

Killingworth Advocates for Responsible Solar STEPS process written comments

It is clear that responsibility for Energy needs to be removed from DEEP and assigned to a separate agency. In retrospect, incorporating **Energy** into DEP's portfolio ensured **Environmental Protection** would be thrown under the bus when the two missions conflicted. Examples of how this has manifested to the detriment of the state's environment include (but are not limited to):

- 1) classifying PV panels as permeable surfaces;
- 2) a failure to adhere to the legislature's mandate to protect core forests over the four years this statute has been in effect;
- 3) acting as a *de facto* industry lobbyist;
- 4) failing to address the toxic contents of PV panels and determine appropriate ecosystems for their siting and to develop protections/protocols for firefighters and neighboring property residents;
- 4) a failure to prohibit PV installations from being sited on top of residential aquifers;
- 5) **appropriating legislative functions to the executive**, thereby bypassing standard democratic protections, including those for the environment;
- 6) A failure to even come close to adopting a policy for accurately quantifying the true costs of decommissioning at end-of-life (developers routinely ridiculously lowball the numbers) or to develop a protocol for adjusting the required bonding over the life of a development to account for inflation and altered market factors;
- 7) a failure to collaborate with the state Fire Marshal and the EPA to develop appropriate protocols (e.g., similar to ones in place in California);
- 8) a failure to require transparent labeling and informing local fire departments and residents of the chemical contents of the PV panels being installed in local environments.

Until this 800-lb gorilla issue is rectified, tensions will only continue to accumulate and more farms, forests, aquifers, fragile ecosystems, etc. will continue to fall victim to the mad dash toward renewables. The 2017 statute made it clear **Connecticut residents do not want to sacrifice farms and forests on the altar of renewables**. The subsequent four years made it clear that **DEEP and the Department of Agriculture have no intention of adhering to the legislature's mandate**. All the obvious, easy properties for hosting solar have been snapped up, thus almost all future utility-scale PV installations can only be sited on farms and forests. Thus these two opposing political forces will continue their slow motion collision and this will accelerate as increasing larger demands are placed on the state's environment.

The industry buys up support/silence from environmental nonprofits through funding and in some cases have been revealed to have paid off abutting property owners to prevent them protesting. LLCs are routinely used to insulate owners from liability, including the inevitable environmental disasters which will occur when natural disasters (hail, tornados, wildfires, lightning, hurricanes) puncture the integrity of panels, with or without accompanying fires. Industry representatives have too often lied to or misled local officials/citizens and the Siting Council. Nor is there an enforcement mechanism for environmental damage (including stormwater runoff) they have caused. Local residents and property owners are thrown to the wolves, with their only recourse being to seek civil recourse in the courts. As the developers are almost always out-of-state or foreign mega entities, they can easily afford the ruinous costs associated with litigation.

Consider this hypothetical: An LLC owned PV installation, sitting on top of an aquifer in a residential neighborhood, is disrupted by a natural disaster or fire, spilling the toxic contents (including, cadmium, lead, selenium and arsenicals) into the groundwater. The out-of-state or foreign deep pocket owners can walk, leaving the impacted local residents in the lurch.

The state and municipal FEMA-mandated Natural Hazard Mitigation Plans all need to be revised to address the issues associated with placing these industrial facilities in sensitive environments and residential neighborhoods. California, and

other responsible jurisdictions, mandate evacuation radii in the event of fires, educate firefighters of the essential need to use breathing apparatus, and how to avoid electrocution. There is no off switch for PV panels. If the sun or even the moon or street lights are shining on them, high voltage electricity will be produced. Inevitably, natural disasters and fires are going to occur, and regulations need to be proactively developed to address these.

The state Fire Code actually needs to be enforced, along with updates relating to solar. Installations must incorporate sufficient perimeter roads (inside and outside the fencing) to permit large emergency vehicles to access a sufficient turning radius. Minimum distances between interior roads must be established to permit access to interior panels. Wells or other year-round water sources must be established.

Every mattress, pillow and dog bed sold in America possesses a tag listing the manufacturer, its location, the date of manufacture and the contents. Yet PV panels, containing a toxic brew, are under no such mandate. Yet these are being installed into fragile, inappropriate ecosystems, awaiting a natural disaster which would breach their integrity and spill their contents.

Environmental justice is also being sacrificed. Connecticut already pays the highest electric rates in the country. **There has been no open, honest, transparent discussion** of how rates will be negatively impacted by a transition to renewables, a burden which will fall most squarely on the shoulders of those least able to afford these cost increases. This amounts to a **hidden, and substantial tax**. Translation: this is a political nightmare coming down the tracks, which will dwarf the outrage over forests and farmlands being sacrificed. It will impact every Connecticut citizen, regardless of economic status. Politicians crow about not raising taxes, and then turn around and covertly raise them.

The ZREC program is ripe for fraud and needs to be eliminated. As an example, our group (formed as a party to oppose Petition 1354) and other local citizens identified clear fraud - to the tune of over \$2 million - associated with this program. There is **no enforcement mechanism** to prevent this. It is administered by Eversource and UI, and we have no idea if there was collusion or simple ignorance of the fraud in this instance.

The practice of the Siting Council continuing to allow these industrial-scale projects to utilize a petitioning process must be replaced by a mandatory requirement to utilize an application process. This would allow for mandatory public hearings, far better local notice, funding by applicants to municipalities to be able to sufficiently address proposals, etc.

Connecticut possesses the world's finest (in terms of resolution) LIDAR coverage for a jurisdiction this large. All developers should be required to submit to the Siting Council the freely available LIDAR mapping of the property associated with any proposal, so all can readily discern topography and wetlands and be able to quickly and effectively gauge how surface runoff and related issues will manifest.

Thought must be given to requiring large commercial/industrial developments to consider incorporating solar in their building plans, utilizing rooftops and/or carport installations on paved surfaces.

A statewide mapping of all existing and future PV installations is long overdue, and for this to be incorporated into the state's existing impermeable surfaces GIS layer.

The practice of utilizing surface basins for stormwater runoff must be outlawed. No parking lot or road contractor would ever adopt such a practice because in this state surface water freezes in the winter and a heavy rain falling on top of frozen basins will fail to work as designed.

The rules of procedure for Siting Council hearings need to be amended to permit a fully adversarial process, and better allow regulators and the public to determine the truth. Intervenors and parties must be allowed to call witnesses who can

be examined by both sides. Currently, they have the right to call witnesses, but if the petitioners do not wish to examine these witnesses, they will not be heard from. As it exists now, petitioners can present all the witnesses they desire, and they will be heard from. But opponents do not enjoy this basic right, ensuring the lack of an adversarial process and a process tilted heavily in favor of approval. This is also a recipe for false or misleading testimony before the Council to go unchallenged.

Regarding the issue of toxic materials being introduced into fragile ecosystems, the basic guidance from the state of California below provides a good general overview:

Solar Panel FAQs | **Department of Toxic Substances Control**

How are solar panels hazardous?

Solar panel wastes include heavy metals such as silver, copper, lead, arsenic, cadmium, selenium that at certain levels may be classified as hazardous wastes.

What does data show? What are the constituents that make the panels hazardous?

In general, data shows that older silicon panels may be hazardous due to **lead** solder. Some older silicon panels are hazardous for hexavalent **chromium** coatings. **Cadmium** tellurium (CdTe) panels are typically hazardous due to the cadmium. Gallium arsenide (GaAs) panels may be hazardous due to the **arsenic**. Thin film panels, such as copper indium gallium selenide (CIS/CIGS) panels, may be hazardous due to the **copper** and/or **selenium**.

What about electronic components associated with the solar panels? What are they hazardous for?

The electronic components associated with the solar panels (e.g. drivers, inverters, circuit boards) contain all of the common electronic device hazardous constituents such as **lead, arsenic, cadmium, selenium, and chromium**.

Perhaps most important, but unrecognized, is the nature of the financial organization all the deep-pocket developers of these utility-scale projects utilize. Uniformly out of state (and often out of the USA) entities, they are organized as shell corporations, typically LLCs. Many of these projects are flipped by the initial developer, once underway. In light of the toxic contents of the PV panels, combined with the grossly underestimated decommissioning costs, incentives become high for the eventual owners of these projects to walk, leaving the state, municipalities and local property owners to pick up the pieces, including bearing the costs of litigation. Take the example of John Bialowans, of East Lyme, whose property is located downhill and downstream from a solar farm. During the approval process he vocalized what would happen, to no avail. Stormwater runoff from the project made a mess of his property and destroyed his pristine trout stream. There is no enforcement mechanism for developers who leave behind an environmental mess. The Siting Council moves on. Bialowans was forced to seek redress in the courts, but after approximately \$100,000 in legal fees was forced to abandon the effort. This incident is a preview of coming fiascos.

- What is proposed to address similar fiascos to East Lyme or situations such as Candlewood Mountain from occurring?
- What is proposed to protect less wealthy municipalities from being targeted by developers, knowing they are less likely to encounter those able to litigate against their abusive schemes?

We conclude by listing 10 questions, which need to be asked before our state can develop answers:

- Where are the correct, obvious locations for solar?
- The corollary to the previous question is: why are petitions being submitted for clearly inappropriate locations?
- Why are these correct locations not being fully exploited?
- Why has the development of large scale solar farms in the state stalled, which few have even noticed?
- Why have two distinct regimes been created - one which encourages facilities to generate power used on site, while another subsidizes power to be exported offsite?
- Once large-scale battery storage technology arrives, how will this impact the industry? **This is inevitable and soon**, and should be proactively addressed.
- Financial considerations are another facet of the problem. Who should profit from government mandates all ratepayers are required to subsidize?
- Who is currently incentivized to invest in this energy source, as opposed to who should be encouraged?
- How can the public (and our environment) best be indemnified?
- As the percentage of renewably generated electricity moves higher, and progresses toward a majority, what does this portend and how can long-term, permanent production facilities be encouraged, rather than facilities with relatively limited lifespans.

This is the reality of the status quo:

- Businesses and individuals are exiting the state due to high taxes and high electrical rates.
- Connecticut currently has the highest electric rates on the continent.
- The state has decided to increase electric rates to subsidize the transition to greater dependence on renewable energy sources.
- Doing so further incentivizes those considering leaving the state.
- Most (all?) of the large scale solar proposals are backed by out-of-state investors.
- Thus profits flow out while remaining Connecticut ratepayers are forced to subsidize projects which would otherwise not be viable, further increasing our cost of living.
- Solar farms are being imposed upon inappropriate landscapes.
- The legislature has already needed to act to prevent the most egregious of these impositions.
- Severe stormwater runoff and silting issues have arisen from inappropriate siting choices and construction practices.
- The limited supply of appropriate locations under the current regime has led to a failure of most of the DEEP RFP proposals to break ground.
- Large-scale solar farms are largely stalled in Connecticut, in spite of the passage of the 2017 legislation.

RELEVANT LINKS:

<https://dtsc.ca.gov/solar-panel-faqs/>

California Department of Toxic Substances Control - solar panel FAQs

https://www.energy.gov/sites/prod/files/2018/10/f56/PV%20Fire%20Safety%20Fire%20Guideline_Translation_V04%2020180614_FINAL.pdf

Assessing Fire Risks in Photovoltaic Systems and Developing Safety Concepts for Risk Minimization

<https://eltownhall.com/wp-content/uploads/2015/12/IWA-April-11-2016-Hearing-Minutes.pdf>

East Lyme Inland Wetland minutes related to the mess created on Walnut Hill

<https://www.theday.com/article/20191018/NWS01/191019447>

Downhill from a solar project, concerns mount

<https://ctexaminer.com/2020/01/31/east-lyme-residents-voice-concerns-about-development-and-environmental-protection/>

Uden said that the solar field construction on Walnut Hill was an example of a development that was negatively impacting the town's water.

“As a result of the solar panel construction at the top of Walnut Hill, DEEP estimated that **900 tons of sediment coated the river bottom of Niantic River and Latimer Brook, destroying fish and agricultural habitat,**”

Uden said. “That solar field is located in the northern end. Much of our open farmland is also located in the northern end of town, where many of our water supplies begin. These require our safeguard and protection.”