#43

(1)

DEC. 29, 2018

Dear Mr. Ed Hemminger & The Town Board,

In regards to the proposed Solar Farm at Fox and Yellow Mills Rds. I have some information I hope you will find helpfull in making your decision. As much as my emotion plays into this I am keeping this letter solely to the facts. I did study up on the chemical components of these Solar Panels and was shocked at what I learned. I'm including copies of just some of the information my daughter's sent me. I've talked at great length at the meetings about the environmental threats and how we should "step lightly" into Solar Farms. I'm not against small operations as there isn't as great a threat and the panels can be monitored seasonably, but this massive solar farm comes with tremendous risk to us all not just for today, but even more so down the road.

The panels contain lead, chromium, cadmium, etc. etc. They are neither "clean" or harmless renewable energy and are considered to be "toxic, hazardous electronic or E waste" H++PS://WWW.NATIONAL REVIEW.com 2017/06/ SOLAR-PANEL-WASTE-ENVIRONMENTAL-THREAT-CLEAN-ENERGY

How is an agricultural district going to deal with that massive problem? Even if over 20-30 years there is no breach in any of those panels until decommissioning (and that in itself would be a miracle) the chance of aging panels breaking as they are dismantled is very high. Once the ground is contaminated then it becomes another nightmare Farmington would have to deal with.

Let me list just some of the elements in these panels

- CADMIUM TELLURIDE (TOXIC) lung inflamation, lung fibrosis hardening of lung tissue
- COPPER INDIUM SELENIDE (TOXIC) lung inflamation, lung fibrosis, fluid and abnormal growths in lungs
- CADMIUM INDIUM GALLIUM (DI) SELENIDE (TOXIC) lung cancer pulmonary EDEMA
- CHROMIUM III and VI (TOXIC) lung cancer, gastrointestinal cancer

I have read report after report that these panels can be damaged by heavy snow build up, high winds, etc. etc.

Another question I have is whether or not the surface of the panels are ever cleaned.... what I've read seems to indicate that they are... If so, my question is what chemical is used to clean the surface, and how much

water is used in the process and what happens to the water supply in the area and also what about run off from the cleaning process? This question is based on Https://www.FREDERICKSBURG.COM/NEWS/LOCAL/DEBATE-OVER-SOLAR-FARM-HEATS-UP-IN-SPOTSYLVANIA/ARTICLE_ab6f2e1fd-9483-5e07-a45a-987a54bee320.html/

In summing this up — These are not just "harmless little windows made of glass and plastic"

Https://www.NATIONALREVIEW.com/2017/06 SOLAR-PANEL-WASTE-ENVIRONMENTAL-THREAT-CLEAN-ENERGY/

Please take the time to look up the information on the websites I've provided and share this letter with the other board members.... and discuss where is Farmington going to put all that E WASTE in 20 to 30yrs.

My concern is that this will turn into our worst nightmare for the agricultural district, the people, the land, the wildlife our precious water - the aquifer; and the Smith Farm will be the topic E waste DUMP of the future, because no one will accept those panels in the future 20-30yrs from now.

Marilyn Fair 984 STAFFORD Rd.
1-585-289-8320

I will bring up more info at the Jan 16th meeting

If Solar Panels Are So Clean, Why Do They Produce So Much Toxic Waste?

Michael Shellenberger Contributor ⓘ

I write about energy and the environment

Bell Labs, 1954. Solar Panel Waste, 2014 BELL LABS & PV CYCLE

Para la traducción al español, haga clic aquí

The last few years have seen growing concern over what happens to solar panels at the end of their life. Consider the following statements:

- The problem of solar panel disposal "will explode with full force in two or three decades and wreck the environment" because it "is a huge amount of waste and they are not easy to recycle."
- "The reality is that there is a problem now, and it's only going to get larger, expanding as rapidly as the PV industry expanded 10 years ago."

- "Contrary to previous assumptions, pollutants such as lead or carcinogenic cadmium can be almost completely washed out of the fragments of solar modules over a period of several months, for example by rainwater."

Were these statements made by the right-wing Heritage Foundation? Koch-funded global warming deniers? The editorial board of the *Wall Street Journal*?

None of the above. Rather, the quotes come from a senior Chinese solar official, a 40-year veteran of the U.S. solar industry, and research scientists with the German Stuttgart Institute for Photovoltaics.

With few environmental journalists willing to report on much of anything other than the good news about renewables, it's been left to environmental scientists and solar industry leaders to raise the alarm.

"I've been working in solar since 1976 and that's part of my guilt," the veteran solar developer told *Solar Power World* last year. "I've been involved with millions of solar panels going into the field, and now they're getting old."

The Trouble With Solar Waste

The International Renewable Energy Agency (IRENA) in 2016 estimated there was about 250,000 metric tonnes of solar panel waste in the world at the end of that year. IRENA projected that this amount could reach 78 *million* metric tonnes by 2050.

Solar panels often contain lead, cadmium, and other toxic chemicals that cannot be removed without breaking apart the entire panel. "Approximately 90% of most PV modules are made up of glass," notes San Jose State environmental studies

professor Dustin Mulvaney. "However, this glass often cannot be recycled as float glass due to impurities. Common problematic impurities in glass include plastics, lead, cadmium and antimony."

Researchers with the Electric Power Research Institute (EPRI) undertook a study for U.S. solar-owning utilities to plan for end-of-life and concluded that solar panel "disposal in "regular landfills [is] not recommended in case modules break and toxic materials leach into the soil" and so "disposal is potentially a major issue."

California is in the process of determining how to divert solar panels from landfills, which is where they currently go, at the end of their life.