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Testimony
In Support of

LD 451, "An Act to Require Testing of Solar and Wind Energy Developments for Perfluoroalkyl and Polyfluoroalkyl Substances Contamination

Senator Lawrence, Representative Sachs and honorable members of the Joint Standing Committee on Energy, Utilities and Technology. My name is Reagan Paul and I am proud to represent the House District 37 communities of Winterport, Prospect, Searsport, Stockton Springs, and part of Frankfort. I am here to present my bill LD 451, "An Act to Require Testing of Solar and Wind Energy Developments for Perfluoroalkyl and Polyfluoroalkyl Substances Contamination."

Thank you for the opportunity to testify on this critical issue. As Maine continues its fight against per- and polyfluoroalkyl substances (PFAS) contamination, we must ensure that all industries—without exception—are held to the same environmental and public health standards. Right now, that is not happening.

We have already seen the devastating consequences of assuming that certain industries are "safe." Firefighting foam was once considered harmless. Sewage sludge was spread on farmland under the promise that it was non-toxic. Both led to environmental disasters. Now, we are told that wind and solar energy projects pose no PFAS risk—but where is the proof? With hundreds of solar and wind developments already approved in Maine, the state has not required a single PFAS test, a single material safety data sheet (MSDS), or a single independent environmental impact study to determine what chemicals these projects contain and whether they pose a long-term contamination threat.

This is a glaring regulatory failure. Maine has some of the strongest PFAS laws in the country—we require testing in wastewater, drinking water, farmland, food packaging, consumer products, and landfill runoff. Farmers must test their soil, water treatment plants must monitor for PFAS, and manufacturers face strict disclosure requirements. Meanwhile, the wind and solar industry faces zero transparency requirements despite using industrial materials that independent research has shown contain PFAS. Why is there one set of rules for some industries and a free pass for others?

Scientific Evidence of PFAS in Wind and Solar Components

Scientific studies confirm that PFAS are present in wind and solar infrastructure. A **2021 report by the Green Science Policy Institute** analyzed 11 studies and identified at least 14 types of PFAS used in solar panels, primarily in their protective films, coatings, and wiring insulation. A **2018 study by EPA scientist Mark Strynar** reviewed 39 scientific records confirming intentional PFAS use in solar panel production. In Connecticut, state water officials have warned that PFAS from solar developments could seep into groundwater, particularly in drinking water supply areas.

Wind turbines raise similar concerns. A **2020 study from the German Fraunhofer Institute for Building Physics** found that wind turbine blades erode over time, releasing microplastic dust and PFAS particles into the

environment. The **Technical University of Denmark** confirmed in 2021 that wind turbine blade coatings degrade, spreading toxic compounds—including PFAS—into surrounding ecosystems. Offshore wind turbines pose an even greater risk, as ocean conditions accelerate material breakdown, increasing the likelihood of PFAS contamination in marine life and fisheries. Yet in Maine, where PFAS has already tainted deer meat, fish, and farmland, we are not requiring a single test to determine whether wind and solar projects are adding to the problem.

In addition, solar and wind developers use herbicides to control vegetation. Only herbicides that are registered with and approved by the U.S, Environmental Protection Agency are allowed to be used in Maine. The problem is that some EPA-approved herbicides may contain PFAS, although the EPA has removed 12 PFAS chemicals from its list of approved inert ingredients, others still remain. This is just another reason why this bill is so important.

The Human and Environmental Cost of PFAS Contamination

The risks of PFAS exposure are well-documented. These chemicals are called "forever chemicals" because they do not break down naturally in the environment. They accumulate in water, soil, wildlife, and the human body, leading to long-term contamination that can persist for generations.

PFAS are linked to severe health effects, including **cancer, liver and kidney damage, hormone disruption, immune system suppression, and developmental issues in children**. The U.S. Centers for Disease Control and Prevention (CDC) and the National Institutes of Health (NIH) have both identified PFAS as a major public health concern.

Maine hunters and fishermen are already suffering the consequences. Studies have confirmed dangerously high PFAS levels in deer, fish, and other wildlife, leading to consumption warnings across the state. If PFAS from wind and solar projects are leaching into the environment, we need to know before the damage is irreversible.

PFAS threaten Maine's lakes, rivers, and drinking water supplies. These chemicals have already contaminated hundreds of private wells across the state, leaving families unable to drink from their own taps. If wind and solar projects contribute to further groundwater contamination, entire communities could suffer.

Our fisheries and outdoor economy are at stake. Maine's seafood industry is a major economic driver, but PFAS contamination could threaten the livelihoods of lobstermen, shellfish harvesters, and commercial fishermen. If PFAS from renewable energy projects make their way into coastal waters, the damage could be catastrophic.

We cannot afford to take these risks lightly. **Once PFAS enter an ecosystem, they are nearly impossible to remove.** If wind and solar projects are contributing to this crisis, the time to act is now—before more of Maine's land, water, and wildlife are irreversibly damaged.

Wind and Solar Panels Are Failing Sooner Than Expected

Another urgent issue is that wind and solar infrastructure is not lasting as long as originally promised. Industry projections often claim that solar panels have a 25- to 30-year lifespan, but real-world data suggests otherwise. A **2022 study from the National Renewable Energy Laboratory (NREL)** found that many solar panels experience performance degradation within 10 to 15 years, with some failing in even shorter time frames due to weather exposure, manufacturing defects, and environmental stressors. A **federal energy lab study** showed that **80% of decommissioned solar panels analyzed were less than four years old**, meaning failures and replacements are happening far more frequently than previously assumed.

Wind turbines are also seeing unexpected failures and mechanical breakdowns. A **study by researchers at the University of Strathclyde in Scotland** found that wind turbines often require major repairs within 10 years, despite being marketed with 20- to 25-year lifespans. Severe weather, mechanical wear, and material degradation are leading to earlier-than-expected replacements, which not only increases costs but raises additional concerns about environmental impact and chemical exposure from damaged components.

These failures raise critical questions: **What happens when wind and solar components degrade in the field? Are PFAS and other toxic chemicals leaching into our environment faster than expected? What safeguards exist to prevent this?** Right now, the answer is: **We don't know—because no testing is required.**

This Bill Is About Accountability and Science, Not Opposition

This legislation is not about stopping renewable energy. It is about ensuring **accountability, transparency, and environmental responsibility.** If wind and solar industries are confident that their materials pose no risk, then they should have no issue with independent testing, public disclosure of material safety data sheets, and a plan for monitoring environmental impact. Instead, we are being told to trust them—without data, without oversight, and without long-term planning. That is NOT how we should regulate any industry, let alone one that is expanding so rapidly across our state.

Maine has fought too hard to tackle PFAS contamination to leave one of our fastest-growing industries unchecked. If wind and solar are as safe as their proponents claim, then let's prove it—with science, not assumptions.

I urge this committee to support this legislation and require independent PFAS testing for wind and solar developments. Thank you for your time and your commitment to protecting Maine's environment and public health.

Sincerely,

Reagan Paul

Reagan Paul
State Representative