



Committee on Environment and Natural Resources
% Legislative Information Office
100 State House Station
Augusta, ME 04333

March 31, 2025

Re: LD 1207, An Act to Require the Department of Environmental Protection to Monitor Air and Water Temperatures Around Commercial Solar Energy Developments

Dear Senator Tepler, Representative Doudera and Members of the Committee:

Thank you for the opportunity to share testimony in opposition to LD 1207, *An Act to Require the Department of Environmental Protection to Monitor Air and Water Temperatures Around Commercial Solar Energy Developments*, on behalf of the Maine Renewable Energy Association (MREA). MREA is a not-for-profit association of renewable energy producers, suppliers of goods and services to those producers, and other supporters of the industry. Our member companies include wind, solar, hydropower, biomass, and tidal energy generators and developers of such projects, as well as companies that provide services to those producers, such as environmental engineers, electricians, and general contractors.

LD 1207 proposes that the Department of Environmental Protection (Department), in consultation with the Department of Inland Fisheries and Wildlife, establish a program to monitor air and water temperatures surrounding solar energy developments. MREA opposes this legislation because it is duplicative existing Department review standards that are applicable to the majority of the solar energy development projects contemplated by this legislation and because, on its face, this bill appears to be in response to concerns about localized impacts from solar energy that are dispelled by an understanding of basic scientific principles.

The Department's Site Location of Development Law (Site Law) requires that a permit applicant make "adequate provision for fitting the development harmoniously into the existing natural environment and that the development [not] adversely affect existing uses, scenic character, air quality, water quality or other natural resources in the municipality or in neighboring municipalities." See 38 MRS §484(3). Per Department regulation, water quality includes "surface water temperature". See 06-096 C.M.R. ch. 375 § 6(B)(4).

Notably, this bill is applicable to solar energy development that is 3 acres or more in size. Site Law is only applicable to projects 20 acres or more in size. Recent changes to Maine law and the cost efficiencies of large-scale solar energy development projects mean that the

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likelihood of new projects between 3 and 20 acres in size is reasonably low. Briefly, recent changes to Maine's net energy billing law have limited the program to projects less than one megawatt. Typically, the footprint of a one megawatt project is about 5 acres. Grid-scale solar energy development, which is not part of the net energy billing program, is always at least 20 acres in size and thereby requires a Site Law permit. As such, for the foreseeable future, new solar projects in Maine are very likely to be less than 5 acres or larger than 20 acres meaning that the majority of the projects contemplated by this law are already subject to similar (if not the same) Department review.

Increasingly, MREA and MREA members have come across proposed public policies or informal assertions that solar energy developments do not result in net benefits to the climate due to the idea that panels draw sunlight and thus heat the earth. This is a myth that ignores basic scientific principles. The assertion that solar installations increase global warming due to increased thermal energy retention on the earth defies the laws of thermodynamics and confuses hyper-localized temperature changes with global climate change, which is driven by greenhouse gasses trapping heat in the earth's atmosphere and raising temperatures across the planet.

Though the phenomenon "Photovoltaic Heat Island Effect" (PHIE, similar to the "Urban Heat Island Effect") in which areas around large solar installations can see ambient air temperatures marginally warmer than the surrounding land exists, it is marginal, seasonal, extremely localized (+/- 100 feet), and dissipates quickly. Research has shown PHIE to be significantly less than those of buildings, concrete, and asphalt and can be mitigated through land management and project design. Importantly, it is an entirely different phenomenon and issue than temperature rise from global warming.

The law of thermodynamics, in part, states that energy cannot be created or destroyed, only transformed from one form to another. Solar panels do not create extra energy, they simply convert sunlight already hitting Earth into electricity and some of that energy is lost as heat. To suggest otherwise, particularly when Maine law already has significant and laudable laws and regulations to protect Maine wildlife, is contrary to basic science. For these reasons and more, we urge the Committee to vote "Ought Not to Pass" on LD 1207.

Thank you,

A handwritten signature in cursive script that reads "Eliza Donoghue".

Eliza Donoghue, Esq.
Executive Director