**Mark Sylvia's remarks**

- Appreciate your feedback on the RFI to delve into ways to communicate clean energy efforts.
- DOER -- the Commonwealth's energy office -- sits under the Executive Office of Energy & Environmental Affairs.
- Responsibility to provide information to the public about energy use in Massachusetts and to help others understand how we use energy.
- Generational responsibility to provide opportunity for future generations and educate the citizens of tomorrow.
- Find your involvement supportive as we move forward on integrating clean energy and climate science into K-12 curriculum.

DOER Commissioner Mark Sylvia thanked participants for their feedback on the RFI. He emphasized our generational responsibility to provide clean energy opportunities for future generations and educate the citizens of tomorrow about the importance of clean energy and climate science.

**Presentation**

- Introduced mission and DOER divisions
- Dual role and integration points between promoting energy education program and expanding adoption of clean energy by residents, businesses, municipalities and state facilities
- Discussion of the state energy and environment education activities that already exist
- Success factors: we are not education experts, not inventing things ourselves, so we're talking to folks about what's already available to teachers and students.
- Want to try to use existing investments in clean energy as teachable opportunities: get the general public to recognize that there have been important things done at sites in Massachusetts and get them to engage based on those accomplishments.

DOER Director of Marketing and Stakeholder Engagement Susan Kaplan began the meeting with a brief introduction of DOER, its mission and divisions. She went on to say that with this RFI, DOER is looking to educate the general public about the existing investments in clean energy in Massachusetts and engage them based on those accomplishments. Tom Witkin added a few points for discussion, emphasizing that the meeting was more like a brainstorm session. What are some guiding examples that we could integrate into the K-12 curriculum? What is a program that would be exciting to students, teachers and the general public who are not already engaged?

**DOER**

- K-12 curriculum piece: guiding examples
- DOER is interested in excitement: how to do something that's exciting to students and the general public; how to attract teachers who are not already in the forefront

- Trying to engage students who are not already excited/bored
- Clean energy definition: Renewable and alternative energy, as well as energy efficiency. Examples include solar, wind, biomass, anaerobic digestion, geothermal. Non-fossil fuel.

**Key points**

- So much has been developed by Massachusetts in this arena, but many people don't know
- Scope of work: Integration of K-12 and public literacy, really want feedback on this and whether both objectives can be integrated.
- Efforts will be funded with (DOER-managed) Alternative Compliance Payment (ACP) funds
- Define clean energy outcomes and goals, funding, etc.
- Climate and energy literacy is a great goal for young people. For others, we have to figure out what will "move the needle."

*Question:* What is DOER looking for?
*Answer:* (in hand-out) intelligence on whether one or two RFRs are needed; information on capabilities of those in the room and resources elsewhere

*Question:* Are you going to issue one or two RFRs?
*Answer:* Some think that there aren't any barriers to responding to both tasks with one proposal. Others think they're separate. DOER remained open.

*Question:* What's the problem DOER is trying to address with the potential RFR; would there be more than one RFR to handle different aspects of the project?
*Answer:* Plan only one RFR. Respondents can team up to address it.

*Question:* What are you looking for in the RFI response, credentials and experience? Are you trying to understand initially what the full capabilities are; What are your thoughts? Follow-up question: Is what you really want is for us to help you think about what's wrong/essential; what's the problem?

- Research considers to what extent you can change opinions and behavior
- More than one RFR to handle different aspects?

*Answer:* Responses do not need to be long or exhaustive. DOER is looking for ideas and what organizations can bring to the table. We anticipate only one RFR, with organizations able to assemble teams to address different aspects.

Climate science points:

- Energy literacy documentary that National Geographic put out awhile ago
- Be careful how you to teach climate change
- Deliver climate change point through values system, more leverage.

What's exciting is kids teaching kids (e.g. energy clubs, town meeting presentations); there's power in empowerment.

*Question:* do objectives for K-12 and public literacy complement each other?
*Answer:* Differences not seen as a barrier. One participant cited work with EPA's climate/office of water.

*Question:* is DOER talking about classroom curriculum or also interested in "benchtop" experiments for K-12? What about quizzes and games that are not testable?
*Answer:* We will not redo what DESE and the Executive Office of Education are doing. Plan to accept these and figure out ways to reinforce and support teaching related to class work. Remember that standards will be there.

- You can say to classroom teachers: here's a range of materials, here's a guide for testing, here's a trip to the museum.
- Standards are the guiding force; STE state standards and DOE guidelines

More than one person stated that marketing campaigns and education programs are different; combining a campaign with education is not a good idea

Think about every kid we want to teach

For teachers coping with meeting standards, plus lots of other activities and things like snow days, perhaps additional activities for climate literacy and clean energy on top of regular classroom work might be too much. Focus on the scope of work: what are the desired outcomes and how do we achieve them.

Focus on scope of work: what should be, and how to achieve it, and how we're going to get there and what to ask for.

*Question:* How do you connect kids with what's happening in the buildings and other places? How do we create interactive material and visual relationships between a person and something in the area nearby? One example would be engaging a person with an achievement nearby. For example, with solar roofs, there's usually some sort of display in the building to provide information on what the achievements in carbon emissions reductions are. However, these displays typically end up being "expensive posters" if they are not interactive for people to use and play with.
*Answer:* Emphasis on hands-on interactive is helpful, work hand-in-hand bringing in solar chips. Use excitement of youth summits where students present to others.

*Question:* How do we transfer literacy to communities? Solarize Mass is the best mobilizing program.
*Group Answer:* Installations often include nothing more than a very expensive poster without interaction for people to use/play with it. Display: still very passive. Use kids teaching kids model: Examples: after school energy clubs, inside classes, kids learn about solar on roofs, data acquisition systems, make a Powerpoint and show it at town meetings and they all get excited about it. Then parents are behind solar. Empowerment in kids as teacher.

*Question:* How is this going to move the needle? How will you capture the community and have them in their own small way begin to change behaviorally? Keep in mind the ultimate goal.
*Answer:* Capture the curiosity factor and create a sense of wonder. These lead to behavior change, as a pivot point for kids and parents. Hold workshops for the students and focus on the why and the what, going back to climate as basis.

*Question:* Are there students teaching students in concert with school or outreach?
Answer: Mainly in concert with schools

*DOER Question:* Are there things other than trying to excite kids and get them into dynamic role that can go to community directly as an adjunct?
*Group Answer*:

- Solarize Mass program (Program sponsored through MassCEC and DOER, provides resources to offer PV to homes, contract with a single contractor to offer PV at fixed prices. Tiered system, so there's incentive for communities to install more because then price per kilowatt drops.) Solarize Mass is an example that the eventual DOER RFR could learn from.
- Belmont's solar campaign is also a valuable example, with focus on face-to-face interaction and grassroots leadership, which achieved an extremely high penetration rate.
  Created campaign: through face to face interaction in a grassroots way; homeowners have requested home energy assessments and we achieved extremely high penetration rate. Could be a model for engaging communities. Actions are driving literacy
- Come to seminars and learn about solar etc.
- Solar is exciting but turning off lights is powerful and important to include. (We) did lighting in the school's hallways and solar on roof but people have no idea about these. Signs in school lobbies about the improvements in lighting and presence of solar roofs etc would be helpful in educating students, parents and teachers who use the building. It would be exciting to see these signs put up formally in schools and municipal buildings across the state. Basic shutting off lights is what moves the needle.

*Question:* Can campaigns with calls to action, plus incentives for taking action, create literacy as the fall-out.
*Answer:* Some audiences are adamantly against it and some are very enthusiastic: depends on the audience and if you don't know the audience, message is muted. With all campaigns, know your audience. Could also work with members of existing communities, such as the Mass Audubon, and offer them discounts to programs like Next Step Living.

Prioritize targets that will not be reached through education.

Understand the demographics of the state: where are greater number of families talking about energy versus those that do not?

Teachers are motivated to teach environmental stuff, but we are never going to see participation from every teacher. The Green Team participants tend to be repeats, the ones who are motivated to teach environmental information.

Try to get community awareness for kids that will get families involved.

*DOER Question:* Which targets should be prioritized? Are we able to assess the demographics of the state and figure out if there's a pattern in families who are engaged and who are not? How much should we focus on a literacy campaign within a community versus a school program?
*Answer:* Depends on how much funding is available.

Outcomes and barriers to reaching that outcome

- Look at vast number of programs from Cambridge; but adoption is still remarkably slow. So what are the barriers?
- Start with climate education. People believe in it. They want to know what they can do but they feel disempowered.

People want to know what they can do; which makes things real, not abstract. Work in communities (# of solar installations, etc), take successes and have those who have succeeded go and proselytize in other towns.

- At DOER, Green Communities made it possible
- Engagement of a certain percentage is required to become designated
- How many of these have brought the experience back to schools?

Barriers: This issue is similar to many marketing ideas. Need research to understand the barriers, like public health campaigns do. What we're trying to do is create new social norms and contributing to youth development.

- Pumping up tires for a better MPG; people don't do it because they have no gauge.
- Addressing smoking, obesity to health etc.
- Different tools are need to reach different audiences. We'll need different channels for different audiences; school communities, other public audiences.
- How to you develop norms and change behaviors and focus on values, which gives a bit more leverage.

*Question:* Are we trying to change behavior or increase literacy? Can they somehow leverage each other to create long-term change?
*Answer:* The assumption is that once people know more they would change their behavior might not be true. Having enough info to make good choices empowers but might not motivate. Additional programs such as incentives to motivate and breaking down barriers might be necessary. In terms of schoolwork, teachers often need resources for teaching that could be developed in this RFI.
STE draft revised standards

- Teachers are looking for new resources to support K-12 education standards; think about how to help teachers teach in a practical way
- Example: How do standards affect living with the environment around us
- Sometimes teachers find resources that are trash

*Question:* How young should we teach advanced stuff? Should we be talking about the inner workings of semiconductors, such as n-p junctions, for 5th graders?
*Answer:* Yes, if done appropriately

Resource recommendations:

- Use U.S. Department of Energy's climate literacy materials
- North American Association for Environmental Education's (NAAEE) Climate Change Environmental Education POLCA (Project-based Online Learning Community Alliance)
- EPA has a climate change division and website for students
- Several participants suggested focusing on climate science before clean energy