

Grid Modernization Advisory Council (GMAC)

MEETING MINUTES

Thursday, October 26, 2023, 1–4 p.m.

Hybrid meeting

Councilors present: Kelly Caiazzo, Sarah Bresolin Silver (virtual), Larry Chretien (virtual), Kate Tohme (designee for Kathryn Cox-Arslan; virtual), Jeremy Koo (designee for Julie Curti; virtual), Commissioner Elizabeth Mahony, Amy McGuire (virtual), Kyle Murray (virtual), Sarah Cullinan (virtual), Jonathan Stout, Andy Sun (virtual), Tim Snyder (designee for Alex Worsley; virtual), Kathryn Wright (virtual)

Non-voting councilors: Carol Sedewitz (National Grid), Digaunto Chatterjee (Eversource), Kevin Sprague (Unitil; virtual)

Councilors absent: Marybeth Campbell, JS Rancourt

DOER staff present: Aurora Edington, Julia Fox, Marian Harkavy, Sarah McDaniel

Consultants present: Paul Alvarez (virtual), Jennifer Haugh (virtual), Ben Havumaki, Chelsea Mattioda, Dennis Stephens (virtual), Tim Woolf

1. Call to Order

Commissioner Elizabeth Mahony (DOER): Commissioner Elizabeth Mahony, as Chair, called the meeting to order at 1:02 p.m.

2. Welcome, Roll Call, Agenda

Commissioner Elizabeth Mahony (DOER): Commissioner Elizabeth Mahony welcomed all participants to the GMAC meeting. The Commissioner took roll call for voting and non-voting members.

3. Approval of Minutes

Councilor Sarah Bresolin Silver moved to approve the October 12, 2023, GMAC meeting minutes. Councilor Kyle Murray seconded. The motion carried.

Councilor Sarah Bresolin Silver moved to approve the October 13, 2023, joint GMAC/CETWG meeting minutes. Councilor Kyle Murray seconded. The motion carried.

4. ESMP Review Period Reminders

Commissioner Elizabeth Mahony reviewed slide 4, which reiterates the listening sessions and technical sessions dates and recommendations sheet due dates. Slide 5 illustrated the calendar of all that's going on and slide 6 covered next steps of the recommendations process.

Discussion:

Councilor Kelly Caiazzo, Office of the Attorney General, representing the Office of the Attorney General: I find this process is helpful, though the spreadsheets are a little unwieldy. I was also thinking about the term "findings"; the Equity Working Group has "comments," and another group has priorities, comments, and recommendations. I think of findings as "findings of fact" and maybe we don't want to suggest that at this stage, given that these are draft recommendations.

Commissioner Elizabeth Mahony: I agree; we are open to figuring out how to couch that. It's important to have that section separate from the recommendations.

Councilor Kyle Murray, Acadia Center, representing the environmental advocacy community: Perhaps we say GMAC observations instead of findings, because it's really our observations about what's going on in the process. We don't need to think too hard about it.

Councilor Sarah Cullinan, representing the Massachusetts Clean Energy Center: Before trying to populate something like this, I suggest we make a sub-bullet for each of those lettered finding topics to guide what would go there. I feel like missing information would best fit under every one of those. I wonder if there's a standard outline, we could implement for each of them to guide it a little more.

Councilor Kathryn Wright, the Barr Foundation, representing the environmental justice community: In the Equity Working Group, we went with the term "comments" in part because some information was missing, so we tried to divide what was more observational versus what was a recommendation we felt strongly about. The Equity Working Group will be voting on the recommendations on November 3 and they'll be available shortly thereafter.

Commissioner Elizabeth Mahony: Thank you for that reminder.

Councilor Kelly Caiazzo: As far as process, we've thought a little about what the GMAC would be doing after the findings and recommendations period and over the five years of the first term, so I wonder if we have any further thoughts on that or if there's a specific place where GMAC members might provide recommendations or thoughts on kind of a continued process.

Commissioner Elizabeth Mahony: We are going to talk a little bit tomorrow at the ExCom meeting about what we'll be doing later in the year. The question is, how do we think about post-January, really, in this group and how do we reflect that in the outline?

Councilor Kelly Caiazzo: Yes; if we don't talk about it now, there won't necessarily be a meeting on the calendar to talk going forward, and it might just be like "here's where we had a comment but weren't ready to make a recommendation." Just want to think through that process a little bit

so people understand where we're going. I know we're talking about the conclusion and the reporting requirements, but it's not clear to me how it's all going to come together, and whether the GMAC will be talking to each other after this period.

Commissioner Elizabeth Mahony: These are great questions; we'll cover that tomorrow and report back on November 9.

Aurora Edington, staff member of the DOER: We do have a December GMAC meeting, so there'll be an opportunity to talk then.

Kate Tohme, designee for Kathryn Cox-Arsalan, New Leaf Energy, representing the distributed generation renewable energy industry: I support Councilor Kelly Caiazzo's recommendation and suggest that GMAC recommendations be broken down by topic and the process moving forward be its own recommendation. This should be something the EDCs propose in their filings and be approved by the DPU, as well as any other process items we have recommendations on.

Digaunto Chatterjee, representing Eversource: The ESMPs are the overarching plan for grid infrastructure—gas electric coordination, solar, EV infrastructure, specific incentives for electrification, etc. To the extent the whole construct of the GMAC works differently with different workstreams reporting up to the GMAC structure, it becomes clearer what GMAC's role is. There's a lot of room for the GMAC's role to grow and actively participate in how different workstreams work in a cohesive manner to drive overall grid modernization. This seems like it would follow the DPU's seven-month process.

Commissioner Elizabeth Mahony: More to come, and it's good to get the ideas flowing.

Commissioner Elizabeth Mahony concluded with slide 7 regarding ESMP review agendas.

5. Discussion of DPU Process

Tim Woolf, Synapse, went through slides 9 through 13:

- Slide 9: The statutory requirements make it clear that the GMAC's recommendations are very influential to the final process.
- Slide 10: summary of statutory requirements. Embedded in this act is the implication that most or all of the investments proposed in the ESMP are subject to the pre-authorized, pre-approved plant additions.
- Slide 11: summary of hearing officer memo the DPU issued in August.
- Slide 12: pre-authorization of investments within the ESMPs. Woolf said he can't emphasize how important this is. Preauthorization should not be taken lightly; there should be clear evidence that it will provide net benefits to customers. In the ESMPs themselves, there was very little information about what has been or what they hope to preauthorize. There is very little mention of any proposed pre-authorized investments. Some projects have been approved already, but it was somewhat scattered in National Grid. For Eversource, there is no mention of preauthorized proposed investments or discussion of investments already authorized by the DPU. Until hoping that everything in their plan is preauthorized, which is rather ambitious, because there are 25 years of investments mentioned in there and that's not the practice of the DPU to date. The upshot is we don't have much to go on.
- Slide 13: consultant reactions. The ESMPs should be clearer on whether EDCs are planning to seek DPU authorization of any proposed investments in the ESMPs. Woolf said it wasn't clear

how existing orders will play out. There should be much more detail on preauthorization: identify what's already been authorized, proposed investments for which they'll be seeking preauthorization, and for which ones they are not seeking preauthorization. This is critical for a benefit-cost analysis and deciding what to analyze and for the level of scrutiny warranted for investments. The investments need to be fully described, justified, and understood to be fully reviewed.

Discussion:

Commissioner Elizabeth Mahony: Some of these preauthorization questions are big global legal questions that exist that we will need to review (but we don't know who exactly).

Councilor Kelly Caiazzo: I agree with all that, and there's a lot of complex issues to consider. I just wanted to make a note that I think that where the different EDCs are in terms of rate cases may impact this discussion with each utility being in different places. We need to keep that in mind, and it's important to consider how these rate cases are interacting with the ESMPs. My take is there may be some differences just given the posture.

Councilor Larry Chretien, Green Energy Consumers Alliance, representing low- to moderate-income residential customers: I appreciate the fact that Synapse shared this slide. I'm thinking through what that means for the GMAC and whether that's an issue beyond our purview. Where I land is: for me to sign off on the plans, so much of what we're looking at has to do with a long-term timeframe and so many assumptions about the pace of adoption of EVs and heat pumps, where they're going to be geographically, and those things are going to unfold over time, and we just don't really know for certain. To me what makes sense is for the DPU to review investment plans more frequently than is typical with rate cases, or at least folding in all of this with their typical rate case review. To get my name on these plans, generally we think they make sense for the long-term, but we're supporting the authorization of investment for a relatively short period of time because we just have to be prepared to make changes as we go as circumstances change. I would appreciate if all the good legal beagles involved in this situation would provide us with some guidance as to how the DPU would likely have the authority to approve investments over time before we're asked to make comments on the final plan.

Kate Tohme: This is a really important topic. To me, the way the drafts have been submitted, the EDCs have made clear in broad categories which they believe are preapproved with prior cost-recovery mechanisms, and it appears the drafts indicate that the remaining capital investments are going to be brought through interim processes (CIP, EE, grid mod, EV) or through a rate case or additional AMI approval. To me, the question for this group is, do we want to comment on whether the EDCs should be seeking any additional preapproval for capital investments through this ESMP process. It also raises another big question: GMAC is the leader for the stakeholder engagement, and there are parallel processes that are included in the ESMP—EV, EE, grid mod. There are stakeholder processes for each of those categories, so do we want GMAC to be the overarching process for those? Was the legislative intent for the ESMP to subsume those processes, or is the ESMP going to continue in parallel with other processes?

Councilor Sarah Cullinan: Something that needs to be much clearer is the very near-term dollars that the EDCs are asking for approval for. That's one step of the process; this is like what Councilor Larry Chretien was getting at, which is that this is going to be iterative. Part of what's going to be proposed is, what do they need additional approval to do right now, and what is the process going forward, and what's the cadence of that process, e.g., when will they be requesting additional approval and what's the process for doing that? There should be a very clear plan for

how that happens and what the DPU should expect. Also, these are very large and comprehensive plans, and a lot is going to change over time, so it should be clear that by “approving the plan,” it’s not necessarily blessing every detail and assumption. Will the DPU say they generally agree with the trajectory and a process going forward? I don’t think being too non-prescriptive or general about it will make the decision very difficult, because the DPU will need something to react to.

Councilor Digaunto Chatterjee: I just wanted to agree with folks. I look back on our ESMP on page 378-379, and we’ve been clear, but we need to be clearer about what is “approved” investment and what is incremental per Eversource. The only preapproved investments are resiliency to meet the law, additional CIPs, and grid modernization and DER as a grid service-specific platform incentive program. Those are the only three incremental programs where we’re asking for approval, and our net benefits calculations will focus on just that.

Councilor Carol Sedewitz, representing National Grid: We appreciate the feedback, because this is going to help us make it clearer for the January submission what’s incremental and what we’re asking for.

Tim Woolf: Can you tell us now in which DPU forum you plan to request cost recovery?

Councilor Digaunto Chatterjee: That would be part of our ESMP submittal for the CIP and the resiliency proposals. We will not be seeking cost recovery for everything else included in our base plan. This ESMP does not preempt that.

Councilor Kelly Caiazzo: Without taking any position, there is still a difference between a type of preauthorization and preapproval that is in these slides versus a general rate case approval. And there may be differences between levels of dollar-specific investments.

Councilor Carol Sedewitz: I agree with Councilor Kelly Caiazzo’s comment earlier about different places where we would seek preauthorization.

Jack Habib, Eversource Counsel: I agree this needs to be clarified, but I don’t think the presentation is accurate in terms of what the statute says. We intend to put it in the testimony to the DPU.

Commissioner Elizabeth Mahony: We do need to think about how the GMAC is moving forward in terms of our recommendations and thinking about globally how this all plays together.

Kate Tohme: One clarification could be a summary spreadsheet with how each capital investment has had prior approval, and whether the approval is being sought through ESMP or another process, what that would be and other adjudicatory proceeding. And also the expected approval and construction timeline.

Councilor Kevin Sprague, representing Unitil: I think we could be clearer about this, but the proposed new spending in our plan for 2025–2029 is what we’re seeking preauthorization for. We’re not looking for preauthorization for 25 years; this is a five-year plan.

Commissioner Elizabeth Mahony: We’re over time, but this is a useful conversation. As we go through today’s chapters, it will come out a bit more as to where we can see some clarifications.

6. Continued Day 3 Discussion

Tim Woolf shared slides 16 through 19 containing a recap of recommendations that emerged from Sections 8, 9, and 11. There were no follow-up questions or discussion.

7. Section 7: Five-Year Electric Sector Modernization Plan

Paul Alvarez, The Wired Group, presented slides 21 through 30. What struck us about Section 7 was what was missing: benefit estimates, which are important. We don't have a good handle on what greenhouse gas emissions reductions are available from various initiatives—how do EVs compare to electric heat compared to clean DER, etc. We have to focus our investment to give us the biggest bang for our buck. Revenue requirements and standardized definitions for spending types, categories, and status are also missing. Those are all pretty important things to standardize.

Regarding these spending types, we distinguish between two broad types and then categories within each. The two broad types are required and discretionary:

- Required would be things like if something breaks, you have to fix it—new customer connections, facility relocations, e.g.
- Discretionary items have a variation available to them in terms of what solutions are applied, where geographically, timing of those investments, etc.

What we've done is taken a look at each utility's ten-year spending plans and tried to break those down into required vs. discretionary, and then ask further, is that capacity expansion or reliability? For example: Eversource's capital spending increases massively, as expected (almost quadruples), and most spending increases are discretionary in the categories of reliability and expansion. National Grid has a very similar situation. Unitil is a little different: most of the expansion is "required" or up front, but perhaps buried in that is some capacity expansion spending.

Our reactions: an ESMP will "optimize net customer benefits" with a number of variables. The challenge is with the information resource and expertise asymmetry we have, how do we optimize these complex, multi-billion-dollar ESMPs?

Next is that the benefits from the ESMPs are risk reductions. We need to spend this much (\$) by (year) to reduce the risk that by X. What we find is until you can assign a value to these risks, it's very difficult to know what to spend, when to spend it, and how to prioritize what kinds of things.

The costs of being prepared too far in advance can be high. For example, rate increases can be incurred too early or in the wrong places. There is also a lag time. Storage may be cheaper in the future. Cheaper technologies can be missed, and some technologies can become obsolete before we get sufficient value has been delivered. One example is Hawaii is just now putting in DERs and has much higher penetration than Massachusetts does. All of these impact customer costs.

A critical question for the GMAC is defining process controls (demand forecasts and solution sets to satisfy grid capacity and resilience needs) and managing these throughout planning cycles and ensuring they can get applied can help manage this process.

Dennis Stephens, The Wired Group, discussed slides 31 through 35, covering the methodology for determining how to assign a dollar value to risk reductions available from proposed grid investments.

Paul Alvarez shared slides 36 through 38 regarding how risk-informed decision-making can be applied to make spending decisions. In a scarcity situation, if you have a reduced budget, you can use that number to

optimize your choices of which projects and programs you'd select—you'd disregard projects that have reduced value vs. net present value of (risk). You can standardize categories and status of historical and proposed capital spending. And on an optimistic note, historically speaking, there was a similar increase projected for electrification after World War II when air conditioning came on the scene.

Discussion:

Commissioner Elizabeth Mahony: This is a bit of an extension from what we were talking about earlier, in that it will be helpful to see costs, implementation timelines, processes a bit more fleshed out for non-infrastructure investments. The DOER submitted a letter to all utilities a few months ago and talked about a lot of that, and we're thinking that you're proposing a lot and it helps to consolidate a lot of that information into more readable charts, but also to look at it in terms of what you're not doing in terms of non-infrastructure investments.

Councilor Sarah Bresolin Silver: I just wanted to pick up on what the Commissioner was saying, because there's a lot of good information in the chapters from the three utilities. Eversource has used a table format to try to explain what's in the chapter, and I still find it difficult to make it through these three chapters and am wondering if the utilities can think of a better way to condense some of the information into high-level tables that provide an easy way to understand what is in the proposal so that someone from the public can leaf through the 800 pages and find a plan really easily without having to read through the whole chapter, and if someone wants to take the time can read through the whole chapter. You have the right information and it's good information, but it's a bit hard to digest. I also wanted to say that I like Paul Alvarez's last slide and his optimism, and I feel better.

Councilor Sarah Cullinan: I second Councilor Sarah Bresolin Silver's comments and wanted to provide some more specific thinking on how this can be improved. The costs and those investments and benefits are all there; they're just not matched up with one another in a way that makes it clear. Understands the net benefit analyses are forthcoming. My second point is that it's in the legislation that it has to be shown there are net benefits to customers. I struggle with that because to some extent, we need you to do everything you can to get us to net zero by 2050. But not everything has net benefits to customers. If something needs to be identified to get us to 2050, I am not sure why every specific investment has to go through that net benefits test—maybe some investments are reliability related. A risk-reduction framework struggles with that; I'm not sure it's feasible or productive for every investment. It might be helpful for some categories, particularly discretionary spending. But the cost-effectiveness question is a tough one: there are different constructs or landscapes where the investment can happen and there's uncertainty of what happens over time. So there are questions about timing or location, but all of that is informed by the appropriate assumptions and policy direction, e.g., where solar should be developed.

Commissioner Elizabeth Mahony: Just as a reaction, you framed it as the legislature is directing the utilities to do whatever is needed to get us to 2050. I think "whatever" is defined differently depending on who is asked the question. It's how do we slice that apple. And on net benefits points, I think it's important for this group to think about how we're looking at net benefits when we're looking at energy efficiency and how that's driven by the statute. The net benefits aren't by measure, but by sector. We might want to think about that we get into November how we're trying the benefits analysis, and I'm sure a lot of you have thoughts on that.

Councilor Kyle Murray: Ditto.

Councilor Kelly Caiazzo: Thinks these specific evaluative tools we're utilizing suggests a theme we're talking about the whole time in terms of robust consideration of alternatives—those additional analyses will be helpful.

Councilor Digaunto Chatterjee: Eversource strongly objects to slides 24 through 38. As we testified in East Cambridge recently, using an ICE calculator was never designed to have a cost of interruption over a 24-hour period. We strongly object to any capacity or base core reliability upgrades that are needed to maintain reliable service—those are not discretionary. Regarding a cost-benefit analysis, the DPU does a prudency evaluation of what's put in front of them, so there's no way that our investments could be cost-ineffective that the DPU would approve. We have criteria, and the prudency evaluation is done by the department, and to no extent are those cost interruptions determined to be cost-imprudent. Councilor Sarah Bresolin Silver was indicating this: in Sections 4 and 6, we have specific thermal overloads based on the 10-year load forecast—these are not discretionary. These are driven largely by step load. We've determined which neighborhoods need additional capacity.

Councilor Carol Sedewitz: I would also say slides 32-35 were very theoretical and take us through a risk-reduction approach, but we have to remember that we maintain a safe and reliable system, and we have those obligations to serve our customers in our service territories and we have to bring those projects to the DPU and get approvals. I agree that there are ways we can do things to make sure we are clearer and appreciate all the comments from GMAC: they will help us make the plans better. I appreciated the comments from Councilors Bresolin Silver, Cullinan, and Caiazzo; we can put things in tables. But I agree with Digaunto Chatterjee: we have minimum requirements to serve customers, and if we expect to have overloads because of the forecast—which is existing loads causing situations—we have to figure out how to deliver a safe and reliable system to customers at all times. When we think about electrification, even a few-hour outage will be very unacceptable to customers. So moving our grid to a higher level of expectation is going to be crucial.

Commissioner Elizabeth Mahony: We don't need to get into a theoretical debate here, but I wanted to offer a chance to respond. What is GMAC here for, what are we focused on, what are ESMPs focused on.

Paul Alvarez: This is just a framework; you can debate about the appropriate consequence cost is and that could go up over time. We're just proposing a framework to evaluate. There is gray area between discretionary vs. required and that's up for debate. It's not the be-all and end-all.

Councilor Sarah Bresolin Silver: I wanted to provide a bit more about what would be helpful—I have Eversource's plan open, so I will speak to this one. On page 392, there is a really helpful chart (7.2) labeled 2025-2034 capital investments. It's color-coded by different types of investments. I understand how there's so much information that goes into this one chart; it would be great to take this one chart and expand it a bit, maybe with a table form in front of the chart, plus a few bullet points about what is being proposed for each color and each year, or every three years, or whatever the right cadence is. This chart would be helpful for the five-year also.

Commissioner Elizabeth Mahony: It's interesting to point to Eversource; we noted that National Grid and Unitil had a couple of bar charts that were helpful that were missing from Eversource, e.g., approved and proposed investments. It's helpful for us to understand what has already been approved, where you're spending, and how it fits into all of this.

Councilor Kelly Caiazzo: I have a question for National Grid with regard to alternative funding. One of the buckets was federal funding, and National Grid received a grant recently for a smart grid. I wonder if there is any information about if the plan will be updated, and if we have time, what that might look like.

Councilor Carol Sedewitz: We will be adding into our plan the info we got from the IJJA funding we got for the Future Grid II proposal we put out there. There were a couple areas where it applied: DERMS capability that we wanted to include for areas with high penetration of DER, and a piece to accelerate some of our programs, but we'll make it clear what is included. We'll summarize it in the table and indicate where it's coming from.

Commissioner Elizabeth Mahony: Congratulations to National Grid on winning that grant from the DOE project for resilience program. It would be helpful to share that information.

Councilor Sarah Cullinan: One additional question/comment on National Grid's federal money: it would be helpful to understand if the project is net incremental vs. what would otherwise have been in the plan. A similar update could be made to the Eversource plan regarding a mention of a federal grid application in there.

Councilor Carol Sedewitz: We'll make it clear.

Section 13: Conclusion

Woolf presented slides 41 through 58:

- Slides 42 and 43: summary of section 13
- Slide 44: equity metrics proposed
- Slides 45 and 46: other metrics, which came in last Thursday
- Slide 47: reactions to proposed equity metrics. The Equity Working Group took time to develop a more comprehensive set of equity metrics, which are laid out in a table including categories, problem statements, proposals to address, desired outcomes from ESMPs, and metrics of success. Those filed by the utilities were somewhat narrow and could be a lot more encompassing. Equity is becoming more and more of a discussion point from around the country, and the Equity Working Group pulled from other states' discussions to include in their evaluation.
- Slide 48: reactions to other metrics. It's not clear why some metrics are contingent upon DPU approval of cost recovery. It was hard to see where the metrics tie to the ESMPs; this data should be presented in the ESMP to provide benchmarks for comparison. It's also not clear for some metrics how they'll be measured. Incremental impacts don't have descriptions of how they'll be determined. And additional detail is required in some cases.
- Slide 50: summary of benefit-cost analysis (BCA) requirements of the Climate Act
- Slide 51: which costs and benefits should be included? It's critical to make what is included up front.
- Slide 52: methods for comparison of benefit-cost analyses. Everything should be compared with a reference case. Some projects may require bundling; it's not straightforward.
- Slide 53: uncertainty and risk. Fairly straightforward.
- Slide 54: least-cost / best-fit analysis. This term comes from the DOE. It's a narrower way of doing a BCA; it's used in situations where need has been established and investment is required. If there is a need for a new distribution line, the benefits are baked in and aren't necessary to justify. But now there's a big gray area about needed vs. not with grid modernization. BCA is a

better approach—helps identify, articulate, quantify, modify benefits to have a more concrete comparison with the costs, but does require a bit of additional work.

- Slide 55: BCA vs. least-cost/best-fit. BCA is a superior technique for economic assessment of utility investments. If an ESMP uses LCBF, it should fully justify why it is used instead of BCA.
- Slide 56: accounting for non-monetary impacts. Costs and benefits can be presented in three forms: qualitative, quantitative, and monetary. Costs are easier to monetize than some benefits.
- Slide 57: BCA and accounting for rate impacts.
- Slide 58: accounting for equity. This is emerging and important. BCAs and rate-impact analyses don't provide information on the distribution of costs and benefits (e.g., between EJC and other customers). With reliability and resilience, e.g., there is a point of diminishing returns, so further investments for incremental reliability returns may not be the most cost-effective. This becomes an especially important question when EJCs are asked to pay more for reduced risk.

Discussion:

Councilor Larry Chretien: One of the big benefits of what we're talking about is how we get to the numbers for the Global Warming Solutions Act. We've done a lot of work at the Green Energy Consumers Alliance, so we know what it means when people have switched to solar or EVs. How do we measure a new transformer or substation in someone's neighborhood? How do we know what that's going to contribute to greenhouse gas emissions?

Tim Woolf: That's something that should be addressed in the ESMPs. There are indirect impacts if the transmission and distribution (T&D) systems are being upgraded to allow for clean DERs and they have carbon benefits, then you can argue that those will lead to emissions reduction. The other part is there is a constraint that these plans should be operating around which is the 2050 roadmap/targets. If you can identify how you're going to have a path of emissions each year until then, the goal is to figure out the lowest-cost way to meet those targets. That way you don't have to go crazy trying to identify what the right value is of greenhouse gas emissions, but if you meet those targets, you've met that goal, and everything should fit within that.

Councilor Larry Chretien: So it's more of a gross vs. net question?

Tim Woolf: Yes, but in addition, every path, plan, scenario will comply with targets in the climate act. In doing that, there's a need to optimize the investments. In so doing, it can be useful to quantify the greenhouse gas emissions but also using a dollar value that's agreed to. Your BCA gets you the lowest-cost way to stay within those targets. It's a high-level gross approach within the constraint but also with more detail.

Councilor Larry Chretien: Following up, what value per ton are we talking about here?

Tim Woolf: My knowledge is this is being heavily debated, but there are different ways of doing that. This group won't be able to take advantage of that, but we can take a look at some of the key positions from that and use some high-level estimates to inform this discussion.

Commissioner Elizabeth Mahony: The AESC study helps inform energy efficiency plans. This is a question that permeates a lot of the work at DOER and EEA, so we'll have to think about how we best approach it, given the moving targets we have right now. Although again, the AESC study may be helpful here. The DOER is also working on the social costs of carbon. Do we keep those numbers consistent from program to program, which would push us towards accepting AESC, but it's part of a larger discussion.

Councilor Kelly Caiazzo: What are the EDCs planning to do in terms of net benefits analysis? I understand that what will be provided with a DPU filing in January is only on incremental portion so generally the vast majority of infrastructure investments described in Section 6 would not be a component of a net benefits analysis. But in the case of Eversource, there's \$0.6 billion and that's what the analysis will be. The follow-up would be in terms of the rate impacts presentation: is that also going to be on that same piece, or will there be any consideration of broader impacts or other portions of the ESMPs brought into how the rate impacts are addressed?

Commissioner Elizabeth Mahony: It struck me that we are at the beginning of all of this; we can build off of what has been done with energy efficiency, Cape Wind, other PPA decisions we've had over the last decade for long-term contracts and BCAs we've done there. But this is a little bit of a new paradigm, so it's good for us to carefully consider how we look at this. These are different investments than what has been done in the past. It's helpful for us to start thinking about how we put all of this together and make sure we are capturing every facet we can to give a clear answer to the DPU and to ratepayers. This makes me think about how we optimize the system rather than doing a business-as-usual investment. We're outside of that norm and we need to think about how we're looking at it.

Councilor Andy Sun, Massachusetts Institute of Technology, representing engineering expertise in interconnecting clean energy: To follow-up on Councilor Larry Chretien's discussion, we've been doing research in actually building more detailed carbon analysis of the power grid, especially tracking some notion of the carbon flow; this might offer a more detailed answer to some of Councilor Chretien's questions about the price or impact of decisions on carbon in the network of power grid. Maybe that can be addressed offline, but I'm interested in what we can answer. Another point is that the BCA presentation is very important, because we're really talking about multiyear investments and how to optimize them with various decisions that are correlated together to satisfy goals or demand or reliability. All of these are important concepts, but can we actually put all of this together into a framework of optimization? What are constraints that need to be considered? This can provide both transparency and also a sense of what the good decisions are as alternatives. There could be a lot to say about BCA and general optimization for this multiyear investment.

Councilor Sarah Cullinan: That made me think of a note to self. It's helpful to layer in or present in context is every instance where the EDC considered something different but decided on what they proposed. It would be a helpful framing for what else could be on the table in terms of timing or something like that. It's not exactly clear what could be done other than what was in the proposal itself, and I encourage that. I think it's worthwhile to think of how to present rate impacts more creatively. The standard is bills as of today, in Year One, this is what the impact will be. That's not entirely transparent; something to consider is looking at the potential cents per kilowatt of different categories to see what's adding up that bill impact, just to offer a better understanding of what's driving those impacts, and also what happens over time—Year One is not the whole picture. I really strongly encourage trying to do a more fulsome rate impact analysis to offer more color of what's going on, including layering in rate impacts of what will go into service, even if they're not in that incremental portion of the investment. So existing grid modernization investments or CIPs that will be hitting bills in the same time period will stack up in different ways. A small subset of iterations will be more meaningful and helpful to tell the story.

Tim Woolf: Just as a clarification, the utilities are planning to share more information about methods of how they're going to do the BCA on November 9, but they're not going to file the

BCAs—that will come from DPU. This GMAC will not be able to provide any recommendations or conclusions because they won't have it.

Commissioner Elizabeth Mahony: It's important to take that to the Council before we meet on November 9: what role do we play in helping to inform those decisions, and how should our recommendations reflect them? We talked today about the role of the GMAC, and this plays a little into that, but we should think about how we participate and how it all plays out.

Kate Tohme: In line with this discussion, it's important to keep in mind that all of the different processes coming together in ESMP have their own already developed standards of review before the department, but the ESMP is going to be a brand-new process. It's still going to be required to come up with a new standard of review for a capital investment proposed in the ESMP. The GMAC is making recommendations to the EDCs, not the DPU. A way we can help the DPU develop a standard review is we can be specific in what factors we think the DPU should be considering by recommending that the EDCs include that in our filing. Recommendations regarding process should include detailed categories or factors where we think the EDCs should include information on if it's not already included, or added or expanded on, and if that should be considered as part of standard of review. Most likely there will be totality of circumstances, as well as just and reasonable rates for customers. So our purview is meeting requirements of the law, forwarding the goals of 2050 roadmap and the CECP, and making sure we make recommendations of what the EDCs should have as information in their filings to help the DPU conduct their review.

Commissioner Elizabeth Mahony: That is a very helpful summary and a great way to wrap this section.

8. Section 2: Compliance with the Act

Woolf presented slides 61 through 72.

- Slide 61: summary of Section 2
- Slide 62: key components of Climate Act compliance
- Slide 63: required information: (1) propose investments to meet statutory goals.
- Slides 64 and 65: required information: (2) describe alternatives and their benefits.
- Slide 66: required information: (3) consider specific benefits.
- Slide 67: required information: (4) provide required load forecast information.
- Slide 68: required information: (5) information for the GMAC. This one stands out because it's information for this particular Council and it's different than the other statutory requirements.
- Slide 69: summary of missing information. Includes a number of omissions: not enough detail or analysis. This is one of the main issues that lead us to our initial reactions on what's compliant and not.
- Slide 70: compliance with § 92B.
- Slide 71: compliance with § 92C(b).
- Slide 72: recommendations for section 2.

Discussion:

Commissioner Elizabeth Mahony: This was a helpful way to end because we've been building up to this. Section 2 provides that opportunity to connect to all the different sections and be able to talk about how the utilities believed they are meeting the requirements of the act. We had to

jump into this and we had so much work to do, and maybe we were so in the weeds that it helps to take this step back and ask if this is sufficient to comply with the act and be clear about what's included.

Kate Tohme: Now that we're wrapping up and formatting our recommendations, it's important to take into consideration that this is the very first iteration of a very large process that is intended to go on for many years. DPU in first round of review is likely to be both assessing capital investments and forecasting proposed in this iteration of the ESMP and crafting roles and processes for future filings. When we're thinking about all of the information we'd like to see, it's important for us to put these into categories, and I hope we can break our recommendations into different categories—such as how to review this proposal and what the DPU should direct for future iterations, recognizing the situation that this was a relatively fast process and there are some things that will grow and evolve as this process does. Some items included are meant for the next iteration. We can disagree and say that they should be expanded upon and included more fully, but there are items we want to have for future ESMPs.

Councilor Sarah Bresolin Silver: Kate Tohme makes an interesting suggestion. I agree and think we should make some of the suggestions to the DPU to recommend. Thinks Tim Woolf did great overview. Every time he asks that there is a request for more information makes me a little nervous that there's already so much information that she'd encourage the utilities to be as succinct as possible; sees the length of the plans as a major roadblock. To one of the statutory goals to promote storage and electric technologies, I am not sure the ESMPs do a sufficient job of explaining how they'll promote storage specifically and capacity is the most information we have about energy storage, and a lot of the info relies on solar data and there's not a lot of info specific to storage. Not sure the plans meet that requirement.

Kate Tohme: Just to clarify that my recommendation was that many of us will give directly to the DPU, but I think it would be best-case scenario if the EDCs are bringing in their filing recommendations regarding the next iteration—we should recommend to the EDCs that they propose recommendations to the DPU. The hope is that it comes in through the initial filing instead of later. Some additional information we'd like to see should be part of the recommendations for future iterations of ESMP process.

Tim Snyder, designee for Alex Worsley, Enel North America, representing the transmission-scale renewable energy industry: At the risk of retreading what this group has talked about today, this is emphasizing the importance of having clarity in the filings of what's been preapproved and what is being sought and what items are sought through rate cases and other processes. With the amount of information coming in on a relatively short timeframe as required by statute, this will make process more accessible to help understand what the DPU is being asked through this proceeding.

Councilor Digaunto Chatterjee: I wanted to be responsive to Councilor Sarah Bresolin Silver and Kate Tohme's questions: we have taken the feedback on battery storage under advisement and will revise ESMP accordingly with storage forecast.

Councilor Sarah Bresolin Silver: Thank you; we appreciate you hearing us.

9. Close and next steps

Commissioner Elizabeth Mahony shared slide 73, which outlined upcoming meetings. We're in the home stretch—it feels like everything is starting to gel a bit more. She is expecting robust discussions in the

next two meetings. She appreciates everyone's input, especially as everyone has full-time jobs. These perspectives make for better plans. She will see everyone Monday at the first listening session.

10. Adjourn

Commissioner Elizabeth Mahony, as Chair, adjourned the meeting at 3:52 p.m.

Respectfully submitted,
Jennifer A. Haugh
GreenerU

Meeting Materials:

- Meeting agenda for October 26, 2023
- Presentation slide deck for October 26, 2023
- Draft meeting minutes for October 12, 2023

DRAFT