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LD1679

I am writing to support LD 1679. It is a vital bill in order to focus knowledge and resources in a way that can help Maine be as resilient as possible for the increasing challenges brought on by changing climate. It also holds the possibility of Maine being a leader among states to model the actions all states could and should be taking. I support it fully with one exception.

I have one major concern and that is the lack of language related to including k-12 education as part of the overall plan. We have adopted new state standards in Science (Next Generation Science Standards) and climate change science, adaptation and mitigation are a part of those standards but we also know through our professional societies and research that most schools and teachers do not teach this topic in a way that helps students understand the science and the actions that can offer solutions. NPR recently reported that "Most Teachers Don't Teach Climate Science; 4 in 5 parents Wish They Did"

(<https://www.npr.org/2019/04/22/714262267/most-teachers-dont-teach-climate-change-4-in-5-parents-wish-they-did>)

We also know that students can be great conduits for supporting their parents' learning about topics and ideas their parents weren't exposed to in school. A recent study in North Carolina found that educating children about climate change increases their parents' concerns about climate change.

(<https://www.sciencedaily.com/releases/2019/05/190506111428.htm>)

On the flip side, there have been intentional efforts to create confusion for educators. Leading many teachers to think that there is not enough established evidence to make claims about future risk. Last year 200,000 copies of "Why Scientists Disagree about Climate Change" were mailed to every high school science teacher in the country by the Heartland Institute. I was among the teachers receiving copies. Teachers with tentative skills and knowledge about climate systems felt even more tentative in their capacity to teach and either ignored engaging students in the topic or created learning situations that muddied the waters even more. As a result, science education professional organizations (National Science Teachers Asso, National Earth Science Teachers Asso, National Asso of Biology Teachers and several others) have created position statements for their memberships and plans of action to support teacher learning. Also, for the first time in history, the fact that a partisan organization (Heartland Institute), would intentionally work to influence science education by directly sending non-peer reviewed publications to teachers across the nation with the intention of establishing doubt and confusion, prompted our greatest professional science organizations to respond. The National Academies of Science has re-organized efforts to ensure that not only are they responsible for the highest integrity in the science that occurs in our country but also has an obligation to effectively communicate these findings to our citizens.

Even though we have our long-awaited new science standards, (I am thrilled about this!), it doesn't mean that students will all have

opportunities to learn about climate change science, mitigation and adaptation equally. Perhaps even more important, is the fact that this is not a science only topic. It is about our economy, our society and the environment that we depend on for life.

I believe two things must be added to this bill. The first addition is to include the voice and expertise of a k-12 educator AND a representative from an organization that supports teacher learning (MMSA, RISE center, GMRI, DOE " lots of options) on the council. The second is to include language that will establish funds to help develop curriculum and PD specifically to build complex student understanding. This would not be just science curriculum but cross-discipline curriculum. The development of curriculum does not mean "reinventing the wheel" but to provide materials and training for learning that is cohesive, complex, relevant and solution-oriented for students. Ideally it could be a model for the kind of learning we want to see happening across the state and what is framed in our new science standards.

It is vital that we support students and educators so that we are creating an entire population that can be responsive and creative in taking on these future challenges. I also believe that including educators in this challenging work that the council will take on will have huge benefits in helping our students see that Maine is the place to stay and not the place to leave.

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