**Bianco, Todd (PUC)**

| | |
|---|---|
| **From:** | billyhoran@aol.com |
| **Sent:** | Saturday, October 27, 2018 6:35 PM |
| **To:** | captbirdfish@gmail.com; bcollen@verizon.net; sulussier@verizon.net; dsharp401 @gmail.com; mcohen1@cox.net; raymondjanssen@aol.com; davwein@verizon.net; dinorobertiri@gmail.com; proberti33@gmail.com; louis_dipalma@yahoo.com; Bianco, Todd (PUC); letters@providencejournal.com |
| **Cc:** | Governor (GOV); sen-ruggerio@rilegislature.gov; sen-dipalma@rilegislature.gov; rep-mattiello@rilegislature.gov; rep-ruggiero@rilegislature.gov; Bianco, Todd (PUC); towncouncil@middletownri.com |
| **Subject:** | [EXTERNAL] : https://www.nextbigfuture.com/2018/10/flibe-energy-has-2-6-million-for-molten-salt-nuclear-research.html?fbclid=IwAR1vkGEGA_HpSnb59-gDfI_8xL4nO6znz2NTJpXLwqA3nLnpxSTVwXsy3Fk |
| **Follow Up Flag:** | Follow up |
| **Flag Status:** | Flagged |

# The bipartisan groups in the US congress working together with our POTUS Donald J Trump were able to pass a series of Bills that aligned national labs assets in support of wide ranging developments intended to jump start the next generation of disruptive technologies that can sustain our nations ability to maintain a capacity & capability to supply abundant electricity "the underpinning for our modern society.

# The only green renewable approaches that realizes affordable, reliable, predictable and pollution free electrical power stations. Domestic shale gas fueled powers stations keeps the lights on providing the bridge that enables us to embrace those disruptive technologies. Locally here in RI this dictates that we build the Burrilliville, RI Combined cycle domestic shale gas fueled power

**station. As such the presently embraced path - continuation of subscribing to solar and wind generated electricity is an inferior approach and based on data "a road map to nowhere". Google road map to nowhere and learn about the facts.**

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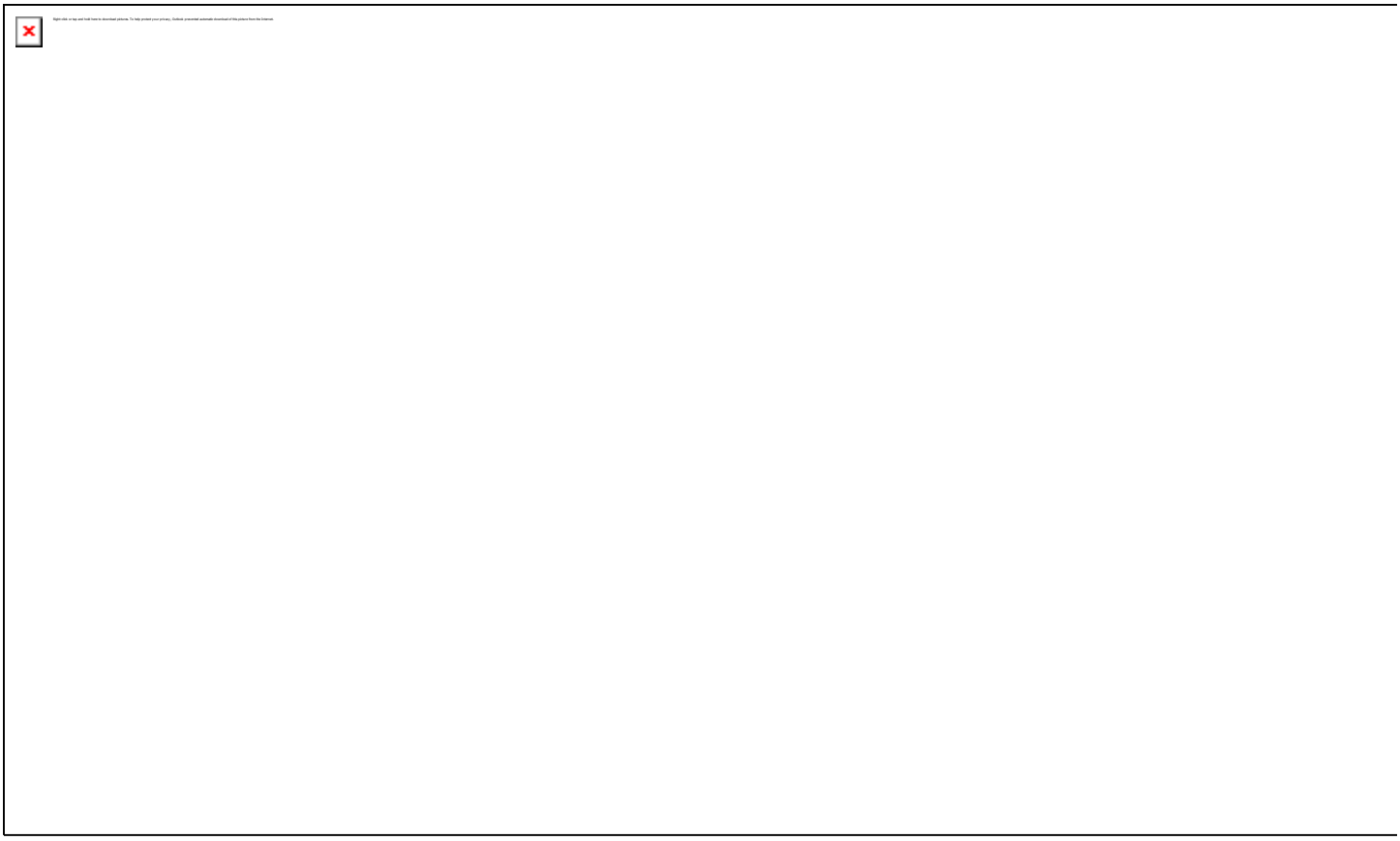
**https://www.nextbigfuture.com/2018/10/flibe-energy-has-2-6-million-for-molten-salt-nuclear-research.html?fbclid=IwAR1vkGEGA_HpSnb59-gDfI_8xL4nO6znz2NTJpXLwqA3nLnpxSTVwXsy3Fk**

# Flibe Energy has $2.6 million for molten salt nuclear research

brian wang [nextbigfuture.com] | October 24, 2018
_[nextbigfuture.com]



Kirk Sorensen of Flibe Energy [flibe-energy.com] described the central role that fluorination plays in the handling of fission products in molten-salt reactors. New fluorination technology may resolve previous challenges, at the 4th MSR Workshop at Oak Ridge National Laboratory, on October 4, 2018.

U.S. Department of Energy is funding new research into liquid fluoride thorium reactor (LFTR) technology. LFTRs generate nuclear power with thorium carried in a solution of molten fluoride salts, a technology advocates say is safer and more efficient than conventional uranium reactors. Flibe Energy will receive $2.1 million from DOE and $525,500 from other sources to study the use of nitrogen trifluoride to remove uranium from the nuclear fuel solution.

In a conventional solid-fueled reactors, the consumption of fuel, and the degradation of cladding material are generally the reasons the reactor must be shut down for refueling rather than the buildup of fission products.

## Long-term Operation of molten-salt reactors

[nextbigfuture.com]

**Entrepreneur Elevator Pitch S3 Ep7: Is There Actually a Business Here? [nextbigfuture.com]**

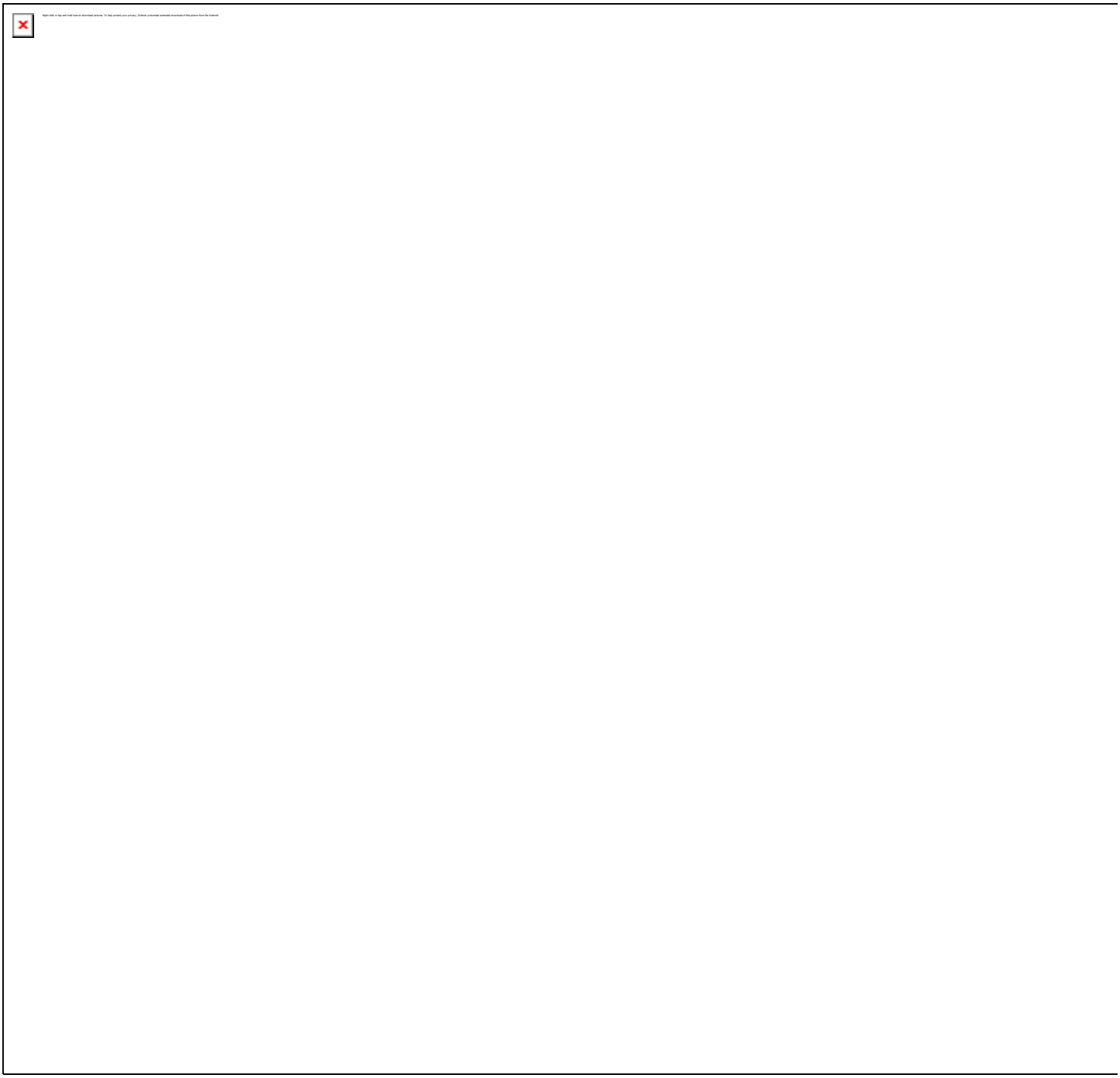
**In a fluid-fueled molten-salt reactor, the potential exists to refuel the reactor during operation by adding fissile material to the fuel salt. The cladding degradation issue does not apply. Molten-salt reactors that use fluoride salts as the chemical medium are impervious to radiation damage in the fuel itself, due to its ionically-bonded nature. This leaves fission product buildup as the only real threat to the long-term operation of the reactor.**

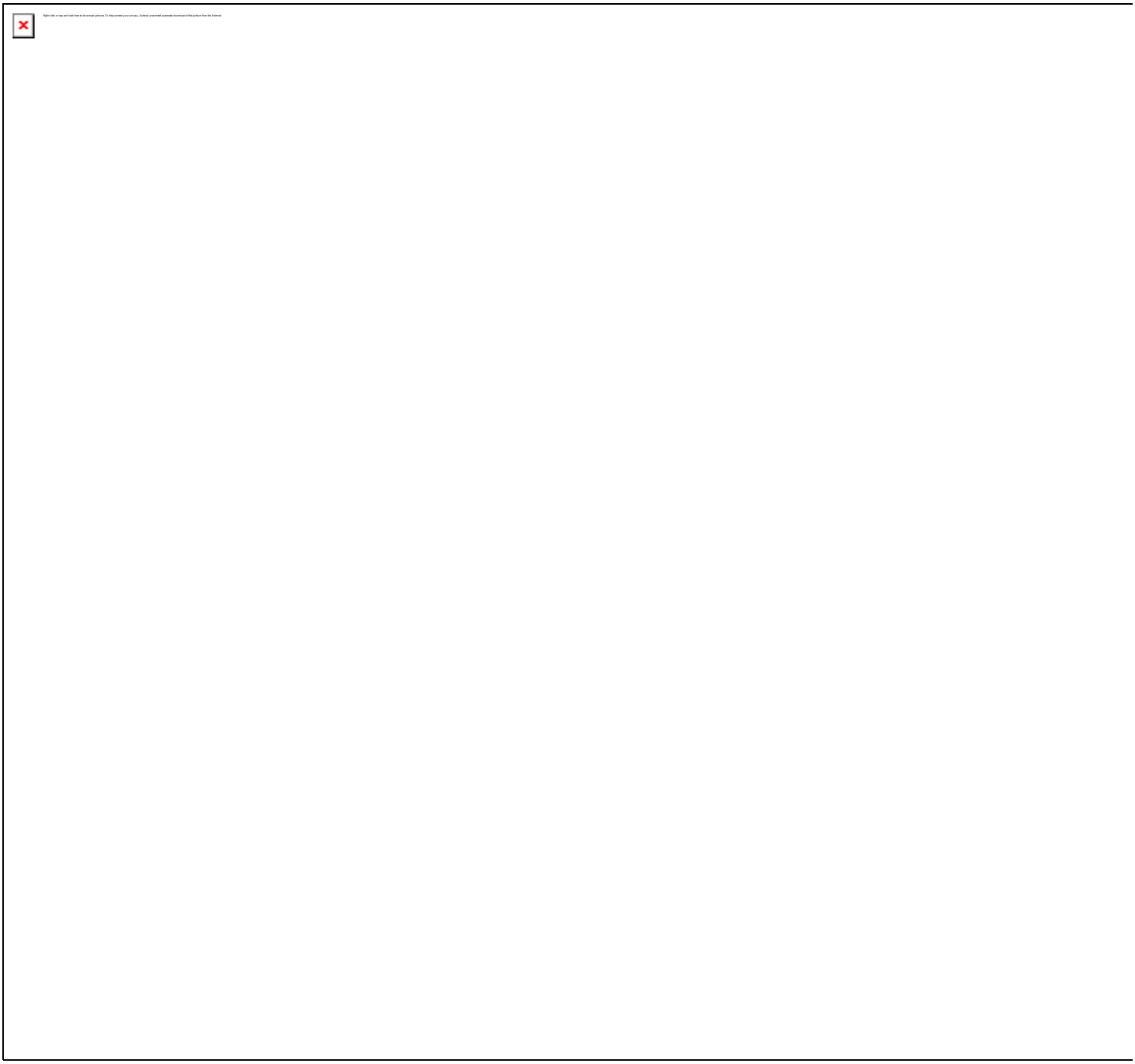
**Reductive extraction of fission products increasingly appears to be the most attractive suggested way to manage the long-term buildup of fission products in the fuel salt, especially if lithium metal is used as the reductant. Because lithium is one of the constituents of the FLiBe salt that makes up the solvent into which nuclear fuel is dissolved in the reactor, its addition over time will not be detrimental and more easily managed than a foreign species such as cerium. The metallic lithium can be alloyed with metallic bismuth to carefully manage lithium's introduction into the fuel salt; bismuth is immiscible with the fluoride fuel salts that are generally favored for molten-salt reactors.**

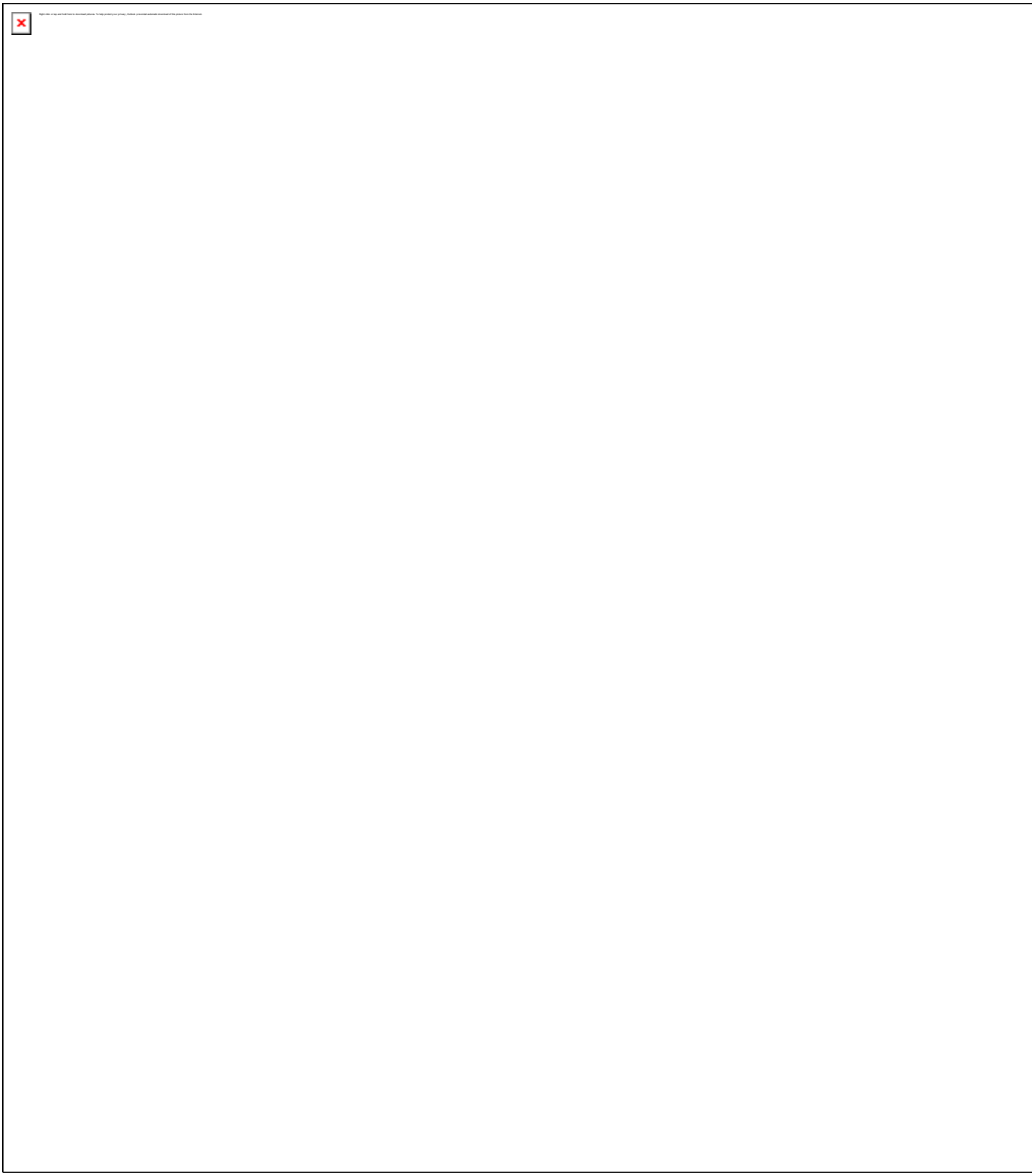
**Flibe Energy proposes to evaluate is the use of a fluorinating/oxidizing agent to convert uranium, typically UF4 found in a liquid fluoride reactor to its gaseous state UF6. Depending on the fluorination/oxidizing agent and temperature, other actinides will also be fluorinated and/or oxidized from a trivalent or tetravalent state. Neptunium and plutonium do form volatile hexafluorides but plutonium hexafluoride is thermodynamically unstable. If fluorination could be undertaken prior to an attempt at reductive extraction, the uranium, neptunium, many of the transition metals, and non-metals present in the salt could be largely removed and reductive**

**extraction could be employed much more productively to remove fission products.**

**The appeal of fluorination as a technique for the removal of uranium from fluoride fuel salt has been noted for many years and fluorination formed an integral part of most of the chemical processing flowsheets that were developed at Oak Ridge National Laboratory under the Molten-Salt Reactor Program from 1957 to 1976. Fluorinators were envisioned at a variety of locations in the chemical processing, universally under the assumption that they would remove uranium from the fuel salt. Despite the prevalence of fluorination as an envisioned chemical processing technique, the actual amount of development that was undertaken on continuous fluorination was surprisingly small.**







# Fluorination to remove uranium from molten salt fuel

Batch fluorination was utilized to remove uranium from the fuel salt of the Molten-Salt Reactor Experiment (MSRE) in 1968, but this was done in the drain tank of the reactor vessel and led to the introduction of a significant amount of corrosion products. Repeated fluorination of the

MSRE fuel salt in this manner would have undoubtedly led to the structural failure of the drain tank due to corrosion.

But the aggressiveness of F2 led to many practical engineering challenges in the development of a continuous fluorination system. To protect the fluorinator from F2 attack, ORNL engineers envisioned using an extensive interior cooling system to freeze a layer of salt on the fluorination column's inner surface. A fuel salt containing fresh fission products has considerable internal heat generation that can be opposed by a cooling system to form a frozen wall on the interior surface of a fluorination column. But a chemically-similar simulant salt, such as LiF-BeF2-UF4, where fission products are replaced with stable isotopes, has no such internal heat generation term. It was necessary to simultaneously heat the salt internally, to simulate the heating effect of fission product decay, while cooling the wall of the fluorinator to generate the frozen wall. Thus testing the frozen wall of the fluorinator under these conditions was very difficult. This was never satisfactorily resolved during the Molten-Salt Reactor Project.

In the years since the MSRE concluded in 1976, alternative fluorination agents have been advanced for consideration. Most notable among these is NF3. NF3 has been considered for rocket propulsion and is extensively used in the electronics industry to clean and etch microelectronic silica chips. It is minimally hazardous and not corrosive at temperatures below 70C and is likely less corrosive than other fluorinating agents. It is not known to react with moisture, is thermally stable at room temperature, and has been demonstrated by PNNL to be an effective, thermally tunable fluorination/oxidation agent for spent nuclear fuel constituents. By controlling the treatment temperature, NF3 will selectively fluorinate/oxidize spent nuclear fuel constituents. The different temperature sensitivities and NF3 concentration effects for the fluorination/oxidation of the different constituents potentially provides mechanisms to effect separations of the volatile fluorides.

The hazard level and chemical reactivity attributes potentially make NF3 a very attractive fluorinating/oxidizing agent for managing the composition of the fuel salt in a liquid-fluoride reactor where uranium is the dominant or even exclusive fissile material. Fluorination/oxidation of the fuel salt with NF3 would produce UF6 and remove uranium from the salt. Reductive extraction could then be employed to remove non-volatile fission and activation products from the salt. Hydrogen could be used to reduce UF6 back to UF4 and reconstitute the salt for return to the reactor.

**Bianco, Todd (PUC)**

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**From:** Mary Pendergast <marypen211@gmail.com>
**Sent:** Thursday, October 25, 2018 8:40 PM
**To:** Governor (GOV); Coit, Janet (DEM); Curran, Margaret (PUC); Brady, Meredith; Bianco, Todd (PUC)
**Subject:** [EXTERNAL] : I wish I had a sense that you actually read these articles, but I don't!

**Follow Up Flag:** Follow up
**Flag Status:** Flagged

https://www.nytimes.com/2018/10/23/climate/kids-climate-lawsuit-lawyer.html?fbclid=IwAR1ZHrrcx4Kn655Bva8fRUqWZz_YFYbSBRRrLofSkccLqZ4h2dfm35r4vqE [nytimes.com]

Honestly, climate is THE issue. For all candidates. For the EFSB, For DEM, For PUC, For DOA. If you are not acting on behalf of climate, nothing else you do for good will even matter. Please!
Sister Mary Pendergast, RSM

**Bianco, Todd (PUC)**

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**From:** Mary Pendergast <marypen211@gmail.com>
**Sent:** Wednesday, October 24, 2018 2:59 PM
**To:** Governor (GOV); Coit, Janet (DEM); Curran, Margaret (PUC); Brady, Meredith; Bianco, Todd (PUC)
**Subject:** [EXTERNAL] : IPCC Aftermath, Now What?

**Follow Up Flag:** Follow up
**Flag Status:** Flagged

Gina McCarthy, head of C-Change at Harvard, former EPA head has something to say! She says we should demand leadership on climate change. I'm taking her up on that.
Please
listen! https://www.youtube.com/watch?v=gXZMlkyIGzQ&feature=youtu.be&t=1031 [youtube.com]

Sister Mary Pendergast

## Bianco, Todd (PUC)

**From:** billyhoran@aol.com
**Sent:** Sunday, October 21, 2018 9:53 PM
**To:** captbirdfish@gmail.com; DinoRobertiRI@gmail.com; dsharp401@gmail.com; mcohen1@cox.net
**Cc:** louis_dipalma@yahoo.com; Bianco, Todd (PUC); Governor (GOV); sen-ruggerio@rilegislature.gov; rep-mattiello@rilegislature.gov; rep-ruggiero@rilegislature.gov; sen-dipalma@rilegislature.gov; towncouncil@middletownri.com
**Subject:** [EXTERNAL] : projo Letter: William F. Horan: R.I. needs a bridge to its energy future

**Follow Up Flag:** Follow up
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http://providencejournal.com/opinion/20181020/letter-william-f-horan-ri-needs-bridge-to-its-energy-future

## Bianco, Todd (PUC)

**From:** billyhoran@aol.com
**Sent:** Sunday, October 21, 2018 10:21 AM
**To:** Bianco, Todd (PUC); Governor (GOV); sen-ruggerio@rilegislature.gov; sen-dipalma@rilin.state.ri.us; rep-mattiello@rilegislature.gov; rep-ruggiero@rilegislature.gov; l@aol.com
**Cc:** letters@providencejournal.com; editor@newportri.com; louis_dipalma@yahoo.com; captbirdfish@gmail.com; towncouncil@middletownri.com
**Subject:** [EXTERNAL] : Oct 31 Burrillville RI Power Station Public Hearing Vs the big picture!

**Follow Up Flag:** Follow up
**Flag Status:** Flagged

10/21/2018
William F Horan
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401 846 5732

RI PUC EFSB members, elected officials and fellow citizens,

The never ending Burrillville RI Power Station Public Hearing Vs the big picture!

The October 31 Burrillville RI Power Station Public Hearing is just around the corner! The election season infomercials disappointingly have omitted a conversation concerning a very dangerous confluence of events. The uncertain energy / electricity future that RI and New England must resolve! The assembled NIMBY behaviors & faux environmentalist have continued in league with nefarious elements to focused on sabotaging our regions energy security in the name of unrealistic cult like bogus agendas. I urge The RI PUC EFSB to call a halt to this madness bent on upending public health, safety, security and even compromising elements of national defense. We must reject and return the parties to devising solutions instead of fabricating endless faux obstacles & promoting schemes surely un-realizable or unsustainable but politically attractive financial wind falls for a few.. Yes, wind & Solar HOAX alternatives (a road map to nowhere) aren't a form, fit or functional replacement for our electricity requirements. Rather
The bridge to the future that today keeps the majority of New England lights on is combined cycle natural gas fueled power stations, like the one proposed for Burillville RI (located in the proximity of the regional domestic Ngas transmission Lines). This provides time allowing for tomorrows pivot to modern disruptive technologies including sustainable next generation Nuclear Technology. The approach that is the true clean renewable green energy with the capacity and capability to sustain our electricity grid.
The US Congress has recently passed Bills & POTUS approved authorizing & enabling this game changing program! Electricity still is the under pinning for our modern society and economy. Acknowledge the facts people & tell RI leadership to approve the Burillville RI power station project. We must communicate insistence that the just announced ISO New England press release warning of almost certain rolling electricity black outs,especially here at home in RI, will never be acceptable! Action for States &
Feds regulators - direct that New England Natural Gas transmission lines be expanded to utilize abundant domestic shale gas. Your choice fellow citizens do nothing and freeze in the dark or contact your elected representatives & responsible government regulators. You. decide then Vote on Nov 6th.

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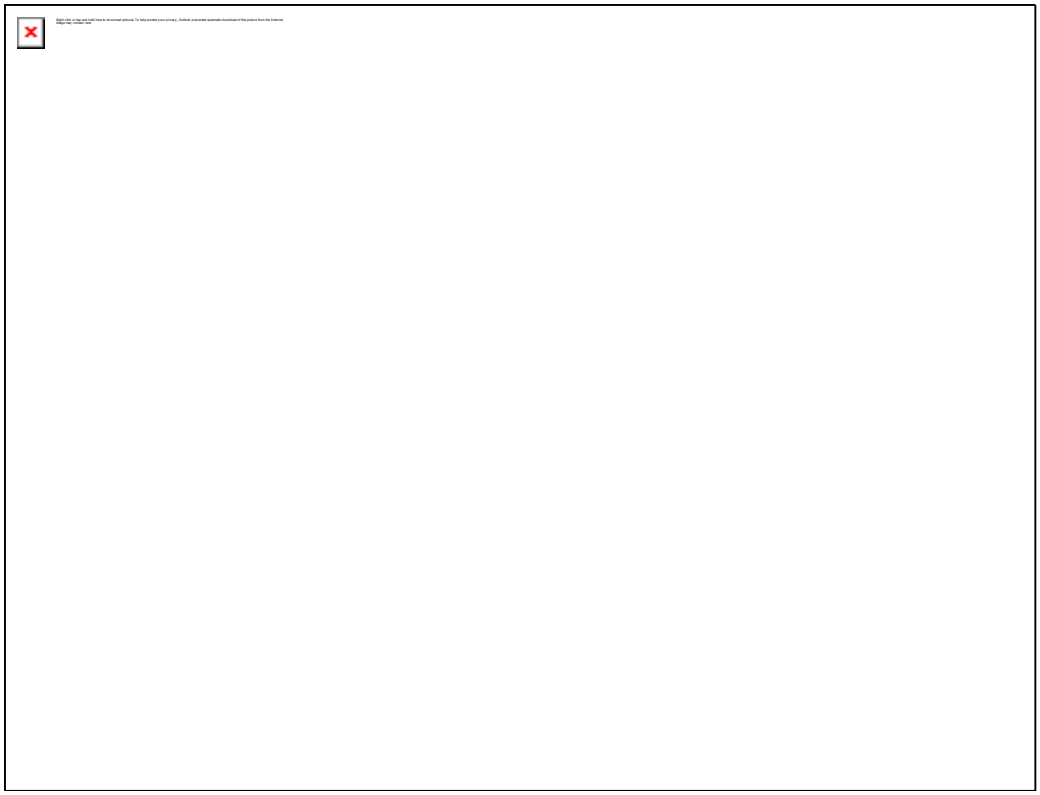
[facebook.com]



[facebook.com]

> **Time To Go Nuclear [facebook.com]**

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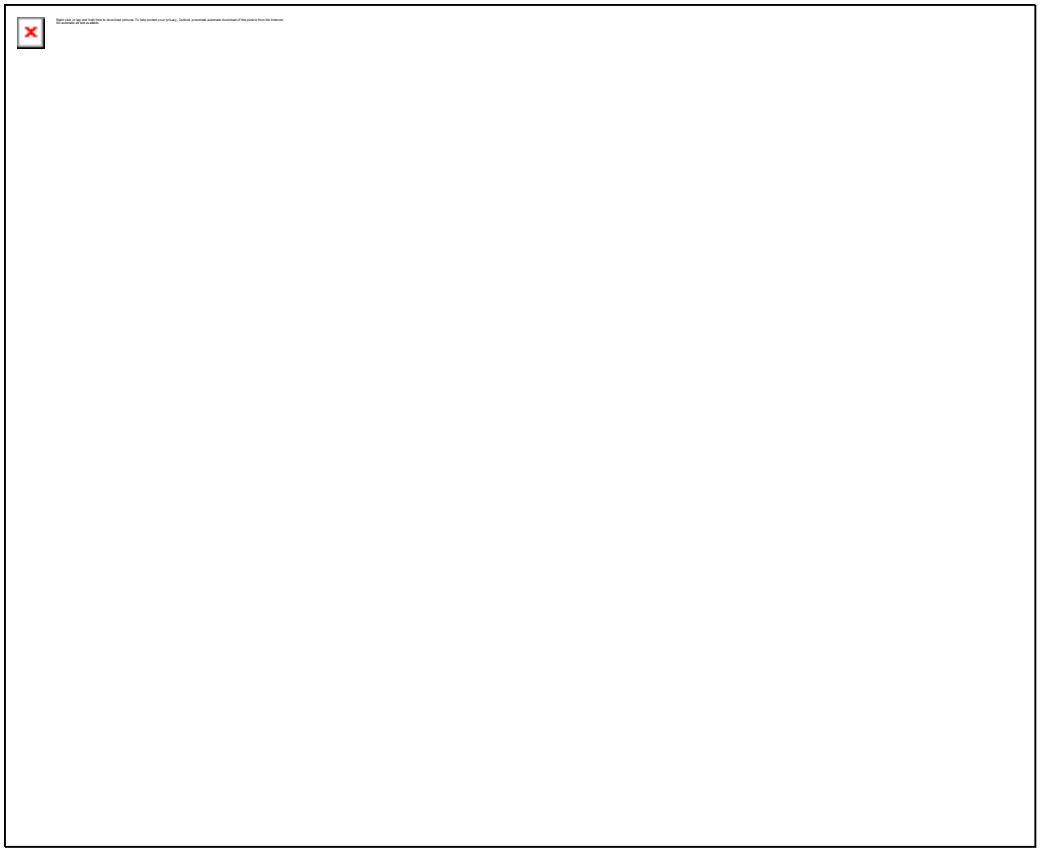
**[facebook.com]***Solar & Wind is a Hoax and a "road Map to nowhere" (google it)*



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**William F Horan [facebook.com]** Solar & Wind is a Hoax and a "road Map to nowhere" (google it).
The bridge that keeps the lights on in New England is combined cycle natural gas fueled power stations like the one proposed for Burillville RI (located in the proximity of the regional domestic Ngas transmission Lines). This new power station provides time allowing for a pivot to modern disruptive technologies Nuclear. This approach is the true renewable green energy with the capacity and capability to sustain our electricity grid which is the under pinning for our modern society and economy. Wake up people and demand that the just announced ISO New England rolling electricity black outs never are accepted! RI Gov / RI PUC EFSB approve the Burrillville RI Ngas power station, Feds direct that New England NGass transmission lines be expanded to utilize abundant domestic shale gas. Vote Nov 06!

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**Bianco, Todd (PUC)**

| | |
|---|---|
| **From:** | billyhoran@aol.com |
| **Sent:** | Friday, October 19, 2018 8:12 AM |
| **To:** | captbirdfish@gmail.com; DinoRobertiRI@gmail.com; Bianco, Todd (PUC); Governor (GOV); sen-ruggerio@rilegislature.gov; rep-mattiello@rilegislature.gov; sen-dipalma@rilegislature.gov; rep-ruggiero@rilegislature.gov; towncouncil@middletownri.com; louis_dipalma@yahoo.com |
| **Cc:** | letters@providencejournal.com; editor@newportri.com |
| **Subject:** | [EXTERNAL] : Npt Daily News 10/19/2018 This is a shallow and unacceptable position for ISO New England to take or RI to accept! |
| **Follow Up Flag:** | Follow up |
| **Flag Status:** | Flagged |

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# Newport Daily News 10/19/2018
# ISO New England learns lessons from deep freeze last winter

The Associated Press

SOUTH BURLINGTON, Vt. - The bitter cold snap that kept much of New England in the deep freeze during the Christmas and New Year's holidays last winter had people who supply the region with electricity worried they might have to impose rolling blackouts, the head of the company that manages the electric grid said Thursday.

And as a result of lessons learned from that cold snap, ISO New England, which manages the regional power grid, has changed its procedures and is looking for long-term solutions, ISO New England President Gordon van Welie said.

During the unexpected cold snap, much of the natural gas that powers generating plants was diverted to heating homes and electricity providers had to turn to old, coal and oil fired power plants, which were burning fuel at rates that led officials to fear the fuel tanks could run dry, And if during the cold spell the region had lost one of its major sources of power, such as the New Hampshire's Seabrook nuclear power plant or a major transmission line from Quebec, there would have been no way to ensure that everyone could keep their power on, he said.

“We were one large contingency away from rolling blackouts,” van Welie said Thursday in an interview with The Associated Press during a break at the Renewable Energy Vermont conference being held Thursday and Friday in South Burlington. “And for use we said 'that's a little too close to the edge.'” The winter contingency planning is separate from ISO New England's growing reliance on renewable energy that is changing the way New England gets its electricity by growing sources of renewable power such as solar and wind.

In Vermont, the National Weather Service said the cold snap began Dec. 26 and lasted through Jan. 7

with temperatures about 20 degrees colder than normal, meteorologist Robert Haynes said.

During cold spells the natural gas supplies that are piped into the region are first used to heat peoples' homes and businesses. During those times electricity providers turn to the aging fossil fuel plants, mostly oil.

During a regular year, New England providers use about 1 million barrels of oil to make electricity. During the two-week cold snap they burned 2 million barrels, he said. In addition, for a time New England was paying the highest natural gas prices in the world ISO New England has determined that it's not practical to build more natural gas pipelines so the industry is being forced to innovate.

As a result of the lessons learned from the unexpected two-week cold snap, ISO New England has changed its operating procedures, he said. Officials are working to be better prepared for extreme weather conditions by looking further ahead and ensuring the system has enough energy available. That would include ensuring there is enough fuel for the power plants or additional available sources of power such as hydro-electricity or, looking further ahead, electricity stored in batteries.

They will also do more to communicate the situation with the region's governors and the public.

While last winter's cold snap was unusual, in an age of climate change and unusual weather patterns, scientists say it's likely such extremes will become more common than in the past and the Northeast is more vulnerable than other areas, he said.

“There kinds of swings, like 50 degree temperatures in February and two-week cold snaps at the end of December is going to be more the norm than the exception going forward because the climate is changing,” he said.

## Bianco, Todd (PUC)

**From:** billyhoran@aol.com
**Sent:** Thursday, October 18, 2018 8:50 PM
**To:** captbirdfish@gmail.com; DinoRobertiRI@gmail.com; Bianco, Todd (PUC); letters@providencejournal.com; editor@newportri.com; Governor (GOV); sen-ruggerio@rilegislature.gov; sen-dipalma@rilegislature.gov; rep-mattiello@rilegislature.gov; rep-ruggiero@rilegislature.gov; louis_dipalma@yahoo.com; towncouncil@middletownri.com
**Subject:** [EXTERNAL] : Projo - Regulators approve $180-Million natural gas plant in Providence

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http://providencejournal.com/news/20181018/regulators-approve-180-million-natural-gas-plant-in-providence

This projo article and embedded federal document addressing an upgraded capabilities for an existing Ngas facilities at Providence, RI is worth the read! Clearly the necessary decision was made in the common and best interest of RI citizens. The NIMBY BIAWBH antagonists identified in the article is some of the same mob against The Burrilliville Combined Cycle Ngas power plant! Yes a critical power station intended as a bridge to the future employment of true renewable energy non polluting electrical power stations.. Further radicals that will be against any new modern alternative Solutions. Including Nuclear Technologies regardless of the facts concerning game changing safe modern disruptive technologies etc. We must reject being manipulated by chicken little single issue cult like agendas. Moreover challenge those unwilling to embrace adult critical thinking processes. To sustain the underpinning for our modern economy - the Hoax of wind and solar must be called out as not capable of meeting our electricity needs (at any price) yesterday, today or tomorrow. Yes, net net costly, inefficient and polluting wind and solar generated electricity is an attractive finical manipulation and modern hoax a (economic time bomb) "road map to nowhere" that must be rejected. Finally one must recognize that knowingly accepting the sabotage of critical public projects like shale gas pipe lines upgrades into New England or modern power stations etc. will continue to have consequences, including self induced energy poverty and a companion economic calamity.

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## Bianco, Todd (PUC)

**From:** billyhoran@aol.com
**Sent:** Tuesday, October 16, 2018 10:53 AM
**To:** louis_dipalma@yahoo.com; rep-ruggiero@rilegislature.gov; Governor (GOV); sen-ruggerio@rilegislature.gov; rep-mattiello@rilegislature.gov; Bianco, Todd (PUC); editor@newportri.com; letters@providencejournal.com; sen-dipalma@rilegislature.gov; captbirdfish@gmail.com; towncouncil@middletownri.com
**Cc:** bcollen@verizon.net; sulussier@verizon.net; dsharp401@gmail.com; mcohen1@cox.net; raymondjanssen@aol.com
**Subject:** [EXTERNAL] : Did someone say midterms election season - vote on Nov 06?

**Follow Up Flag:** Follow up
**Flag Status:** Flagged

The State of Rhode Island desperately needs elected officials capable of grasping the totality of the present dangerous policies already resulting in a self induced energy poverty. During this mid term election season our elected officials need to be reminded of our concerns regarding costly haphazard approaches subscribed to while attempting to maintaining an affordable, predictable and reliable source of electricity. Much of the election season literature disappointingly seems to still subscribe to wind and solar generated electricity!? The data and facts do not support the continuation of this haphazard & defective agenda! Rather Wind and solar is a certain "road map to nowhere".

Yes, as Europe has already concluded - Alleged green renewable solar & wind generated electricity is a "Road Map to Nowhere". Google it and learn why and the available alternative true renewable disruptive technologies for our electricity future. The local RI Bridge allowing us to keep the lights on & subsequently take advantage of those disruptive technologies is approval & implementation of The Burrillville RI Combined cycle natural gas power fueled station. Again wind and solar is a road map to nowhere given that while a short term attractive finical manipulation it result in a self-induced energy poverty plus an economic time bomb. Wind & solar (especially here in RI) aren't capable of scaling up to replace other methods of electricity production.

Further solar & wind result in much more costly & unreliable electricity that has a very short life cycle requiring costly maintenance and replacement. The electricity rate payer and tax payer is subjected to a wide range of open ended costs growth. For example purchasing the development rights to farm land is a much more viable solution than a burden of costly unreliable electricity forced on consumers from environmentally dangerous solar and wind methods.

William F Horan
Retired Engineering Fellow & Life Member IEEE Providence Section.
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-----Original Message-----
From: Nuclear Matters <info@nuclearmatters.com>
To: Wm F Horan <billyhoran@aol.com>
Sent: Tue, Oct 16, 2018 9:07 am
Subject: October Newsletter: Did someone say midterms?

**[nuclearmatters.com]**

Wm F,

**Did someone say midterms?**

You heard right. And we're looking for a study partner. This year, 435 U.S. House seats and 33 Senate seats are up for grabs, and on November 6, it's up to we, the people, to decide who fills those seats. Power to the people!

**Before you hit the polls…**

Hit the books on nuclear energy. Advocates like you must share your support of nuclear energy with your legislators. No need to stay up all night cramming; we've got you covered with all you'll need to know about being an effective nuclear energy advocate [nuclearmatters.com] this November.

**While you're studying…**

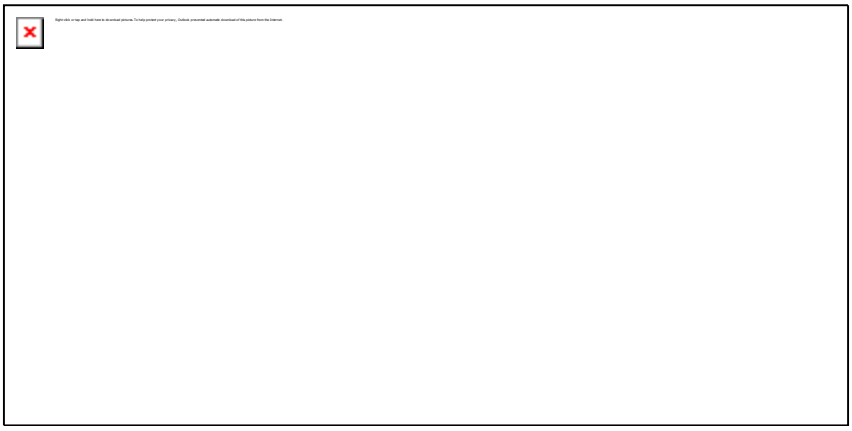
Make sure to brush up on nuclear science! This week is Nuclear Science Week, and no matter where you're cramming, you can follow along with the hashtag: #NuclearSciWeek [nuclearmatters.com].

**Make the grade in nuclear energy.**

Nuclear energy benefits our lives in countless ways, but to get you started, we've listed a few study hacks so you can pass these midterms with flying colors.

- Nuclear energy fuels our economy [nuclearmatters.com] – helping fund schools and other infrastructure projects.
- It's America's largest source of carbon-free energy [nuclearmatters.com] – providing 56% of our carbon-free power.
- America is a global leader in nuclear energy [nuclearmatters.com] – but we need your help to keep it that way.

## Take Action



### We need your help.

Tell your legislator why nuclear energy matters to you and make sure they've got the facts straight.

**With the link below, it takes just a minute to tell your legislator about the benefits that nuclear energy brings to your community.**

And to ensure that you stay up-to-date on all of the latest nuclear news and tuned into Nuclear Science Week, follow us on Twitter [nuclearmatters.com] and like us on Facebook [nuclearmatters.com].

## In Case You Missed It

- A bipartisan group of U.S. senators introduced the Nuclear Energy Leadership Act (NELA) [nuclearmatters.com], a bill designed to ensure America remains a leader in nuclear energy technology in the face of global competition.
- A big win for nuclear: The Nuclear Energy Innovation Capabilities Act (NEICA) [nuclearmatters.com] was signed into law, which will help eliminate some of the barriers to bringing advanced nuclear reactors to the U.S.

 [nuclearmatters.com]

 [nuclearmatters.com]

 [nuclearmatters.com]

## Bianco, Todd (PUC)

**From:** Mary Pendergast <marypen211@gmail.com>
**Sent:** Monday, October 15, 2018 6:51 PM
**To:** Governor (GOV); Curran, Margaret (PUC); Coit, Janet (DEM); Brady, Meredith; Bianco, Todd (PUC)
**Subject:** [EXTERNAL] : Climate Change and Forest Mitigation

**Follow Up Flag:** Follow up
**Flag Status:** Flagged

Dear Governor, Chairwoman Curram, Director Coit, and Director Brady, [facebook.com]

It is imperative to reduce overall worldwide emissions as quickly as possible. However, it is unrealistic to get to zero in the near future. So can the inevitable emissions be mitigated until humanity can rely solely on clean energy? One of the largest sinks for CO2 are forests, and this means that protecting them should be a priority.

Our forests should be a top priority. We can disagree and we can argue, but we are on the threshold of "unprecedented change" whether we like it or not. so I strongly disagree that RIDEM can't or won't respond to the youth petition because it is "unprecedented." Clearly we have no more time for delay in any sphere.

https://www.theguardian.com/environment/2018/oct/04/climate-change-deforestation-global-warming-report [theguardian.com]

Sincerely,

Sister Mary Pendergast, RSM

**Bianco, Todd (PUC)**

---

**From:** Mary Pendergast <marypen211@gmail.com>
**Sent:** Sunday, October 14, 2018 7:38 PM
**To:** Governor (GOV); Curran, Margaret (PUC); Coit, Janet (DEM); Brady, Meredith; Bianco, Todd (PUC)
**Subject:** [EXTERNAL] : Merrimack Valley explosions

**Follow Up Flag:** Follow up
**Flag Status:** Flagged

Oh, if we lived in Massachusetts, we'd have a chance! Please be like Massachusetts!

"Even before the natural gas fires erupted in the Merrimack Valley, the fossil fuel had been under increasing criticism for its environmental drawbacks, from contaminating groundwater to the leakage of methane, one of the most potent greenhouse gases.

But with the disaster last month [bostonglobe.com] and a dangerous gas pressure spike [bostonglobe.com] Monday in Woburn, concerns about the fuel's safety have intensified calls for the state to accelerate its transition toward renewable energy and away from its heavy dependence on gas to generate electricity."

https://www.bostonglobe.com/metro/2018/10/12/after-explosions-north-boston-natural-gas-comes-under-sharp-scrutiny/dDAfuBb2CEYnEa4BhvfSHO/story.html [bostonglobe.com]

Sister Mary

## Bianco, Todd (PUC)

**From:** billyhoran@aol.com
**Sent:** Monday, October 08, 2018 6:28 PM
**To:** letters@providencejournal.com; editor@newportri.com; Bianco, Todd (PUC); Governor (GOV); louis_dipalma@yahoo.com; rep-ruggiero@rilegislature.gov; sen-ruggerio@rilegislature.gov; rep-mattiello@rilegislature.gov; captbirdfish@gmail.com
**Subject:** [EXTERNAL] : Deepwater Wind bought for $510 million

**Follow Up Flag:** Follow up
**Flag Status:** Flagged

http://providencejournal.com/news/20181008/deepwater-wind-bought-for-510-million

Deepwater wind is an expensive inefficient approach resulting in a lack of equivalent power generating capacity. Denmark & Germany et al has seen its own countries much hyped Industrial wind turbine & solar farms fall on hard times. Yes, the population can no longer afford electricity and a domestic blow back has occurred. Reference European technical and financial journals. My relatives in Denmark aren't happy campers. We need to all google "road map to no where" and watch the free video and download the free pdf Book. The bottom line RI and New England citizens are willingly following the road to the abyss resulting in a self induced energy poverty and companion economic calamity. OBTW the self evident disruptive technologies solutions are also discussed. Wake up people and do your homework today & hold your elected officials accountable.! Finally today the bridge to disruptive technologies is natural gas. This leading to next generation affordable and safe nuclear technologies, Congress and President DJ Trump have already signed the enabling Bills. Before you further express your chicken little ignorance look this topic up and read about it. The smart money has sold out after plundering the tax & rate payers and must have seen the writing  on the wall!

**Bianco, Todd (PUC)**

**From:** billyhoran@aol.com
**Sent:** Saturday, September 29, 2018 9:35 AM
**To:** captbirdfish@gmail.com; letters@providencejournal.com; cathy.clark@ieee.org; louis_dipalma@yahoo.com; Bianco, Todd (PUC); proberti33@gmail.com; dinorobertiri@gmail.com; dsharp401@gmail.com; mcohen1@ieee.org; billyhoran@aol.com; davwein@verizon.net; karm@aol.com; mldax@aol.com; mcckazar@aol.com; vanurse3691@gmail.com; bcollen@verizon.net; sulussier@verizon.net; j@aol.com; johnkma@charter.net; imears97@aol.com
**Cc:** Governor (GOV); rep-ruggiero@rilegislature.gov; sen-dipalma@rilegislature.gov; rep-mattiello@rilegislature.gov; sen-ruggerio@rilegislature.gov; rsylvia@mindspring.com
**Subject:** [EXTERNAL] : H.R. 589, the "Department of Energy Research and Innovation Act," Disruptive technologies modern safe & true clean renewable energy Road map finally enabled!

**Follow Up Flag:** Follow up
**Flag Status:** Flagged

**H.R. 589, the "Department of Energy Research and Innovation Act," Disruptive technologies modern safe & true clean renewable energy Road map finally enabled!**

RI still needs the Burilliville combined cycle Ngas fueled power station as a bridge to this disruptive technology. Further keeping the lights on with affordable, reliable and predictable electricity.

FYI Bill Horan
William F Horan
1 Jean St
Middletown, RI 02842-4536
billyhoran@aol.com
401 846 5732

# President Donald J. Trump Signs H.R. 589, H.R. 1109, S. 97 and S. 994 into Law

ENERGY & ENVIRONMENT [WHITEHOUSE.GOV]

Issued on: September 28, 2018

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- [WHITEHOUSE.GOV]

**ALL NEWS [WHITEHOUSE.GOV]**

On Friday, September 28, 2018, the President signed into law:

H.R. 589, the "Department of Energy Research and Innovation Act," which establishes policy for Department of Energy science and energy research and development programs and reforms National Laboratory management and technology transfer programs;

H.R. 1109, which amends the Federal Power Act to clarify the authority of the Federal Energy Regulatory Commission over mergers or consolidations by a public utility;

S. 97, the "Nuclear Energy Innovation Capabilities Act of 2017," which amends the Energy Policy Act to update the mission and objectives of the Department of Energy's civilian nuclear energy research, development, demonstration (RD&D), and commercial application programs; and

S. 994, the "Protecting Religiously Affiliated Institutions Act of 2018," which criminalizes the intentional obstruction of any person's free exercise of religious beliefs by threat of force against religious real property.

[whitehouse.gov]

The White House

## Bianco, Todd (PUC)

**From:** billyhoran@aol.com
**Sent:** Thursday, September 27, 2018 11:38 PM
**To:** Bianco, Todd (PUC); Governor (GOV); louis_dipalma@yahoo.com; bcollen@verizon.net
**Subject:** [EXTERNAL] : Burrillville pwr station Fwd: Bridge to Heaven
**Attachments:** Russian VBER-150 FNPP.JPG; ThorCon Nuclear Barge Concept.JPG; Bridge to Heaven.JPG

**Follow Up Flag:** Follow up
**Flag Status:** Flagged

Todd
Given outside radicals, NIMBY BIAWBH citizens, weak knee politicians plus the Burrillville power station legal road blocks recently mfg and companion foot dragging Our RI PUC & EFSB is placed in a tenuous position in enabling affordable, reliable and predictable electricity for RI. Clearly wind and solar is a road map to nowhere based on the data. As early as this winter high cost and shortages will translate into citizens finally getting the message that their ignorance and RI politicians subscribing to costly, incapable, and non compatible power generation methods will impact every home and business.
Now is the time to raise hell about the politically sabotaged natural Gas Transmission lines across NY State and locally water cooling sources including a water pipe line from the Black Stone et al. Like it or not The bridge that keeps the lights on and provides us precious time to replace the aged regional nuclear plants with nexgen safe cleaner nuclear is domestic natural gas & combined cycle Ngas fueled power stations.. Google Road Map to nowhere & view the videos and read the free pdf book. Last, following the MA approach of wind and solar is a proven road map to no where. Yes, enabled by multi layer subsidies & a windfall for equipment mfg it is politically popular. That popularity will dampen rapidly in short order. Examining the numbers this approach is incapable of keeping the lights on in both mid winter and mid summer.
William F Horan
1 Jean Street
Middletown, RI 02842
401-846 5732
billyhoran@aol.com

-----Original Message-----
From: Mike Armenia <captbirdfish@gmail.com>
To: William Horan <billyhoran@aol.com>; Dino Roberti <dinorobertiri@gmail.com>; Dave Sharp <dsharp401@gmail.com>; Martin Cohen <mlcohen@ieee.org>; ROBERT KIERONSKI <rnrower@msn.com>; Lou DiPalma <louis_dipalma@yahoo.com>; Al benson <bensonra60@gmail.com>
Sent: Tue, Sep 18, 2018 11:26 pm
Subject: Bridge to Heaven

I flummoxed. I've been telling everyone who insists on roof top solar to ditch the electric oil burner, electric stove and electric dryers for gas AFTER they install the solar panels. That way they get max panels based on NGrid's prior (3 yr) electricity usage; thus can sell back more watt-hours at taxpayer/ratepayer subsidized (scam) rates; I also tel them they aren't doing anything to reduce fossil fuels.

Now comes maximum coverage of MA exploding gas lines possibly more sensational than a man being killed by a shark in MA.

My theory on the explosions is that the gas company was elevating pressures very slightly to do pipe leak detection on an isolated (valved off) stretch. I have no idea if that is actually a procedure but with 10s of thousands of miles of old pipe what else can they do but pressurize and sniff. The early reports (in the news) are about "defective sensors" on a pipe being taken out of service. The corollary could be suspected defective pipe and accurate sensors but maybe somebody failed to isolate the pipe under test.

States all along the East seaboard are laying new pipe for Marcellus etc. Environmentalists are protesting and trying to halt same. I don't see the aged infrastructure problem going away soon (ever) and the environmentalists don't make

much of a distinction between and old pipe and a new one especially with those "defective pressure sensors" (made in China?).

So I'm thinking is this a teaching moment for the far better nuclear safety record? Could this help to get more states to put nuclear into their Renewable Energy Portfolios so we can actually start putting safer SMRs (NuScale is about ready with their Gen III) into the footprint of retiring reactors.

Another (Trumpian) tactic would be to invite the new Russian floating nuclear plant into Boston harbor this coming winter in lieu of LNG tankers. The NRC wlll never allow that but it might spur them to review the Russian design as well as the floating designs that came out of the Thorium Energy Alliance. Example:ThorCon:attaced.

Attached is the Russian plant (sketch) but already deployed. Real photos are on the internet. VBER is a pressurized water conventional design plant but the Russians are looking at this plant to burn Th Oxide fuels too.

Also attached is the ThorCon thorum MSR floating design.

And a picture of a solar home in MA destroyed by gas explosion.

(I have shark pictures but I don't want to scare people.)

Talk sometime?

## Bianco, Todd (PUC)

**From:** billyhoran@aol.com
**Sent:** Thursday, September 27, 2018 11:23 PM
**To:** Bianco, Todd (PUC); Governor (GOV); captbirdfish@gmail.com; louis_dipalma@yahoo.com
**Subject:** [EXTERNAL] : RI electricity in more jeopardy today. Fwd: Bridge to Heaven

**Follow Up Flag:** Follow up
**Flag Status:** Flagged

The series of mfg road blocks delaying approval of the Burrillville power station places a reliable and affordable RI electricity supply in more jeopardy today.
What is being done to expedite a positive resolution and mitigate the damage and risk caused by nefarious attempted sabotage of a needed regional power station?
We can little afford to halt the realization of solutions enabling an expediting of the implementation process.
William F Horan
1 Jean Street
Middletown, RI 02842

-----Original Message-----
From: ROBERT KIERONSKI <rnrower@msn.com>
To: Mike Armenia <captbirdfish@gmail.com>; William Horan <billyhoran@aol.com>; Dino Roberti <dinorobertiri@gmail.com>; Dave Sharp <dsharp401@gmail.com>; Martin Cohen <mlcohen@ieee.org>; Lou DiPalma <louis_dipalma@yahoo.com>; Al benson <bensonra60@gmail.com>
Sent: Wed, Sep 19, 2018 10:54 am
Subject: Re: Bridge to Heaven

Good commentary Mike. You expressed our situation well. Given this country's failure to recognize the energy/climate problem we are facing, we look forward to dark times ahead.

The Whitehouse nuclear bill helps. Even though it signifies a positive change, it strikes me as being too little, too late. I have been in touch with the organizers of the Thorium energy conference to get an update. Here it is in a nutshell.

The US primary entry in the advanced reactor arena is NuScale. In 2013, NuScale Power was selected as the sole winner of the second round of the Department of Energy (DOE) competitively-bid, $226 million, five-year, financial assistance award to develop nuclear SMR technology. In 2018 it received $M 40. Other R&D programs received less. Now DOE appears to be having second thoughts about cost and low energy density for the small NuScale conventional reactor.

Meanwhile, Terrestrial Energy (Canada) and half a dozen other MSR startups are moving along in other countries, but even they are small efforts compared to the 3.3 Billion $ that China is investing annually in MSR Technology.

Does anyone care to project the future ? What do you see happening out of all of this ?

Bob Kieronski

**From:** Mike Armenia <captbirdfish@gmail.com>
**Sent:** Tuesday, September 18, 2018 11:20 PM
**To:** William Horan; Dino Roberti; Dave Sharp; Martin Cohen; ROBERT KIERONSKI; Lou DiPalma; Al benson
**Subject:** Bridge to Heaven

I flummoxed. I've been telling everyone who insists on roof top solar to ditch the electric oil burner, electric stove and electric dryers for gas AFTER they install the solar panels. That way they get max panels based on NGrid's prior (3 yr) electricity usage; thus can sell back more watt-hours at taxpayer/ratepayer subsidized (scam) rates; I also tel them they aren't doing anything to reduce fossil fuels.

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So I'm thinking is this a teaching moment for the far better nuclear safety record? Could this help to get more states to put nuclear into their Renewable Energy Portfolios so we can actually start putting safer SMRs (NuScale is about ready with their Gen III) into the footprint of retiring reactors.

Another (Trumpian) tactic would be to invite the new Russian floating nuclear plant into Boston harbor this coming winter in lieu of LNG tankers. The NRC wlll never allow that but it might spur them to review the Russian design as well as the floating designs that came out of the Thorium Energy Alliance. Example:ThorCon:attaced.

Attached is the Russian plant (sketch) but already deployed. Real photos are on the internet. VBER is a pressurized water conventional design plant but the Russians are looking at this plant to burn Th Oxide fuels too.

Also attached is the ThorCon thorum MSR floating design.

And a picture of a solar home in MA destroyed by gas explosion.

(I have shark pictures but I don't want to scare people.)

Talk sometime?

## Bianco, Todd (PUC)

**From:** billyhoran@aol.com
**Sent:** Thursday, September 20, 2018 5:34 PM
**To:** letters@providencejournal.com; editor@newportri.com; Bianco, Todd (PUC); Governor (GOV); sen-ruggerio@rilegislature.gov; sen-dipalma@rilegislature.gov; rep-mattiello@rilegislature.gov; rep-ruggiero@rilegislature.gov; louis_dipalma@yahoo.com; captbirdfish@gmail.com; proberti33@gmail.com; dinorobertiri@gmail.com
**Subject:** [EXTERNAL] : Burrillville power plant proposal hits possible deal-breaking snag

**Follow Up Flag:** Follow up
**Flag Status:** Flagged

http://providencejournal.com/news/20180920/burrillville-power-plant-proposal-hits-possible-deal-breaking-snag

RI Gov Gina Raimondo and the RI PUC EFSB needs to bring this continuing disruption and delay to closure. The Burrillville RI Ngas Combined cycle power station Keeps the lights on & is the bridge to the future. Yes,providing time to subsequently benefit from a series of disruptive power generation technologies. Simply put this project is in the common and best interest of Rhode Island citizens. Accordingly, reject further disruption and distraction from NIMBY BIAWBH Victim Hood mentality or companion outside agitators - environmental extremists. Further seek the Federal Government support in a challenge of the politically sabotaged - blocked Ngas transmission lines across NY to New England. Finally, utilize eminent domain if necessary to break the Cunard / locally mfg sabotage - blockage of cooling water resources. The faux alternate expensive heavy subsidized intermittent & low energy density wind (30% capacity factor) , water & solar (20% capacity factor) lacks affordability, scale-ability and inter operability to realistically supplement our electricity load demand. Yes this misguided gamble is, "a road map to nowhere" and economic time bomb. Governor Raimondo it is time for leadership and straight talk. The economic future of RI depends on You getting this project off the ground less further delay...

William F Horan
Engineering Fellow & Sr Mgr retired
Life Member IEEE
Member IEEE Providence Section exe committee

! Jean Street
Middletown, RI 02842-4536
BillyHoran@aol.com
401 846 5732

**Bianco, Todd (PUC)**

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**From:** billyhoran@aol.com
**Sent:** Tuesday, September 11, 2018 3:07 PM
**To:** captbirdfish@gmail.com; Governor (GOV); louis_dipalma@yahoo.com; rep-ruggiero@rilegislature.gov; Bianco, Todd (PUC)
**Subject:** [EXTERNAL] : Newport Daily News today. US Senate candidate Flanders is has confused opinion for fact on Burilliville power station!

**Follow Up Flag:** Follow up
**Flag Status:** Flagged

# Newport Daily News today. US Senate candidate Flanders is has confused opinion for fact on Burrillville power station!

## A road map to nowhere

The calculated chaos intended by renewable energy zealots of wind, water and solar-generated electricity just doesn't add up. Rather it depicts a road map to nowhere for Rhode Island, New England and our entire nation.

Please Google “road map to nowhere” and watch the video and download the free pdf book and learn more details for valid solutions based on real facts.

The underpinning for our modern society is being systematically destroyed as part of a cult-like political agenda.

Ask those standing for election this November what their position is on such a clear and present danger to our society's underpinning.

**William F. Horan, Middletown**

## Bianco, Todd (PUC)

**From:** billyhoran@aol.com
**Sent:** Monday, September 10, 2018 4:00 PM
**To:** eachorn@providencejournal.com; akuffner@providencejournal.com; letters@providencejournal.com; Bianco, Todd (PUC); Governor (GOV); captbirdfish@gmail.com
**Cc:** louis_dipalma@yahoo.com; proberti33@gmail.com; dinorobertiri@gmail.com
**Subject:** [EXTERNAL] : projo craig Stevens; citizens waking up to energy needs

**Follow Up Flag:** Follow up
**Flag Status:** Flagged

http://providencejournal.com/opinion/20180908/my-turn-craig-stevens-citizens-waking-up-to-need-for-energy

This weekend projo article nailed it! From NH a state the size and population of RI that operates on ~ 40% of the RI annual budget. Furthermore a state with more prosperity and opportunity than RI in spite of the New England death grip by competing energy sources - holdovers of an entrenched global cronies capitalism!.

My Turn: Craig Stevens: Citizens waking up to need for energy [providencejournal.com], Sept 08, 2018.

"Early this summer the New Hampshire Senate notched a small but symbolic victory. In a near unanimous vote, lawmakers from both parties endorsed the Granite Bridge "Pipeline, a small natural gas line that will connect a storage facility in Epping with two larger existing pipelines. While modest next to the energy development happening nationwide, the project's early support signals a shift in attitudes toward much-needed pipeline infrastructure. For years the Northeast corridor has remained a holdout

against the United States' Ngas shale boom...".

I recall JFK in his POTUS campaign expounding on a similar confluence of events i.e regional energy supply protected cartel. Once JFK became POTUS nothing was done about New England then hooked on oil and coal & electricity at usury prices. When JFK was asked why as the elected POTUS he had done nothing about correcting this artificially mfg regional energy poverty? JFK answered - The US Senator from MA & candidate for POTUS had a correct regional outlook. As elected POTUS JFK was made aware of a different set of interleaved national and international agendas that were codified & entrenched for a greater good etc. My reaction then and still is who's greater good?

I ask how long must we remain enslaved for a legacy so called nebulous greater good? Especially when technology has advanced to a status where society is awash with viable solutions. The USA shale Ngas first provides a bridge to a range of candidate replacement disruptive technologies.

Never the less especially RI & MA remain on an inferior approach incapable of satisfying electricity demand . Those approaches - wind and solar aren't solutions , but rather get rich schemes at the expense of rate payers and tax payers. Yes, a politically popular cult like faux solution that in reality is an economic time bomb and already debunked "road map to nowhere".

Last week RI US Senate candidate Flanders disappointed us as he exposed his lacking grasp for the depth, breath or valid range of solutions re our New England Energy poverty! Flanders, repeating opinion confused for fact, had not done his homework & stepped into a NIMBY build it anywhere but here brouhaha! The RI PUC EFSB is designated as responsible for conducting hearings for the Burrillville power station (not the US Senate). The local town was paid to support the hearings process but apparently elected to knowingly encourage a political backfire that included nefarious elements.!

RI Jr US Senator Sheldon Whitehouse some how got it RIGHT! Yes, having taken the longer view in identification of root causes and working the mitigation steps. Yes, a SIX year bipartisan effort at the US Congress resulted in Bills being approved by both houses and funding authorized by the Trump

administration. This *** achievement enables the very critical steps in jump starting & advancing key critical disruptive technologies! Yes, overcoming resistance of entrenched expensive alternatives now consuming the electricity production revenue stream created from tax and rate payer monies.. Why is it that Beyond technical journals very little reporting of this ground-breaking paradigm shift !?

Again domestic Natural Gas fueled Burrilliville power station is needed providing the bridge to keeping the lights on in the interim until disruptive technologies can be deployed. Today, vested interest and radicals attempting to block any increases in USA shale Ngas capacity, specially to our New England region! If the detractors prevail we are forced to continue "the inferior costly polluting triad of wind, solar and oil"!

*** The award to FLIBE Inc , Kirk Sorensen's company,(a departure from the legacy oak Ridge Thorium Reactor Design) is specifically to demonstrate the process of chemical uranium U233 separation prior to fission. This is a key process enabling the build of the complete reactor. The US has some catching up to do over China in this race to completely green power. The DoE was put under political pressure by our citizen science lobby and a bipartisan coalition of congress including Senator Sheldon Whitehouse. A key element of persuasion for the current administration was stopping the transfer of. our intellectual property to China for national and economic security reasons. China, India and Russia are building 100s of reactors presently while the West is banking on Oil, Natural Gas and a little bit of solar and wind as well as a massive rebuild of the grid to transport alleged renewable energy. This policy (a road map to nowhere) will bankrupt the USA faster than the USA bankrupted the Soviet Union militarily. Currently reactors are expensive to build and finance upfront largely because the Gen 2 and 3 designs are still complicated and subject to great expense to prevent meltdown and explosions. So why not build reactors that cant melt or explode? The answer has been purely political for a long time because groups like Sierra, Greenpeace, home grown and regional extremist etc.

The LFTR reactor produces very little "waste" at about 2% compared to a current reactor at 98% waste. LFTR's 2% "waste" fission on products are separated out in situ, repackaged and used for medical and industrial purposes. Very little is unused and needing burial. Said burial period is at most a few hundred years (not millions) and the space required is so small that burial space is not an issue. Again, the LFTR produces negligible amounts of higher actinides which could be used in bombs such as U235, U238 and plutonium. These are the wastes requiring millions of years burial. Theoretically we can design the LFTR to produce zero plutonium. This is only one of several project being dusted off!

William F Horan
Engineering Fellow & Sr Mgr retired
Life member IEEE (Providence Section)
1 Jean St
Middletown, RI 02842-4536
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4018465732

-----Original Message-----
From: billyhoran <billyhoran@aol.com>
To: letters <letters@providencejournal.com>
Sent: Fri, Sep 7, 2018 8:23 pm
Subject: Flanders opposes proposed Burrillville power plant

http://providencejournal.com/news/20180906/flanders-opposes-proposed-burrillville-power-plant [providencejournal.com]

Commentary;
US Senate candidate Flanders has not done his homework & stepped into a NIMBY build it anywhere but here brouhaha! The RI PUC EFSB has conducted numerous hearings on this desperately needed

replacement power station. Has candidate Flanders failed to go beyond the superficial din of the day and get the facts! Has candidate Flanders pandered - elected to support alternate short-term politically attractive illusion of a financial windfall? One that in the long term is an economic time bomb. Alleged green renewable electricity generation is an environmental detractor- requires a massive footprint. However (a costly low energy density source) still cannot meet our equivalent energy needs. The hidden cost of mandatory solar and wind electricity transmission line reconfiguration is another charge added to monthly utility bills. Even with massive wind and solar subsidies , less reliable electricity cost significantly more for less.

Burrillville is a strategic location in that the regional natural gas transmission lines cut across our RI north western corner. This town Was willing to receive significant funding to engage in the collaborative RI PUC EFSB (energy facility siting Board) process while apparently having established a NIMBY political back fire?! Activities with regional environmental radical elements established agendas to distract and disrupt the lawful EFSB process then underway? Including engaging in disrupting establishing a range of cooling water source options. In parallel environmental radicals have engaged in blocking modernization upgrades and expansion of regional natural gas transmission lines and or alternative LNG delivery & storage facilities. Now the assembled NIMBY victim hood protesters point to their handiwork e.g. mfg. issues re availability of redundant water and alternative supplements to Ngas - JP fuel supply etc. as among a bases of abandoning the desperately needed power station!
Some of Rhode Island leadership subscribing to this confluence of events is embarked on a road map to nowhere. This scenario if allowed to play out will result in a self-induced energy poverty and economic calamity. I urge readers to Google “road map to nowhere” watch a video and learn more about viable disruptive technologies solutions. In contrast the wind and solar industry has for all practical purposes failed in Europe, if one reads beyond the marketing infomercials.
In contrast, the Burrillville natural gas fueled combined cycle power station is the imperfect and critically necessary bridge that first keeps the lights on while providing time to embrace valid disruptive technologies that realize an electricity generating capacity that maintains today’s still under-performing Rhode Island economy and provides competitive electricity that can return Rhode Island to a high-value manufacturing economy with improved employment opportunities.
Keeping score a footnote; RI Jr US Senator Sheldon Whitehouse aka sometimes branded as Sen Seldom Righthouse actually got it RIGHT this Time! Yes, having taken the longer view in identification of root causes and working the mitigation steps. Yes, a multi year bipartisan effort at the US Congress resulted in Bills being approved by both houses and funding authorized by the administration that takes the very critical steps in jump starting & advancing key critical disruptive technologies! Yes, overcoming resistance of entrenched expensive alternatives now consuming the electricity production revenue stream created from tax and rate payer monies.. Why is it that Beyond technical journals very little reporting of this ground-breaking paradigm shift !? Again domestic Natural Gas providing the bridge to keeping the lights on in the interim. Here again vested interest and radicals attempting to block any improvements in Ngas capacity, specially to our New England region! If the detractors prevail we are forced to costly net net more polluting triad wind, solar and oil!
Last, in our modern imperfect society some areas are designated to host farms, industry, recreational facilities, super highways and ancillary transportation support facilities, military bases, airports, shipping docks, railroads hospitals, waterworks, sewers, communication towers etc. The town of Burrillville by location hosts the Ngas transmission line hub and near by electrical grid. I suggest all pulling the wagon in the same direction is still a common and best interest of all concerned.
The above is not intended to endorse either candidate for the November RI US Senate election. Rather better focus the issues critical to all RI and New England citizens. Hence You investigate, become familiar with the facts, discuss and decide - then vote in November.
William F Horan
Engineering Fellow & Sr Mgr retired

Life Member IEEE Providence Section
1 Jean Street
Middletown, RI 02842-4536
401 846 5732
billyhoran@aol.com

***background details;***

billyhoran@aol.comSent: Wed, Jul 11, 2018 6:19 pm
Subject: Funding for thorium molten salt and other advanced nuclear reactors – NextBigFuture.com [nextbigfuture.com]

Funding for thorium molten salt and other advanced nuclear reactors – NextBigFuture.com [nextbigfuture.com]

https://www.nextbigfuture.com/2018/07/funding-for-thorium-molten-salt-and-other-advanced-nuclear-reactors.html [nextbigfuture.com]

July 10 2018. Finally after 6 years of head in the oil sand, DoE is funding generation 3 and generation 4 advanced reactors in the United States - not China.

NuScale is the American company farthest ahead in the US on GEN 3 Having a paltry stream of low millions in the past few years. Gen 3s are pressurized and use solid uranium or plutonium for fuel. Gen 3s are vastly more reliable than our US designed Gen 2 pressurized solid fuel reactors that came out of the Manhattan Project 70 years ago. The Gen 2 design has been frozen for 70 years. ALL pressurized solid reactors, Gen 2 and 3, are inherently less safe than International Gen 4 designs which included the the liquid molten salt reactors (MSRs).

The existing fleet of operational reactors in the world are Gen 2 and a few Gen 3 pressurized solid fuel reactors. They can and have melted down and killed first responders in the former Soviet Union.

Gen 4 liquid, molten-salt reactors, in particular the liquid fluoride thorium reactor (LFTR) uses thorium for fuel. Thorium itself, abundant in the earth around us, does NOT fission. The LFTR is non-pressurized, liquid-fueled and therefore physically impossible to melt down or explode. Liquid thorium salt breeds liquid U233 salt in the LFTR blanket's outer shell. U233 must be chemically separated from the Thorium stream then molten salt U233 is fed into the core of the reactor to produce fission power. U233 "completely" fissions with negligible amounts transmuting by neutron absorption to U235, U238 and Plutonium 239 (extremely negligible). These 3 "bomb" material isotopes further fission in the liquid rector to produce power. Anyone who tries to get them out would have to enter the belly of the beast and immediately face fiery death no different than walking into an operating coal furnace.

Any fission reactor produces radioactive fission products which in Gen 2 and. 3 reactors form substantial waste that must be stored for many years until it decays to background. In a meltdown situation these fission products continue to produce heat even though the chain reaction has stopped. In the case in Fukushima, the emergency cooling water failed and these fission products melted down into a liquid slag that melted through the the bottom of the reactor containment. Also small amounts of radioactivity escaped into the atmosphere. (Small means not life threatening). Nobody died or got sick in Fukushima from radiation exposure. Hundreds possibly thousands of elderly or infirm people died from forced but unnecessary evacuation due to "radiation" at levels we as humans adapted to as life forms living near rocks, sand, airplanes or hospitals.

If a Gen 4 liquid-fueled, non-pressurized reactor such as LFTR were to experience a cataclysmic airplane impact by terrorists, the reactor will freeze up and can't explode or release a cloud of radioactivity into the atmosphere. Furthermore Gen 3 and 4 reactors will be virtually immune to air craft terrorism as they will be operated under ground. These reactors are not immune to nuclear bombs so we must continue to ban all nuclear weapons. A good way to denuclearize is to build reactors that can't make bomb materials and give (sell) these to all nations. LFTR is the unique design of all Gen 4s because it cant make bomb materials and the waste is valuable in itself for medicine, food supply, and industry. China has the lead in development of LFTR and trade wars or not - there is nothing on the horizon but nuclear that can replace the coal and natural gas that China, India, Africa, Malasia, Germany, Russia, USA will be burning for several decades into the future (waiting for the holy grails of nuclear fusion, artificial trees, and living on Mars.)

The LFTR reactor produces very little "waste" at about 2% compared to a current reactor at 98% waste. LFTR's 2% "waste" fission on products are separated out in situ, repackaged and used for medical and industrial purposes. Very little is unused and needing burial. Said burial period is at most a few hundred years (not millions) and the space required is so small that burial space is not an issue. Again, the LFTR produces negligible amounts of higher actinides which could be used in bombs such as U235, U238 and plutonium. These are the wastes reqiring millions of years burial. Theoretically we can design the LFTR to produce zero plutonium.

The award to FLIBE Inc , Kirk Sorensen's company, is specifically to demonstrate the process of chemical uranium U233 separation prior to fission. This is a key process enabling the build of the complete reactor. The US has some catching up to do over China in this race to completely green power. The DoE was put under political pressure by our citizen science lobby and a bipartisan coalition of congress including Senator Sheldon Whitehouse. A key element of persuasion fro the current administration was stopping the transfer of. our intellectual property to China for national and economic security reasons. China, India and Russia are building 100s of reactors presently while the West is banking on Natural Gas and a little bit of solar and wind as well as a massive rebuild of the grid to transport renewable energy. This policy will bankrupt the USA faster than the USA bankrupted the Soviet Union militarily. Currently reactors are expensive to build and finance upfront largely because the Gen 2 and 3 designs are still complicated and subject to great expense to prevent meltdown and explosions. So why not build reactors that cant melt or explode? The answer has been purely political for a long time because groups like Sierra, Greenpeace

**Bianco, Todd (PUC)**

**From:** billyhoran@aol.com
**Sent:** Thursday, September 06, 2018 10:42 PM
**To:** captbirdfish@gmail.com; dinorobertiri@gmail.com; proberti33@gmail.com; Bianco, Todd (PUC); Governor (GOV); editor@newportri.com
**Cc:** barrycollen@verizon.net; louis_dipalma@yahoo.com
**Subject:** [EXTERNAL] : projo R.I. leaders are chasing a wind & Solar power illusion

**Follow Up Flag:** Follow up
**Flag Status:** Flagged

# Letter: William F. Horan: R.I. leaders are chasing a wind power illusion

Posted at 5:52 PMUpdated at 5:52 PM

[providencejournal.com] [providencejournal.com] [addtoany.com]

With reference to Kristin Urbach's Sept. 2 Commentary piece ("A workforce for R.I.'s wind industry"): Here in Rhode Island we have already been scammed by the Block Island wind project. Why are we allowing this to happen once again?

Where has the common sense of Rhode Island's leaders gone? Unfortunately, they are supporting a short-term politically attractive illusion of a financial windfall that in the long term is an economic time bomb. Alleged green renewable electricity generation cannot meet our energy needs, and the hidden cost of mandatory solar and wind electricity transmission line reconfiguration is another addition coming to our monthly utility bills. Even with massive wind and solar subsidies, electricity will still cost significantly more.

Rhode Island leadership is embarked on a road map to nowhere, and this will result in a self-induced energy poverty and economic calamity. I urge readers to Google "road map to nowhere" and learn more. The wind and solar industry has for all practical purposes failed in Europe, if one reads beyond the infomercials.

In contrast, the Burrillville natural gas fueled combined cycle power station is the bridge that could provide time to embrace valid disruptive technologies that realize an electricity generating capacity that not only maintains today's still under-performing Rhode Island economy, but provides competitive electricity that can return Rhode Island to a high-value manufacturing economy with improved employment opportunities.

William F. Horan

Middletown

## Bianco, Todd (PUC)

**From:** billyhoran@aol.com
**Sent:** Monday, September 03, 2018 10:39 PM
**To:** letters@providencejournal.com; Governor (GOV); Bianco, Todd (PUC)
**Subject:** [EXTERNAL] : My Turn: Kristin Urbach: A workforce for R.I.'s wind industry

**Follow Up Flag:** Follow up
**Flag Status:** Flagged

http://providencejournal.com/opinion/20180901/my-turn-kristin-urbach-workforce-for-ris-wind-industry

-Here in RI we have already been scammed by the Block Island Wind project. Why are we allowing this to happen once again?
Where has RI leaderships common sense gone missing in supporting these reported troubling and unproductive cult like behaviors? Unfortunately supporting a short term politically attractive illusion of a financial wind fall that is long term resulting in an economic time bomb. That is alleged green alleged renewable electricity generation which has no capability of equivalency in generating capacity, compatible operating profile plus a spiraling total cost. Today the hidden cost of mandatory solar & wind electricity transmission line reconfiguration is another addition coming to your monthly utility bill.
-Furthermore even with massive wind & solar subsidies from both rate and tax payers your electricity will still cost significantly more. Yes, RI leadership is still embarked on a road map to nowhere resulting in a self induced energy poverty and economic calamity. Google road map to nowhere and learn more. The wind and solar industry has for all practical purposes failed in Europe if one reads beyond the infomercials.
-In contrast the Burrillville RI natural gas fueled combined cycle power stations is the bridge providing time to embrace valid disruptive technologies that realize an electricity generating capacity that not only maintains today's still under performing RI economy but provides competitive electricity that can return RI to a high value mfg economy with improved employment opportunities. Again Learn more by googling Road map to nowhere.

William F Horan
1 Jean Street
Middletown, RI 02842
401 846 5732
PS if too long for letters opinion then file under commentary et al.

## Bianco, Todd (PUC)

**From:** WILLIAM HORAN <billyhoran@cox.net>
**Sent:** Sunday, August 26, 2018 10:27 AM
**To:** mldax@aol.com; ka1rm@aol.com; letters@providencejournal.com; editor@newportri.com; billyhoran@aol.com; Governor (GOV); Bianco, Todd (PUC); captbirdfish@gmail.com; rsylvia@mindspring.com
**Subject:** [EXTERNAL] : Liberal ALERT Fwd: The Upload -- Lawmakers have more work to do on energy

**Follow Up Flag:** Follow up
**Flag Status:** Flagged

Lawmakers have more work to do on energy before New England surely freezes in the dark!

WWS aka Wind, water & solar generated electricity has become a political cult following . This approach is "a road map to nowhere". Google it and learn the truth. Available is a free ; video, pdf summary book, view graphs, and a plethora of links to detailed alternative solutions.

How can what has become an alt radical cult promote a direction for electricity that in the limit is a canard & net net is not even renewable, green or clean? An approach that rations electricity with a plan that drives cost to spiral out of control? We must ask who benefits from this charade?

Simple, put an all too familiar front loaded tax and spend money grab. The usual MO in the form of extortion targeting the tax & rate payer with cost of subsidies that will surely result in an economic time bomb.

The under pinning of our modern society and nation is placed in a clear and present danger. Again, google a road map to nowhere learn more about the facts and valid alternative solutions! Then get engaged in the discussion holding your lawmakers fully accountable.

Bill

wfh

William F Horan

1 Jean St

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billyhoran@aol.com

4018465732

---------- Original Message ----------
From: CommonWealth Magazine <amiddle@massinc.org>
To: billyhoran@cox.net
Date: August 26, 2018 at 7:20 AM
Subject: The Upload -- Lawmakers have more work to do on energy

[r20.rs6.net]

8.26.18

# THE UPLOAD

[r20.rs6.net]

## Massachusetts lawmakers have more work to do on energy

**Christopher Carlozzi**

As it always does, the summer's legislative session on Beacon Hill concluded with a flurry of activity, ending with a number of bills sent to Gov. Charlie Baker's desk on everything from a sales tax holiday to automatic voter registration.

For all our progress, one area where work isn't finished is energy. Massachusetts has shown ambitious support for procuring and deploying renewable energy, including electricity coming from solar, wind, and hydropower. The final legislation included many laudable and positive provisions toward that end.

We won't be able to rely on renewable energy for all our power for decades, but it is the first step. The most important work is still staring us in the face – and that is guaranteeing adequate power to the grid for our homes and businesses, while still meeting 2050 greenhouse gas reduction statutory mandates. For the thousands of small businesses represented by the National Federation of Independent Business, responsible for countless jobs in the Commonwealth, achieving that balance between clean energy and reliable energy is the first priority.

Massachusetts is one of the costliest states in which to do business already. Part of the reason is that New England pays the highest electricity prices in the continental United States. Every winter, a lack of reliable energy leaves us paying an estimated $1 billion in increased costs–even more when temperatures dip.

This past winter provided a sobering preview of what will continue to happen absent further action from Beacon Hill. A two-week cold snap left us 36 hours from running out of electricity and burning through enough oil and coal to wipe out a year's worth of solar emission's benefits.

In January, ISO-New England, the non-profit operator of our grid, warned the state might be facing rolling blackouts due to a shortage of natural gas, which provides the majority of Massachusetts electricity. At the time, some

**Meehan puts students, faculty last [r20.rs6.net]**

**-- Gregory F. DeLaurier and Laurel McMechan**

**Surprise! Mass Dems don't want to abolish ICE [r20.rs6.net]**

**-- Steve Koczela and Maeve Duggan**

**Quebec hydro isn't a good fit for Mass. [r20.rs6.net]**

**-- Deb Pasternak**

***The Upload is a newsletter of commentary from CommonWealth. We welcome opinion pieces. Please submit them to either Bruce Mohl, at bmohl@massinc.org , or Michael Jonas, at mjonas@massinc.org . Include your contact information.***

scoffed at the possibility we might run out of energy if we failed to act.

Now, after using 2 million barrels of oil inside of a few weeks that left us hours from electricity rationing, no one is laughing anymore. The author of a 2015 report that brushed aside reliability concerns made an abrupt about-face this spring, arguing that meeting the region's need for electricity "is getting harder, not easier" and asking: "Will anything but a blackout coalesce states around an infrastructure solution?"

It need not come to that. Ending the practice of burning our dirtiest fuels to generate power during cold weather and other periods of high demand doesn't require a full-scale energy reset. It simply requires policymakers to acknowledge that we shouldn't be taking clean and reliable alternative options, like natural gas, off the table until our economy can be fully powered by renewables.

When will that be? Experts say we remain decades away from complete independence from fossil fuels. The cold snap this past winter gave us some insight into the current shortcomings of renewables. Over that two-week period, when solar panels were covered with ice and snow, and wind turbines had to be shut off due to high winds, those energy sources contributed virtually no power to the grid during peak demand hours.

None of that means we should be pumping the brakes on renewable technology. To the contrary, the high-tech industry strongly supports doubling down on storage and mobile batteries for emergencies during the winter. Those are steps that this session's bill helped advance to ensure renewables can be responsible for more of the state's electricity needs.

But as policymakers take these steps, they should also be working to backstop these renewables with other energy sources, like natural gas, which, unlike any other clean energy source, operates with nearly 100-percent reliability, around the clock, and in extreme weather conditions.

The important conversation has begun, and we've made some progress – but Massachusetts lawmakers have important work to do in the session ahead. Until then, the Legislature receives an "Incomplete."

*Christopher Carlozzi is the Massachusetts state director of the National Federation of Independent Business, which is a member of the pro-natural gas pipeline Mass Coalition for Sustainable Energy.*

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Sent by amiddle@massinc.org

## Bianco, Todd (PUC)

**From:** billyhoran@aol.com
**Sent:** Thursday, August 23, 2018 8:32 AM
**To:** letters@providencejournal.com; Bianco, Todd (PUC); Governor (GOV); sen-ruggerio@rilegislature.gov; rep-mattiello@rilegislature.gov; sen-dipalma@rilegislature.gov; rep-ruggiero@rilegislature.gov; louis_dipalma@yahoo.com
**Cc:** editor@newportri.com
**Subject:** [EXTERNAL] : Century-old state law may decide case involving Invenergy, Burrillville, Johnston and the future of energy in Rhode Island

**Follow Up Flag:** Follow up
**Flag Status:** Flagged

http://providencejournal.com/news/20180820/century-old-state-law-may-decide-case-involving-invenergy-burrillville-johnston-and-future-of-energy-in-rhode-island

Why has RI leadership failed to grasp the totality of the urgency in addressing this clear and present danger to the underpinning of our economy and foundation for today's modern society?

Suggestion - in this falls election season ask everyone on the ballot if they understand today's confluences of events concerning the still eroding & now very critical Rhode Island electricity security.

Today is cooling water & even adequate supply of natural gas utilized as a weapon in keeping RI from maintaining affordable, reliable and predictable secure supply of electricity!

The former Brayton Point Summerset MA (regional base load) clean coal power station & The Johnston RI Combined cycle Ngas fueled power station both utilized locally available treated sewer system water for cooling.

Today National Grid is wisely embarked on a process of local backup storage of natural gas supplies by a process of compressing and storage of the gas (in off peak periods). This allows efficient storage in the form of LNG (liquid natural gas). If modernized and additional Ngas pipe lines especially across the state of NY are politically blocked / sabotaged further. Then additional distributed local LNG conversion & storage facilities must be under taken to meet both heating, cooking and electricity generation needs.

Has The CLF of Boston & Town of Burrillville (BASED ON PROJO REPORTS) apparently opposed the critical new modern replacement base load power station from the onset? Yes, portrayed as almost nefarious activities to actively sabotaging the planning process and companion community outreach? This dialog still remains key for laying the foundation to a successful project partnership!

Where has RI leadership been during these reported troubling and unproductive behaviors? Unfortunately supporting a short term politically attractive illusion of a financial wind fall that is long term resulting in an economic time bomb. That is alleged green alleged renewable electricity generation which has no capability of equivalency in generating capacity, compatible operating profile plus a spiraling total cost. Today the hidden cost of mandatory solar & wind electricity transmission line reconfiguration is another addition coming to your monthly utility bill.

Furthermore even with massive wind & solar subsidies from both rate and tax payers your electricity will still cost significantly more. Yes, RI leadership is still embarked on a road map to nowhere resulting in a self induced energy poverty and economic calamity.

In contrast the Burrillville natural gas fueled combined cycle power stations is the bridge providing time to embrace disruptive technologies that realize an electricity generating capacity that not only maintains today's still under performing RI economy but provides competitive electricity that can return RI to a high value mfg economy with improved employment opportunities. Learn more by googling Road map to nowhere.

William F Horan
Engineering Fellow & Sr Mgr retired

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Member Providence Section IEEE exe com.

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billyhoran@aol.com
4018465732

## Bianco, Todd (PUC)

**From:** Austin O'Toole <findaustin@cox.net>
**Sent:** Wednesday, August 22, 2018 4:25 PM
**To:** Bianco, Todd (PUC)
**Subject:** [EXTERNAL] : Power plant

**Follow Up Flag:** Follow up
**Flag Status:** Flagged

Mr. Bianco
Please note our opposition to the proposed Invenergy power plant in Burrillville. Over and above the environmental impact on several levels, the proposed sale of water from the Scituate reservoir by the town of Johnston is nothing short of obscene; to say nothing of the parade of heavy water trucks from Johnston to Burrillville polluting its way and making those roadway more dangerous.

Austin & Fleurette O'Toole
26 Dorr Road
Scituate, Ri 02857-2000
findaustin@cox.net
401-647-7132

## Bianco, Todd (PUC)

**From:** colleenj1 colleenj1 <colleenj1@cox.net>
**Sent:** Tuesday, August 21, 2018 3:04 PM
**To:** Bianco, Todd (PUC)
**Subject:** [EXTERNAL] : Public Comment on Invenergy Burrillville Proposal

**Follow Up Flag:** Follow up
**Flag Status:** Flagged

Mr. Bianco,

Please note my opposition to the proposed Invenergy power plant. As a resident of Burrillville living about a mile away as the crow flies, I'm gravely concerned that my "neck of the woods" will be altered irreparably and the Burrillville community will be negatively effected for a long time to come. And, that's without speaking about the permanent destruction of a beautiful forest. I can't think of a more backward-thinking way forward on the energy front.

I could say more, but the opposition movement has already said it. I say ditto that. Please note my opposition as part of your public comment.

Sincerely,

Colleen Joubert
465 Stone Barn Road
Pascoag, RI 02859

401-678-6170

## Bianco, Todd (PUC)

**From:** Lauren Niedel <lniedel@gmail.com>
**Sent:** Tuesday, August 21, 2018 1:26 PM
**To:** Bianco, Todd (PUC)
**Subject:** [EXTERNAL] : Fwd: INVENERGY VIOLATIONS IN JESSUP

**Follow Up Flag:** Follow up
**Flag Status:** Flagged

I wanted to share this with you

This is about Invenergy's new "state of the art" plant that they are so proud of because it is the highest quality best in the class Fracked gas power plant out there...

https://www.ahs.dep.pa.gov/eFACTSWeb/searchResults_singleViol.aspx?InspectionID=2526927 [ahs.dep.pa.gov]

This is what Citizens for a Cleaner Jessup wrote -

**Citizens for a Healthy Jessup [facebook.com]**
August 18 at 9:07 AM [facebook.com] · [facebook.com]

Today we are going to share with you some startling news that was made public last night by Jessup Borough councilman Pete Larioni regarding an equipment failure at the Lackawanna Energy Center that resulted in the plant exceeding permitted levels of NOx.

According to Mr. Larioni's Facebook post on August 18, 2018:

"Jason Carey, plant manager for Invenergy sent a letter to Mark Wejkszner of the state DEP concerning a malfunction at the plant. On 07-31-18 at around 16:00 hr a malfunction occurred in which the emissions from combustion turbine #1 exceeded the NOx hourly permit limitations. It lasted 10 minutes and corrective and preventive measures were taken. LEC has increased the NH3 set point upper limit to 10 ppm. The normal set point of the ACV is 4 ppm and has not changed. The modification of the upper limit of NH3 valve will allow the control room operator to manually control the flow of NH3 during periods when NOx emissions are elevated."

First, we want to thank Mr. Larioni for sharing this information with the public as the residents of Jessup and surrounding communities have a right to know when serious issues occur at the facility.

This event, though, raises several important questions for us:

Why did it take weeks for facility officials to share this with the borough and the DEP?

Why was this information not included during the Lackawanna Energy Center's monthly report at the Jessup Borough Council meeting that was held on Monday August 6?

Some of you remember that Invenergy sent the residents of Jessup a letter on June 27, 2018 in which they stated "community safety and confidence are critical to our operations, and we want you to have the latest updates about the Lackawanna Energy Center. We value the trust you have given us to deliver safe, clean energy and look forward to continuing our partnership with the Jessup community." Their actions in relation to this incident at the facility, however, seem to contradict these assertions and make them ring hollow.

This power plant is not even fully operational, and yet this recent occurrence is not the first time in which the public has not been treated with the kind of respect that good neighbors treat those around them.

In a review of the DEP's information that is made available to the public, there were two incidents in October of 2016 in which DEP investigations found that the developer had failed "to take reasonable actions to prevent particulate matter from becoming airborne" in relation to fugitive emissions, standards for contaminants, and prohibition of certain fugitive emissions.

Follow this link for more details:

https://www.ahs.dep.pa.gov/e…/searchResults_singleViol.aspx… [ahs.dep.pa.gov]

Many of you will also remember the incident of yellow smoke coming from the facility on March 7 of this year. While several residents experienced adverse health effects during the incident, there was a lack of clear facts coming from the facility and the DEP, both during the event and in its aftermath.

In a State Impact Pennsylvania article by Marie Cusick on May 19, the frustrations felt by Jessup residents in relation to this incident are made clear. Jessup Council President Jerry Crinella sums things up perfectly when he said that he was "disappointed concerned citizens are not getting the information they're asking for. We want to know what the readings were from the air monitors…The DEP is supposed to be there to protect the public, not the company."

In fact, nearly two weeks after the incident on May 19, even the DEP was waiting for information from the facility:

"Department believes plume is excess NOX [nitrogen oxides] as Invenergy is beginning to start up its turbines. No issues were reported to us," [DEP spokeswoman Colleen] Connolly wrote. "Department has asked Invenergy to provide a report on this. We are still waiting for the report."

And here we are again, weeks after another incident in which details have been kept secret.

It is our hope that the Jessup Borough Council will release all documents to the public in relation to this incident as soon as possible. It is hard to say at this time whether or not the excessive pollution in this incident is serious enough to be harmful; however, the actions of this developer continue to be in stark contrast to their claims of being good neighbors.

In conclusion, it is perhaps fitting and appropriate to note that as construction is set to wind down in the coming months, taking with it hundreds of temporary jobs, the residents of Jessup will be left with decades of possible future equipment failures and the corresponding health risks that go along with them.

I can also get you a contact in Jessup if you would like testimony she has already agreed to do that.

--

***Lauren Niedel***
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***401-710-7600***
***lniedel@gmail.com***
*Twitter @vegemini*
*FB Me https://www.facebook.com/Vegemini [facebook.com]*

## Bianco, Todd (PUC)

**From:** WILLIAM HORAN <billyhoran@cox.net>
**Sent:** Sunday, August 19, 2018 10:07 AM
**To:** ka1rm@aol.com; dinorobertiri@gmail.com; PROBERTI33@gmail.com; captbirdfish@gmail.com; Bianco, Todd (PUC); Governor (GOV); letters@providencejournal.com; editor@newportri.com; dsharp401@gmail.com
**Cc:** lou-dIPALMA@yahoo.com; rep-ruggiero@rilegislature.gov; mldax@aol.com
**Subject:** [EXTERNAL] : Burrillville Pwr station Vs The Upload -- Quebec hydro isn't a good fit for Mass!

**Follow Up Flag:** Follow up
**Flag Status:** Flagged

Will the environmentalist lobbies next demand a return to light by whale oil? The idealist continues a quest for the perfect solution. While in contrast today by embracing rational compromise results in practical imperfect solution (reduce scale of byproducts) preserve society under pinning while keeping a supply of affordable & reliable electricity available.

Environmentalist now claim that Quebec hydro isn't a good fit for electricity. Further they complain about natural gas even given wind, water and solar all still require in parallel redundant reliable continuous power sources. This resulting in a Ngas pipe line as a necessary component for intermittent alleged green renewable power generation sources!

The test of the 50 - 100 year hurricane cycle overlap awaits industrial wind farm both on land and at sea. Yes, tower height with significant weight at the top Vs tower resonances plus fragile rotating blades. Might this become the equivalent of the infamous Washington State Bridge self destruction? WWS aka wind, water and solar is the road map to nowhere. Surely an economic time bomb under construction for both utility customers & tax payers.

The Burilliville, RI combined cycle Natural gas power station is the bridge providing time to implement candidate disruptive technologies like next generation fission and advancing fusion etc.

Bill

Wm F Horan

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---------- Original Message ----------
From: CommonWealth Magazine <amiddle@massinc.org>
To: billyhoran@cox.net
Date: August 19, 2018 at 7:20 AM
Subject: The Upload -- Quebec hydro isn't a good fit for Mass.

[r20.rs6.net]

8.19.18

# THE UPLOAD

[r20.rs6.net]

## Quebec hydro-electricity isn't a good fit for Massachusetts

**Deb Pasternak**

Massachusetts electric distribution companies submitted long-term hydro electricity supply contracts to the Department of Public Utilities for review recently. The Massachusetts Sierra Club believes strongly that these contracts are not the right way to get the regional clean energy we all need.

Here are four reason why importing electricity from Quebec via a transmission line into Maine built by Central Maine Power is not the right way to go:

First, the electricity that we are contracting for is currently being supplied to areas of Ontario and New York. As a result, we are not lowering global greenhouse gas emissions by procuring this energy, we are simply transferring this clean energy from one region to another.

Second, we are locking ourselves into 20-year contracts with Hydro Quebec, and therefore exporting our energy dollars out of the region for 20 years. This same electricity could be supplied by regional clean generation, keeping those energy dollars invested locally, bringing jobs and regional economic growth.

Third, the transmission line proposed to deliver this power through Maine and New Hampshire will be technologically incompatible



*The Upload is a newsletter of commentary from CommonWealth. We welcome opinion pieces.*

with regional projects. Yes, we need transmission upgrades to build a clean energy economy, but the costs for projects to interconnect with this type of line are prohibitive.

Fourth, and probably most important, Hydro-Quebec dams have been built and continue to be built in areas that completely destroy the lands of First Nation peoples. The construction process greatly damages our environment by drowning thousands of acres of carbon-sequestering land and releasing large amounts of methane; it is also another decision by consumers from our area to procure energy on the backs of those without voice or power to protest the destruction of their homes.

Massachusetts is at an important crossroads in terms of our energy future. We need to wean ourselves from dirty energy sources, both to mitigate the public health and economic impacts of catastrophic climate change and to create a strong regional energy economy.

Last year, natural gas supplied 68 percent of Massachusetts electricity generation. At the same time, leaks from in-state natural gas pipelines and infrastructure accounted for roughly 10 percent of our state's carbon footprint. With so much generation caught up in one fuel source, Massachusetts electricity customers are subject to reliability issues and volatile fuel price spikes. These problems would be alleviated by renewably sourced generation.

For example, if there had been even 800 megawatts of offshore wind installed last winter, the power generated would have saved Massachusetts electricity customers $31 million in electricity costs during the four-day cold snap. Moreover, we can incentivize these renewable generation projects into our economy with minimal impact on our electricity bills. These same renewable technologies will lower our energy costs in the long term because the fuel is free.

***Please submit them to either Bruce Mohl, at bmohl@massinc.org, or Michael Jonas, at mjonas@massinc.org. Include your contact information.***

It is hard to believe that in just 10 years the costs of building and installing clean wind and solar generation has fallen so swiftly and precipitously. At the same time, the evolution of efficiencies in battery storage and power regulation technologies, and their corresponding plummeting costs, has also occurred, making our ability to power our electricity grid with renewable energy a reality that simply wasn't apparent even eight years ago.

For example, the state's first offshore wind farm, Vineyard Wind, announced long term contracts for electricity at a levelized price of 65 cents a kilowatt hour while the long-term contracts for hydro-electricity come in at 59 cents a kilowatt hour. Exporting the amount of money it would cost to buy electricity from Hydro-Quebec over a period of 20 years instead of buying regionally produced inexpensive clean energy makes no economic sense.

On top of generation and storage, we are developing technologies to increase our efficiency. Every year, US consumers waste 70 percent of our procured energy – from heat as a byproduct of combustion engines and furnaces, heat or cold released in drafty homes and buildings, even the heat released in the steam heating and cooling process in conventional fuel generation. We can do better in so many ways, and we will as more efficient technologies are brought to market.

One of the veiled benefits or so-called "externalities" of our shift away from conventional fuels will be a profound impact on public health. Fossil fuels release disease-causing particulates that translate into sick loved ones and high health bills. Here in Massachusetts, being downwind of the Midwest coal generation and relying disproportionately on natural gas and fossil fuels has given us cities with the some of the highest rates of death from asthma in the country – Springfield is No. 1, Boston is No. 11, and Worcester is No. 12.

It is clear that as the citizens of the Commonwealth learn more about the realities of our current reliance on fossil fuels – and the obvious economic benefits of moving to sustainable, regional, clean sources of energy – the utilities and gas companies will loosen their hold over our politicians who currently staff some of our energy regulatory bodies with fossil fuel advocates.

Massachusetts has many options available for building our clean energy economy. Bringing electricity from Hydro-Quebéc down from Canada should not be one of them.

*Deb Pasternak is interim chapter director of the Massachusetts Sierra Club.*

## Bianco, Todd (PUC)

**From:** billyhoran@aol.com
**Sent:** Tuesday, August 14, 2018 9:42 AM
**To:** Governor (GOV); Bianco, Todd (PUC); rep-mattiello@rilegislature.gov; sen-ruggerio@rilegislature.gov; rep-ruggiero@rilegislature.gov; sen-dipalma@rilegislature.gov; editor@newportri.com; letters@providencejournal.com; captbirdfish@gmail.com
**Subject:** [EXTERNAL] : Today RI needs the new Burrillville power station - The evidence is that wind & Solar is an ecological disasters.

**Follow Up Flag:** Follow up
**Flag Status:** Flagged

**Stop These Things [facebook.com]**
4 hrs [facebook.com] · [facebook.com]

Today RI needs the new Burrillville power station - The evidence is that the politically popular subsidized economic time bomb aka wind & Solar is an ecological disasters.

We do not need this disaster of installed wind and now Sola
r (that is a falsely claimed renewable) intermittent costly electricity source. In RI and especially now not another attempted industrial scale wind and or Solar facility on Aquidneck Island on or off of US Navy land up against designated zoning residential housing developments.!

See more evidence for a wind & Solar ecological disasters attached below.

Today RI needs a new combined cycle natural gas fueled power station as proposed at Burrillville R.I augmented with water cooling pipe lines and companion extensions for regional natural gas transmission lines with adjunct local conversion and storage of LNG. This keeps the lights on with affordable and cleaners power. Equally important provides a bridge to tomorrows disruptive power conversion technologies.

Again, independent subject matter experts have determined wind & Solar is an unsustainable road map to nowhere. study available upon request.

Please approve & implement the proposed Burrillville power station ASAP!

William F Horan

1 Jean Street

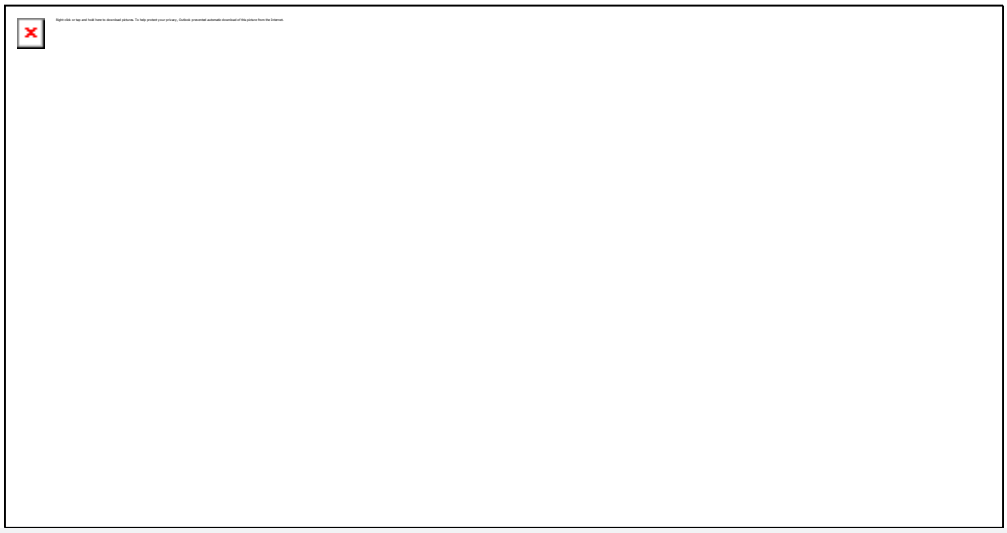
Middletown, RI 02842-4536

BillyHoran@aol.com

401-846-5732

referenced attachment;

Germany's wind and solar experiment has failed: the so-called 'Energiewende' (energy transition) has turned into an insanely costly debacle. German power prices have rocketed; blackouts and load shedding are the norm; and its idyllic countryside has been turned into an industrial wasteland, with its forests, no exception (see above). Hundreds of billions of euros have been squandered on subsidies to wind and solar, all in an effort to reduce carbon dioxide gas emissions. [ 2,388 more words ]
http://stopthesethings.com/.../germanys-renewable-energy-dis.../ [stopthesethings.com]



STOPTHESETHINGS.COM

**Germany’s Renewable Energy Disaster – Part 2: Wind & Solar Deemed ‘Ecological Disasters’ [l.facebook.com]**

## Bianco, Todd (PUC)

**From:** Mary Pendergast <marypen211@gmail.com>
**Sent:** Monday, August 13, 2018 12:36 PM
**To:** Governor (GOV); Curran, Margaret (PUC); Coit, Janet (DEM); Brady, Meredith; Bianco, Todd (PUC); Powers, Rosemary (GOV)
**Subject:** [EXTERNAL] : Excellent article by EcoRI

**Follow Up Flag:** Follow up
**Flag Status:** Flagged

Keep Rhode Island Beautiful had a comment on the best story written by Frank Carini from EcoRI! This story is an important of a story as any we have ever shared. In an earlier plant siting process the site of the current proposed power plant was rejected. In the current siting process, it's literally the ONLY site considered. What changed? Nothing changed in terms of the value of the location, in fact these areas have only increased in ecological value and experts from The Nature Conservancy, Audobon, and Save The Bay as well as DEM continue to describe the importance of this area and how it would be negatively impacted. What changed is the process we are are supposed to trust.

This article long read but an excellent breakdown from ecoRI environmental news contrasting the two processes and outlining importance of the area as well as lack of appropriate environmental attention and review by the current process.

Please share and spread the word to educate about three important things:
1. The importance of preserving this area from further forest fragmentation. As we have said all along, this is a horrible place for an industrial gas & oil fueled power plant.
2. The failures in the current process and how those failures can open our state up to approving a plant that should never be approved for a site that we rejected before, putting at risk both millions of taxpayer investment as well as the 47 species found on the proposed site and identified in the Rhode Island Wildlife Action Plan as “species of greatest conservation need."
3. No Environmental Impact Statement has been conducted for this proposal. Sadly, the true environmental impact may never be fully known.

The proposed power plant is not needed, not wanted, and would cause unacceptable environmental harm.

https://www.ecori.org/public-safety/2018/8/10/two-tales-of-environmental-management [ecori.org]

Sister Mary Pendergast

## Bianco, Todd (PUC)

**From:** Mary Pendergast <marypen211@gmail.com>
**Sent:** Monday, August 06, 2018 12:38 PM
**To:** Powers, Rosemary (GOV); Governor (GOV); Curran, Margaret (PUC); Coit, Janet (DEM); Brady, Meredith; Bianco, Todd (PUC)
**Subject:** [EXTERNAL] : Water should be our first priority!

**Follow Up Flag:** Follow up
**Flag Status:** Flagged

https://www.ecori.org/renewable-energy/2018/8/3/water-central-issue-power-plant-hearing [ecori.org]

The latest power-plant hearing in front of the Energy Facilities Siting Board (EFSB) was again about water. This time, the debate centered on the town of Burrillville's contention that a survey of underground water should be performed on the 67-acre site before the fossil-fuel power plant is built.

“There could be an aquifer directly underneath the parcel that is seeking to be developed as a power plant,” said Michael McElroy, attorney for Burrillville. “If there is, you can’t put a power plant on it. You just can’t. We need to know whether it is or it isn’t.”

Sister Mary

## Bianco, Todd (PUC)

**From:** Mary Pendergast <marypen211@gmail.com>
**Sent:** Thursday, August 02, 2018 5:01 PM
**To:** Governor (GOV); Curran, Margaret (PUC); Coit, Janet (DEM); Powers, Rosemary (GOV); Brady, Meredith; Bianco, Todd (PUC)
**Subject:** [EXTERNAL] : The truth about property values

**Follow Up Flag:** Follow up
**Flag Status:** Flagged

https://www.realtor.com/news/trends/things-that-affect-your-property-value/ [realtor.com]

Sister Mary

## Bianco, Todd (PUC)

**From:** Mary Pendergast <marypen211@gmail.com>
**Sent:** Tuesday, July 31, 2018 2:15 PM
**To:** Governor (GOV); Curran, Margaret (PUC); Coit, Janet (DEM); Brady, Meredith; Powers, Rosemary (GOV); Bianco, Todd (PUC)
**Subject:** [EXTERNAL] : I don't even look for these articles, they are everywhere!

**Follow Up Flag:** Follow up
**Flag Status:** Flagged

Dear Friends,
We do not need this power plant!

https://www.cleanegroup.org/declining-battery-storage-costs-raise-questions-about-the-role-of-natural-gas/ [cleanegroup.org]

Most industry experts agree that battery storage can meet the same system needs as a gas peaker plant.

The cost of batteries, solar, and wind have all been declining at an impressive pace, and prices are predicted to continue falling over at least the next decade. The cost of natural gas generation, on the other hand, is closely tied to the commodity price of natural gas, which goes up and down depending on market conditions.

Sincerely,
Sister Mary Pendergast,RSM

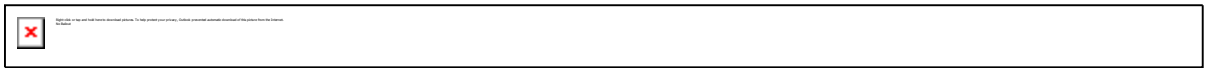
## Bianco, Todd (PUC)

**From:** billyhoran@aol.com
**Sent:** Thursday, July 26, 2018 4:37 PM
**To:** captbirdfish@gmail.com; info@energynation.org; Bianco, Todd (PUC); Governor (GOV); probertiri@gmail.com; proberti33@gmail.com
**Subject:** [EXTERNAL] : support the new Burrillville power station - Crazy stuff Fwd: TAKE ACTION: Oppose energynation agenda aka Costly Federal Energy Bailout

**Follow Up Flag:** Follow up
**Flag Status:** Flagged

My reply to this energynation proposal is below;
Nuclear is the only true clean green energy source.
We must support the tactics and strategies necessary for employing disruptive technologies e.g. Nuclear fission / Thorium and rapidly advancing fusion etc.
Both legacy nuclear & combined cycle Natural gas power stations (like the proposed Burrillville RI base load power station) plus a regional Ngas pipe line expansion is a very necessary short term regional bridge providing the necessary means to keep the lights on in the interim. The hyped wind, water and solar is an unscaleable substitute electrical generating method and economic time bomb that will bankrupt the nation. Yes, based on the data WWS is a road map to nowhere.
William F Horan
1 Jean Street
Middletown, RI 02842-4536
401 846 5732
billyhoran@aol.com

-----Original Message-----
From: Energy Nation <info@energynation.org>
To: William Horan <billyhoran@aol.com>
Sent: Thu, Jul 26, 2018 3:00 pm
Subject: TAKE ACTION: Oppose Costly Federal Energy Bailout



[energynationapi.cmail20.com]

Hi William,

I'm writing with some troubling news for our industry—and for our household budgets. The federal government is proposing to intervene in the competitive marketplace and mandate a bailout of obsolete, inefficient coal and nuclear power plants.

I urge you to join in Energy Nation's campaign to **stop this terrible policy [energynationapi.cmail20.com]** by emailing your members of Congress now.

**Support Affordable American Energy [energynationapi.cmail20.com]**

Because of our industry's hard work and innovation, American natural gas is now the primary source of power for electricity generation. Natural gas is affordable, abundant, and competitive.

But the proposed policy would upend competition by forcing grid operators to buy electricity from inefficient, higher-cost nuclear and coal plants. Natural gas usage would be unfairly impeded, and our marketplace access would be restricted.

The price tag of this policy could be enormous. The bailout could cost U.S. consumers as much as $34 billion annually. Because of the cost and the lack of reasonable justification for the policy, the Federal Energy Regulatory Commission (FERC) already rejected an earlier bailout proposal.

It is critical that Washington hear from our industry about this costly, shortsighted proposal. Please follow **this link [energynationapi.cmail20.com]** to send an urgent email to your U.S. Representative and Senators voicing your opposition to a nuclear and coal power plant bailout.

Energy Nation

[energynationapi.cmail20.com] [energynationapi.cmail20.com]

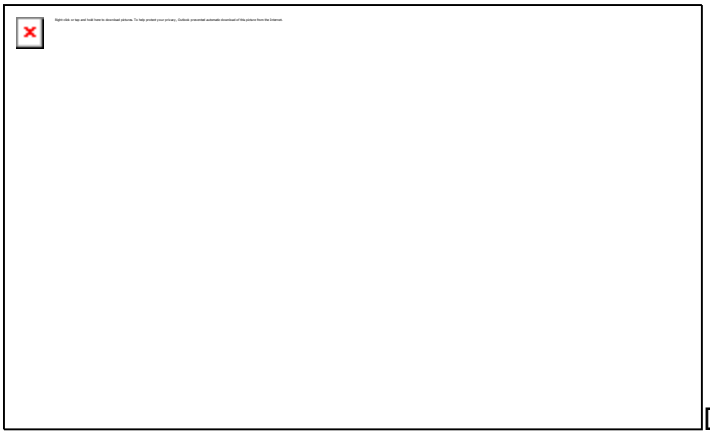
**Bianco, Todd (PUC)**

**From:** billyhoran@aol.com
**Sent:** Wednesday, July 25, 2018 1:42 AM
**To:** IMears97@aol.com; captbirdfish@gmail.com; dinorobertiri@gmail.com; Bianco, Todd (PUC); louis_dipalma@yahoo.com; bcollen@verizon.net
**Subject:** [EXTERNAL] : Global Solar Industry Goes up in Flames

**Follow Up Flag:** Follow up
**Flag Status:** Flagged

WRITTEN BY JAMES DELINGPOLE [CLIMATECHANGEDISPATCH.COM] ON JULY 24, 2018. POSTED IN ACTIVISM [CLIMATECHANGEDISPATCH.COM], GREEN ENERGY [CLIMATECHANGEDISPATCH.COM], LATEST NEWS [CLIMATECHANGEDISPATCH.COM], MONEY [CLIMATECHANGEDISPATCH.COM], POLITICS [CLIMATECHANGEDISPATCH.COM]

# Global Solar Industry Goes up in Flames



Don't believe the hype from the increasingly desperate renewables industry: solar power has crashed and burned.

Goldman Sachs is predicting a 24 percent drop in solar installations this year. By any measure, that constitutes a major industry slump.

According to *Bloomberg* [bloomberg.com]:

The pace of global installations will contract by 24 percent in 2018, Goldman analysts led by Brian Lee said in a research note late Wednesday. That's far more dire than the 3 percent decline forecast by Bloomberg NEF in the bleakest of three scenarios outlined [bloomberg.com] in a report earlier this month. Credit Suisse Group AG is forecasting a 17 percent contraction.

The anticipated slowdown would mark the first time the solar market has shrunk. It comes after China announced in late May it was curbing utility-scale development in the world's biggest market, pulling

the plug on about 20 gigawatts of projects. That will reduce global installations to 75 gigawatts, down from 99 gigawatts in 2017, Lee said in an email.

"Lowering our coverage view to cautious, we believe oversupply is set to continue in the near to-medium term as demand from the largest solar markets remains tepid," Lee wrote in the research note.

As I have written [breitbart.com] before the renewables industry is a gigantic chimera – a huge bubble just waiting to burst the moment that the subsidies dry up.

In the Obama-era, it did just fine – as an industry does when there's a green ideologue in the Oval Office happy to reward his campaign benefactors by bunging $500 million of taxpayers money into a doomed enterprise like Solyndra.

That era is now over. There's a new guy in the White House setting the energy and environmental agenda. He is not a fan of green boondoggles.

Short solar; short wind. You might just make enough to cover your energy bills.

**Read more at Breitbart [breitbart.com]**

**Bianco, Todd (PUC)**

**From:** billyhoran@aol.com
**Sent:** Wednesday, July 25, 2018 1:10 AM
**To:** captbirdfish@gmail.com; dinorobertiri@gmail.com; mcckazar@aol.com; shamushoran@aol.com; vanurse3691@gmail.com; sethwm2@gmail.com; jennifercorarosemarie@gmail.com; ka1rm@aol.com
**Cc:** Bianco, Todd (PUC); Governor (GOV); letters@providencejournal.com; louis_dipalma@yahoo.com; gmaynardnpt@gmail.com; bcollen@verizon.net; sulussier@verizon.net; imears97@aol.com
**Subject:** [EXTERNAL] : next big future vs the present road map to nowhere

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# [nextbigfuture.com]

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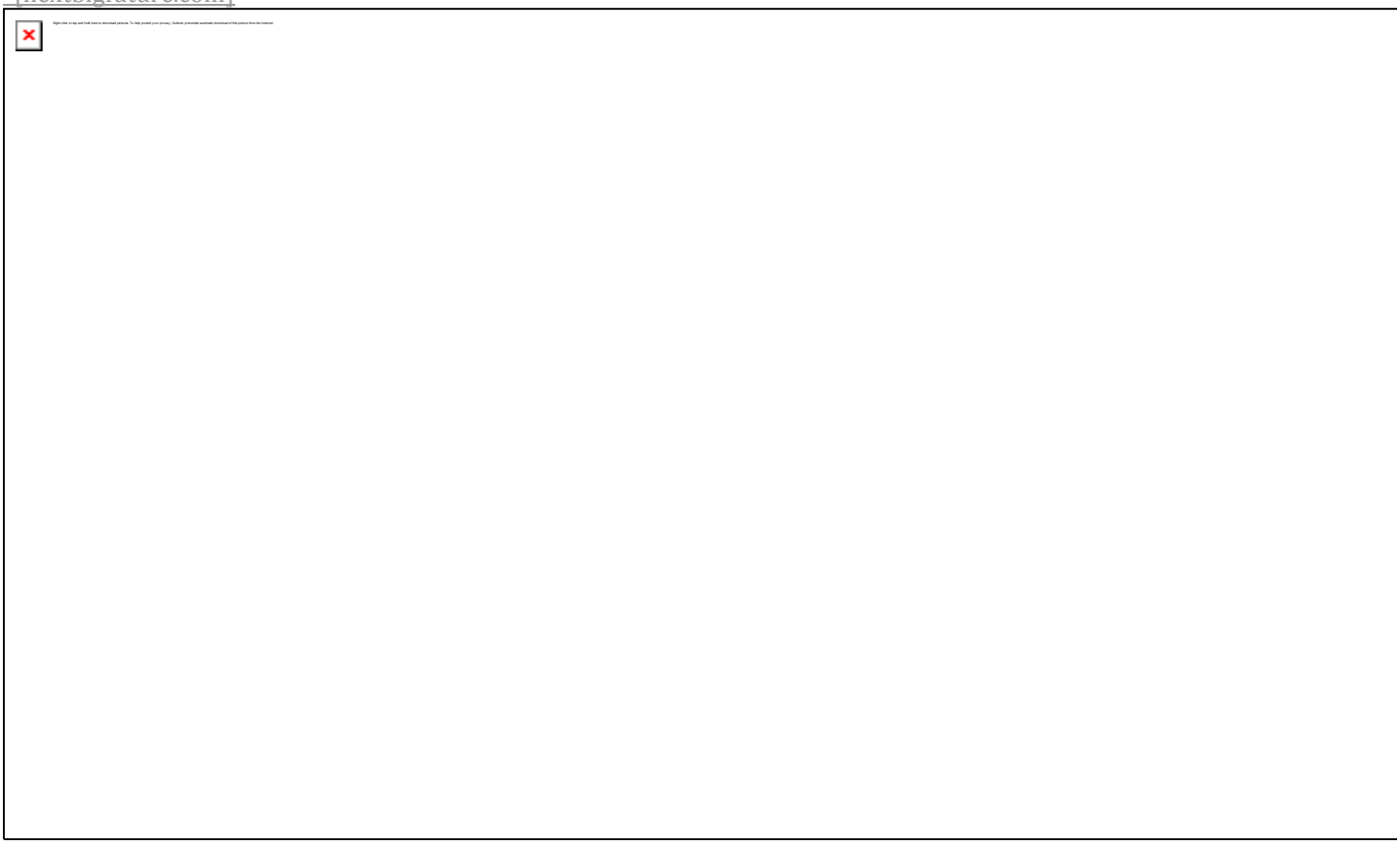
- REDDIT [REDDIT.COM]
- GOOGLE+ [PLUS.GOOGLE.COM]
- RSS [NEXTBIGFUTURE.COM]
- ABOUT [NEXTBIGFUTURE.COM]
- FORUM [NEXTBIGFUTURE.COM]
- TERMS [NEXTBIGFUTURE.COM]

# Detailed analysis of 100% solar, wind and hydro plan has many flaws and crazy costs

brian wang [nextbigfuture.com] | July 23, 2018
_[nextbigfuture.com]



There is a video where critics of a proposed 2015 plan to power the US with 100% renewables lay out their case. [roadmaptonowhere.com]

They are not anti-renewables but they are pro-math. They worked out the issues of spacing of large scale solar panels and wind turbines.

Jacobson agreed with them that his base proposed system will cost $15.2 trillion. If there is need for 24 hour and not 4 hours of energy storage then the cost of the plan goes up to $22.8 trillion. This assumed various efficiency and other factors were granted as improvements to the 100% renewable plan.

These critics propose all nuclear options which would cost $3 to 6.7 trillion.

[nextbigfuture.com]



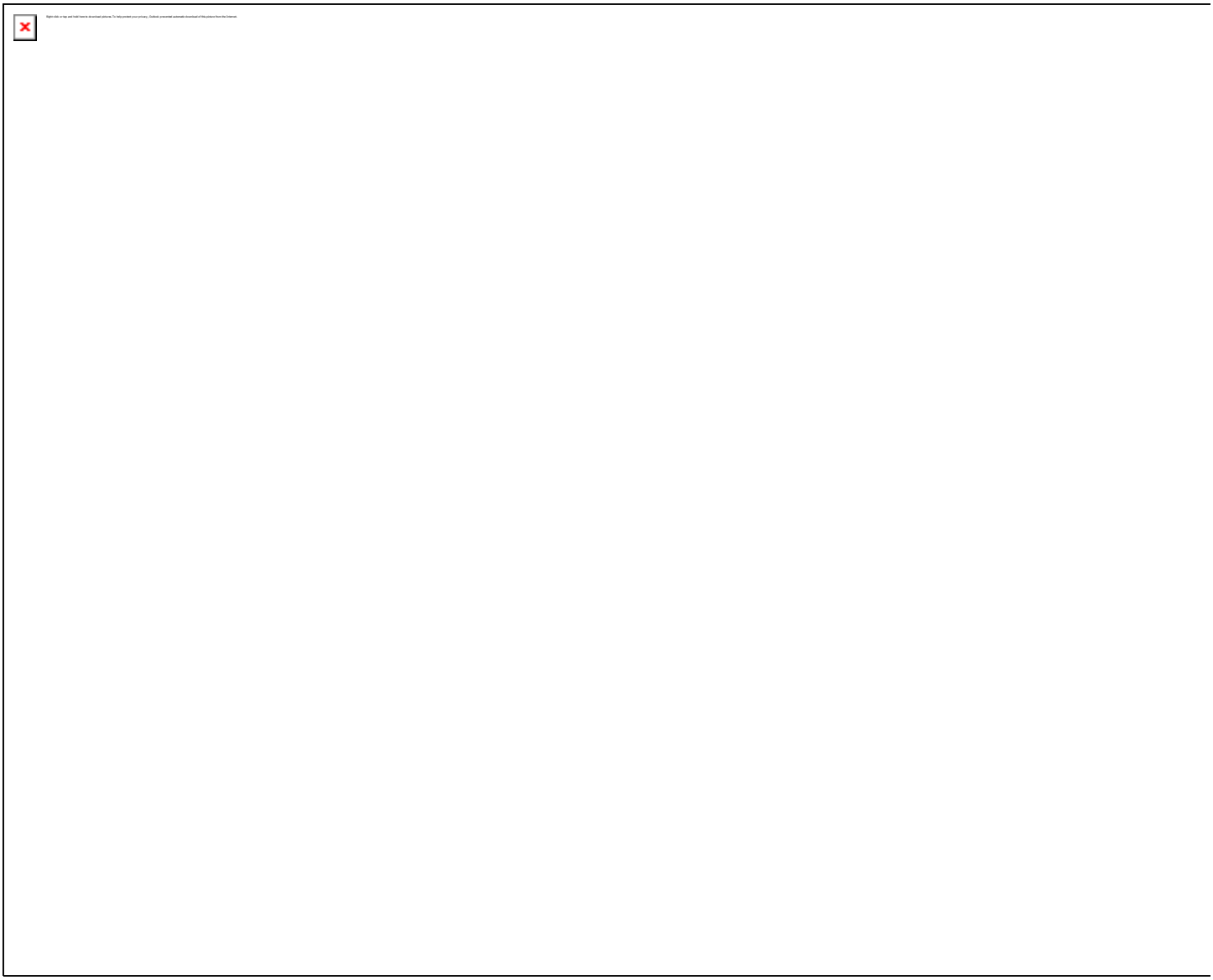
## Other scientific critics of the 100% renewable and the Jacobson lawsuit

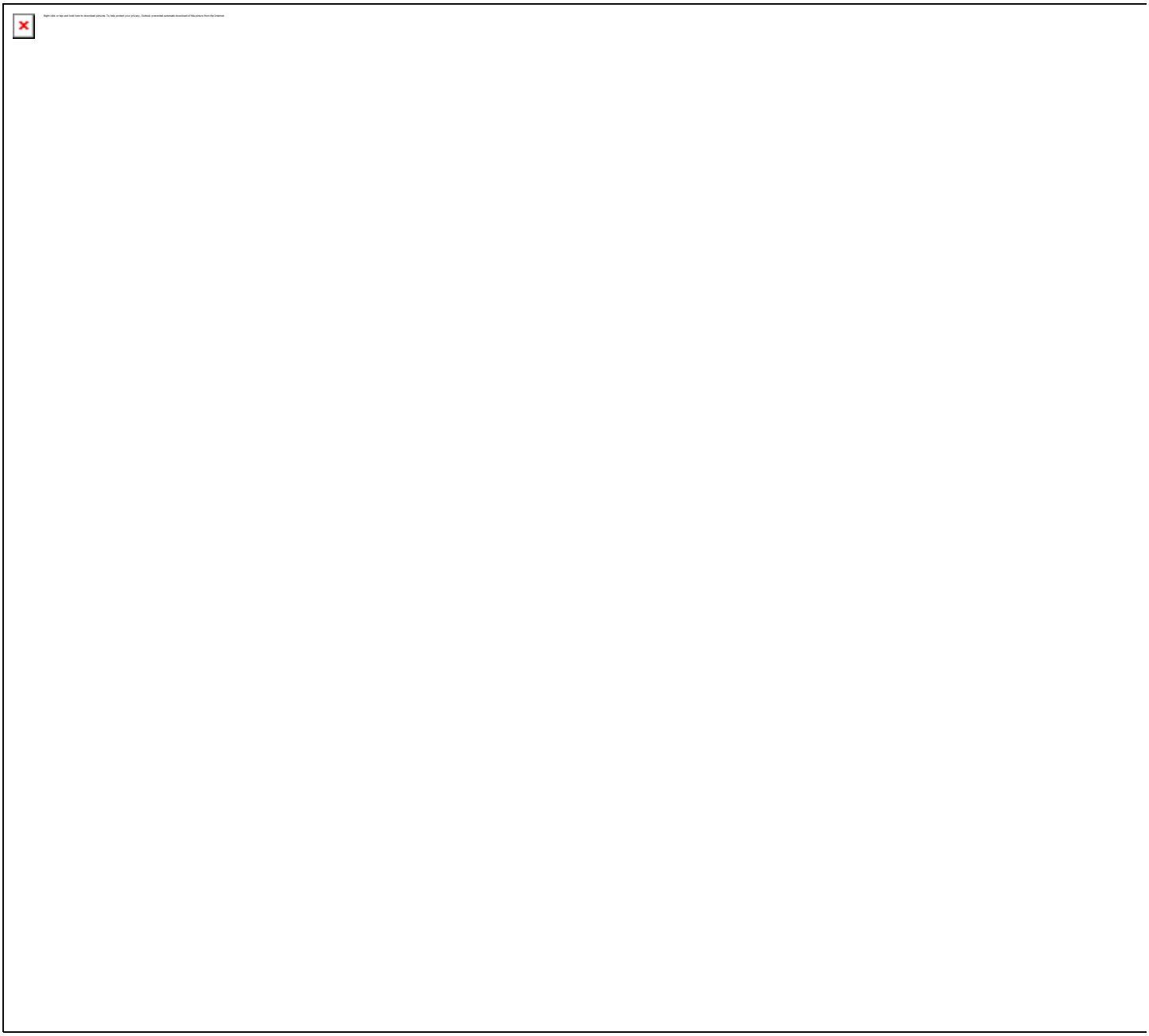
Jacobson's paper appeared in the Proceedings of the National Academy of Sciences. [latimes.com] Bernie Sanders and others pushed the proposal as a solution to climate change. The PNAS journal published a lengthy critique by environmental scientist Christopher Clack and 20 co-authors. They questioned Jacobson's assumptions and methodology, appeared Feb. 24, 2017. [assets.documentcloud.org]Jacobson launched a $10 million lawsuit against Clack but then dropped the lawsuit in Feb 2018.

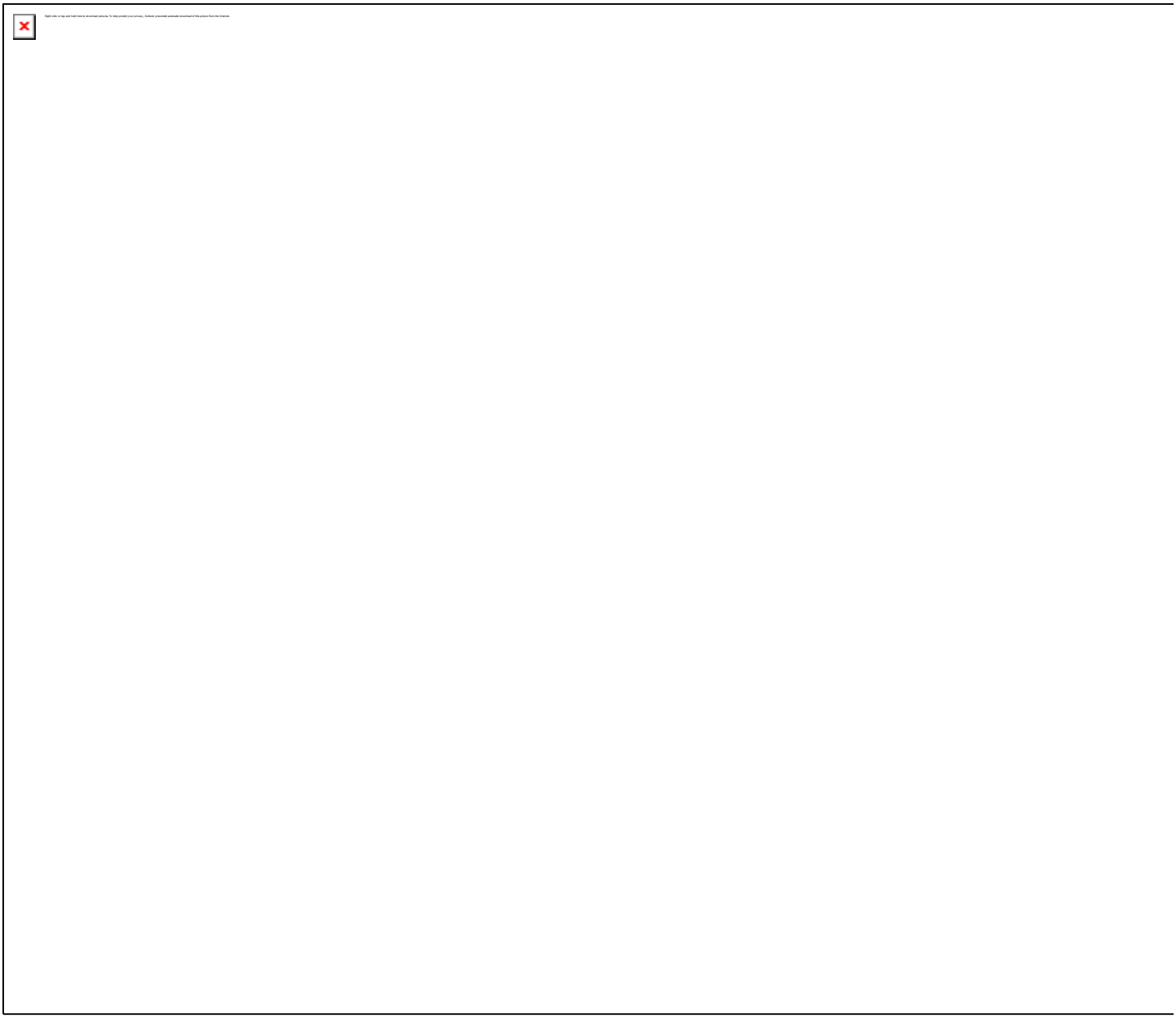
The baseline value for cost of capital in the Jacobson paper is one-half to one-third of that used by most other studies. Using more realistic discount rates of 6–9% per year instead of the 3–4.5% would double the estimate of a cost of 11 cents/kWh of electricity to 22 cents/kWh, even before adding in other unaccounted for capital costs.

Both hydroelectric power and flexible load were modeled in erroneous ways and that these errors alone invalidate the study and its results.

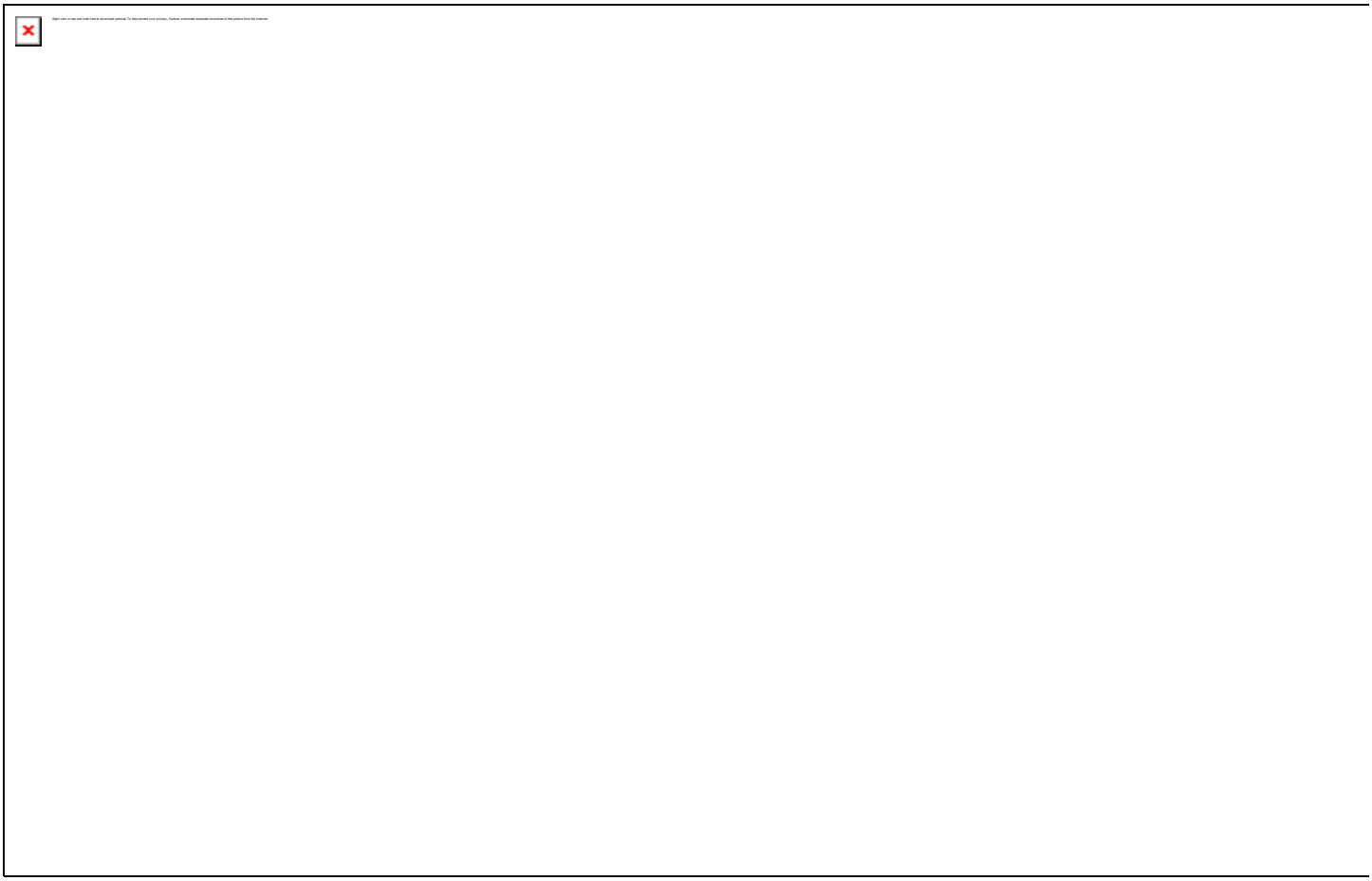
## More from the Pro-nuclear critics







Using Jacobson's own numbers of how many hours per days they would be able to generate power and using the Jacobson numbers for pumped hydro backup power. The Jacobson 100% renewable plan will be short 90% power in the winter.



Natural gas industry says the national leak rate is 1.6%. This is leaking methane gas into the air. Natural gas backing up renewables would eliminate 40% of the climate benefits of solar or wind.

Read next: $130 billion in Russian gold claimants setup cryptocurrency and may have stolen location [nextbigfuture.com] »
« Bubbles or multi-trillion dollar futures for Blockchain, Cryptocurrency, AI and Cannabis? [nextbigfuture.com]

RBP [revboostpro.com]

## Bianco, Todd (PUC)

**From:** billyhoran@aol.com
**Sent:** Friday, July 20, 2018 5:25 PM
**To:** letters@providencejournal.com; editor@newportri.com; Governor (GOV); Bianco, Todd (PUC)
**Subject:** [EXTERNAL] : National Grid requesting 19-percent rate increase in R.I.

**Follow Up Flag:** Follow up
**Flag Status:** Flagged

http://providencejournal.com/news/20180719/national-grid-requesting-19-percent-rate-increase-in-ri

RI Governor Gina Raimondo needs to approve the Burilliville combined cycle natural as base load power station ASAP. Our electric rates will go through the roof starting this winter. This because RI Gov Gina Raimondo lack of a realizable energy - electricity policy is dangerous for citizens health and safety.. Her so called green renewable energy (wind and solar) is a road map to no where...

In order to replace a single new disruptive technology letters 1,000 Mw nuclear or natural gas turbine power plant with a 90% capacity factor (smaller that the recently closed Brayton Point deactivated clean coal base load power station which was ~1.3 gigawatts) - RI would need 15 million 3oo watt industrial solar panels plus 1000 3 M watt wind turbines plus 5 ea. 300 M watt natural gas power stations plus all the expensive new infrastructure to tie them all together.
OBTW the big lie is that some how their chosen approach is erroneously claimed to be to; be equivalent power generating capability, be simpler and less expensive. Please THINK ABOUT IT PEOPLE, ask questions and demand answers from credible subject matter experts. Governor Raimondo electricity policies have sold us out. Electricity has become more un affordable plus the hidden taxes attached to our electricity Bills. Consuming massive amounts of RI land for inefficient expensive solar and or Industrial Wind Turbines located on land or water is a fools path following a road map to nowhere.
RI elected officials on Smith Hill at Crime Town have failed us again.

William F Horan
1 Jean Street
Middletown, RI 02842-4536

Engineering Fellow & Sr Mgr retired
Life Member IEEE Providence Section
Member IEEE Providence Section Exe Committee.

**Bianco, Todd (PUC)**

**From:** billyhoran@aol.com
**Sent:** Wednesday, July 18, 2018 9:43 PM
**To:** captbirdfish@gmail.com; dinorobertiri@gmail.com; proberti33@gmail.com; Bianco, Todd (PUC); Governor (GOV); rep-ruggiero@rilegislature.gov; sen-ruggerio@rilegislature.gov; rep-mattiello@rilegislature.gov; sen-dipalma@rilegislature.gov; louis_dipalma@yahoo.com; editor@newportri.com; letters@providencejournal.com
**Subject:** [EXTERNAL] : If Solar Panels Are So Clean, Why Do They Produce So Much Toxic Waste?

**Follow Up Flag:** Follow up
**Flag Status:** Flagged

# Keeping score on the great electricity generation scam aka  Wind & Solar Road a Map to nowhere.

William F Horan
1 Jean Street
Middletown, RI 02842
401 646 5732
billyhoran@aol.com

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

[forbes.com]
**Michael Shellenberger [forbes.com]**Contributor
May 23, 2018, 12:28pm 43,596 views #ChangeTheWorld [forbes.com]

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Bell Labs, 1954. Solar Panel Waste, 2014BELL LABS & PV CYCLE
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 [scmp.com] official, a 40-year veteran of the U.S. solar industry [solarpowerworldonline.com], and research scientists [welt.de] 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 [solarpowerworldonline.com]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 [irena.org] 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 [solarindustrymag.com] 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 [solarpowerinternational.com] 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 [dtsc.ca.gov] from landfills, which is where they currently go, at the end of their life.
California's Department of Toxic Substances Control (DTSC), which is implementing the new regulations, held a meeting last August [youtube.com] with solar and waste industry representatives to discuss how to deal with the issue of solar waste. At the meeting, the representatives from industry and DTSC all acknowledged how difficult it would be to test to determine whether a solar panel being removed would be classified as hazardous waste or not.
The DTSC described building a database where solar panels and their toxicity could be tracked by their model numbers, but it's not clear DTSC will do this.
"The theory behind the regulations is to make [disposal] less burdensome," explained Rick Brausch of DTSC. "Putting it as universal waste eliminates the testing requirement."
The fact that cadmium can be washed out of solar modules by rainwater is increasingly a concern for local environmentalists like the Concerned Citizens of Fawn Lake in Virginia, where a 6,350 acre solar farm [fredericksburg.com] to partly power Microsoft data centers [richmond.com] is being proposed.
“We estimate there are 100,000 pounds of cadmium contained in the 1.8 million panels,” Sean Fogarty of the group told me. “Leaching from broken panels damaged during natural events — hail storms, tornadoes, hurricanes, earthquakes, etc. — and at decommissioning is a big concern.”
There is real-world precedent for this concern. A tornado in 2015 broke 200,000 solar modules at southern California solar farm Desert Sunlight.
"Any modules that were broken into small bits of glass had to be swept from the ground," Mulvaney explained, "so lots of rocks and dirt got mixed in that would not work in recycling plants that are designed to take modules. These were the cadmium-based modules that failed [hazardous] waste tests, so were treated at a [hazardous] waste facility. But about 70 percent of the modules were actually sent to recycling, and the recycled metals are in new panels today."
And when Hurricane Maria hit Puerto Rico last September, the nation’s second largest solar farm, responsible for 40 percent of the island’s solar energy, lost a majority of its panels. [theweatherjunkies.com]
[theweatherjunkies.com]

Destroys Solar Farm in Puerto RicoBOB MEINETZ

Many experts urge mandatory recycling. The main finding promoted by IRENA's in its 2016 report [irena.org] was that, “If fully injected back into the economy, the value of the recovered material [from used solar panels] could exceed USD 15 billion by 2050.”
But IRENA’s study did not compare the value of recovered material to the cost of new materials and admitted that “Recent studies agree that PV material availability is not a major concern in the near term, but critical materials might impose limitations in the long term.”
They might, but today recycling costs more than the economic value of the materials recovered, which is why most solar panels end up in landfills. “The absence of valuable metals/materials produces economic losses,” wrote a team of scientists in the *International Journal of Photoenergy* in their study of solar panel recycling last year [hindawi.com], and “Results are coherent with the literature.”
Chinese and Japanese experts agree. “If a recycling plant carries out every step by the book,” a Chinese expert told *The South China Morning Post* [scmp.com], “their products can end up being more expensive than new raw materials.”
Toshiba Environmental Solutions told Nikkei Asian Review last year [asia.nikkei.com] that,

> Low demand for scrap and the high cost of employing workers to disassemble the aluminum frames and other components will make it difficult to create a profitable business unless recycling companies can charge several times more than the target set by [Japan’s environment ministry].

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The result of such bankruptcies is that the cost of managing or recycling PV waste will be born by the public. “In the event of company bankruptcies, PV module producers would no longer contribute to the recycling cost of their products,” notes [milliman.com] Milliman, “leaving governments to decide how to deal with cleanup.”
Governments of poor and developing nations are often not equipped to deal with an influx of toxic solar waste, experts say. German researchers at the Stuttgart Institute for Photovoltaics warned [welt.de] that poor and developing nations are at higher risk of suffering the consequences.

Maharashtra, India, 2014DIPAK SHEELARE

> Dangers and hazards of toxins in photovoltaic modules appear particularly large in countries where there are no orderly waste management systems… Especially in less developed countries in the so-called global south, which are particularly predestined for the use of photovoltaics because of the high solar radiation, it seems highly problematic to use modules that contain pollutants.

The attitude of some solar recyclers in China appears to feed this concern. “A sales manager of a solar power recycling company,” the *South China Morning News* [scmp.com] reported, “believes there could be a way to dispose of China’s solar junk, nonetheless.”
“We can sell them to Middle East… Our customers there make it very clear that they don’t want perfect or brand new panels. They just want them cheap… There, there is lots of land to install a large amount of panels to make up for their low performance. Everyone is happy with the result.”
In other words, there are firms that may advertise themselves as "solar panel recyclers" but instead sell panels to a secondary markets in nations with less developed waste disposal systems. In the past, communities living near electronic waste dumps in Ghana, Nigeria, Vietnam, Bangladesh, Pakistan, and India have been primary e-waste destinations [unenvironment.org].
According to a 2015 United Nations Environment Program (UNEP) report [unenvironment.org], somewhere between 60 and 90 percent of electronic waste is illegally traded and dumped in poor nations. Writes UNEP:

> [T]housands of tonnes of e-waste are falsely declared as second-hand goods and exported from developed to developing countries, including waste batteries falsely described as plastic or mixed metal scrap, and cathode ray tubes and computer monitors declared as metal scrap.

Unlike other forms of imported e-waste, used solar panels can enter nations legally before eventually entering e-waste streams. As the United Nation Environment Program notes [web.unep.org], "loopholes in the current Waste Electrical and Electronic Equipment (WEEE) Directives allow the export of e-waste from developed to developing countries (70% of the collected WEEE ends up in unreported and largely unknown destinations)."

**A Path Forward on Solar Panel Waste**

Perhaps the biggest problem with solar panel waste is that there is so much of it, and that's not going to change any time soon, for a basic physical reason: sunlight is dilute and diffuse [forbes.com] and thus require large collectors to capture and convert the sun's rays into electricity. Those large surface areas, in turn, require an order of magnitude more in materials — whether today's toxic combination of glass, heavy metals, and rare earth elements, or some new material in the future — than other energy sources.

Solar requires 15x more materials than nuclearEP

All of that waste creates a large quantity of material to track, which in turn requires requires coordinated, overlapping, and different responses at the international, national, state, and local levels.

The local level is where action to dispose of electronic and toxic waste takes place, often under state mandates. In the past, differing state laws have motivated the U.S. Congress to put in place national regulations. Industry often prefers to comply with a single national standard rather than multiple different state standards. And as the problem of the secondary market for solar shows, ultimately there needs to be some kind of international regulation.

The first step is a fee on solar panel purchases to make sure that the cost of safely removing, recycling or storing solar panel waste is internalized into the price of solar panels and not externalized onto future taxpayers. An obvious solution would be to impose a new fee on solar panels that would go into a federal disposal and decommissioning fund. The funds would then, in the future, be dispensed to state and local governments to pay for the removal and recycling or long-term storage of solar panel waste. The advantage of this fund over extended producer responsibility is that it would insure that solar panels are safely decommissioned, recycled, or stored over the long-term, even after solar manufacturers go bankrupt.

Second, the federal government should encourage citizen enforcement of laws to decommission, store, or recycle solar panels so that they do not end up in landfills. Currently, citizens have the right to file lawsuits against government agencies and corporations to force them to abide by various environmental laws, including ones that protect the public from toxic waste. Solar should be no different. Given the decentralized nature of solar energy production, and lack of technical expertise at the local level, it is especially important that the whole society be involved in protecting itself from exposure to dangerous toxins.

"We have a County and State approval process over the next couple months," Fogarty of Concerned Citizens of Fawn Lake told me, "but it has become clear that local authorities have very little technical breadth to analyze the impacts of such a massive solar power plant."

Lack of technical expertise can be a problem when solar developers like Sustainable Power Group, or sPower, incorrectly claim [fredericksburg.com] that the cadmium in its panels is not water soluble. That claim has been contradicted by the previously-mentioned Stuttgart research scientists [welt.de] who found cadmium from solar panels "can be almost completely washed out...over a period of several months...by rainwater."

Third, the United Nations Environment Programme's Global Partnership for Waste Management [web.unep.org], as part of its International Environmental Partnership Center [web.unep.org], should more strictly monitor e-waste shipments and encourage nations importing used solar panels into secondary markets to impose a fee to cover the cost of recycling or long-term management. Such a recycling and waste management fund could help nations address their other e-waste problems while supporting the development of a new, high-tech industry in recycling solar panels.

None of this will come quickly, or easily, and some solar industry executives will resist internalizing the cost of safely storing, or recycling, solar panel waste, perhaps for understandable reasons. They will rightly note that there are other kinds of electronic waste in the world. But it is notable that some new forms of electronic waste, namely smartphones like the iPhone, have in many cases replaced things like stereo systems, GPS devices, and alarm clocks and thus reduced their contribution to the e-waste stream. And no other electronics industry makes being "clean" its main selling point.

Wise solar industry leaders can learn from the past and be proactive in seeking stricter regulation in accordance with growing scientific evidence that solar panels pose a risk of toxic chemical contamination. "If waste issues are not preemptively addressed," warns Mulvaney [solarindustrymag.com], "the industry risks repeating the disastrous environmental mistakes of the electronics industry."

If the industry responds with foresight, Mulvaney notes, it could end up sparking clean innovation including "developing PV modules without hazardous inputs and recycled rare metals." And that's something everyone can get powered up about.

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**Subject:** [EXTERNAL] : If Solar Panels Are So Clean, Why Do They Produce So Much Toxic Waste?

**Follow Up Flag:** Follow up
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# Keeping score on the great electricity generation scam aka  Wind & Solar Road a Map to nowhere.

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

[forbes.com]
**Michael Shellenberger [forbes.com]**Contributor
May 23, 2018, 12:28pm 43,596 views #ChangeTheWorld [forbes.com]

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Bell Labs, 1954. Solar Panel Waste, 2014BELL LABS & PV CYCLE
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 [scmp.com] official, a 40-year veteran of the U.S. solar industry [solarpowerworldonline.com], and research scientists [welt.de] 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 [solarpowerworldonline.com]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 [irena.org] 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 [solarindustrymag.com] 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 [solarpowerinternational.com] 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 [dtsc.ca.gov] from landfills, which is where they currently go, at the end of their life.
California's Department of Toxic Substances Control (DTSC), which is implementing the new regulations, held a meeting last August [youtube.com] with solar and waste industry representatives to discuss how to deal with the issue of solar waste. At the meeting, the representatives from industry and DTSC all acknowledged how difficult it would be to test to determine whether a solar panel being removed would be classified as hazardous waste or not.
The DTSC described building a database where solar panels and their toxicity could be tracked by their model numbers, but it's not clear DTSC will do this.
"The theory behind the regulations is to make [disposal] less burdensome," explained Rick Brausch of DTSC. "Putting it as universal waste eliminates the testing requirement."
The fact that cadmium can be washed out of solar modules by rainwater is increasingly a concern for local environmentalists like the Concerned Citizens of Fawn Lake in Virginia, where a 6,350 acre solar farm [fredericksburg.com] to partly power Microsoft data centers [richmond.com] is being proposed.
“We estimate there are 100,000 pounds of cadmium contained in the 1.8 million panels,” Sean Fogarty of the group told me. “Leaching from broken panels damaged during natural events — hail storms, tornadoes, hurricanes, earthquakes, etc. — and at decommissioning is a big concern.”
There is real-world precedent for this concern. A tornado in 2015 broke 200,000 solar modules at southern California solar farm Desert Sunlight.
"Any modules that were broken into small bits of glass had to be swept from the ground," Mulvaney explained, "so lots of rocks and dirt got mixed in that would not work in recycling plants that are designed to take modules. These were the cadmium-based modules that failed [hazardous] waste tests, so were treated at a [hazardous] waste facility. But about 70 percent of the modules were actually sent to recycling, and the recycled metals are in new panels today."
And when Hurricane Maria hit Puerto Rico last September, the nation’s second largest solar farm, responsible for 40 percent of the island’s solar energy, lost a majority of its panels. [theweatherjunkies.com]
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Destroys Solar Farm in Puerto RicoBOB MEINETZ

Many experts urge mandatory recycling. The main finding promoted by IRENA's in its 2016 report [irena.org] was that, “If fully injected back into the economy, the value of the recovered material [from used solar panels] could exceed USD 15 billion by 2050.”
But IRENA’s study did not compare the value of recovered material to the cost of new materials and admitted that “Recent studies agree that PV material availability is not a major concern in the near term, but critical materials might impose limitations in the long term.”
They might, but today recycling costs more than the economic value of the materials recovered, which is why most solar panels end up in landfills. “The absence of valuable metals/materials produces economic losses,” wrote a team of scientists in the *International Journal of Photoenergy* in their study of solar panel recycling last year [hindawi.com], and “Results are coherent with the literature.”
Chinese and Japanese experts agree. “If a recycling plant carries out every step by the book,” a Chinese expert told *The South China Morning Post* [scmp.com], “their products can end up being more expensive than new raw materials.”
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## Bianco, Todd (PUC)

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**Cc:** ka1rm@aol.com; letters@providencejournal.com; editor@newportri.com
**Subject:** [EXTERNAL] : good news Fwd: Funding for thorium molten salt and other advanced nuclear reactors – NextBigFuture.com

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The big picture of energy and power in the USA.
This is great news. However We still need the Burrillville RI base load power station as a critical bridge to the future disruptive technologies. Yes, we must keep the lights on and avoid load heading aka brown and black outs. Further control the cost of electricity. That is wind and solar is too expensive and unreliable.

Yes , the present wind, water and solar will bankrupt the USA like the USSR was destroyed by the arms race. Wake up people the wind, water and solar is a ill advised and dangerous road map to nowhere.
OBTW expect parallel develop efforts for critical applications!
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Sent: Wed, Jul 11, 2018 6:19 pm
Subject: Funding for thorium molten salt and other advanced nuclear reactors – NextBigFuture.com

Funding for thorium molten salt and other advanced nuclear reactors – NextBigFuture.com

https://www.nextbigfuture.com/2018/07/funding-for-thorium-molten-salt-and-other-advanced-nuclear-reactors.html [nextbigfuture.com]

July 10 2018. Finally after 6 years of head in the oil sand, DoE is funding generation 3 and generation 4 advanced reactors in the United States - not China.

NuScale is the American company farthest ahead in the US on GEN 3 Having a paltry stream of low millions in the past few years. Gen 3s are pressurized and use solid uranium or plutonium for fuel. Gen 3s are vastly more reliable than our US designed Gen 2 pressurized solid fuel reactors that came out of the Manhattan Project 70 years ago. The Gen 2 design has been frozen for 70 years. ALL pressurized solid reactors, Gen 2 and 3, are inherently less safe than International Gen 4 designs which included the the liquid molten salt reactors (MSRs).

The existing fleet of operational reactors in the world are Gen 2 and a few Gen 3 pressurized solid fuel reactors. They can and have melted down and killed first responders in the former Soviet Union.

Gen 4 liquid, molten-salt reactors, in particular the liquid fluoride thorium reactor (LFTR) uses thorium for fuel. Thorium itself, abundant in the earth around us, does NOT fission. The LFTR is non-pressurized, liquid-fueled and therefore physically impossible to melt down or explode. Liquid thorium salt breeds liquid U233 salt in the LFTR blanket's outer shell. U233 must be chemically separated from the Thorium stream then molten salt U233 is fed into the core of the reactor to produce fission power. U233 "completely" fissions with negligible amounts transmuting by neutron absorption to U235, U238 and Plutonium 239 (extremely negligible). These 3 "bomb" material isotopes further fission in the liquid rector to produce power. Anyone who tries to get them out would have to enter the belly of the beast and immediately face fiery death no different than walking into an operating coal furnace.

Any fission reactor produces radioactive fission products which in Gen 2 and. 3 reactors form substantial waste that must be stored for many years until it decays to background. In a meltdown situation these fission products continue to produce heat even though the chain reaction has stopped. In the case in Fukushima, the emergency cooling water failed and these fission products melted down into a liquid slag that melted through the the bottom of the reactor containment. Also small amounts of radioactivity escaped into the atmosphere. (Small means not life threatening). Nobody died or got sick in Fukushima from radiation exposure. Hundreds possibly thousands of elderly or infirm people died from forced but unnecessary evacuation due to "radiation" at levels we as humans adapted to as life forms living near rocks, sand, airplanes or hospitals.

If a Gen 4 liquid-fueled, non-pressurized reactor such as LFTR were to experience a cataclysmic airplane impact by terrorists, the reactor will freeze up and can't explode or release a cloud of radioactivity into the atmosphere. Furthermore Gen 3 and 4 reactors will be virtually immune to air craft terrorism as they will be operated under ground. These reactors are not immune to nuclear bombs so we must continue to ban all nuclear weapons. A good way to denuclearize is to build reactors that can't make bomb materials and give (sell) these to all nations. LFTR is the unique design of all Gen 4s because it cant make bomb materials and the waste is valuable in itself for medicine, food supply, and industry. China has the lead in development of LFTR and trade wars or not - there is nothing on the horizon but nuclear that can replace the coal and natural gas that China, India, Africa, Malasia, Germany, Russia, USA will be burning for several decades into the future (waiting for the holy grails of nuclear fusion, artificial trees, and living on Mars.)

The LFTR reactor produces very little "waste" at about 2% compared to a current reactor at 98% waste. LFTR's 2% "waste" fission on products are separated out in situ, repackaged and used for medical and industrial purposes. Very little is unused and needing burial. Said burial period is at most a few hundred years (not millions) and the space required is so small that burial space is not an issue. Again, the LFTR produces negligible amounts of higher actinides which could be used in bombs such as U235, U238 and plutonium. These are the wastes reqiring millions of years burial. Theoretically we can design the LFTR to produce zero plutonium.

The award to FLIBE Inc , Kirk Sorensen's company, is specifically to demonstrate the process of chemical uranium U233 separation prior to fission. This is a key process enabling the build of the complete reactor. The US has some catching up to do over China in this race to completely green power. The DoE was put under political pressure by our citizen science lobby and a bipartisan coalition of congress including Senator Sheldon Whitehouse. A key element of persuasion fro the current administration was stopping the transfer of. our intellectual property to China for national and economic security reasons. China, India and Russia are building 100s of reactors presently while the West is banking on Natural Gas and a little bit of solar and wind as well as a massive rebuild of the grid to transport renewable energy. This policy will bankrupt the USA faster than the USA bankrupted the Soviet Union militarily. Currently reactors are expensive to build and finance upfront largely because the Gen 2 and 3 designs are still complicated and subject to great expense to prevent meltdown and explosions. So why not build reactors that cant melt or explode? The answer has been purely political for a long time because groups like Sierra, Greenpeace

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| **To:** | Bianco, Todd (PUC); Governor (GOV); louis_dipalma@yahoo.com; rep-ruggiero@rilegislature.gov; sen-ruggerio@rilegislature.gov; rep-mattiello@rilegislature.gov |
| **Cc:** | letters@providencejournal.com; editor@newportri.com; captbirdfish@gmail.com |
| **Subject:** | [EXTERNAL] : Wake up RI ! Renewables Cannot Even Fill the Void of Retiring Nuclear Plants / approve Burilliville , RI Ngas base load power station! |
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Wake up RI ! Renewables Cannot Even Fill the Void of Retiring Nuclear Plants / approve Burilliville , RI Ngas base load power station. This Ngas power station is the bridge to the future viable disruptive power generation technologies. In contrast so called renewables (wind, water & solar) is an ill advised and dangerous a road map to nowhere. Yes, a popular subsidized & front loaded money manipulation setting the state for an economic time bomb and affordable, reliable and predictable electricity shortages.

Wm F Horan

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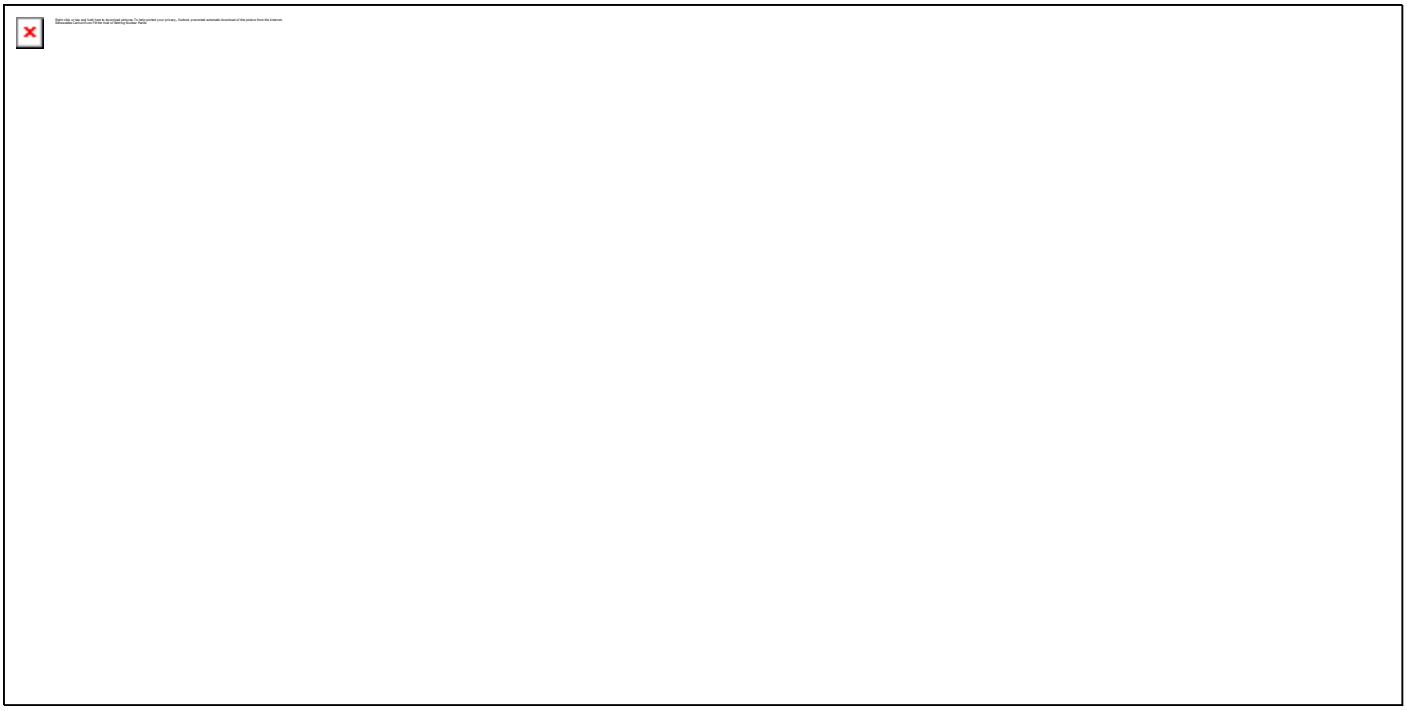
United States, which President Trump removed from the Paris Accord last year, had the largest carbon dioxide emissions decline in the world

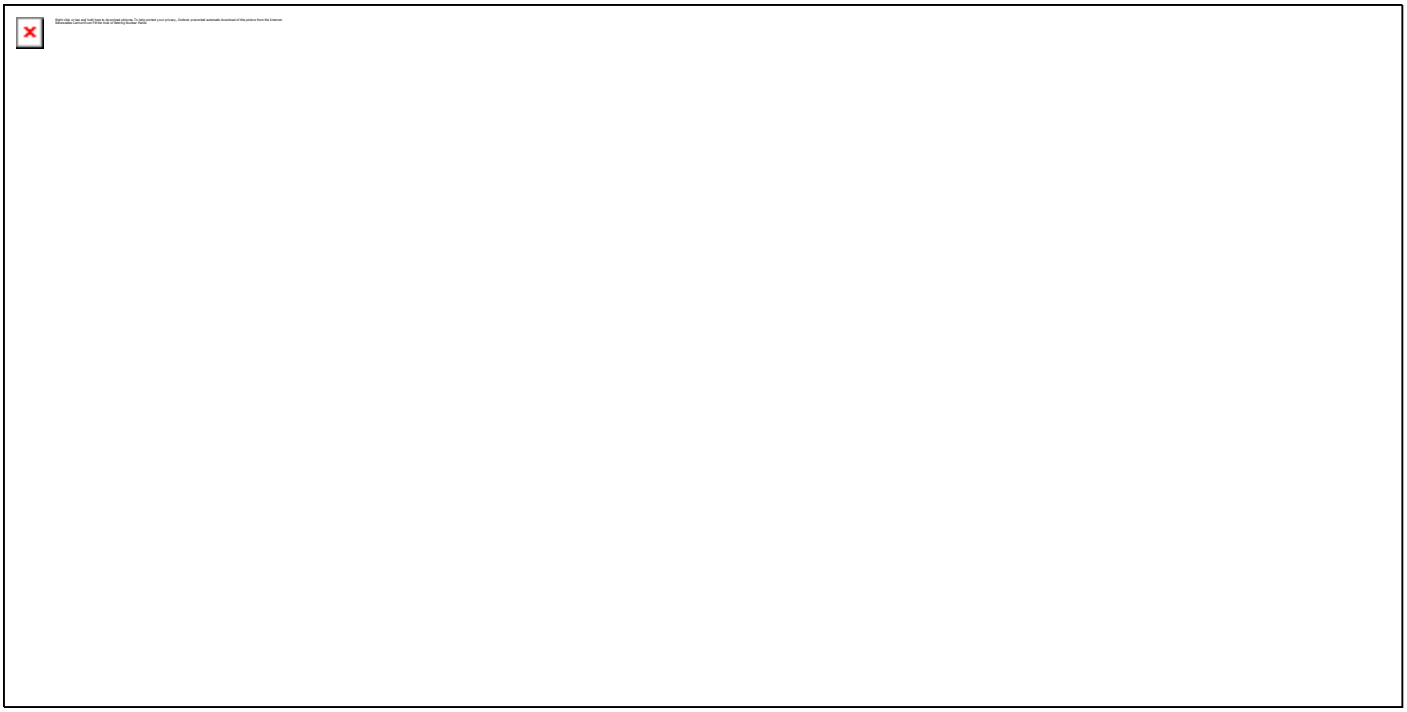
# Renewables Cannot Even Fill the Void of Retiring Nuclear Plants

By Institute for Energy Research [canadafreepress.com] —— Bio and Archives [canadafreepress.com]--*July 6, 2018*



According to BP's 2018 edition of its Statistical Review of World Energy, renewable energy has not been able to fill the void created by retiring nuclear plants despite its large growth in 2017. As a result, the share of non-carbon power generation has fallen slightly over the past 20 years. The data is further evidence that energy sources such as wind and solar cannot replace coal and other fossil fuels and will not lead to significant reductions in carbon dioxide emissions despite decades of subsidies. Despite non-hydroelectric renewable generation increasing by 17 percent, wind and solar accounted for only six percent of total electricity globally.

Public and private entities spent **$1.1 trillion on solar and over $900 billion on wind** [forbes.com] between 2007 and 2016. Global investment in these renewable sources was about $300 billion per year between 2010 and 2016. The $2 trillion in solar and wind investment during the past 10¬†years represents an amount similar to the global investment in nuclear power over the past 54 years, which totals about $1.8 trillion.



*Source:* ***Forbes*** [forbes.com]

# Global Carbon Dioxide Emissions

Global energy demand grew **2.2 percent** [eenews.net] last year—above the 10-year average of 1.7 percent—and up from the previous year's 1.2 percent increase, due to faster economic growth in both developed and developing countries. The energy demand growth and continued use of fossil fuels increased carbon dioxide emissions by 1.6 percent in 2017 to a new record of **33.4 billion metric tons** [forbes.com], after remaining relatively stable for three years.

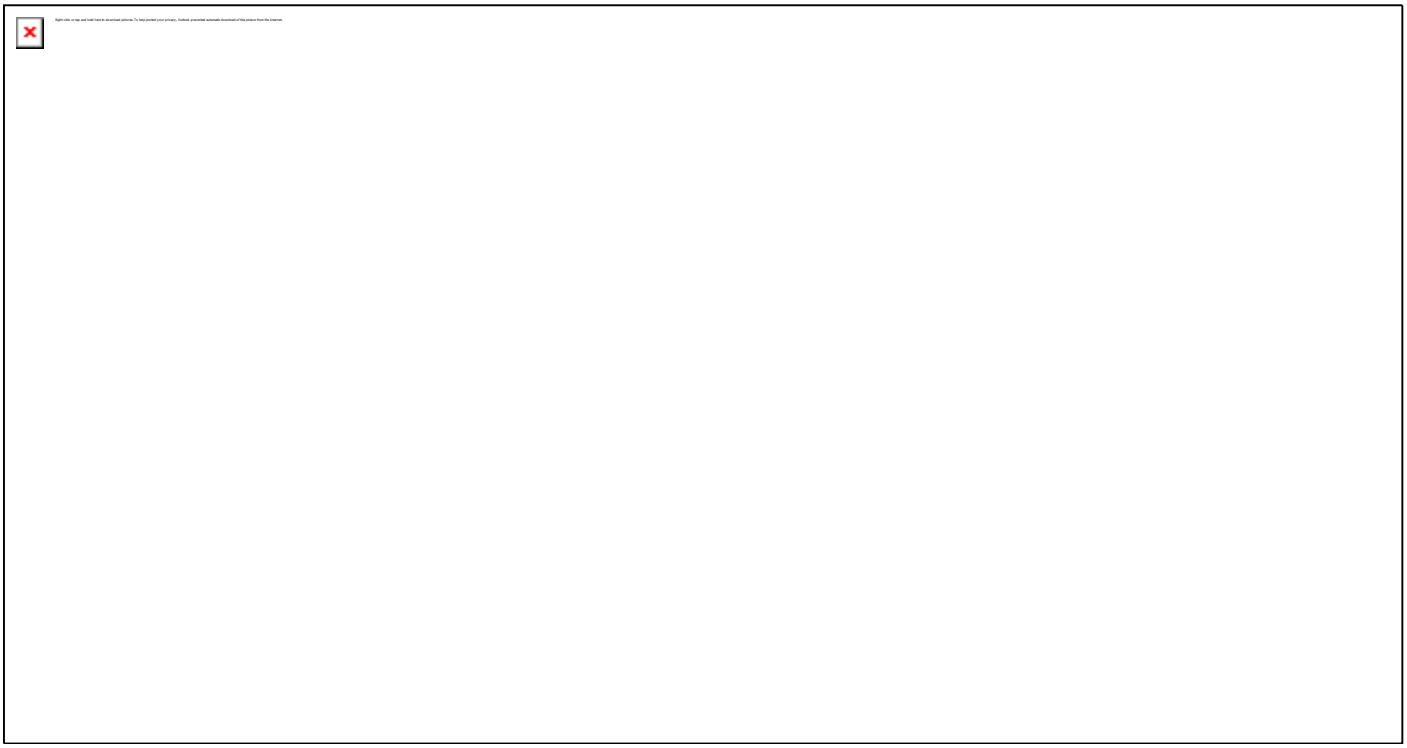
China and India accounted for nearly half of the increase in global carbon dioxide emissions. The largest increase in carbon dioxide emissions in 2017 were from China (1.6 percent increase), which was a reversal from the past three years when the largest increases in emissions came from India. China's emissions in 2017 were 0.3 percent higher than the previous peak in 2014. The next highest increment came from India where carbon dioxide emissions increased by 4.4 percent.

Carbon dioxide emissions in the European Union were up by 1.5 percent with Spain accounting for 44 percent of the increase. Germany's carbon dioxide emissions also increased over the past two years, despite spending **$200 billion** [dailycallernewsfoundation.org] on renewable energy over the past two decades. Germany is not expected to reach its goal of reducing carbon emissions by 40 percent by 2020 compared to 1990 levels. Germany's Energiewende (energy transition to renewable energy from fossil fuels and nuclear power) has cost the average German an estimated $2,500 without reaching its goals.

Carbon dioxide emissions in the United States *decreased* by 0.5 percent. It was the third year in a row that the carbon dioxide emissions in the United States declined. This is **the ninth time** [bp.com] in this century that the United States has had the largest decline in emissions in the world. Carbon dioxide emissions from energy use from the United States are the lowest since 1992.

# Global Coal Consumption

**Coal consumption increased one percent** [reuters.com] in 2017 due to the opening of new coal-fired generating units in China and India. This was the first increase in coal consumption in 4 years. However, it was still 3.5 percent less than its peak level in 2013. Coal's share of global power generation was 38 percent in 2017—the same as in 1998. Its share had increased in the intervening years when China hit its very high years of economic growth but fell slightly over the past few years, ending at its starting point two decades ago. Coal consumption declined in the United States and the European Union, but increased 0.5 percent in China. China remains the world's top coal market, with the country **consuming 50.7 percent** [forbes.com] of the world's coal in 2017.



*Source:* ***Vox*** [vox.com]

**Continued below...**

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# Global Oil Production and Consumption

Oil production cuts by OPEC and non-OPEC countries of almost 1 million barrels per day in 2017 were offset by increased production from the United States and other countries of 1.5 million barrels per day. A new oil production record of 92.6 million barrels per day was reached in 2017—the eight straight year global oil production increased. In 2017, the United States was the world's top oil producer when natural gas liquids are included, exceeding 13 million barrels per day, followed by Saudi Arabia at 12.0 million barrels per day, and Russia at 11.3 million barrels per day.

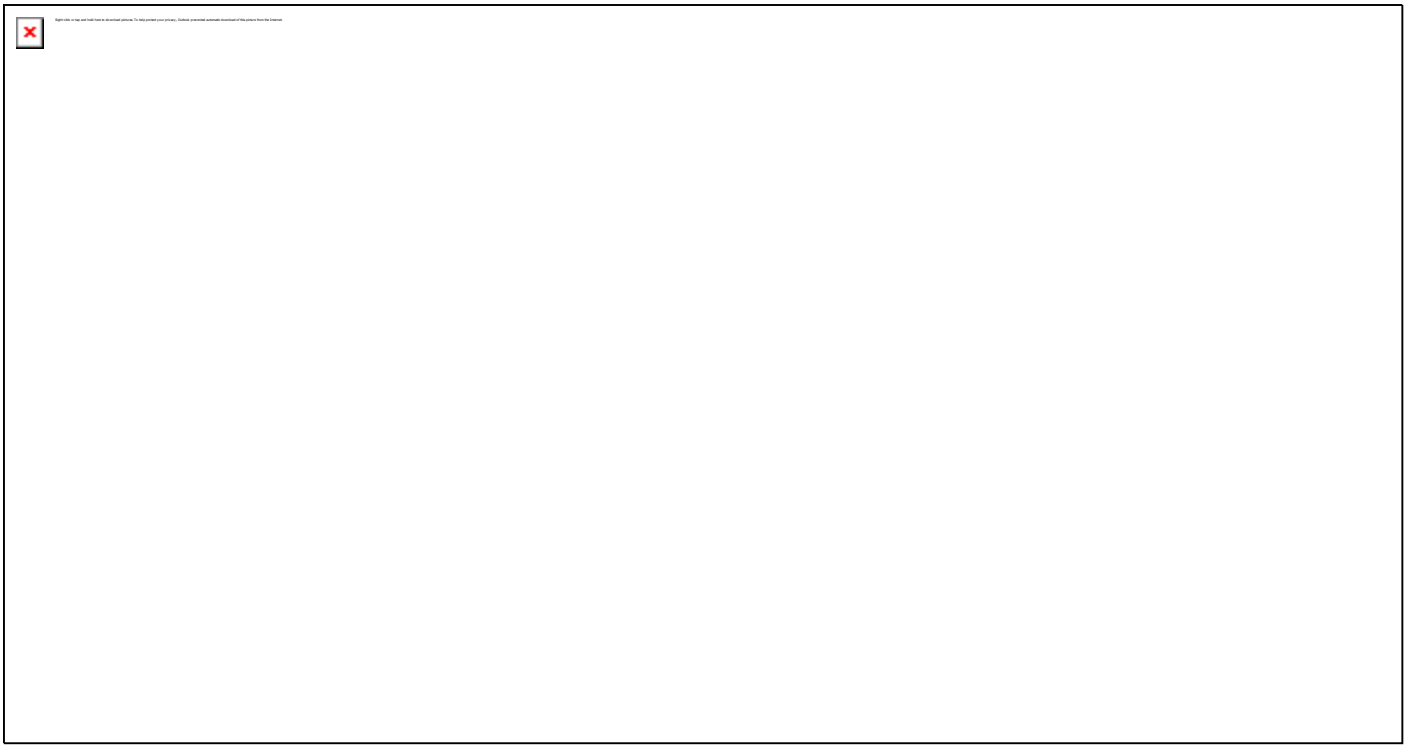
Oil demand grew by 1.7 million barrels per day, and totaled 98.2 billion barrels per day in 2017. Oil consumption includes biofuels and fuels derived from coal and natural gas. U.S. consumption increased by 1.0 percent, leading the world at 19.9 million barrels per day. China's demand increased by 4 percent to a new record of 12.8 million barrels per day.

# Natural Gas Production and Consumption

Natural gas consumption grew by three percent to a new record of 355 billion cubic feet per day—the fastest growth since 2010. China's gas consumption increased by 15 percent. Natural gas production increased by **4 percent** [ecowatch.com]. The United States led all countries in both production and consumption of natural gas.

# Global Solar and Wind Power Generation

Global solar power generation increased by **35 percent** [forbes.com] and global wind power generation increased by 17 percent in 2017.



*Source:* ***Vox*** [vox.com]

# Conclusion

2017 was a year of record oil consumption, natural gas consumption and solar and wind power consumption. But, despite record growth in wind and solar power, carbon dioxide emissions grew 1.6 percent due to declining nuclear power production. Renewable energy could not replace retiring nuclear units in 2017 due to its intermittency and lower capacity factors and therefore is unlikely to meet global demand anytime in the foreseeable future, despite opposite claims by environmentalists. As a result, both global coal consumption and global natural gas consumption increased in 2017.

Interestingly, the United States, which President Trump removed from the Paris Accord last year, had the largest carbon dioxide emissions decline in the world, while the European Union's emissions went up, along with those of China and India, and the world as a whole.

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## Bianco, Todd (PUC)

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**Sent:** Thursday, May 24, 2018 10:08 PM
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**Subject:** [EXTERNAL] : R.I. selects Deepwater Wind to build 400-megawatt offshore wind farm

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http://newportri.com/news/20180523/ri-selects-deepwater-wind-to-build-400-megawatt-offshore-wind-farm/1 & projo mirror

- **William F Horan**

- Rank 0

Knowledgeable rational man has never transitioned to energy sources that are more costly, less reliable, and have a larger environmental footprint than the legacy — and yet that's precisely what RI Gov Raimondo is attempting today!! Yes, adding large amounts of potentially toxic biomass, toxic waste solar and big wind to the grid requires. The mixed system would lock in Big Oil & require large amounts of solar and wind and thus far more power plants, transmission lines, and everything else required to provide reliable electricity.
Selection of low energy density toxic solar and wind requires the costly time consuming rematerialization of energy in the form of more land, materials, mining, storage, and waste etc.

Solar and wind advocates suggest that batteries will play the role of fossil fuels and prevent that from happening, but consider the calculations and this is false.

"Natural gas is the perfect partner for renewables," proclaims an advertisement currently being run by Norwegian oil and gas giant.
"No sun, no wind, no problem," says Shell Natural Gas. "See why #natgas is a natural partner for renewable power sources."
"Committed to solar," boasts the headline of an advertisement run by the French oil and gas company.
The understanding that solar and wind are committing us to fossil fuels is no longer limited to energy experts.
What he's threatened by — and with good reason — is valid disruptive technologies including, gen III-a & Gen IV nuclear Fission power and the rapidly advancing R&D nuclear fusion power.

The Ngas combined cycle power station located at Burrillville is the precious bridge to tomorrow while today protecting us from electricity load shedding (rolling black outs) in the cold of winter and heat of summer.

The self serving RI potentially Toxic Biomass, Toxic solar and " Deep Pockets" big wind is an erroneous infomercial "It's ill advised & Dangerous for Humanity." The RI Gov Gina Raimondo biomass, solar and big wind pivot is a "road map to no where"

Please Google "Road Map to nowhere" and learn much more about this confluence of events, analysis, danger and range of valid solutions.

William F Horan

Retired Engineering Fellow & SR Mgr

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**Subject:** [EXTERNAL] : If Renewables Are So Great for the Environment, Why Do They Keep Destroying It? - Forbes

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**Subject:** [EXTERNAL] : Rev 1 - RI House of Reps Passes Bill to Overhaul Energy Facility Sitting Board

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**William F Horan**
19 mins ·

Rev 1 - RI has embarked on subscribing to The Myth of Powering the Nation With so called green Renewable Energy! While such is un achievable, however RI continues to gamble that this cult like delusional politically infected belief is valid. Unless common sense is restored rolling blackouts and skyrocketing prices of electricity await us. Yes, the seriously flawed policies result in a self inflected energy poverty and a companion economic calamity.

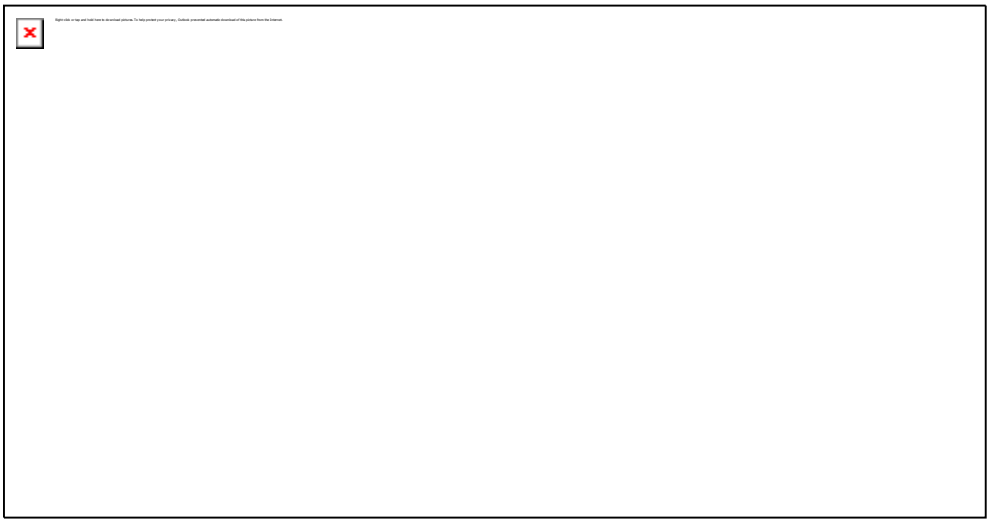
Today we are struggling to deal with especially political policies divorced from "The will of an informed people" ,science or economics and are completely oblivious of the technical consequences.

Decisions must be based on "The Will of an informed citizens" while factoring economics, science realities & valid disruptive technologies etc. Mark Z. Jacobson's 100% Renewables (100% WWS) e.g. wind water solar & Biomass is a Road map to nowhere. View the Video for 100% renewable a road map to nowhere 24:00 min.
https://www.youtube.com/watch?v=V2KNqluP8M0
Jan 6, 2018 - Uploaded by gordonmcdowell
... to mistakes they've found in Mark Z. Jacobson's 100% Renewables .

The Burrillville combined cycle natural gas power station provides a bridge to tomorrows valid disruptive technologies.

Rhode Island must be pulled back from the abyss by first replacing its corrupted elements of leadership and armature General Assembly with citizens up to the challenge of subscribing to actions resulting in securing a realizable future and delivers a foundation enabling opportunity for its citizens.

The continuation of today's flawed thinking at the RI General Assembly embracing attractive but temporary finical subsidies and politically popular myth that somehow it is free electricity aka the other guy is paying for it" is an economic time bomb. Yes, even greater impacts than the recent infamous RI failures; Banking - RISDIC S&L, 38 Studio, & still evolving St Joseph – Fatima Nurses & medical workers pensions gone missing under the flawed RI Hospital Conversion law implementation et al.
Wake up people!



## GoLocalProv | News | RI House of Reps Passes Bill to Overhaul Energy Facility Sitting Board

The RI House of Representatives approved legislation to change the Energy Facilities Siting Board (EFSB) and to provide a more comprehensive process for reviewing…
GOLOCALPROV.COM

## Bianco, Todd (PUC)

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**Subject:** [EXTERNAL] : New England faces 'horror story' of expensive power - today a self inflicted tragedy rapidly approaches.

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https://www.washingtonexaminer.com/policy/energy/new-england-faces-horror-story-of-expensive-power
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The confluence of events is created where a politically infected body subscribes to their own pusdo science cult like belief system.
Every elected official in New England must read the attached link today!

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**Bianco, Todd (PUC)**

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**Subject:** [EXTERNAL] : the end for the wind industry in Europe / why haven't we learned from their failures in wind & solar electricity? W Horan 1 Jean St Middletown, RI 02842

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# WIND FARM LIFETIME EXTENSIONS AND REPOWERING: MANAGING THE DEATH SPIRAL

- Date: 13/05/18
-
- Dr John Constable: GWPF Energy Editor

## In the absence of new subsidies, we could be looking at the beginning of the end for the wind industry in Europe.

**New academic research on whether to repower or extend the lifetime of an obsolescent wind farm in Europe reveals that without new subsidies for repowered sites, low cost lifetime extensions focused on maximising return before decommissioning are more probable, with a potential to affect about half the wind turbine fleet in Germany, Spain and Denmark. In the absence of new subsidies, we could be looking at the beginning of the end for the wind industry in Europe.**

In March this year the renewables policy cheerleaders, the Energy and Climate Intelligence Unit (ECIU), which is predominantly funded by the European Climate Foundation and the Grantham Foundation, published a study, *Repower to the People*, claiming that the UK could and should repower some sixty onshore wind farms over the next five years and so gain a net increase in capacity of more than 1.3 GW. The paper did not examine the underlying economics and policy context of decisions to repower, and relied simply on the reader's naïve enthusiasm for technological progress when confronted with the fact that, for example, contemporary turbines are two to three times the capacity (2–3 MW) of the previous generation (< 1 MW), with the latest models approaching 4 MW. Bigger must surely be better, especially given the obvious economies:

> As well as offering simplicities and potentially lower costs compared with developing a new site, repowering is also logical given that many of the earliest wind farms are in locations that have the best wind resource. (*Repower to the People*, p. 4.)

Sympathetic MPs were produced to provide quotations in the press suggesting that it was simply a question of government removing the obstacles to this commonsense development, with Mr Simon Clarke, the Conservative Party's MP for Middlesborough South and East Cleveland, being reported as observing that:

> For those worried about the 1 per cent of UK gas imports that come from Mr Putin, these upgrades would also reduce our reliance on imported fuel by the equivalent of two gas-fired power stations; and if we don't allow developers to repower them, we may lose them for good. (*Utility Week*, 27.03.18)

There is of course nothing to stop developers repowering such sites, except that: 1 there are no subsidies available, and without such subsidies the low market prices probable over the next decade are insufficient to motivate re-investment.

Furthermore, the owners seeking to repower would have to apply for a new planning consent, which would be problematic now that the unneighbourliness of large wind turbines is notorious. Indeed, as the authors of a new and important

academic survey of repowering and lifetime extension, report, the state of Bavaria has even "introduced in 2014 a regulation that sets a new minimum distance of ten times the tip-height between a wind turbine and the closest residential areas" (L. Ziegler et al. "Lifetime extension of onshore wind turbines: a review covering Germany Spain, Denmark, and the UK, *Renewable and Sustainable Energy Reviews*82 (2018), 1261–1271). A modern machine can be upwards of 120 metres (nearly 400 feet) to tip, so this implies a separation of over three quarters of a mile, and would rule out many existing onshore wind farms in the UK, particularly in England, where at present there is no formally required separation distance.

Indeed, contrary to the "simplicities" urged on us by the ECIU, the work published by Ziegler and her colleagues, who write from a position of fundamental sympathy for the wind industry, makes it clear that the decision facing owners of ageing wind farms is extremely difficult, except to decommission. Repowering is by no means a simple matter:

> Sites with existing wind farms are often impossible to repower due to lack of availability of the site, legal consent, changes in subsidies, environmental protection, public acceptance, or insufficient wind conditions. (p. 1265)

The landowner may no longer want a wind farm; and even if they are willing, new legal permission may not be easy to obtain; subsidies are insufficient or non-existent; the larger wind turbines may breach environmental regulations; the neighbours may not welcome bigger or any wind turbines; and, interestingly, the wind conditions may now be known to be unsuitable or have become so due to the adjacent location of other wind farms (see See Ziegler et al. Table 4, p. 1269).

In fact, these authors report that the principal "favourable legal and economic conditions for repowering" are "profitable subsidy schemes" and a "scarcity of sites". In the UK there are no subsidies available, and so long as the Scottish government is prepared to continue granting planning consents against vigorous protests, there will be no shortage of alternative sites in the United Kingdom. The ECIU's proposed major repowering over the UK as a whole is a complete non-starter. Moreover, this is no parochial matter. As Ziegler et al. show, repowering is an unattractive option throughout Europe, since "no political repowering subsidies exist in Germany, Spain, Denmark, and the UK".

Instead, wind farm owners will be looking at the possibility of extending the lifetimes of their existing wind farms. But this is itself by no means an easy option, and requires careful assessment of the condition and performance of the existing asset to determine the Remaining Useful Lifetime (RUL) of the major components, and, crucially, "whether operational costs are balanced by revenues for the produced energy". Most of that latter anxiety is focused on the future market price for the electricity produced, and not on the operational costs, since as the authors report on the basis of a number of industry interviews:

> Uncertainty about future failure rates was not a major consideration of operators. Since lifetime extension requires only low investments, a common approach is terminate turbine operation if costly repairs become necessary. (p. 1268.)

None of this sounds like the behaviour of a vigorous and expanding industry. Indeed, it seems more likely to be the skilful management of the death spiral, ensuring that owners extract as much as possible from investments made under the existing policy instruments before they exit to enjoy their winnings.

This is a situation that could develop very rapidly. Ziegler et al. report that in 2016 some 12% of the installed wind turbine capacity was older than 15 years, a share that will increase to 28% by 2020 (p. 1261). The UK, as a relative latecomer to this enthusiasm, will be below the average, with only 10% of its current capacity older than 15 years in that year, but in other countries, as the authors themselves admit, the "future age distribution of installed wind capacity almost looks dramatic":

> By 2020, 41% of the currently installed capacity in Germany will be over 15 years old, 44% in Spain, and 57% in Denmark.

If this is not repowered, and the evidence presented in this paper suggests strongly that without new subsidies owners will prefer to focus their attention on short-run lifetime extensions, we will be looking at the beginning of the end of the wind industry in Europe.

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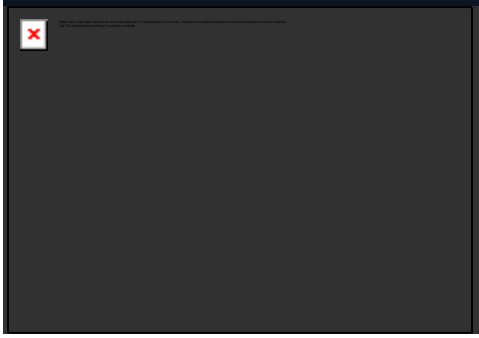

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**Subject:** [EXTERNAL] : comments re My Turn: Michael F. Sabitoni: R.I. needs reliable, low-cost energy - Burrillville Ngas power station // RI energy policies

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http://providencejournal.com/opinion/20180505/my-turn-michael-f-sabitoni-ri-needs-reliable-low-cost-energy

- •
- **William F Horan**

Struggling to deal with political energy policies divorced from science or economics and are completely oblivious of the technical consequences.There are several acknowledgments, essentially saying:
Wind / Solar energy (W/S) is an unrelentingly unpredictable and uncontrollable energy source,
Increasing W/S on the grid is causing serious reliability issues,
W/S energy has very little Capacity Value, and that has not been adequately addressed;~ only 30% for wind and 20% for solar of specified output power!!!
Due to the inherent nature of W/S it must be permanently paired with Ngas,
Adding more W/S to the grid will require substantially more Ngas to be added to the grid,
The costs to deal with W/S on the grid are rapidly increasing,
None of the costs incurred by W/S energy are directly attributed to W/S energy,
There are similarly + unique major issues with both W/S
None of the politicians or NGOs promoting W/S are acknowledging any of these issues,
“Stakeholders” are currently discussing a carbon tax, to make this situation even worse.
What else do you need to know to confirm we are headed for a catastrophe? Well, there’s more…
There is a parallel here with the US mortgage meltdown — which led to a world-wide major economic downturn. After the fact, when insiders were interviewed about what happened, they acknowledged that everyone-in-the-know knew that the lending, etc. policies put in place (by lobbyists) were guaranteed to fail. Unless major changes are made quickly, there will be experts commenting on how the US energy grid failure (which will lead to a collapse of our economy, and our national security, and our society), was entirely predictable based on the self-serving unscientific energy policies put in place by lobbyists. Energy policy Decisions must be based on economics, science realities & valid disruptive technologies

Wind and solar is ~ 2% in RI & I concluded attempting to increase them to offset other power Gen methods drives consumer costs thru the roof, Yes, it is an unachievable road map to nowhere. Many in science & engineering have looked beyond the now desperately needed NE Ngas bridge era and see opportunities for candidate disruptive technologies now advancing in the R&D phase.The 100% Renewables strategies (100% WWS) is a Roadmap to Nowhere. The alternative see video https://www.youtube.com/watch?v=V2KNqluP8M0&feature=em-uploademail The prudent approach! NH update to the state’s energy strategy takes a new tack, with a focus on lowering electricity rates and less emphasis on subsidizing renewable energy. Raises questions about the state’s renewable portfolio standards, which require utilities to purchase a certain amount of energy from renewable sources above market prices. RI needs to look at the entire NH pivot to achievable energy – electricity policies.

wfh

### projo By Michael F. Sabitoni

Posted May 5, 2018 at 3:00 Pm On April 13, our regional grid operator, ISO-New England, reported in its daily regional fuel mix chart that the operation of our power grid for the day

relied upon 50 percent natural gas, 30 percent nuclear, 10 percent hydro and 9 percent renewables. Of those 9 percent renewables, only 2.9 percent came from wind and, even less (0.45 percent) from solar.

The snapshot of this day, along with plant retirements, proved that Matt Brown's logic in his April 20 Commentary piece ("Use wind, not natural gas, to power R.I.") — that we can bridge the gap to full renewables overnight — is irresponsible. Our significant reliance today on natural gas for power generation must not be callously dismissed.

It was widely reported that during the recent cold burst in January that New England had the "highest natural gas prices in the world." According to the U.S. Energy Information Administration, the bomb cyclone weather event resulted in "record levels of natural gas demand, elevating wholesale natural gas and power prices in New England leading to a significant increase in oil-fired generation."

The cold snap restrained regional gas supplies to the point that liquefied natural gas (LNG) had to be shipped into Boston from Russia. ISO-New England reported in February that "inaction comes at a cost, including greater risks to reliability and higher emissions when it's more economical to burn oil."

It is certain that we face an immediate energy crisis requiring decisive leadership and action. Action that ensures the Clear River Energy Center is built to provide an affordable energy resource to protect against the growing shortfall on our grid.

The fact is, Rhode Island and New England lack sufficient natural gas infrastructure to bring cheap domestic clean burning natural gas to the region. Hard-working Rhode Islanders are paying outrageous energy bills. Business owners, large and small, who put everything on the line each day, face crippling energy costs. This plant is not a magic bullet but an important step closer to easing the crisis.

Urging our leaders to support natural gas projects is inherent to a balanced, all-of-the-above regional energy policy, necessary as our renewable energy capacity develops. Allowing time for technological advances in renewables to develop will, most importantly, keep the lights on. We can help our environment as natural gas continues to drive down harmful carbon emissions. Further, understanding our current fuel source requirements for base load power and the critical, increasing role of natural gas does not stop our efforts in continuing to lead in offshore wind and to strive for important renewable energy goals. It simply proves we are smart, practical and desire an economic environment that works for consumers and business.

We cannot continue to accept higher energy prices that hit the kitchen tables of working families the hardest. These high costs hurt the ability for families to provide a basic level of living and eliminate spending that fuels our local small businesses. Faced with high energy costs, companies are thinking twice about investing in their workforce and facilities, devastating our economy.

Energy cost and reliability are important factors to keep our economy growing. We must not sacrifice these in an unrealistic rush to 100 percent renewables. We can achieve lower prices and maintain grid reliability by investing in natural gas.

*Michael F. Sabitoni is president of the Rhode Island Building and Construction Trades Council.*

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**From:** billyhoran@aol.com
**Sent:** Tuesday, May 08, 2018 12:18 AM
**To:** editor@newportri.com; louis_dipalma@yahoo.com; captbirdfish@gmail.com; Bianco, Todd (PUC); Governor (GOV); rep-mattiello@rilegislature.gov; rep-ruggiero@rilegislature.gov; sen-ruggerio@rilegislature.gov; sen-dipalma@rilegislature.gov; towncouncil@middletownri.com
**Subject:** [EXTERNAL] : comments re - My Turn: Michael F. Sabitoni: R.I. needs reliable, low-cost energy

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http://providencejournal.com/opinion/20180505/my-turn-michael-f-sabitoni-ri-needs-reliable-low-cost-energy

My posted comment
I did not go into details of choices of solutions post an already desperately needed RI Ngas bridge with candidate disruptive technologies. Rather I took an approach of we are already on the path to the abyss etc. Different audience behind the root post. I as well kept all the numbers out of the message (uncharacteristic of me for such a discussion).

Struggling to deal with political energy policies divorced from science or economics and are completely oblivious of the technical consequences.There are several acknowledgments, essentially saying:
Wind / Solar energy (W/S) is an unrelentingly unpredictable and uncontrollable energy source,
Increasing W/S on the grid is causing serious reliability issues,
W/S energy has very little Capacity Value, and that has not been adequately addressed,
Due to the inherent nature of W/S it must be permanently paired with Ngas,
Adding more W/S to the grid will require substantially more Ngas to be added to the grid,
The costs to deal with W/S on the grid are rapidly increasing,
None of the costs incurred by W/S energy are directly attributed to W/S energy,
There are similarly + unique major issues with both W/S
None of the politicians or NGOs promoting W/S are acknowledging any of these issues,
“Stakeholders” are currently discussing a carbon tax, to make this situation even worse.
What else do you need to know to confirm we are headed for a catastrophe? Well, there’s more…
There is a parallel here with the US mortgage meltdown — which led to a world-wide major economic downturn. After the fact, when insiders were interviewed about what happened, they acknowledged that everyone-in-the-know knew that the lending, etc. policies put in place (by lobbyists) were guaranteed to fail. Unless major changes are made quickly, there will be experts commenting on how the US energy grid failure (which will lead to a collapse of our economy, and our national security, and our society), was entirely predictable based on the self-serving unscientific energy policies put in place by lobbyists. Energy policy Decisions must be based on economics, science realities & valid disruptive technologies.
William F Horan
Engineering Fellow & Sr Mgr retired
Life Member IEEE Providence Section

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cc US Senators RI - S Whitehouse & J Reed

## Bianco, Todd (PUC)

**From:** billyhoran@aol.com
**Sent:** Saturday, May 05, 2018 2:44 PM
**To:** captbirdfish@gmail.com; louis_dipalma@yahoo.com; mcohen1@cox.net; dsharp401@gmail.com; Bianco, Todd (PUC)
**Subject:** [EXTERNAL] : posted on facebook today re Npt Naval Station solor projects in the works.

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**William F Horan**
12 mins ·
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This Wind, water, & Solar is a stupid idea from both the standpoint of a tax payer and Engineer. Rather it is an unafordable attractive financial manipulation and popular politically propagated myth! Yes, it is an un achievable road map to nowhere. Many in science & engineering have looked beyond the Ngas bridge era and see opportunities for candidate disruptive technologies now advancing in the R&D phase.The 100% Renewables strategies (100% WWS) is a Roadmap to Nowhere. View the alternative video https://www.youtube.com/watch...

Naval Station Newport has solar project in the works

NEWPORT — Naval Station Newport is going solar — even more.The Navy base on Wednesday announced a 37-year ground lease with Solar
NEWPORTRI.COM

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**William F Horan** We do not need yet more bridges / a road map to no where here on Aquidneck Island RI. We have already purchased several bridges. Remember some one gets to pay for all of these pie in the sky scams and that is always the tax payer and rate payer in uncontrolled electrical rates growth and companion wasteful tax expenditures. No Free Lunch! if the USN requires a back up power source of lower cost why not join in a coalition with RI PUC EFSB while abandoning the WWS scam.?
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