

September 26, 2018

Durham Planning Board
c/o Michael Behrendt
Town of Durham
8 Newmarket Road
Durham, NH 03824

Dear Planning Board members,

My name is Chris Skoglund. I live at 283 Packers Falls Rd in Durham at the intersection with Wednesday Hill Rd; an intersection with an apparently invisible stop sign.

I am employed by the NH Department of Environmental Services as the Climate and Energy Program Manager in the Air Resources Division. In that role, my work ranges from education and outreach to policy and planning engaging the public, businesses, trade groups, and the legislature. I have also supported and led efforts at the local and international level, having been a founding member of the NH Local Energy Solutions Working Group in 2007, coordinating the development of NH's Climate Action Plan in 2009, and leading the development of the Regional Climate Action Plan for New England and Eastern Canada in 2017. Closer to home, I served on the Durham Energy Committee from 2011 through 2014 and most recently, I joined the Board of the Vermont Energy Education Partnership, which operates a program in New Hampshire, I facilitated the delivery of energy education materials to the Oyster River School Cooperative School. As the topics I work on, in each of these roles, have sadly been politicized, I have learned to bide my time and bite my tongue. Today, that may not be the case, and so it is critical to be clear that the views I express are mine and mine alone and do not reflect the position of any of the entities with which I am or have ever been associated.

With that said, I sincerely apologize for providing comments at such a late point in this discussion. For the past year my family has been managing my wife's cancer diagnosis and treatment. While our attention was rightly focused there, I was aware that this ordinance was under development, but I was under the mistaken assumption that this ordinance was intended to secure solar rights for Durham residents rather than secure subjective aesthetic values. As my wife's treatment ended on September 15th, I have had time to catch up on old emails and town announcements, which brings me here today.

It is also important to note that my family has no direct stake in the decisions that you will make when you finalize the document language and adopt the ordinance. The reason being that my wife and I have already installed two solar-electric systems on our home, capable of providing us enough electricity annually for a family of four as well as a vehicle that will travel 26,000 miles a year on pure electricity. In addition, we have a solar thermal system that provides the vast majority of our domestic hot water. These investments in our energy infrastructure were possible due the accidental orientation of my house, which was built perpendicular to an old road on a subdivided family parcel by James Pike after he returned from the Korean War in 1952. That building orientation just happens to be perfect for all three roof-mounted solar arrays to be placed on the back side of our home. Our investments are

complete; invisible and apparently inoffensive. Whether you see them or not is immaterial. These solar panels provide an essential function, serving as a power source that can run virtually maintenance free for the next 25 years while also reducing the amount of fossil fuels that must be imported into New England to meet our electricity needs. They are part of a package that has eliminated fossil-fuel use from our home and held our household energy costs at around \$1100 per year.

However, I am partly to blame for our presence here today. We installed our first set of panels in 2012, and after hearing our testimony as to the benefit of solar for over five years, dear friends who lived along Packers Falls installed their own system. As their roof was inadequate to the task, they were forced to install a more expensive and technically complex alternative on the ground in front of their home. Unfortunately, this set off a firestorm of indignation and abuse that is known across the state.

It is my opinion that this ordinance divides Durham into two classes of solar citizens in a sense; those whose parcels and buildings, like my own, enable them to install an invisible solar installation, and those without that capacity. It does this in the name of preserving the aesthetics of Durham and its rural character. I find that to be deeply unsettling and it challenges my understanding of what Durham stands for.

When my wife and I were looking for homes, I did the exact opposite of what many might do. I created a spreadsheet that listed towns and their taxes rates. I sorted that table from highest to lowest and then essentially deleted the bottom two-thirds of the list, eliminating the lowest tax rates from consideration. This would present itself as a terrible financial decision, but I wasn't just looking for a house that we could afford, we were looking for a home in a community whose values matched our own. Creating a list of the communities with the highest tax rates was an expedient means to identify the communities with residents who were tolerant or even supportive of strong investments in schools, infrastructure, and services. I expected that residents willing to pay higher taxes were more progressive in that they recognized and were willing to chip in for the common good. After a lot of time in the car with Richard Whitney, of Mariner Realty in Durham Copy we found 283 Packers Falls Rd. To this day, I can't stand its appearance. The stonework on the front is appalling, but form can be less important than function and this house matches our needs and lifestyle perfectly. But I digress.

Not only did the house match, but the community matched us as well. My wife and I met at while teaching environmental education and Durham has a well-known, well-earned legacy of advocacy and action in that same vein. While in grad school at UNH, I focused on the Great Bay Watershed, and the Lamprey River in particular, and became very familiar with the efforts to have it designated as a wild and scenic river. It is a legacy my daughters and I value highly as we visit the Packers Falls weekly in the summer. Later, I would learn of the Save Our Shores effort that would drive out an international shipping magnate saving Durham and the Isles of Shoals. As my family has deep roots on the NH Seacoast, and as I was born in 1974, the Save Our Shores success allowed the trajectory of my life. What better place than this to raise a family.

But this ordinance in its focus on restricting solar to only the aesthetically palatable goes against the nature of the Save Our Shores campaign and the designation of the Lamprey River. In those cases, citizens sacrificed endless hours, endured personal attacks, and harmed their

own economic well-being in the fight against environmental destruction. However, this ordinance, by being so focused on the aesthetics impacts, abets additional and more destructive environmental damage, because it restricts the solutions. By restricting solar, we actively encourage fossil-fuel consumption, the primary driver behind climate change. In restricting solar to preserve the wealth that is our view we become complicit as any fossil fuel company.

It is even more ironic that failure to address climate change at the global scale will have knock on effects that could erase the legacy of those aforementioned efforts. The past four years have been the four warmest in recorded history. The current year, 2018, is expected to be a peer among them. While 2018 will not be the warmest, the character of this year stands out and has been described as a glimpse of things to come. The meteorological events of this year are rightly described as “weather”, but as the Earth continues to warm, the pattern of weather-related events seen around the globe this year from forest fires to heat waves on land and in the ocean to droughts are projected to become the norm. While New Hampshire, in years past, used to average just six days over 90 degrees, this year we saw 20+ days over 90 degrees, and this is expected to be the average for the Seacoast as we approach 2030; no longer that far off.

As the Earth warms, precipitation patterns are expected to change, more rain may fall in the Northeast, but we can also expect more frequent and severe drought. While 2017 allowed us to recover from the drought in 2016, we were back into drought in 2018. While we can protect the rivers and shorelines themselves, there is little we can do to squeeze moisture from the sky to keep rivers and streams flowing at volumes sufficient to provide healthy habitats and adequate water supply. And as the Earth warms, the oceans will warm and expand and land based ices will melt, raising sea levels. Already, New Hampshire coastal planning documents find that we could see three to six feet of sea-level rise by the end of this century,^{1,2} but new research is emerging that suggests that Antarctica poses an even greater threat with 10 to 20 feet of sea-level rise.^{3, 4} It may take centuries for that to occur, but under such a scenario the isles of shoals would be almost completely submerged and huge portions of our 150+ mile oceanic and estuarine coastline would be inundated. And finally as the Earth warms and precipitation levels change, the makeup and character of our forests is expected to change. Changes in climate will not only stress the plant communities that are established here directly, but they will also allow new pests, both invasive and those native to North America, to migrate in and become established. As a result, our forests and other ecosystem types are expected to undergo

¹ NHCRHC (2016). Preparing New Hampshire for and Extreme Precipitation, New Hampshire Coastal Risk And Hazards Commission, <http://www.nhcrhc.org/>, (Accessed September 20, 2018).

² STAP (2014). Sea-Level Rise, Storm Surges, and Extreme Precipitation in Coastal New Hampshire: Analysis of Past and Projected Future Trends, <http://www.nhcrhc.org/stap-report/>, Science and Technical Advisory Panel, (Accessed September 20, 2018).

³ Wilson, D.J. et al. (2018). Ice Loss from the East Antarctic Ice Sheet During Late Pleistocene Interglacials, Nature 561, pp. 383–386, <https://www.nature.com/articles/s41586-018-0501-8>, (Accessed September 25, 2018).

⁴ Money, C. (2018). At This Rate, Earth Risks Sea-Level Rise Of 20 to 30 Feet, Historical Analysis Shows, Washington Post, <https://www.washingtonpost.com/energy-environment/2018/09/20/antarctica-warming-could-fuel-disastrous-sea-level-rise-study-finds/>, (Accessed September 25, 2018).

significant alteration as some of the existing species die out and new ones replace them. These are the “easy’ impacts; I could go on.

Regardless of the whether one swims in the ocean, paddles in Great Bay, fishes from the rivers, or hikes through the forests, in the decades to come, these iconic places in our community will change. The further in time we get, the more dramatic the changes. While such facts and projections may be shrugged off by policy makers, more than 99.9 percent of recent climate science literature supports humankind's influence on the Earth's temperature and climate.⁵ This is higher than the certainty behind the connection between smoking and lung cancer.⁶

But the reality is that we in this room will be ok. There are parts of the planet, and even the United States, that will fare much worse, either lying in the path of devastating storms or experiencing a slow community disintegration as water supplies literally evaporate for good. But many of the very worst changes will also occur after we have passed.

But with an ordinance focusing on aesthetics above all else, we will be able to enjoy the unblemished view.

But the impact of this ordinance does not end here with our view. Other communities will refer to this as a potential template to enshrine the own privilege. This ordinance seeks to make solar invisible on the landscape and other, less progressive, communities will be certainly be willing to snap this up. While I am not advocating for the unrestrained placement of panels across the entire landscape, I am advocating that we should not become so myopic that we confuse the aesthetics of Durham for its character.

If the story of Durham is truly one of environmental protection and leadership, then solar panels should have a place on the landscape in view, because certain things should be visible. Stops signs should be visible. Climate leadership should be visible. In that vein, so too should our town's solar panels. They should stand alongside the Isles of Shoals, Great Bay, and the Lamprey River as our commitment to a healthy environment and a safe future for generations to come.

Thank you for your consideration,

Chris and Erica Skoglund
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Durham, NH 03824

⁵ Powell, J. L. (2015). Climate Scientists Virtually Unanimous: Anthropogenic Global Warming Is True. Bulletin of Science, Technology & Society, Vol 35, Issue 5-6, 2015, <http://journals.sagepub.com/doi/10.1177/0270467616634958http://journals.sagepub.com/doi/10.1177/0270467616634958>, (Accessed September 25, 2018).

⁶ Fischer, D. (2014). Climate Risks as Conclusive as Link between Smoking and Lung Cancer, Scientific American, <https://www.scientificamerican.com/article/climate-risks-as-conclusive-as-link-between-smoking-and-lung-cancer/>, (Accessed September 25, 2018).

