 7-107 and MR 3.6, the Katzenbach restrictions adopt both a specific list of prohibitions and a test of degree of harm. This list includes observations about a defendant's character; statements attributable to a defendant; statements concerning the identity, testimony, or credibility of prospective witnesses; opinions about the guilt of the accused; and statements concerning evidence or arguments in a case, including whether it will be used at trial. *See* 28 C.F.R. § 50.2(b) (6) (1989).

Furthermore, local prosecution offices typically adopt policies governing contact with the press. See, e.g., Policy #55, Salt Lake County Attorney Policy and Procedures, Public Statements and Media Releases (1983).

- 26 See, e.g., Loose Lips, Nat'l L.J., Feb. 5, 1990, at 2, col. 1 (reporting U.S. Attorney displeased with assistant for discussing case in interview on CBS News).
- 27 Extrajudicial prosecutor speech has been the target of civil claims against the prosecutor brought by former criminal defendants. The claims are for defamation or for violation of civil rights based on deprivation of a fair trial. Prosecutors generally have immunity from such claims for what they say in court. See Imbler v. Pachtman, 424 U.S. 409, 424-31 (1976) (prosecutor absolutely immune in Section 1983 actions brought for initiating prosecution); cf. Barr v. Matteo, 360 U.S. 564 (1959) (absolute immunity for press release of Office of Housing Expediter). See generally Restatement (Second) of Torts § 586 (1977) (attorney in judicial proceeding absolutely privileged to publish defamatory matter); R. Sack, Libel, Slander, and Related Problems 268-71 (1980). However, courts have determined that prosecutors are not entitled to absolute immunity against claims brought under 42 U.S.C. § 1983 based on extrajudicial statements. See, e.g., Marx v. Gumbinner, 855 F.2d 783, 791 (11th Cir. 1988) (prosecutor could be liable for fourteenth amendment due process violation by issuing a defamatory press release); Powers v. Coe, 728 F.2d 97, 103 (2d Cir. 1984) (holding "that only qualified good faith immunity is available where a prosecutor distributes extraneous statements to the press designed to gain unfair advantage at trial"); Stepanian v. Addis, 699 F.2d 1046, 1048 (11th Cir. 1983) (prosecutor not absolutely immune if statement not part of his discretionary duties). See generally Boyer, Civil Liability for Prejudicial Pre-Trial Statements by Prosecutors, 15 Am. Crim. L. Rev. 231 (1978) (prosecutor's prejudicial and improper statement affecting defendant's right to fair trial should not be absolutely immune). Recent examples include a 1987 federal suit brought by former U.S. Labor Secretary Raymond Donovan's construction company as well as its affiliates and officials against Bronx prosecutor Mario Merola and his assistant for \$500,000 plus punitive damages for statements made to the press after Donovan and seven other defendants were indicted for criminal fraud. Also in 1987, the "Twilight Zone" movie's helicopter pilot filed a claim for \$300,000 in damages for remarks made by Los Angeles deputy district attorney Lea Purwin D'Agostino when she was visiting the site of a crash that resulted in manslaughter charges against the pilot and others. See Prosecutors Face Civil Suits, 73 A.B.A. J. 28 (Sept. 1987).
- 28 See, e.g., Fed. R. Crim. P. 6(e)(2).
- 29 See, e.g., State v. Hohman, 138 Vt. 502, 505-06, 420 A.2d 852, 855 (1980) (positing that extrajudicial statements of prosecutor could warrant disqualification because bias of prosecutor threatens defendant's right to fair trial).

- 30 Grand jury secrecy is based on governmental interests specific to the grand jury context. See Butterworth v. Smith, 110 S. Ct. 1376, 1380 (1990); Douglas Oil Co. v. Petrol Stops Northwest, 441 U.S. 211, 218-19 (1979). This Article's analysis suggests that relatively stronger controls on extrajudicial prosecutor speech would be permissible concerning grand jury proceedings than regarding other points in the criminal prosecution process, but because of the special characteristics of the grand jury, the discussion does not include extrajudicial comment on grand jury proceedings.
- 31 See C. Wolfram, Modern Legal Ethics § 12.2, at 635 (1986).
- 32 Canon 20 reads:

Newspaper publications by a lawyer as to pending or anticipated litigation may interfere with a fair trial in the Courts and otherwise prejudice the due administration of justice. Generally they are to be condemned. If the extreme circumstances of a particular case justify a statement to the public, it is unprofessional to make it anonymously. An *ex parte* reference to the facts should not go beyond quotation from the records and papers on file in the Court; but even in extreme cases it is better to avoid any *ex parte* statement.

ABA Canons of Professional Ethics Canon 20 (1908), reprinted in Warvelle, Essays in Legal Ethics 223 app. C (2d ed. 1920).

- 33 See Hirschkop v. Snead, 594 F.2d 356, 365 (4th Cir. 1979); Reardon, The Fair Trial-Free Press Standards, 54 A.B.A. J. 343, 344 (Apr. 1968).
- 34 See Association of the Bar of the City of New York, Special Committee on Radio, Television, and the Administration of Justice, Freedom of the Press and Fair Trial: Final Report with Recommendations 17 (1967) [[[hereinafter Medina Report]. But see State v. Van Duyne, 43 N.J. 369, 389, 204 A.2d 841, 852 (1964) (interpreting Canon 20 to prohibit extrajudicial lawyer statements), cert. denied, 380 U.S. 987 (1965).
- 35 384 U.S. 333 (1966).
- 36 The President's Commission on the Assassination of President John F. Kennedy: Report of the President's Commission on the Assassination of President John F. Kennedy 239 (1964) [hereinafter Warren Commission Report]. The Warren Commission Report suggested that publicity might have prevented Lee Harvey Oswald from receiving a fair trial in any venue. See id.
- 37 See American Bar Association Project on Minimum Standards for Criminal Justice Relating to Fair Trial and Free Press Approved Draft (1968) [[[hereinafter Reardon Report]. The Reardon Report was one of several contemporaneous studies on fair trial and free press. See American Newspaper Publishers Association, Free Press and Fair Trial (1967) [hereinafter ANPA Report]; Medina Report, supra note 34; Judicial Conference of the United States Committee on the Operation of the Jury System, Report of the Committee on the Operation of the Jury System on the "Free Press-Fair Trial" Issue, 45 F.R.D. 391 (1968) [hereinafter Kaufman Report].
- 38 See Sheppard, 384 U.S. at 363.
- 39 See ABA Special Committee on Evaluation of Ethical Standards, Code of Professional Responsibility (Final Draft July 1, 1969).
- 40 See Comment, Legal Aspects of the Fair Trial-Free Press Controversy: The Reardon Report Considered, 48 Neb. L. Rev. 1045, 1047 (1969).
- 41 See Model Code of Professional Responsibility DR 7-107 (1981) reprinted in Appendix I of this Article. The Vermont Supreme Court held recently that DR 7-107(A), which applies to "[a] lawyer participating in or associated with the investigation of a criminal matter," does not apply to defense lawyers who make out-of-court statements on behalf of clients who may become criminal defendants. See In re Axelrod, 150 Vt. 136, 549 A.2d 653, 654-55 (1988). But see Disciplinary Proceedings Against Eisenberg, 144 Wis. 2d 284, 311-12, 423 N.W.2d 867, 878 (1988) (holding identical language applicable to defense counsel).
- 42 See Model Code of Professional Responsibility DR 7-107(B) (1981), reprinted in Appendix I of this Article.
- 43 See Model Code of Professional Responsibility DR 7-107(C) (1981), reprinted in Appendix I of this Article; see also National District Attorneys Association National Prosecution Standards, Standard 26.2 (1977) (listing of permitted and proscribed statements similar to those in DR 7-107(C)).

- 44 Model Code of Professional Responsibility DR 7-107(D) (1981), reprinted in Appendix I of this Article.
- 45 Model Code of Professional Responsibility DR 7-107(E) (1981), reprinted in Appendix I of this Article.
- 46 Disciplinary authorities also have relied on other rules to discipline attorneys for public statements. For example, in Ramsey v. Board of Professional Responsibility, 771 S.W.2d 116 (Tenn.), cert. denied, 110 S. Ct. 278 (1989), the Supreme Court of Tennessee overturned a lower court's decision that the appellant could be disciplined for comments critical of a judge. Such application of DR 8-102--"[a] lawyer shall not knowingly make false accusations against a judge"--would violate the first amendment in this case. See id. at 120-22 & n.5 (quoting Model Code of Professional Responsibility DR 8-102 (1981)).

## 47 427 U.S. 539 (1976).

- 48 See ABA Standards for Criminal Justice, Standard 8-1.1(a) commentary, at 8-7 (2d ed. 1980) [hereinafter Goodwin Report]. The decision in Chicago Council of Lawyers v. Bauer, 522 F.2d 242 (7th Cir. 1975), cert. denied, 427 U.S. 912 (1976), which held that a local federal court rule patterned on DR 7-107 violated first amendment overbreadth limits, also spurred re-evaluation of the Reardon Report proposals.
- 49 See Goodwin Report, supra note 48, at 8-10.
- 50 Model Rules of Professional Conduct Rule 3.6 comment (2) (1987). The rule has been described as "a companion Rule to Rule 3.4(a), which prohibits tampering with evidence, and Rule 3.5, which protects against improper influence of judges and jurors." G. Hazard & W. Hodes, The Law of Lawyering: A Handbook on the Model Rules of Professional Conduct 393 (1985).
- 51 MR 3.6 does not expressly limit the no comment proscription to lawyers involved in the case--the rule simply states: "A lawyer shall not...." Model Rules of Professional Conduct Rule 3.6(a) (1987), reprinted in Appendix II. The DR 7-107 proscriptions are limited to "a lawyer participating in or associated with" or "a lawyer or law firm associated with" the handling of a criminal case. Model Code of Professional Responsibility DR 7-107(A),(B) (1981), reprinted in Appendix I. Unless read with an implicit limitation to lawyers commenting on their own cases, MR 3.6 plainly is overbroad. Reference in the comment to MR 3.6 to the ABA Standards Relating to F ir Trial and Free Press does not provide the basis for a narrow interpretation in that Standard 8-1.1 contains the same broad language. Professor Wolfram suggests this results from either a drafting oversight or an assumption that only a lawyer involved in a case would be able to meet the requirement that a lawyer know that the statement will have a substantial likelihood of material prejudice to the proceeding. See C. Wolfram, Modern Legal Ethics 634 n.2 (1986).
- 52 See Model Rules of Professional Conduct Rule 3.6 (1987), reprinted in Appendix II.
- 53 Compare Model Code of Professional Responsibility DR 7-107(B) (1981) (adopting reasonable likelihood standard) with Model Rules of Professional Conduct Rule 3.6(a) (1987) (statement not prohibited unless attorney knows or should know of "substantial likelihood" of prejudice). But see Note, A Constitutional Assessment of Court Rules Restricting Lawyer Comment on Pending Litigation, 65 Cornell L. Rev. 1106, 1118-20 (1980) (no significant difference between "serious and imminent threat" and "reasonable likelihood" tests).
- 54 Model Rules of Professional Conduct 3.6 (1987), reprinted in Appendix II.
- <sup>55</sup> Model Rules of Professional Conduct 3.6 model code comparison (1987). Model Rule 3.6 also omits the language of DR 7-107(C)(7), which provides that a lawyer may reveal "[a]t the time of seizure, a description of the physical evidence seized, other than a confession, admission, or statement." Model Code of Professional Responsibility DR 7-107(C)(7) (1981), *reprinted in* Appendix I. As the comment points out, "[s]uch revelations may be substantially prejudicial and are frequently the subject of pretrial suppression motions, which, if successful, may be circumvented by prior disclosure to the press." Model Rules of Professional Conduct Rule 3.6 model code comparison (1987). MR 3.6(b) added to the no comment list references to inadmissible information that would substantially risk causing prejudice if disclosed as well as statements that defendant has been charged without reference to the presumption of innocence. *See* Model Rules of Professional Conduct 3.6 (1987), *reprinted in* Appendix II.
- 56 See Model Rules of Professional Conduct 3.8(e) (1987)

- 57 This action was taken in response to the 1969 report of a committee headed by Judge Irving Kaufman. See Kaufman Report, supra note 37, at 392.
- 58 See Revised Report of the Judicial Conference Committee on the Operation of the Jury System on the "Free Press--Fair Trial" Issue, 87 F.R.D. 519, 525-28 (1980) [hereinafter Seitz Report].
- 59 See id. at 525.
- 60 Courts in the Seventh Circuit, however, are bound by the decision in Chicago Council of Lawyers v. Bauer, 522 F.2d 242 (7th Cir. 1975), cert. denied, 427 U.S. 912 (1976), which held that the First Amendment demands a "serious and imminent" threat to a fair trial as opposed to a "reasonable likelihood" of threat to justify regulation of lawyer comment. See id. at 257; infra text accompanying notes 199-207.
- 61 See B. Gershman, Prosecutorial Misconduct § 6.3(h), at 6-10 to 6-11 (1989).
- 62 Seitz Report, supra note 58, at 519.
- 63 Id. at 529.
- 64 See, e.g., United States District Court for the Middle District of Pennsylvania, Local Rule 121.
- 65 See L. Tribe, supra note 11, § 12-34.
- 66 Compare Levine v. United States Dist. Court for Cent. Dist. of Cal., 764 F.2d 590, 595 (9th Cir. 1985) (employing serious and imminent threat standard), cert. denied, 476 U.S. 1158 (1986) with United States v. Tijerina, 412 F.2d 661, 666 (10th Cir.) (holding that reasonable likelihood of prejudice suffices), cert. denied, 396 U.S. 990 (1969).
- 67 Richmond Newspapers, Inc. v. Virginia, 448 U.S. 555, 575 (1980).
- 68 Estes v. Texas, 381 U.S. 532, 540 (1965).
- 69 Justice Holmes wrote that "the character of every act depends upon the circumstances in which it is done." Schenck v. United States, 249 U.S. 47, 52 (1919) (Holmes, J.).
- 70 The Supreme Court has stressed repeatedly that "[t]he operations of the courts and the judicial conduct of judges are matters of utmost public concern." Landmark Communications v. Virginia, 435 U.S. 829, 839 (1978); see also Florida Star v. B.J.F., 109 S. Ct. 2603, 2611 (1989) (article about a violent crime that had been reported to authorities was "a matter of paramount public import"); Mills v. Alabama, 384 U.S. 214, 218-20 (1966) (discussing importance of free information about government).
- 71 See A. Meiklejohn, Political Freedom (1960); A. Meiklejohn, Free Speech and Its Relation to Self-Government passim (1948). Even in its narrowest form the public issues category as the core first amendment value seems to embrace prosecutor speech about a pending case. See Bork, Neutral Principles and Some First Amendment Problems, 47 Ind. L.J. 1, 24-29 (1971).
- 72 NAACP v. Claiborne Hardware Co., 458 U.S. 886, 913 (1982) (quoting Carey v. Brown, 447 U.S. 455, 467 (1978)).
- 73 Richmond Newspapers, Inc. v. Virginia, 448 U.S. 555, 575 (1980). The Supreme Court has declared repeatedly that speech on "matters of public concern" is "at the heart of the First Amendment's protection." First Nat'l Bank of Boston v. Bellotti, 435 U.S. 765, 776 (1978) (quoting Thornhill v. Alabama, 310 U.S. 88, 101-02 (1940)).
- 74 See M. Nimmer, Nimmer on Freedom of Speech: A Treatise on the Theory of the First Amendment § 1.02(F)(1), at 1-20 to 1-22 (1984).
- A corollary to the informing function of prosecutor speech is that its restriction may create an information vacuum that might be filled by less informative or responsible sources. See Younger, Fair Trial, Free Press and the Man in the Middle, 56 A.B.A. J. 127, 128-29 (1970).
- 76 Connick v. Myers, 461 U.S. 138, 146 (1983). Extrajudicial prosecutor speech should not generally become ensnared in the threshold issue in cases involving employer regulation of public employee speech, specifically whether the speech is a matter

of public concern. See Note, Freedom of Speech in the Public Workplace: A Comment on the Public Concern Requirement, 76 Calif. L. Rev. 1109, 1121-28 (1988). Speech about any aspect of governmental affairs generally has been considered a matter of public concern. See, e.g., First Nat'l Bank of Boston v. Bellotti, 435 U.S. 765, 776-77 (1978); Mills v. Alabama, 384 U.S. 214, 218 (1966).

- 77 314 U.S. 252 (1941).
- 78 Id. at 270 (footnote omitted).
- 79 See Whitney v. California, 274 U.S. 357, 375-76 (1927) (Brandeis, J., concurring); T. Emerson, The System of Freedom of Expression 7 (1970); M. Nimmer, supra note 74, § 1.04, at 1-53, 1-54.
- 80 Blasi, The Checking Value in First Amendment Theory, 1977 Am. B. Found. Res. J. 521, 527.
- 81 See Whitney, 274 U.S. at 377 (Brandeis, J., concurring); Abrams v. United States, 250 U.S. 616, 630-31 (1919) (Holmes, J., dissenting); J.S. Mill, On Liberty 21-42 (G. Himmelfarb ed. 1974) (London 1859); J. Milton, Areopagitica, reprinted in Areopagitica and of Education 1-57 (G. Sabine ed. 1951) (1644).
- 82 The Supreme Court, in Abood v. Detroit Bd. of Educ., 431 U.S. 209 (1977), expressed the range of protections when it stated: It is no doubt true that a central purpose of the First Amendment "was to protect the free discussion of governmental affairs."... But our cases have never suggested that expression about philosophical, social, artistic, economic, literary, or ethical matters--to take a nonexhaustive list of labels--is not entitled to full First Amendment protection. Id. at 231 (citations omitted).
- 83 See generally C. Baker, Human Liberty and Freedom of Speech (1989); F. Schauer, Free Speech: A Philosophical Enquiry (1982); Greenawalt, Free Speech Justifications, 89 Colum. L. Rev. 119 (1989).
- 84 See T. Emerson, The System of Freedom of Expression 6 (1970).
- 85 See Scanlon, A Theory of Freedom of Expression, 1 Phil. & Pub. Aff. 204, 215-18 (1972).
- 86 Prosecutor speech may, of course, be based on information that is or can be made available to the public.
- 87 Seattle Times Co. v. Rhinehart, 467 U.S. 20, 32 n.18 (1984) (quoting In re Halkin, 598 F.2d 176, 186 (D.C. Cir. 1979)).
- 88 See Koster v. Chase Manhattan Bank, 93 F.R.D. 471, 475-76 (S.D.N.Y. 1982).
- See, e.g., FCC v. League of Women Voters, 468 U.S. 364, 402 (1984) (government contributions to noncommercial educational stations could not be conditioned upon prohibition of stations' editorial speech, even if such were speech made possible by those contributions); Southeastern Promotions v. Conrad, 420 U.S. 546, 553 (1975) (even if local government builds municipal auditorium that makes possible the exercise of first amendment rights associated with theatrical productions, availability of auditorium must be "bounded by precise and clear standards," since "the danger of censorship and of abridgment of our precious First Amendment freedoms is too great where officials have unbridled discretion over a forum's use").
- 90 See American Bar Association Project on Standards for Criminal Justice Relating to Fair Trial and Free Press, Standard 8-1.1, Commentary at 8-9 (1980).
- 91 See Gertz v. Robert Welch, Inc., 418 U.S. 323, 341 (1974), cert. denied, 459 U.S. 1226 (1983).
- 92 See Bridges v. California, 314 U.S. 252, 282 (1941) (Frankfurter, J., dissenting).
- 93 Estes v. Texas, 381 U.S. 532, 540 (1965). But see Nebraska Press Ass'n v. Stuart, 427 U.S. 539, 561 (1976) ("The authors of the Bill of Rights did not undertake to assign priorities as between First Amendment and Sixth Amendment rights, ranking one as superior to the other.... [I]t is not for us to rewrite the Constitution by undertaking what they declined to do.").
- 94 See Levine v. United States Dist. Court for C. Dist. of Cal., 764 F.2d 590, 602 (9th Cir. 1985) (Sneed, J., concurring), cert. denied, 476 U.S. 1158 (1986).

- 95 See Hirschkop v. Snead, 594 F.2d 356, 367 (4th Cir. 1979); see also Barker v. Wingo, 407 U.S. 514, 531-32 (1972) ("defendant's assertion of his speedy trial right is entitled to strong evidentiary weight in determining whether defendant is being deprived of [that] right").
- 96 Indeed, in federal courts and many state jurisdictions, change of venue is limited if against the defendant's wishes. See U.S. Const. amend. VI; Utah Const., Art. I § 12.
- 97 Although public justice and judicial efficiency may not be as compelling as an accused's right to a fair trial, because "[t]he Sixth Amendment speaks only of the right of an accused and the Fifth Amendment only of the right of persons and not of the Government," Chicago Council of Lawyers v. Bauer, 522 F.2d 242, 250 (7th Cir. 1975), cert. denied, 427 U.S. 912 (1976), the fair administration of justice is indisputably an important governmental interest. Indeed, the Bauer court concluded that "public justice is no less important than an accused's right to a fair trial." Id. The debate over which interest is more important should not significantly affect the constitutional protection of prosecutor speech rights because both interests are at stake.
- 98 Bridges v. California, 314 U.S. 252, 271 (1941). Nonetheless, it cannot be assumed that the speech actually threatens to jeopardize the proceedings. It must be determined the extent to which unfair administration of justice is "a likely consequence, and whether the degree of likelihood [is] sufficient to justify summary punishment." *Id.; see also* Pennekamp v. Florida, 328 U.S. 331, 335 (1946) ("substantive evil" state may prevent is "disorderly and unfair administration of justice") (quoting Bridges v. California, 314 U.S. 252, 270 (1941)).
- 99 370 U.S. 375 (1962).
- 100 Id. at 383. The Wood Court recognized the state interest in measures to prevent "prejudice [that] might result to one litigant or the other by ill-considered misconduct aimed at influencing the outcome of a trial or a grand jury proceeding." Id. at 389.
- 101 See United States v. Tijerina, 412 F.2d 661, 666 (10th Cir.), cert. denied, 396 U.S. 990 (1969).
- 102 See Swift, Restraints on Defense Publicity in Criminal Jury Cases, 1984 Utah L. Rev. 45, 66, 98-100. The Court in Nebraska Press suggested that press publicity poses this risk as well, but did not find it to be present there. See Nebraska Press Ass'n v. Stuart, 427 U.S. 539, 555 n.4 (1976).
- 103 See.Levine v. United States Dist. Court for C. Dist. of Cal., 764 F.2d 590, 596-97 (9th Cir. 1985), cert. denied, 476 U.S. 1158 (1986); Hirschkop v. Snead, 594 F.2d 356, 376 (4th Cir. 1979) (Phillips, J., concurring); In re Hinds, 90 N.J. 604, 623-24 n.4, 449 A.2d 483, 493-94 n.4 (1982).
- 104 See Levine, 764 F.2d at 600-01 (approving district court order requested by government to restrict extrajudicial speech of attorneys participating in criminal case).
- 105 See, e.g., Pickering v. Board of Educ., 391 U.S. 563, 568 (1968).
- 106 State ex rel. Coburn v. Bennett, 202 Mont. 20, 655 P.2d 502, 508 (1982).
- 107 Cox v. Louisiana, 379 U.S. 559, 565 (1965).
- 108 Levine v. United States Dist. Court for C. Dist. of Cal., 764 F.2d 590, 602 (9th Cir. 1985) (Sneed, J., concurring), cert. denied, 476 U.S. 1158 (1986).
- 109 Bridges v. California, 314 U.S. 252, 270 (1941); see also Bates v. State Bar of Ariz., 433 U.S. 350, 384 (1977) (state interest in maintaining professionalism of attorneys insufficient to overcome first amendment challenge to lawyer advertising restrictions).
- 110 Richmond Newspapers, Inc. v. Virginia, 448 U.S. 555, 595 (1980) (Brennan, J., concurring). In Landmark Communications, Inc. v. Virginia, 435 U.S. 829 (1978), Chief Justice Burger wrote that "injury to official reputation is an insufficient reason 'for repressing speech that would otherwise be free.' The remaining interest sought to be protected, the institutional reputation of the courts, is entitled to no greater weight in the constitutional scales." *Id.* at 841-42 (quoting New York Times v. Sullivan, 376 U.S. 254, 272-73 (1964)).

- 111 See, e.g., Florida Star v. B.J.F., 109 S. Ct. 2603, 2605-06 (1989) (involving inadvertent violation of that policy as basis for invasion of privacy claim).
- 112 See Freedman & Starwood, supra note 14, at 613. The state has "a pervasive and strong interest in preventing and redressing attacks upon reputation." Rosenblatt v. Baer, 383 U.S. 75, 86 (1966).
- 113 For example, the first amendment generally protects disclosure of information about crime victims contained in public records from invasion of privacy claims. See Florida Star, 109 S. Ct. at 2608; Cox Broadcasting Corp. v. Cohn, 420 U.S. 469, 496 (1975).
- 114 This interest would most often be pertinent to the safety of a victim or witness, but it may extend to the defendant's security. See, e.g., Closed-Door Arguments Continue Over Relocating Noriega, Boston Globe, Jan. 13, 1990, at 4, col. 1 (prosecutors and defense counsel ordered not to disclose details of arguments given on change of venue motion).
- 115 Model Rules of Professional Conduct Rule 1.3 comment (1987).
- 116 Model Rules of Professional Conduct Rule 3.8 comment (1987); see American Bar Association, Standards for Criminal Justice, Standards Relating to the Prosecution Function 19-20 (1971). The function of the prosecutor was clearly enunciated in the following manner:

[T]he office demands and, on sober thought the public expects, that the prosecutor will respect the rights of persons accused of crime .... [O]ur traditions, embodied in the national and state constitutions, demand that the prosecutor accord basic fairness to all persons. Because of the power he wields, we impose on him a special duty to protect the innocent and to safeguard the rights guaranteed to all, including those who may be guilty.

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Id.
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- 117 Berger v. United States, 295 U.S. 78, 88 (1935).
- 118 United States v. Wade, 388 U.S. 218, 257-58 (1967) (White, J., concurring in part, dissenting in part).
- 119 See Freedman & Starwood, supra note 14, at 617.
- 120 See Berger v. United States, 295 U.S. 78, 88 (1935); People v. Kelley, 75 Cal. App. 3d 672, 680, 142 Cal. Rptr. 457, 461 (1977).
- 121 See Sheppard v. Maxwell, 384 U.S. 333, 350-52 (1966); see also Owens v. State, 613 P.2d 259, 263 (Alaska 1980) (noting "prosecutor's duty as an officer of the court to guarantee all criminal defendants their constitutional rights to a fair trial").
- See Stroble v. California, 343 U.S. 181, 201 (1952) (Frankfurter, J., dissenting). To have the prosecutor himself feed the press with evidence that no self-restrained press ought to publish in anticipation of a trial is to make the State itself through the prosecutor, who wields its power, a conscious participant in trial by newspaper, instead of by those methods which centuries of experience have shown to be indispensable to the fair administration of justice. Id.; see also State v. Wixon, 30 Wash. App. 63, 69, 631 P.2d 1033, 1038 (1981) ("state's association with trial related publicity is factor to be considered" when determining whether a defendant has been prejudiced).
- 123 See, e.g., Powers v. Coe, 728 F.2d 97, 105 (2d Cir. 1984) (plaintiff entitled to attempt to show that his constitutional right to fair trial in criminal prosecution was violated by alleged news leaks from prosecutors).
- 124 See Hirschkop v. Snead, 594 F.2d 356, 366 (4th Cir. 1979). "The interest of the States in regulating lawyers is especially great since lawyers are essential to the primary governmental function of administering justice, and have historically been 'officers of the court." Goldfarb v. Virginia State Bar, 421 U.S. 773, 792 (1975) (citations omitted). "[A]ttorneys, as officers of the court, have a legal and ethical responsibility to safeguard the right to a fair trial." National Broadcasting Co. v. Cooperman, 116 A.D.2d 287, 291, 501 N.Y.S.2d 405, 408 (1986).
- 125 See In re Sawyer, 360 U.S. 622, 666-68 (1959) (Frankfurter J., dissenting); In re Hinds, 90 N.J. 604, 633-34, 449 A.2d 483, 498-99 (1982).

- 126 See People v. Dupree, 88 Misc. 2d 780, 785, 388 N.Y.S.2d 203, 207 (Sup. Ct. 1976) (lawyers "stand on a different footing" than the press or public because "they acquire information not as general members of the public, but by virtue of their status and employment").
- 127 See, e.g., Rankin v. McPherson, 107 S. Ct. 2891, 2896-2900 (1987) (government employee did not violate first amendment in making statement on matter of public concern); Connick v. Myers, 461 U.S. 138, 147 (1983) (when public employees speak in work capacity on matters of personal interest, federal courts will not review personnel decision taken in response to employee behavior).
- 128 See, e.g., Note, supra note 76 at 1135-46 (traditional judicial test for public employee speech should be reformulated to increase employee's first amendment rights).
- 129 See, e.g., Rankin, 107 S. Ct. at 2897 (context of statement must be considered in determining whether it relates to matter of public concern).
- 130 For example, the chief prosecutor and the trial judge in the prosecution of Dr. Sam Sheppard were candidates for the bench in upcoming elections. See Sheppard v. Maxwell, 384 U.S. 333, 354 (1966).
- 131 See Prosecutors and Politics, A Feud Reopens the Debate on the Propriety of Such a Match, N.Y. Times, Jan. 19, 1990, at B4, col. 1.
- 132 See Hugel, Improving Prosecutor-Media Relations: The Key to Effectively Communicating Your Message to the Public, 20 The Prosecutor 37, 41 (Summer 1986).
- 133 Responding to an attack that he violated Justice Department no comment regulations when he held news conferences as U.S. Attorney for the Southern District of New York, Rudolph Giuliani said, "I hold press conferences because the public should be informed of the nature of the charges. As a representative of the public, it's my job." Press-Sensitive--Prosecutors' Use of Media Hit, 71 A.B.A. J. 17, 17 (Dec. 1985) [hereinafter Press-Sensitive].
- 134 A blatant example of this occurred in State v. Hohman, 138 Vt. 502, 420 A.2d 852 (1980), which concerned a newspaper advertisement on behalf of the state's attorney's re-election campaign. In the advertisement he promised to obtain a second murder conviction in the criminal case of *State v. Hohman.* The first conviction had been overturned on appeal. See id. at 504, 420 A.2d at 854. Upon retrial, the defendant was convicted of manslaughter. See id.
- 135 See Goldstein, Odd Couple: Prosecutors and the Press, Colum. Journalism Rev. 23, 26 (Jan./Feb. 1984) (recounting examples from the Hoffa and ABSCAM prosecutions).
- 136 One former Assistant U.S. Attorney identified publicity as a case referral aid: "[p]ublicity will help a lawyer get business." *Press-Sensitive, supra* note 133, at 18.
- 137 See J. Lawless, Prosecutorial Misconduct 194 (1985).
- 138 See, e.g., Commonwealth v. Anderson, 294 Pa. Super. 1, 11, 439 A.2d 720, 725 (1981) (prosecutor attempted to influence criminal trial through extrajudicial statements to the press). The trial of Bruno Hauptmann for the kidnapping and murder of the Lindbergh baby featured organized campaigns by prosecuting attorneys to influence the public through the media both before and during the trial. See Hallam, Some Object Lessons on Publicity in Criminal Trials, 24 Minn. L. Rev. 453, 460 (1940).
- 139 See Protess, Did the Press Play Prosecutor in Covering an FBI Sting?, Colum. Journalism Rev. 37, 40 (July/August 1989).
- 140 Mollenhoff, Prosecutors and the Press, Remarks at a meeting of the Iowa Attorney General's Law Enforcement Association at Lake Okabosha, Iowa (June 8, 1981) (on file at Fordham Law Review office).
- 141 See id. at 4-5.
- 142 Hugel, supra note 132, at 37.

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- 143 It is well-established that reporters get most of their crime news from law enforcement sources. See R. Drechsel, News Making in the Trial Courts 53, 94, 101 (1983).
- 144 See supra note 21 and accompanying text.
- 145 For example, favorable portrayal of prosecutors may result in reporters receiving credit for scoops. See Goldstein, supra note 135, at 25.
- 146 See Hugel, supra note 132, at 38.
- 147 This complicates application of no comment rules. "An obvious difficulty with DR 7-107 is the relationship between what the lawyer says and what appears in the public media. The disciplinary rule holds a lawyer responsible for what he or she actually says 'for public communication,' even though it is the subsequent publication that threatens the prejudicial effect." In re Lasswell, 296 Or. 121, 128, 673 P.2d 855, 859 (1983).
- 148 See J. Lawless, Prosecutorial Misconduct 190 (1985).
- 149 This gives rise to the question of whether a court can require a news reporter to disclose the identity of an individual who provided information in violation of a restraint on publicity. See Farr v. Pitchess, 522 F.2d 464, 469 (9th Cir. 1975) (upholding such authority), cert. denied, 427 U.S. 912 (1976).
- 150 In one such case, a New York court stated in dictum that a prosecutor's acts of publicly identifying an uncharged suspect on papers filed with the court were irresponsible and unethical. See In re Death of Mainners, 143 Misc. 2d 945, 949, 542 N.Y.S.2d 485, 488 (Suffolk Co. Ct. 1989).
- 151 See ABA Committee on Ethics and Professional Responsibility Informal Op. 1345 (Sept. 6, 1975) (positing that public officials should refrain from using prejudicial language in pleadings).
- 152 See C. Bernstein & R. Woodward, All the President's Men (1975).
- 153 See Goldstein, supra note 135, at 23-24. The appropriate extent of cooperation between the press and law enforcement has been a topic of debate among representatives of both groups. See id. at 23-25.
- 154 See Branzburg v. Hayes, 408 U.S. 665, 679-81 (1972).
- 155 See, e.g., In re Farber, 78 N.J. 259, 267 394 A.2d 330, 339 (reporter charged with contempt for failing to turn over documents from his investigation that contributed to a criminal prosecution), cert. denied, 439 U.S. 997 (1978).
- 156 See In re Dow Jones & Co., 842 F.2d 603, 605 (2d Cir.) ("prosecutors, defendants, and defense counsel participated in the escalating publicity duels"), cert. denied, 109 S. Ct. 377 (1988). "Although not a new technique, attempts to influence the outcome of criminal trials through favorable media coverage have been utilized to an unprecedented degree in recent years." Hugel, supra note 132, at 38. Professor Arthur Miller of Harvard Law School recently commented that both prosecution and defense attempt to manipulate the press. See Nightline: The Media and Fair Trials (ABC Television Broadcast, Jan. 23, 1990) (transcript produced by Journal Graphics, Inc.).

# 157 384 U.S. 333 (1966).

158 Id. at 363. Indeed, the prevailing view long before Sheppard was that control of prejudicial publicity must be the responsibility of a vigilant trial judge and other public officers subject to the control of the court. This was the consensus following the pervasive publicity attendant to the trial of Bruno Hauptmann for the abduction and murder of the Lindbergh infant. See Hallam, Some Object Lessons on Publicity in Criminal Trials, 24 Minn. L. Rev. 453 (1940); Hudon, Freedom of the Press Versus Fair Trial: The Remedy Lies with the Courts, 1 Val. U.L. Rev. 8, 12-14 (1966); Lippmann, The Lindbergh Case in Its Relation to American Newspapers, in Problems of Journalism 154-56 (1936); see also Nebraska Press Ass'n v. Stuart, 427 U.S. 539, 549 (1976) (noting that atmosphere at Hauptmann trial "could have been controlled by a vigilant trial judge and by other public officers subject to the court"). The Court reaffirmed this view in Chandler v. Florida, 449 U.S. 560, 574 (1981). "Trial courts must be especially vigilant to guard against any impairment of the defendant's right to a verdict based solely upon the evidence and the relevant law." Id.

- 159 Sheppard, 384 U.S. at 359. "[T]he trial court might well have proscribed extrajudicial statements by any lawyer, party, witness, or court official which divulged prejudicial matters . . . . " Id. at 361. The Court said that "[e] ffective control of these sources" is "concededly within the court's power." Id.
- 160 Id. at 363; accord State v. Biegenwald, 106 N.J. 13, 32, 524 A.2d 130, 139 (1987).
- 161 Sheppard, 384 U.S. at 363.
- 162 Nebraska Press Ass'n v. Stuart, 427 U.S. 539, 555 (1976).
- 163 See, e.g., Levine v. United States Dist. Ct., 764 F.2d 590, 597 (9th Cir. 1985) (upholding restraining order prohibiting attorneys from communicating with media because publicity posed "a serious and imminent threat to the administration of justice"), cert. denied, 476 U.S. 1158 (1986). State appellate courts have encouraged trial courts to employ the publicity precautions set forth in Sheppard. See, e.g., Commonwealth v. Pierce, 451 Pa. 190, 200, 303 A.2d 209, 215 (prohibiting policemen and district attorneys from releasing certain information to news media), cert. denied, 414 U.S. 878 (1973).
- 164 It is axiomatic that a criminal defendant's right to a fair jury trial requires that he be tried before a jury panel not tainted by prejudice. See Irvin v. Dowd, 366 U.S. 717, 722 (1961).
- 165 cf. FCC v. Pacifica Found., 438 U.S. 726, 758 (1978) (Powell, J., concurring) ("The difficulty is that such a physical separation of the audience cannot be accomplished in the broadcast media.").
- 166 See Ad Hoc Report on Publicity, supra note 4, at 5 (reporting comments from former U.S. Attorney Rudolph Giuliani and Harvard Law Professor Alan Dershowitz).
- 167 See generally Press-Enterprise Co. v. Superior Court, 478 U.S. 1, 15 (1986) ("Through voir dire, cumbersome as it is in some circumstances, a court can identify those jurors whose prior knowledge of the case would disable them from rendering an impartial verdict.").
- 168 "[I]t is assumed that judges will ignore the public clamor or media reports and editorials in reaching their decisions and by tradition will not respond to public commentary...." Landmark Communications, Inc. v. Virginia, 435 U.S. 829, 839 (1978).
- 169 See Ad Hoc Report on Publicity, supra note 4, at 11.
- 170 *Cf.* Drechsel, *Judicial Selection and TrialJudge-Journalist Interaction in Two States*, 10 Just. Sys. J. 6 (1985) (study suggesting elected judges more likely to pay attention to press coverage of courts).
- 171 See, e.g., United States v. Haldeman, 559 F.2d 31, 59-70 (D.C. Cir. 1976) (en banc) (upholding convictions in Watergate cover-up case in spite of massive pretrial publicity, tone of publicity was not inflammatory and probing voir dire by trial judge permitted removal from jury of those who harbored prejudice or preconception), cert. denied, 431 U.S. 933 (1977).
- 172 See Levine v. United States Dist. Ct., 764 F.2d 590, 598 (9th Cir. 1985), cert. denied, 476 U.S. 1158 (1986); United States v. Coast of Maine Lobster Co., 538 F.2d 899, 902 (1st Cir. 1976); cf. Chicago Council of Lawyers v. Bauer, 522 F.2d 242, 253 (7th Cir. 1975), cert. denied, 427 U.S. 912 (1976).
- 173 See Frasca, supra note 3, at 169 (estimating that 2 percent of jurors are prejudiced about criminal case as result of news coverage and retain that prejudice after passing through trial safeguards designed to weed out potentially biased jurors).
- 174 See Rideau v. Louisiana, 373 U.S. 723, 726 (1963) (showing of actual unfairness unnecessary when record shows saturation publicity of the accused's pretrial confession).
- 175 Nonetheless, appellate courts are called upon to perform this function and necessarily render decisions. In Stroble v. California, 343 U.S. 181 (1952), the Supreme Court affirmed a conviction and death sentence challenged on the ground that pretrial news accounts, including the prosecutor's release of defendant's recorded confession, were allegedly so inflammatory as to amount to a denial of due process. The Court disapproved of the prosecutor's conduct, but noted that the publicity had receded some six weeks before trial, that the defendant had not moved for a change of venue, and that the confession had been found voluntary and admitted in evidence at trial. See id. at 191-93. The Court also noted the thorough examination of jurors on voir dire and the careful review of the facts by the state courts, and held that petitioner had failed to demonstrate a denial

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of due process. See id. at 193-95; see also Murphy v. Florida, 421 U.S. 794, 800 (1975) (jurors have only vague recollections of petitioner's crime, which alone does not presumptively deny defendant due process); Beck v. Washington, 369 U.S. 541, 548-49 (1962) (careful judicial questioning showed jury to be unbiased).

- 176 Pennekamp v. Florida, 328 U.S. 331, 347 (1946).
- 177 384 U.S. 333 (1966).
- 178 Id. at 360.
- 179 The Sheppard Court said that "where there is a reasonable likelihood that prejudicial news prior to trial will prevent a fair trial, the judge should continue the case until the threat abates, or transfer it to another county not so permeated with publicity." Id. at 363. This reference to remedial action, however, does not specify restrictions on speech. The Court said earlier that the trial judge in Sheppard "might well have proscribed extrajudicial statements by any lawyer, party, witness, or court official which divulged prejudicial matters ....." Id. at 361. The Court's reference to gagging goes beyond the holding in Sheppard that the deluge of publicity had deprived the defendant of due process and does not address the competing concerns involved in restraining lawyer speech.
- 180 One reason the Supreme Court has not addressed the merits of this issue may be found in Middlesex County Ethics Comm. v. Garden State Bar Ass'n, 457 U.S. 423 (1982), in which the Court held that a federal court should abstain from deciding an attorney's first amendment challenge to a New Jersey no comment rule pursuant to which he was being disciplined for extrajudicial statements made during a criminal trial. See id. 429-30, 437. The Supreme Court held that the federal courts should abstain from interfering with New Jersey's ongoing disciplinary proceeding. See id. at 437.
- 181 Two leading first amendment commentators recently stated that whether Model Rule 3.6 "sufficiently respects the speech rights of attorneys remains to be seen." M. Franklin & D. Anderson, Mass Media Law 702 (4th ed. 1990).
- 182 The Oregon Supreme Court, commenting on DR 7-107, declared: "Unquestionably any rule that in terms directs persons not to make particular kinds of statements is difficult to square with constitutional guarantees of freedom of expression . . . . " In re Conduct of Lasswell, 296 Or. 121, 124, 673 P.2d 855, 857 (1983).
- 183 See Stone, Content Regulation and the First Amendment, 25 Wm. & Mary L. Rev. 189, 207-17 (1983).
- 184 Police Dep't of Chicago v. Mosley, 408 U.S. 92, 95 (1972) (invalidating law which exempted labor picketing from general ban on picketing near schools) (citations omitted). This stands in contrast to government actions aimed at noncommunicative impact but nonetheless having adverse effects on communicative opportunity--for example, government restrictions against loudspeakers in residential areas. Such actions are judged by balancing competing interests and are allowed if they do not unduly constrict the flow of information and ideas. See Cox v. New Hampshire, 312 U.S. 569, 574-76 (1941) (upholding ordinance requiring parade permits where official discretion was limited exclusively to considerations of time, place, and manner).

A rule or gag order banning out-of-court statements about a case may at first glance appear to be a time, place, and manner restriction: "Say what you have to say, but say it only in the courtroom." It is not a time, place, and manner restriction. There are facts that cannot be disclosed inside the courtroom that could be stated outside, and the speaker is permitted to speak about information unrelated to the case outside the courtroom. Such a regulation is, in short, a content restriction. *cf.* Tinker v. Des Moines School Dist., 393 U.S. 503 (1969) (rejecting government argument that regulation forbidding the wearing of armbands in school as a protest against the war was a "place" regulation based on the reaction it engendered). The Rules of Professional Conduct are explicit content restrictions. The no comment provisions refer to the "criminal record of a party," "the possibility of a plea of guilty," "the identity or nature of physical evidence," and "any opinion as to the guilt or innocence." Model Rules of Professional Conduct 3.6 (1987), *reprinted in* Appendix II.

- 185 Boos v. Barry, 485 U.S. 312, 321 (1988) (law prohibiting disrespectful sign within 500 feet of foreign embassy is unconstitutional); See Widmar v. Vincent, 454 U.S. 263, 276 (1981).
- 186 Perry Educ. Ass'n v. Perry Local Educators' Ass'n, 460 U.S. 37, 45 (1983); See Consolidated Edison Co. v. Public Service Comm'n, 447 U.S. 530, 540 (1980). The Court has recognized several narrow categories of expression, such as "fighting words" and obscenity, that are not entitled to first amendment protection from content regulation. These are categories of expression

not representing speech within the meaning of the first amendment because they are "no essential part of any exposition of ideas [and are] of . . . slight social value as a step to truth," or because their "very utterance inflicts injury." Chaplinsky v. New Hampshire, 315 U.S. 568, 572 (1942); See Roth v. United States, 354 U.S. 476, 492 (1957) If the speech falls within one of the exceptions or if the compelling state interest/least restrictive alternative test is met, the government may regulate subject only to the barest due process scrutiny.

- 187 This approach is reflected in Chaplinsky's category of speech that "tend[s] to incite an immediate breach of the peace." Chaplinsky, 315 U.S. at 572 (footnote omitted).
- 188 "The First Amendment doctrine of substantial overbreadth is an exception to the general rule that a person to whom a statute may be constitutionally applied cannot challenge the statute on the ground that it may be unconstitutionally applied to others." Massachusetts v. Oakes, 109 S. Ct. 2633, 2637 (1989) (plurality).
- 189 See City Council of Los Angeles v. Taxpayers for Vincent, 466 U.S. 789, 798-99 (1984); Broadrick v. Oklahoma, 413 U.S. 601, 615 (1973).
- 190 Thornhill v. Alabama, 310 U.S. 88, 97 (1940) (voiding statute prohibiting all picketing because it bans peaceful picketing protected by First Amendment). In determining whether a statute is overbroad, a court must first determine whether the statute "reaches a substantial amount of constitutionally protected conduct. If it does not, then the overbreadth challenge must fail." Village of Hoffman Estates v. Flipside, Hoffman Estates, Inc., 455 U.S. 489, 494 (1982) (footnote omitted).
- 191 L. Tribe, supra note 11, § 12-27, at 1023 (quoting Arnett v. Kennedy, 416 U.S. 134, 231 (1974) (Marshall, J., dissenting)).
- 192 Broadrick v. Oklahoma, 413 U.S. 601, 613 (1973).
- 193 Connally v. General Constr. Co., 269 U.S. 385, 391 (1926).
- 194 See Grayned v. City of Rockford, 408 U.S. 104, 108-09, 109 n.5 (1972); Baggett v. Bullitt, 377 U.S. 360, 372 (1964); Smith v. California, 361 U.S. 147, 151 (1959).
- 195 See, e.g., Smith v. Goguen, 415 U.S. 566, 573 (1974) (flag desecration statute that subjects to criminal liability anyone who "treats contemptuously" the United States flag is void for vagueness; the doctrine "demands a greater degree of specificity" in first amendment as opposed to other contexts).
- 196 United States v. Petrillo, 332 U.S. 1, 8 (1947).
- 197 See Hirschkop v. Snead, 594 F.2d 356, 371 (4th Cir. 1979) (en banc) (holding that "other matters that are reasonably likely to interfere with a fair trial" is too vague) (quoting Rule 7-107(D) of the Virginia Code of Professional Responsibility).
- 198 See, e.g., Model Rules of Professional Conduct Rule 3.6(b)(1) (1987), reprinted in Appendix II.
- 199 See supra text accompanying notes 99-107.
- 200 522 F.2d 242 (7th Cir. 1975), cert. denied, 427 U.S. 912 (1976).
- 201 See id. at 247.
- 202 See id. at 261-63 (Appendix A).
- 203 The Seventh Circuit reasoned that the local court rule was not a prior restraint because anyone charged with violating it could challenge its constitutional validity. See id. at 248. The court further observed, however, that the rule had features of prior restraints in that a violation could be punished by contempt and the full criminal procedural safeguards would not necessarily be available. See id. at 248-49. Accordingly, the court decided that the rule must receive "closer scrutiny than a legislative restriction." Id. at 249. In Hirschkop v. Snead, 594 F.2d 356 (4th Cir. 1979), the Fourth Circuit agreed with Bauer that DR 7-107 is not a prior restraint. The rules are not a "judicial decree, a violation of which is summarily punishable as a contempt," and "sanctions may be imposed upon a lawyer only after charges have been filed against him, he has been given a due process hearing and has been found guilty." Id. at 368. But see Shadid v. Jackson, 521 F. Supp. 85, 86 (E.D. Tex. 1981) (DR 7-107(G) is an unconstitutional prior restraint).

## 204 416 U.S. 396 (1974).

205 Id. at 413.

206 Bauer, 522 F.2d at 249 (quoting Chase v. Robson, 435 F.2d 1059, 1061-62 (7th Cir. 1970)).

207 Id. at 250.

208 For example, the rules governing the investigatory stage--the district court's rule and DR-107(A)--were held vague and overbroad for lawyers other than prosecutors and therefore were valid for prosecutors as a presumption of a serious and imminent threat. See id. at 252-53. The reference to "participating in or associated with the investigation" was too ambiguous for non-government lawyers and the no comment rules too broad because no one knows if there will be a trial and any prejudice to the government is too remote. Id. at 252. Moreover, non-government lawyers can act as a check on government abuse of the investigatory process. See id. at 253.

The court generally upheld the six types of comments prohibited in DR 7-107(B) and (C) concerning the time from arrest or the filing of charges to commencement of trial or disposition without trial. The prohibition on communication concerning "character, reputation, or prior criminal record," DR 7-107(B)(1), was thought more appropriate for prosecutors than defense counsel but was upheld for both on the ground that the "public's conclusion should be based on the trier of fact's conclusion." *Bauer*, 522 F.2d at 254.

The DR 7-107(D) provision covering jury selection and trial prohibits comment "that relates to the trial, parties, or issues in the trial or other matters that are reasonably likely to interfere with a fair trial." Model Code of Professional Responsibility DR 7-107(D) (1981), *reprinted in* Appendix I. The "other matters" language was found unconstitutionally vague, but the rule might survive scrutiny if coupled with the "serious or imminent threat" standard. *Bauer*, 522 F.2d at 255-56. The court rejected an argument that this rule should not apply for cases in which a jury is sequestered because a sequestered jury need not remain sequestered throughout a trial. *See id.* at 256.

## 209 594 F.2d 356 (4th Cir. 1979).

- 210 As done in *Bauer*, the Fourth Circuit found the DR 7-107(D) language proscribing statements about "other matters that are reasonably likely to interfere with a fair trial" to be unconstitutionally vague and overbroad. *Id.* at 370-71. The court also held the "reasonably likely to affect the imposition of sentence" language of DR 7-107(E) to be void for vagueness. *Id.* at 372. Generally, the court found the rules "as definite as any set of rules may be." *Id.* at 368. *See generally* Note, *Restrictions on Attorneys' Extrajudicial Comments on Pending Litigation--The Constitutionality of Disciplinary Rule 7-107:* Hirschkop v. Snead, 41 Ohio St. L.J. 771 (1980) (discussing status of DR 7-107 in light of *Hirschkop* and ABA changes, suggesting that courts will expand the restrictions currently placed on extrajudicial lawyer speech).
- 211 Model Rules of Professional Conduct Rule 3.6 model code comparison (1987).
- 212 Model Code of Professional Responsibility DR 7-107(D)-(E) (1981).
- 213 Model Code of Professional Responsibility DR 7-107(A)-(B) (1981).
- 214 Hirschkop v. Snead, 594 F.2d 356, 368 (4th Cir. 1979); accord In re Disciplinary Proceedings Against Eisenberg, 144 Wis. 2d 284, 299-301, 423 N.W.2d 867, 873-74 (1988).
- 215 In re Rachmiel, 90 N.J. 646, 656-57, 449 A.2d 505, 511 (N.J. 1982). The Montana Supreme Court refused to follow this approach. Because the regulations lacked any degree of harm standard, DR 7-107(B) and (H) were held to be unconstitutional abridgements of the first amendment; the court thought it "unwise" to imply a saving harm standard as in cases like *Hirschkop*, 594 F.2d 356, Chicago Council of Lawyers v. Bauer, 522 F.2d 242 (7th Cir. 1975), cert. denied, 427 U.S. 912 (1976), or Markfield v. Association of the Bar the City of New York, 49 A.D.2d 516, 370 N.Y.S.2d 82 (1975). See In re Keller, 213 Mont. 196, 198, 693 P.2d 1211, 1214 (1984).
- 216 Model Rules of Professional Conduct Rule 3.6(b)(4) (1987), *reprinted in* Appendix II. Would this provision apply to the Attorney General's comment that the government's case against General Manuel Noriega is strong? *See supra* note 2. Another example is the ban on a statement "that a defendant has been charged with a crime" unless the charge is explained as an accusation and the presumption of innocence is mentioned. Model Rules of Professional Conduct Rule 3.6(b)(6) (1987). The

fact that a defendant has been charged is a matter of public record. Incorporating a high degree of threatened harm standard may not be sufficient to overcome overbreadth and vagueness problems.

- 217 See Nebraska Press Ass'n v. Stuart, 427 U.S. 539, 568 (1976); see also National Broadcasting Co. v. Cooperman, 116 A.D.2d 287, 293-94, 501 N.Y.S.2d 405, 409 (1986) (finding vague and overbroad an order restraining counsel from speaking to the press on any matters related to the criminal trial).
- 218 See Levine v. United States Dist. Ct., 764 F.2d 590, 599 (9th Cir. 1985), cert. denied, 476 U.S. 1158 (1986). Other cases have also found gag orders on trial participants to be unconstitutionally overbroad. See, e.g., CBS v. Young, 522 F.2d 234, 236 (6th Cir. 1975) (trial participants prohibited "from discussing in any manner whatsoever these cases with members of the news media or the public" by court order); Chase v. Robson, 435 F.2d 1059, 1060-61 (7th Cir. 1970) (trial participants prohibited from making public statements concerning jury, witnesses, evidence, merits, and court rulings); Younger v. Smith, 30 Cal. App. 3d 138, 150-51, 106 Cal. Rptr. 225, 233-34 (1973) (gag order overbroad in proscribing nonprejudicial statements); People v. Dupree, 88 Misc. 2d 780, 789, 388 N.Y.S.2d 203, 209-10 (N.Y. Sup. Ct. 1976) (order narrowed because it covered facts already part of trial record).
- 219 See Frasca, supra note 3, at 164 (reviewing studies and concluding that only 10 percent of criminal cases involve jury trials).
- 220 See American Bar Association Project on Standards for Criminal Justice, Standards Relating to Fair Trial and Free Press 8-33 commentary (1980); see also authorities cited supra note 3.
- 221 See Nebraska Press Ass'n v. Stuart, 427 U.S. 539, 565, 568-69 (1976).
- 222 Associated Press v. United States, 326 U.S. 1, 20 (1945).
- 223 New York Times v. Sullivan, 376 U.S. 254, 270 (1964).
- 224 435 U.S. 765 (1978).
- See id. at 777, 784. But see Stanley v. Georgia, 394 U.S. 557, 565 (1969) (possession in home protected; source was vendor of obscene material and hence unprotected); Lamont v. Postmaster General, 381 U.S. 301, 307-10 (1965) (Brennan, J., concurring) (receipt of mail protected; source was outside U.S. and hence unprotected).
- "The inherent worth of the speech in terms of its capacity for informing the public does not depend upon the identity of its source, whether corporation, association, union, or individual." *Bellotti*, 435 U.S. at 777; see also Bates v. State Bar of Ariz., 433 U.S. 350, 364 (1977) ("The listener's interest is substantial: the consumer's concern for the free flow of commercial speech often may be far keener than his concern for urgent political dialogue."); Young v. American Mini Theatres, Inc., 427 U.S. 50, 76 (1976) (Powell, I., concurring) ("Vital to this concern [of the free speech guarantee] is the corollary that there be full opportunity for everyone to receive the message."); Virginia State Bd. of Pharmacy v. Virginia Citizens Consumer Council, 425 U.S. 748, 756 (1976) (first amendment "protection . . . is to the communication, to its source and to its recipients both"); Garrison v. Louisiana, 379 U.S. 64, 74-75 (1964) ("[S]peech concerning public affairs is more than self-expression; it is the essence of self-government.").
- 227 See, e.g., Cornelius v. NAACP Legal Defense & Educ. Fund, 473 U.S. 788, 806-07 (1985) (upholding rule limiting participation in federal charity drive to those organizations that did not "attempt to influence the outcome of political elections or the determination of public policy").
- 228 See L. Tribe, supra note 11, § 12-3, at 803.
- 229 Perry Educ. Ass'n v. Perry Local Educators' Ass'n, 460 U.S. 37, 62 (1983) (Brennan, J., dissenting, joined by Marshall, Powell, and Stevens, JJ.).
- 230 See City Council of Los Angeles v. Taxpayers for Vincent, 466 U.S. 789, 804 (1984) (citing additional authority); cf. Stephan, The First Amendment and Content Discrimination, 68 Va. L. Rev. 203, 233 (1982) ("any system that protects speech must insist to the same degree on viewpoint neutrality").
- 231 The Court has upheld some speaker-based restrictions. See, e.g., NLRB v. Retail Store Employees Union, Local 1001, 447 U.S. 607, 611 (1980) (upholding NLRB order prohibiting union from engaging in secondary boycott which threatened economic

viability of third parties); International Bhd. of Teamsters, Local 695 v. Vogt, Inc., 354 U.S. 284, 294-95 (1957) (upholding injunction against picketing because under state law union's strategy of coercion amounted to an "unlawful purpose"); see also NLRB v. Fissel Packing Co., 395 U.S. 575, 616 (1969) (upholding NLRB finding of unfair labor practice where management communications were cast as threat of retaliatory action and not as prediction of "demonstrable economic consequences:); NLRB v. Exchange Parts Co., 375 U.S. 405, 409-10 (1964) (upholding NLRB decision to set aside election where several weeks before election company sent employees letter mentioning several new benefits; "the danger inherent in well-timed increases is the suggestion of a first inside the velvet glove").

- 232 See L. Tribe, supra note 11, § 12-26, at 1018.
- Prosecutors should not be restrained simply because they are prosecutors but because of their official function in the criminal justice process. See In re Lasswell, 296 Or. 121, 126, 673 P.2d 855, 857 (1983) (en banc).
- 234 See supra text accompanying notes 115-23.
- 235 Some of these considerations pertain to defense counsel, though not to the same degree. See supra text accompanying notes 115-26.
- 236 See, e.g., In re Dow Jones & Co., 842 F.2d 603, 608-09 (2d Cir.) (discussing difference between prior restraint on publication and restraining order directed against trial participants), cert. denied, 109 S. Ct. 377 (1988); Ad Hoc Report on Publicity, supra note 4, at 7-14 (proposing amendments to DR 7-107).
- 237 See Zimmermann v. Board of Professional Responsibility, 764 S.W.2d 757, 763 (Tenn.) (clear and present danger standard not required for discipline of prosecutor speech in part because of limited class of persons subject to restraint), cert. denied, 109 S. Ct. 3160 (1989).
- 238 427 U.S. 539, 553-54 (1976).
- 239 See id. at 570.
- 240 See id. at 563-64.
- 241 Id. at 588 (Brennan, J., concurring).
- 242 Id. at 601; see also Sheppard v. Maxwell, 384 U.S. 333, 363 (1966) ("[R] emedial measures [must be taken] that will prevent the prejudice at its inception.").
- 243 Nebraska Press Ass'n v. Stuart, 427 U.S. 539, 601 n.27 (1976).

See Boos v. Barry, 108 S. Ct 1157, 1163 (1988) (regulation of speech based on listener reaction is content regulation); L. Tribe, supra note 11, § 12-3, at 803. The Court has considered the audience independent of the speaker in FCC v. Pacifica Found., 438 U.S. 726 (1978). In the "seven dirty words" case the Court upheld the FCC's authority to regulate radio broadcasts which it finds "indecent but not obscene." Id. at 729. The Court stressed the presence of unsupervised children in the listening audience and agreed with the Commission's finding that the language was potentially degrading and harmful to children. See id. at 749-50. Society has an interest in the "well-being of its youth," and this permits government to assist parents, who have primary responsibility for rearing and educating children. Id. at 749. For example, in Bethel School Dist. No. 403 v. Fraser, 478 U.S. 675 (1986), the Court rejected a civil rights claim by a student who was disciplined after he delivered a sexually suggestive speech at a high school assembly.

As applied in the extrajudicial speech context, potential jurors would be considered the vulnerable audience in need of some government shielding from prejudicial publicity.

- 245 See Model Code of Professional Responsibility DR 7-108(A), (B) (1981), reprinted in Appendix I; Model Rules of Professional Conduct Rule 3.5 (1987), reprinted in Appendix II.
- 246 Indeed, contact between the press and jurors is limited. See In re Stone, 703 P.2d 1319, 1322 (Colo. App. 1985). At least one court has held that the first amendment does not protect reporters' communications with prospective jurors who had been admonished not to discuss a pending case. See id. at 1321-22.

- 247 Compare Ohralik v. Ohio State Bar Ass'n, 436 U.S. 447, 468 (1978) (upholding disciplinary action against attorney who violated state's ethical rules by soliciting client face-to-face) with In re Primus, 436 U.S. 412, 433-39 (1978) (invalidating disciplinary action based on public communication to organize plaintiffs for civil rights suit as violative of first amendment).
- 248 See Chandler v. Florida, 449 U.S. 560, 574 (1981).
- 249 See Terminiello v. Chicago, 337 U.S. 1 (1949).
- 250 See, e.g., Collin v. Smith, 578 F.2d 1197, 1199 (7th Cir.) (striking down Skokie, Illinois, village ordinance which prohibited granting of permit for all public demonstrations that "incite violence, hatred, abuse or hostility toward a person or group of persons by reason of reference to religious, racial, ethnic, national or regional affiliation"), cert. denied, 439 U.S. 916 (1978).
- 251 See, e.g., Cox v. Louisiana, 379 U.S. 536, 550 (1965) (1500 demonstrators across the street from the county courthouse and jail were separated by 75 to 80 armed policemen from a crowd of 100 to 300 "muttering" spectators); Edwards v. South Carolina, 372 U.S. 229, 229-31 (1963) (187 demonstrators at the state house drew a crowd of 200 to 300 apparently peaceful observers; police had been given ample warning and had 30 officers at the scene, with adequate reinforcements available within a short time).
- 252 See, e.g., Hess v. Indiana, 414 U.S. 105, 108 (1973) (per curiam) (overturning conviction of spectator at an anti-war demonstration prosecuted for his disorderly conduct while being cleared from college campus: "at worst [the statement] amounted to nothing more than advocacy of illegal action at some indefinite future time. This is not sufficient to permit the State to punish [his] speech."); Feiner v. New York, 340 U.S. 315, 316, 319-20 (1951) (affirming conviction of speaker who urged blacks to rise up in arms to fight for equal rights while crowd of 75-80 whites and blacks began to issue threats of violence).
- 253 See supra notes 14-15, 140-55 and accompanying text.
- 254 See supra note 15; cf. Berger v. United States, 295 U.S. 78, 88 (1935).
- 255 See Chicago Council of Lawyers v. Bauer, 522 F.2d 242, 256-57 (7th Cir. 1975), cert. denied, 427 U.S. 912 (1976). However, the no comment rule for the period between completion of trial and sentencing was struck down because a judge can consider such a wide range of factors in sentencing and because the interest in protecting judges from public pressure runs afoul of the Supreme Court cases holding that the first amendment precludes contempt convictions for judicial criticism. See id. at 257 (citing Bridges v. California, 314 U.S. 252, 273 (1941)).
- 256 Hirschkop v. Snead, 594 F.2d 356, 371 (4th Cir. 1979).
- 257 See id.
- 258 See id. at 372 (noting that a jury can be responsible for sentencing in Virginia).
- 259 Justice Douglas observed: "This pressure can be serious when judges are elected .... Even federal judges, who have life tenure, may feel the lash of editorials demanding that cases be decided this way or that." Douglas, *The Public Trial and the Free Press*, 46 A.B.A. J. 840, 840 (1960).
- The suggestion that an inference could be drawn that public criticism would influence a judge to make unfair rulings against either the accused or the state was rejected by the Supreme Court in Pennekamp v. Florida, 328 U.S. 331, 349 (1946).
- 261 See Craig v. Harney, 331 U.S. 367, 377-78 (1947).
- 262 See Brown v. Glines, 444 U.S. 348, 360 (1980); Parker v. Levy, 417 U.S. 733, 743 (1974).
- 263 See Jones v. North Carolina Prisoners' Union, Inc., 433 U.S. 119, 125 (1977); Procunier v. Martinez, 416 U.S. 396, 404-05 (1974).
- 264 See Bethel School Dist. No. 403 v. Fraser, 478 U.S. 675 (1986); Tinker v. Des Moines School Dist., 393 U.S. 503, 511-12 (1969).
- 265 See Connick v. Myers, 461 U.S. 138 (1983); Pickering v. Board of Educ., 391 U.S. 563, 568 (1968).

- 266 Post, The Management of Speech: Discretion and Rights, 1984 Sup. Ct. Rev. 169, 196.
- 267 See Dienes, When the First Amendment is Not Preferred: The Military and Other "Special Contexts", 56 U. Cin. L. Rev. 779 (1988). Professor Dienes provides examples where the Supreme Court has suggested that first amendment values are not fully applicable in the military context. See id. at 799-827.

## 268 See Pickering, 391 U.S. at 568.

[T]he State has interests as an employer in regulating the speech of its employees that differ significantly from those it possesses in [[[regulating]... the speech of the citizenry in general. The problem in any case is to arrive at a balance between the interests of the [employee], as a citizen, in commenting upon matters of public concern and the interests of the State, as an employer, in promoting the efficiency of the public services it performs through its employees.

Id.

# 269 391 U.S. 563 (1968).

- 270 Id. at 572-73 (footnote omitted); see also Givhan v. Western Line Consol. School Dist., 439 U.S. 410 (1979) (holding that dismissal of public school teacher because of her allegation that school's policies were racially discriminatory violates the first amendment). Pickering has been criticized for inadequately protecting public employees' rights to free speech: "Although courts have fully articulated and usually deferred to employers' interests in efficiency, they have neglected to explicate employees' interests in expression. This systematic bias has resulted in a body of law that too narrowly conceives public employees' first amendment freedoms." Developments in the Law-Public Employment, 97 Harv. L. Rev. 1611, 1757 (1984).
- 271 Pickering, 391 U.S. at 568, 571-72.
- 272 See, e.g., Connick v. Myers, 461 U.S. 138, 151-52 (1983) ("When close working relationships are essential to fulfilling public responsibilities, a wide degree of deference to the employer's judgment is appropriate.").
- 273 See, e.g., Rankin v. McPherson, 483 U.S. 378, 392 (1987) ("Given the function of the agency, McPherson's position in the office, and the nature of her statement, we are not persuaded that Rankin's interest in discharging [[[McPherson] outweighed her rights under the First Amendment.").
- 274 See Blasi, The Checking Value in First Amendment Theory, 1977 Am. B. Found. Res. J. 521, 634. Professor Blasi's comment about public employee speech takes on an even stronger checking function in this context: "Since under the checking value information about the conduct of government is accorded the highest possible valuation, speech critical of public officials by those persons in the best position to know what they are talking about--namely, government employees--would seem to deserve special protection." Id.

# 275 467 U.S. 20 (1984).

- 276 Id. at 35-36. Although Justice Brennan joined Justice Powell's opinion, he also wrote two brief concurring paragraphs in which he was joined by Justice Marshall. In his concurrence, Justice Brennan said that he would affirm because plaintiffs' "interests in privacy and religious freedom are sufficient to justify this protective order and to overcome the protections afforded free expression by the First Amendment." Id. at 38 (Brennan, J., concurring).
- 277 See Fed. R. Civ. P. 26(c) advisory committee notes.
- 278 If the government is a party to the civil case, an executive branch attorney is involved. Seattle Times did not, however, suggest that the presence of a government party or attorney would affect its analysis. See Seattle Times v. Rhinehart, 467 U.S. 20 (1984).
- 279 416 U.S. 396 (1974).
- 280 Seattle Times, 467 U.S. at 32 (quoting Procunier v. Martinez, 416 U.S. 396, 413 (1974)).
- 281 Id. at 34.
- 282 See id.

- 283 See id. 33-34; Post, supra note 266, at 180-81 (arguing that first element of Procumier test not met in Seattle Times).
- 284 See Texas v. Johnson, 109 S. Ct. 2533, 2542 (1989) (finding state interest in preserving flag as symbol of nationhood related to expression in prosecution for flag burning).
- 285 See Seattle Times, 467 U.S. at 36.
- 286 See id. at 37.
- 287 See Post, supra note 266, at 201-06.

288 See Seattle Times, 467 U.S. at 32 n.18. The Seattle Times Court stated that: Although litigants do not "surrender their First Amendment rights at the courthouse door," those rights may be subordinated to other interests that arise in this setting. For instance, on several occasions this Court has approved restriction on the communications of trial participants where necessary to ensure a fair trial for a criminal defendant.

Id. (quoting In re Halkin, 598 F.2d 176, 186 (D.C. Cir. 1979)).

- 290 The Hirschkop court stated that "courts must consider the 'special characteristics of the . . . environment' in which the speech is uttered." Hirschkop v. Snead, 594 F.2d 356, 363 (4th Cir. 1979) (quoting Tinker v. Des Moines Indep. Community School Dist., 393 U.S. 503, 506 (1969)). The court did not elaborate on these "special characteristics," but did say that lawyer speech could prejudice the right to a fair criminal trial, that it is especially difficult for a trial judge to protect this right during the investigatory stages of a case, and that lawyers are "officers of the court" subject to special responsibilities. Id. at 364-66.
- 291 435 U.S. 829 (1978).
- 292 See id. at 837. In his concurring opinion, Justice Stewart drew a sharp distinction between a state's power to punish the participants and its power to punish the press for a breach of confidentiality. See id. at 848-49 (Stewart, J., concurring).

## 293 249 U.S. 47 (1919).

- 294 395 U.S. 444 (1969) (per curiam), overruling Whitney v. California, 274 U.S. 357 (1927). See generally Comment, Brandenburg v. Ohio: A Speech Test For All Seasons?, 43 U. Chi. L. Rev. 151 (1975) (discussing Brandenburg standard and examining post-Brandenburg decisions).
- 295 H. Kalven, A Worthy Tradition 125 (J. Kalven ed. 1988). See generally Comment, supra note 294, at 153-59. The Brandenburg doctrinal synthesis allows government regulation of advocacy (1) "directed to inciting or producing imminent lawless action" and (2) "likely to incite or produce such action." Brandenburg, 395 U.S. at 447.
- 296 "[T]he 'clear and present danger' language of the Schenck case has afforded practical guidance in a great variety of cases in which the scope of constitutional protections of freedom of expression was in issue." Bridges v. California, 314 U.S. 252, 262 (1941) (invalidating contempt order for criticism of judge's decision in pending case). See generally Comment, supra note 294, at 153-64.
- 297 314 U.S. 252 (1941).
- 298 See id. at 275-76.
- 299 314 U.S. 252 (1941).
- 300 See id. at 272 n.17.
- 301 Id. at 263.
- 302 See id. at 277-78. See generally R. McCloskey, The Modern Supreme Court 15 (1972) (observing that if Bridges' threat to cripple the West Coast economy did not present clear and present danger, then almost nothing said outside of court is punishable as contempt).

<sup>289</sup> Id. at 33.

- 303 370 U.S. 375 (1962).
- 304 331 U.S. 367 (1947).
- 305 328 U.S. 331 (1946).
- 306 376 U.S. 254 (1964).
- 307 Id. at 273.
- 308 See Chicago Council of Lawyers v. Bauer, 522 F.2d 242, 251 (7th Cir. 1975), cert. denied, 427 U.S. 912 (1976).
- 309 Hirschkop v. Snead, 594 F.2d 356, 362 (4th Cir. 1979).
- 310 Id. at 368.
- 311 90 N.J. 604, 449 A.2d 483 (1982).
- 312 See id. at 615-16, 449 A.2d at 489-90. See generally New Jersey Developments: In re Hinds: New Jersey Establishes a Standard for Restricting Attorney Speech, 35 Rutgers L. Rev. 661, 661-62 (1983).
- 313 49 A.D.2d 516, 370 N.Y.S.2d 82 (1975).
- 314 Id. at 517, 370 N.Y.S.2d at 85. This was the standard adopted by the ABA. See ABA Standards for Criminal Justice 8-1.1(a) (1980).
- 315 Model Rules of Professional Conduct Rule 3.6 (1987), reprinted in Appendix II.
- 316 ABA Standards for Criminal Justice: Fair Trial and Free Press 8-11 (1980). The *Hinds* court doubted that the clear and present danger standard provided any greater precision or clarity than reasonable likelihood, see In re Hinds, 90 N.J. 604, 622, 449 A.2d 483, 493 (1982), and although that test may be more narrow in its reach, the nature of the governmental interest involved and the status and role of the attorney in effectuating that interest justified the "reasonable likelihood" test. See id. at 623-24, 449 A.2d at 494.
- 317 See G. Hazard & W. Hodes, supra note 50, at 395.
- 318 The Supreme Court recently declined to review a Tennessee Supreme Court decision upholding discipline of a prosecutor for two out-of-court statements in violation of DR 7-107(B) and finding a "reasonably likely" test of threatened harm constitutionally permissible. See Zimmerman v. Board of Professional Responsibility, 764 S.W.2d 757, 763 (Tenn.), cert. denied, 109 S. Ct. 3160 (1989).
- 319 522 F.2d 242 (7th Cir. 1975), cert. denied, 427 U.S. 912 (1976).
- 320 Id. at 249.
- 321 See Zimmermann, 764 S.W.2d at 763. But see Press-Enterprise Co. v. Superior Court, 478 U.S. 1, 14 (1986) ("the 'reasonable likelihood' test places a lesser burden on the defendant than the 'substantial probability' test").
- 322 See Note, supra note 53, at 1118-19.
- Only one of MR 3.6's illustrative no comment rules contains this feature. See Model Rules of Professional Conduct Rule 3.6(b)
  (5), reprinted in Appendix II (1987). MR 3.6(b)(5) proscribes comment on inadmissible information that "would if disclosed create a substantial risk of prejudicing an impartial trial." Id.
- 324 See Model Rules of Professional Conduct Rule 3.6 model code comparison (1987) (comparison with Model Code of Professional Responsibility DR 7-107). See supra note 51 for another reason there is need for a clarifying revision of MR 3.6.
- 325 See McCormick on Evidence § 342, at 965 (E. Cleary ed., 3d ed. 1984).

- 326 Chicago Council of Lawyers v. Bauer, 522 F.2d 242, 251 (7th Cir. 1975), cert. denied, 427 U.S. 912 (1976). The balance of the opinion was devoted to deciding whether specific rules justified a presumption requiring the speaker to show no imminent threat to fair trial to avoid discipline. See id. at 252-59.
- 327 90 N.J. 646, 449 A.2d 505 (1982).
- 328 Id. at 658, 449 A.2d at 512.
- 329 See Note, Judicial Restrictions on Attorneys' Speech Concerning Pending Litigation: Reconciling the Rights to Fair Trial and Freedom of Speech, 33 Vand. L. Rev. 499, 510-12 (1980) (comparing different analysis of presumptive threat of lawyer speech in Bauer and Hirschkop).
- 330 See generally Philadelphia Newspapers, Inc. v. Hepps, 475 U.S. 767, 776-77 (1986) (first amendment requires private person defamation plaintiff to bear burden of proving falsity in case about speech of public concern).
- 331 G. Hazard & W. Hodes, supra note 50, at 395 (emphasis in original). It is not clear how the authors were using the term "presumptions" in a technical evidentiary sense.
- Bailey v. Alabama, 219 U.S. 219, 239 (1911). In Landmark Communications v. Virginia, 435 U.S. 829 (1978), the Court reversed the conviction of a newspaper that had violated a Virginia statute which imposed criminal sanctions on persons who breached the confidentiality of proceedings before a commission responsible for inquiries into complaints of judicial disability or misconduct. The Court declined to defer to the finding of the Virginia legislature that the divulgence of confidential proceedings of the commission automatically created a clear and present danger to the orderly administration of justice. See id. at 842-45.
- 333 See McCormick on Evidence, supra note 325, § 343, at 968-69; Cleary, Presuming and Pleading: An Essay on Juristic Immaturity, 12 Stan. L. Rev. 5, 11-14 (1959).

334 Justice Stewart's comments made in Branzburg v. Hayes, 408 U.S. 665 (1972), are pertinent here: We must often proceed in a state of less than perfect knowledge, either because the facts are murky or the methodology used in obtaining the facts is open to question. It is then that we must look to the Constitution for the values that inform our presumptions. And the importance to our society of the full flow of information to the public has buttressed this Court's historic presumption in favor of First Amendment values.

*Id.* at 736 n.19 (Stewart, J., dissenting). The competing state interests were those of effective law enforcement and ensuring effective grand jury proceedings as opposed to the burden on news gathering said to result from insisting that reporters respond to relevant questions during a grand jury investigation or criminal trial. *See id.* at 682.

- See A. Howard & S. Newman, Subcomm. on Constitutional Rights of the Senate Comm. on the Judiciary, Fair Trial and Free Expression: A Background Report, 94th Cong., 2d Sess. 75 (Comm. Print 1976); Frasca, supra note 3, at 169 (estimating that press-induced bias would occur in only one of every 10,000 cases); Pember, Does Pretrial Publicity Really Hurt?, Colum. Journ. Rev. 16, 20 (Sept.-Oct. 1984). One study found publicity is an issue in very few cases. During 1976 to 1980, only 368 of the 63,000 appeals in criminal cases to highest state appellate courts claimed that news coverage prejudiced the trial outcome. Reversals based on publicity were ordered in only 18 cases. See Spencer, The So-Called Problem of Prejudicial Publicity Is a Red Herring, 2 Comm. Law. 11, 11-12 (Spring 1984). In Nebraska Press Ass'n v. Stuart, 427 U.S. 539 (1976), the Supreme Court recognized that reversal of a conviction on the ground that publicity had prevented a fair trial is rare. See id. at 552-54.
- 336 Nebraska Press, 427 U.S. at 551.
- 337 435 U.S. 829 (1978).
- 338 See id. at 845. But see Rideau v. Louisiana, 373 U.S. 723, 726 (1963) (showing of actual unfairness unnecessary when record shows saturation publicity of the accused's pretrial confession).

339 New York Times v. Sullivan, 376 U.S. 254, 279 (1964).

340 The principle that the burden of showing that speech is unprotected should not be placed on the speaker has been followed in First Amendment cases involving obscenity, See Blount v. Rizzi, 400 U.S. 410, 417 (1971), defamation, See Philadelphia Newspapers, Inc. v. Hepps, 475 U.S. 767, 776 (1986), and invasion of privacy, See Diaz v. Oakland Tribune, 139 Cal. App. 3d 118, 126, 188 Cal. Rptr 762, 778 (1983).

- 341 This condition is included because a few criminal trials may be conducted without a jury due to the defendants' personal concerns about the effects of pretrial press coverage.
- 342 This approach was adopted by the New Jersey Supreme Court in *In re* Rachmiel, 90 N.J. 646, 449 A.2d 505 (1982), and *In re* Hinds, 90 N.J. 604, 449 A.2d 483 (1982).
- 343 See Patterson v. New York, 432 U.S. 197, 210-15 (1977).
- 344 376 U.S. 254 (1964).
- 345 Id. at 285-86.
- 346 418 U.S. 323 (1974), cert. denied, 459 U.S. 1226 (1975).
- 347 Id. at 342.
- 348 See, e.g., Addington v. Texas, 441 U.S. 418, 432-33 (1979) (clear and convincing proof for civil commitment); Woodby v. INS, 385 U.S. 276, 286 (1966) (clear and convincing proof for deportation).
- 349 Although it upheld a less stringent First Amendment standard than in *Bauer*, the *Hinds* court held that the "reasonable likelihood standard requires a showing by clear and convincing evidence that an attorney's extrajudicial speech truly jeopardized trial fairness." In re Hinds, 90 N.J. 604, 626, 449 A.2d 483, 495 (1982).
- 350 See supra text accompanying notes 167-173.
- 351 See Model Rule of Professional Conduct 3.6 (1987), reprinted in Appendix II.
- 352 See Osborne v. Ohio, 110 S. Ct. 1691, 1699 (1990) (finding existence of scienter requirement in child pornography statute to be factor in rejecting first amendment overbreadth attack on that statute); Florida Star v. B.J.F., 109 S. Ct. 2603, 2612 (1989) (finding lack of a scienter requirement a constitutional infirmity in Florida statute that makes it unlawful to disclose through media the name of a sexual offense victim); Smith v. California, 361 U.S. 147, 152-53 (1959) (holding unconstitutional an obscenity ordinance because its lack of a scienter requirement posed undue threat to stifle protected expression).
- 353 In In re Lasswell, 296 Or. 121, 673 P.2d 855 (1983), the Oregon Supreme Court decided that DR 7-107(B) is compatible with free speech protections if (1) the prosecutor spoke with intent to influence the factfinding process or (2) knew his statements posed a serious and imminent threat to a fair trial and acted with indifference to that effect. See id. at 126-27, 673 P.2d at 858. The court did not indicate whether there must be some showing of likelihood of harm if the intent test were met, and the opinion was ambiguous as to whether a likelihood of harm showing is necessary when the knowledge and indifference test is satisfied. See id.; see also In re Burrows, 290 Or. 131, 135, 618 P.2d 1283, 1285 (1980) (dismissing disciplinary action against district attorney for reading to high school class a letter from defendant to mother, because of no likelihood of any prejudicial effect).
- 354 The Court's decision in Brandenburg v. Ohio, 395 U.S. 444 (1969), underscored the precept that speaker intent to incite or cause harm could not alone justify a speech abridgement. The speech must be "likely to incite or produce such action." *Id.* at 447 (footnote omitted). Both danger and intent are required. For that reason, even the most brazen publicity attempt to prejudice a jury must pose some realistic threat before discipline could be imposed. Because no criminal sanction is involved and because the prosecutor assumes a duty to ensure a fair trial, a reasonable likelihood of threat coupled with a showing of bad faith speech is an appropriate balance of speech and fair trial concerns. Because intent may be inferred from the creation of danger, *See* Schenck v. United States, 249 U.S. 47, 52 (1919), a clear and convincing proof standard on the intent issue may be necessary.
- 355 See New York Times v. Sullivan, 376 U.S. 254, 278-80 (1964).
- 356 485 U.S. 46 (1988).

#### 357 Id. at 48.

- 358 See, e.g., Williams v. State, 258 Ga. 305, 313-15, 369 S.E.2d 232, 237-39 (courts, in determining prosecutor disqualification from case, consider whether prosecutors' improper remarks to jury were part of "calculated" plan to prejudice the defendant in the minds of the jurors), cert. denied, 109 S. Ct. 225 (1988); Commonwealth v. Anderson, 294 Pa. Super. 1, 10-12, 439 A.2d 720, 724-25 (1981) (prosecutor intentionally attempted to influence trial through statements to the press, thereby barring retrial despite manifest necessity for mistrial).
- 359 See, e.g., Consolidated Edison Co. v. Public Serv. Comm'n, 447 U.S. 530, 541 n.10 (1980) ("we have consistently rejected the suggestion that a government may justify a content-based prohibition by showing that speakers have alternative means of expression"); Virginia State Bd. of Pharmacy v. Virginia Citizens Consumer Council, 425 U.S. 748, 757 n.15 (1976) (invalidating state ban on advertising of prices of prescription drugs; held irrelevant that consumers might be able to obtain the same information in some other ways); Spence v. Washington, 418 U.S. 405, 411 & n.4 (1974) (reversing conviction for taping removable peace symbol onto flag displayed in apartment window, and "summarily" rejecting the state court's argument that the inhibition on speech was "miniscule and trifling" because of "other means" that could have been used to express the same views; the availability of other means are irrelevant when government prosecutes "for the expression of an idea through activity"). In contrast, when dealing with what it considers to be content-neutral restrictions on speech, the Court often has inquired into the availability of alternative avenues of communication. See, e.g., Clark v. Community for Creative Non-Violence, 468 U.S. 288, 293 (1984) (upholding National Park Service anti-camping regulations as applied to protesters attempting to call attention to the plight of homeless).
- 360 See Nebraska Press Ass'n v. Stuart, 427 U.S. 539, 559 (1976); Carroll v. President of Princess Anne, 393 U.S. 175, 182-83 (1968); Wood v. Georgia, 370 U.S. 375, 392 (1962); Pennekamp v. Florida, 328 U.S. 331, 348-50 (1946); Bridges v. California, 314 U.S. 252, 268-69 (1941).
- 361 Bridges, 314 U.S. at 268; see also Chicago Council of Lawyers v. Bauer, 522 F.2d 242, 249-50 (7th Cir. 1975) (only comments that pose a serious and imminent threat of interference with fair administration of justice can be constitutionally proscribed), cert. denied, 427 U.S. 912 (1976).
- 362 The Sheppard Court seemed to recognize this when it observed that control of trial participant speech might have prevented prejudicial publicity "at least after Sheppard's indictment." Sheppard v. Maxwell, 384 U.S. 333, 361 (1966). As the Bauer court observed, "since there are no formal court proceedings pending there is no opportunity to obtain a specific pre-trial order limiting out-of-court statements." Bauer, 522 F.2d at 252. The Hirschkop court pointed out that during the investigatory stage "it is difficult for a court to protect the accused by entering orders restricting comments on an ad hoc basis." Hirschkop v. Snead, 594 F.2d 356, 365 (4th Cir. 1979) (per curiam) (en banc).
- 363 As previously noted, this Article does not address prosecutor leaks of matters that occur before the grand jury. The traditional secrecy of grand jury proceedings has been viewed as serving mainly the grand jury's screening and investigatory functions rather than protecting the accused's fair trial. See United States v. Proctor & Gamble Co., 356 U.S. 677, 682-83 (1958).
- 364 See United States v. Tucker, 404 U.S. 443, 446 (1972); 18 U.S.C. § 3562 (1988) (previously codified at 18 U.S.C. § 3577).
- 365 See Hirschkop, 594 F.2d at 366; Bauer, 522 F.2d at 251; see also Seitz Report, supra note 58, at 527-28 (eliminating recommended court no comment rule prohibiting lawyer comment pending sentencing).
- 366 See Nebraska Press Ass'n v. Stuart, 427 U.S. 539, 562-63 (1976); Sheppard v. Maxwell, 384 U.S. 333, 357-63 (1966).
- 367 Sheppard, 384 U.S. at 363.
- 368 Id.
- 369 283 U.S. 697 (1931).
- 370 403 U.S. 713 (1971) (per curiam).
- 371 427 U.S. 539 (1976).

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- 372 L. Tribe, supra note 11, § 12-34, at 1040.
- 373 See, e.g., Jeffries, Rethinking Prior Restraint, 92 Yale L.J. 409, 437 (1983).
- 374 Bantam Books, Inc. v. Sullivan, 372 U.S. 58, 70 (1963) (citations omitted).
- 375 See Carroll v. President of Princess Anne, 393 U.S. 175, 181-82 (1968).
- 376 Compare Shuttlesworth v. Burmingham, 394 U.S. 147 (1969) (individual may refuse to comply with local ordinance requiring parade permit and still raise law's facial invalidity as defense in subsequent prosecution) with Walker v. Birmingham, 388 U.S. 307 (1967) (collateral bar rule precludes raising defense of unconstitutionality of injunction against contempt charge, with some exceptions).
- 377 Barnett, The Puzzle of Prior Restraint, 29 Stan. L. Rev. 539, 552 (1977). But see In re Providence Journal Co., 820 F.2d 1342, 1353 (1st Cir. 1986) (TRO against newspaper transparently unconstitutional; collateral bar rule does not preclude reversal of criminal contempt conviction), modified in part, 820 F.2d 1354, 1355 (1st Cir. 1987) (per curiam) (en banc) (collateral bar rule not applicable if publisher made good faith timely effort to appeal constitutionality of order), cert. dismissed, 485 U.S. 693 (1988).
- 378 See Nebraska Press Ass'n v. Stuart, 427 U.S. 539, 541-43 (1976).
- 379 Id. at 559.
- 380 See id. at 562.
- 381 See id. at 568-69.
- 382 See id. at 563-64. The Court also doubted the efficacy of the order in protecting the defendant's right to a fair trial. See id. at 565-67.

Chief Justice Burger's opinion for the Court contained a doctrinal aberration. He wrote that to judge the prior restraint, the Court should be guided by a test Chief Judge Learned Hand formulated in United States v. Dennis, 183 F.2d 201 (2d Cir. 1950), aff'd, 341 U.S. 494 (1951), which asked whether "the gravity of the 'evil,' discounted by its improbability, justifies such invasion of free speech as is necessary to avoid the danger," Nebraska Press, 427 U.S. at 562 (quoting Dennis, 183 F.2d at 212). Dennis, however, did not involve a prior restraint. The Dennis test to judge subversive speech was made considerably more stringent in Brandenburg v. Ohio, 395 U.S. 444 (1969) (per curiam), which permits government regulation of subversive advocacy only if (1) "directed to inciting or producing imminent lawless action" and (2) "likely to incite or produce such action." Id. at 447. The anomaly of Nebraska Press is that it endorsed a standard less protective of speech than Brandenburg when conventional prior restraint theory would call for a test more protective than Brandenburg. See Schmidt, Nebraska Press Association: An Expansion of Freedom and Contraction of Theory, 29 Stan. L. Rev. 431, 458-66 (1977).

- 383 See Prettyman, Nebraska Press Association v. Stuart: Have We Seen the Last of Prior Restraints on the Reporting of Judicial Proceedings?, 20 St. Louis U.L.J. 654, 658 (1976).
- 384 See, e.g., In re Dow Jones & Co., 842 F.2d 603, 606-08 (2d Cir. 1988), cert. denied, 109 S. Ct. 377 (1988); Radio & Television News Ass'n v. United States Dist. Ct., 781 F.2d 1443, 1445-46 (9th Cir. 1986); National Broadcasting Co. v. Cooperman, 116 A.D.2d 287, 289, 501 N.Y.S.2d 405, 406 (1986). The Nebraska Press Court referred to this issue of judicially imposed restraints on lawyers interfering with press rights to news sources, but declined to address it because "[w]e are not now confronted with such issues." Nebraska Press, 427 U.S. at 564 n.8.
- 385 There is a split in the circuits over what the standard of review should be when the press challenges a restraining order imposed on trial participants. See Dow Jones & Co. v. Simon, 109 S. Ct. 377, 378 (1988) (White, J., joined by Brennan and Marshall, JJ., dissenting from denial of certiorari). Compare Radio & Television News Ass'n v. United State Dist. Ct., 781 F.2d 1443, 1446 (9th Cir. 1986) (standard used was "reasonable likelihood" that pretrial publicity would prejudice defendant's right to fair trial) with CBS v. Young, 522 F.2d 234, 239 (6th Cir. 1975) (employing a "clear and present danger" standard).
- 386 See Hirschkop v. Snead, 594 F.2d 356, 369 (4th Cir. 1979); Chicago Council of Lawyers v. Bauer, 522 F.2d 242, 251 (7th Cir. 1975), cert. denied, 427 U.S. 912 (1976); Young, 522 F.2d at 238-39; United States v. Tijerina, 412 F.2d 661, 666 (10th

Cir.), cert. denied, 396 U.S. 990 (1969); Ruggieri v. Johns-Manville Products Corp., 503 F. Supp. 1036, 1040 (D.R.I. 1980); United States v. Marcano Garcia, 456 F. Supp. 1354, 1356 (D.P.R. 1978); Kemner v. Monsanto Co., 112 Ill. 2d 223, 243-44, 492 N.E. 2d 1327, 1336-37 (1986); People v. Dupree, 88 Misc. 2d 780, 787, 388 N.Y.S.2d 203, 208 (Sup. Ct. 1976); see also Sack, *Principle and* Nebraska Press Association v. Stuart, 29 Stan. L. Rev. 411, 427-28 (1977) (all gags on media are direct interference with free press; such orders on trial participants can "pass first amendment muster . . . [if] there is a compelling reason to abridge the right to speak").

- 387 See Nebraska Press, 427 U.S. at 564, 601 (Brennan, J., concurring); supra text accompanying notes 203-221.
- 388 See, e.g., In re New York Times, 16 Media L. Rptr. (BNA) 1877, 1878 (2d Cir. 1989) (vacating gag order on counsel in criminal case because there was no showing of either a willing speaker or likely prejudice).
- 389 See National Broadcasting Co. v. Cooperman, 116 A.D.2d 287, 292, 501 N.Y.S.2d 405, 408 (1986); People v. Dupree, 88 Misc. 2d 787, 789, 388 N.Y.S.2d 203, 209.
- 390 See Nebraska Press Ass'n v. Stuart, 427 U.S. 539, 562 (1976); National Broadcasting, 116 A.D.2d at 293, 501 N.Y.S.2d at 409. In Bailey v. Systems Innovation, Inc., 852 F.2d 93 (3d Cir. 1988), the Court of Appeals for the Third Circuit followed this course of analysis in striking down a pretrial order based on the Middle District of Pennsylvania Local Rule 118.7 governing "Extrajudicial Statements by Attorneys in Civil Cases." See id. at 99-101
- 391 In In re Dow Jones & Co., 842 F.2d 603, 611 (2d Cir.), cert denied, 109 S. Ct. 377 (1988), the Second Circuit approved of the trial court's exploring available alternatives to a gag order: "The precautions share one thing in common: each must be explored and ultimately rejected as inadequate--individually and in combination--as a remedy for prejudicial pretrial publicity before a restraining order is entered." Id.; see Connecticut Magazine v. Moraghan, 676 F. Supp. 38, 43 (D. Conn. 1987) (finding state court's imposition of gag order on criminal trial counsel improper for failure to make findings on effectiveness of alternatives). Although disfavored relative to other techniques, a restraining order on counsel may be necessary in conjunction with other measures to ameliorate or prevent prejudice from publicity. See, e.g., State v. Biegenwald, 106 N.J. 13, 35, 524 A.2d 130, 141 (1987) (continuance and restraint on counsel employed).
- 392 See Dow Jones, 842 F.2d at 611.
- 393 See M. Franklin, Mass Media Law 521-23 (3d ed. 1987).
- 394 See supra text accompanying notes 355-360.
- 395 Freedman v. Maryland, 380 U.S. 51, 58 (1965).
- 396 See Monaghan, First Amendment "Due Process", 83 Harv. L. Rev. 518, 520-26 (1970).
- 397 See id. at 520-24.

398 New York Times v. Sullivan, 376 U.S. 254, 285 (1964). This is a well-established precept in the defamation area as well as other speech contexts. See, e.g., Harte-Hanks Communications v. Connaughton, 109 S. Ct. 2678, 2696-98 (1989) (defamation); Jenkins v. Georgia, 418 U.S. 153, 159-61 (1974) (obscenity); Hess v. Indiana, 414 U.S. 105, 108-09 (1973) (per curiam) (incitement to violence); Street v. New York, 394 U.S. 576, 592 (1969) ("fighting words"); Edwards v. South Carolina, 372 U.S. 229, 235 (1963) (parade to protest segregation); Pennekamp v. Florida, 328 U.S. 331, 335 (1946) (newspaper's criticism of judges).

- 399 An example of a court failing to do this and thereby affirming a decision that arguably was insensitive to first amendment interests was *In re* Hansen, 584 P.2d 805 (Utah 1978). *Hansen* involved an appeal to the Utah Supreme Court from a determination by the Utah State Bar Commission that the Attorney General, when serving as Deputy Attorney General, made statements on television about a pending prosecution in violation of DR 7-107(B)(6). *See id.* at 806. The court held that the Commission's decision would be affirmed "unless it appears that the Commission has acted arbitrarily or unreasonably." *Id.* at 807. The court reduced the Commission's recommended sanction from one-year suspension to censure and a reprimand, but did not address the first amendment and degree of potential harm issues. *See id.*
- 400 See supra text accompanying notes 216, 331-352.

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401 L. Tribe, *supra* note 11, § 12-11, at 861 (1988).

- 402 Defense counsel have been the focus of much of the writing on this topic. This Article's analysis indicates that it would be compatible with the first amendment to regulate prosecutor speech to a greater degree than defense counsel extrajudicial speech. However, the scope of this distinction needs further analysis than is presented here. See Swift, supra note 13, at 83-84.
- 403 cf. Connick v. Myers, 461 U.S. 138, 143-49 (1983) (balancing employee's first amendment rights against government's interest in promoting efficient public services).
- 404 See J. Watkins, The Mass Media and the Law 277 (1990).

# \*934 APPENDIX I

### DR 7-107 TRIAL PUBLICITY

(A) A lawyer participating in or associated with the investigation of a criminal matter shall not make or participate in making an extrajudicial statement that a reasonable person would expect to be disseminated by means of public communication and that does more than state without elaboration:

(1) Information contained in a public record.

(2) That the investigation is in progress.

(3) The general scope of the investigation including a description of the offense and, if permitted by law, the identity of the victim.

(4) A request for assistance in apprehending a suspect or assistance in other matters and the information necessary thereto.

(5) A warning to the public of any dangers.

(B) A lawyer or law firm associated with the prosecution or defense of a criminal matter shall not, from the time of the filing of a complaint, information, or indictment, the issuance of an arrest warrant, or arrest until the commencement of the trial or disposition without trial, make or participate in making an extrajudicial statement that a reasonable person would expect to be disseminated by means of public communication and that relates to:

(1) The character, reputation, or prior criminal record (including arrests, indictments, or other charges of crime) of the accused.

(2) The possibility of a plea of guilty to the offense charged or to a lesser offense.

(3) The existence or contents of any confession, admission, or statement given by the accused or his refusal or failure to make a statement.

(4) The performance or results of any examinations or tests or the refusal or failure of the accused to submit to examinations or tests.

(5) The identity, testimony, or credibility of a prospective witness.

(6) Any opinion as to the guilt or innocence of the accused, the evidence or the merits of the case.

(C) DR 7-107(B) does not preclude a lawyer during such period from announcing:(1) The name, age, residence, occupation, and family status of the accused.

(2) If the accused has not been apprehended, if any information necessary to aid in his apprehension or to warn the public of any dangers he may present.

(3) A request for assistance in obtaining evidence.

(4) The identity of the victim of the crime.

\*935 (5) The fact, time, and place of arrest, resistance, pursuit, and use of weapons.

(6) The identity of investigating and arresting officers or agencies and the length of the investigation.

(7) At the time of seizure, a description of the physical evidence seized, other than a confession, admission, or statement.

(8) The nature, substance, or text of the charge.

(9) Quotations from or references to public records of the court in the case.

- (10) The scheduling or result of any step in the judicial proceedings.
- (11) That the accused denies the charges made against him.

(D) During the selection of a jury or the trial of a criminal matter, a lawyer or law firm associated with the prosecution or defense of a criminal matter shall not make or participate in making an extra-judicial statement that a reasonable person would expect to be disseminated by means of public communication and that relates to the trial, parties, or issues in the trial or other matters that are reasonably likely to interfere with a fair trial, except that he may quote from or refer without comment to public records of the court in the case.

(E) After the completion of a trial or disposition without trial of a criminal matter and prior to the imposition of sentence, a lawyer or law firm associated with the prosecution or defense shall not make or participate in making an extra-judicial statement that a reasonable person would expect to be disseminated by public communication that is reasonably likely to affect the imposition of sentence.

(F) The foregoing provisions of DR 7-107 also apply to professional disciplinary proceedings and juvenile disciplinary proceedings when pertinent and consistent with other law applicable to such proceedings.

(G) A lawyer or law firm associated with a civil action shall not during its investigation or litigation make or participate in making an extrajudicial statement, other than a quotation from a reference to public records, that a reasonable person would expect to be disseminated by means of public communication and that relates to:

(1) Evidence regarding the occurrence or transaction involved.

(2) The character, credibility, or criminal record of a party, witness, or prospective witness.

(3) The performance or results of any examinations or tests or the refusal or failure of a party to submit to such.

(4) His opinion as to the merits of the claims or defenses of a party, except as required by law or administrative rule.

(5) Any other matter reasonably likely to interfere with a fair trial of the action.

(H) During the pendency of an administrative proceeding, a lawyer or law firm associated therewith shall not make or participate in making a \*936 statement, other than quotations from or reference to public records, that a reasonable person would expect to be disseminated by means of public communication if it is made outside the official course of the proceeding and relates to:

(1) Evidence regarding the occurrence or transaction involved.

(2) The character, credibility, or criminal records of a party, witness, or prospective witness.

(3) Physical evidence or the performance or results of any examinations or tests or the refusal of a party to submit to such.

(4) His opinion as to the merits of the claims, defenses, or positions of an interested person.

(5) Any other matter reasonably likely to interfere with a fair hearing.

(I) The foregoing provisions of DR 7-107 do not preclude a lawyer from replying to charges of misconduct publicly made against him or from participating in the proceedings of legislative, administrative, or other investigative bodies.

(J) A lawyer shall exercise reasonable care to prevent his employees and associates from making an extra-judicial statement that he would be prohibited from making under DR 7-107.

### \*937 APPENDIX II

### **RULE 3.6 TRIAL PUBLICITY**

(a) A lawyer shall not make an extrajudicial statement that a reasonable person would expect to be disseminated by means of public communication if the lawyer knows or reasonably should know that it will have a substantial likelihood of materially prejudicing an adjudicative proceeding.

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(b) A statement referred to in paragraph (a) ordinarily is likely to have such an effect when it refers to a civil matter triable to a jury, a criminal matter, or any other proceeding that could result in incarceration, and the statement relates to:

(1) the character, credibility, reputation or criminal record of a party, suspect in a criminal investigation or witness, or the identity of a witness, or the expected testimony of a party or witness;

(2) in a criminal case or proceeding that could result in incarceration, the possibility of a plea of guilty to the offense or the existence or contents of any confession, admission, or statement given by a defendant or suspect or that person's refusal or failure to make a statement;

(3) the performance or results of any examination or test or the refusal or failure of a person to submit to an examination or test, or the identity or nature of physical evidence expected to be presented;

(4) any opinion as to the guilt or innocence of a defendant or suspect in a criminal case or proceeding that could result in incarceration;

(5) information the lawyer knows or reasonably should know is likely to be inadmissible as evidence in a trial and would if disclosed create a substantial risk of prejudicing an impartial trial; or

(6) the fact that a defendant has been charged with a crime, unless there is included therein a statement explaining that the charge is merely an accusation and that the defendant is presumed innocent until and unless proven guilty.

(c) Notwithstanding paragraph (a) and (b)(1-5), a lawyer involved in the investigation or litigation of a matter may state without elaboration:

(1) the general nature of the claim or defense;

(2) the information contained in a public record;

(3) that an investigation of the matter is in progress, including the general scope of the investigation, the offense or clam or defense involved and, except when prohibited by law, the identity of the persons involved;

(4) the scheduling or result of any step in litigation;

(5) a request for assistance in obtaining evidence and information necessary thereto;

(6) a warning of danger concerning the behavior of a person involved, when there is reason to believe that there exists the likelihood \*938 of substantial harm to an individual or to the public interest; and

(7) in a criminal case:

(i) the identity, residence, occupation and family status of the accused;

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(ii) if the accused has not been apprehended, information necessary to aid in apprehension of that person;

(iii) the fact, time and place of arrest; and

(iv) the identity of investigating and arresting officers or agencies and the length of the investigation.

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