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WATER POLICY

House committee passes WRDA with no riders

Ariel Wittenberg, E&E News reporter

Published: Wednesday, May 23, 2018

The House Transportation and Infrastructure Committee today passed a modified version of a water infrastructure bill, the Water Resources Development Act, by voice vote after rejecting an amendment to help fight mercury pollution.

Both committee Chairman Bill Shuster (R-Pa.) and ranking member Peter DeFazio (D-Ore.) said that WRDA, **H.R. 8**, could not include any language relating to the Clean Water Act in order to pass the House floor.

At issue was an amendment from Rep. Rick Nolan (D-Minn.), which would have created a grant program within the Army Corps of Engineers to help communities comply with water quality standards for mercury in and around Lake Superior.

The question, Nolan said, was: "Do you want to pay for it in terms of devastating effects on people here in America, or do we want to authorize this program going forward?"

But Shuster said that because the amendment deals with the Clean Water Act it could not be considered.

"I know there are people on both sides of the aisle who would like to make changes to the Clean Water Act, but keeping this bill limited to the Army Corps is the best way to get this bill passed," Shuster said.

He added he opposed the amendment "because it creates a new program."

Nolan responded that "with all due respect, opposing a good program because it doesn't eliminate another program does not really create a good rationale."

But DeFazio, too, said he was worried that allowing the amendment would allow for more Clean Water Act-related debates when the bill got to the floor.

While he supported the purpose of the amendment, DeFazio said he had to "reluctantly oppose," citing multiple efforts by Republicans this Congress to repeal the Obama-era Clean Water Rule, also known as the Waters of the U.S. rule.

"To be totally truthful, I would rather not go to the floor of the House of Representatives with Clean Water Act amendments," he said.

"I believe that most amendments that will be offered, and some that have the potential to pass, like overriding the Waters of the U.S. regulation, will be negative and actually degrade water quality for most Americans."

The amendment failed in a 22-34 vote.

It is possible that the committee will work on more significant Clean Water Act-related changes in the future. A committee spokesman said Shuster was planning to introduce a separate infrastructure package later this year.

That bill could draw from President Trump's infrastructure plan, which included contentious reforms to the National Environmental Policy Act and Clean Water Act ([*Greenwire*](#), Feb. 12).

The committee did agree in a voice vote to an amendment from Rep. Brian Mast (R-Fla.) requiring the Army Corps to conduct a "technology demonstration" for ways to combat harmful algae blooms, which affect his district near Lake Okeechobee.

"We all know that harmful algae blooms are an environmental plague that ravage ecosystems in almost every state in America," he said. "In my district specifically, harmful algae blooms do not just show up by chance or accident, they are transferred from one independent body of water to another by the Army Corps of Engineers."

Rep. Garret Graves (R-La.), who chairs the Subcommittee on Water and Environment, said he supported the amendment because algae blooms affect his district.

"This is an important mission," Graves said. "We need to make sure we are able to prevent this collision of agricultural productivity and environmental challenges."

The committee also passed a number of amendments en bloc. One would direct the Government Accountability Office to study how the Army Corps considers natural features in their feasibility studies of flood risk management.

Since that amendment passed, Rep. John Faso (R-N.Y.) agreed to withdraw another amendment he was offering that would require the Army Corps to consider "natural infrastructure," such as wetlands in feasibility studies for flood risk management, hurricane or storm damage projects. That amendment is similar to a provision included in the Senate version of the water infrastructure bill.

The amendment was co-sponsored by Rep. Jared Huffman (D-Calif.), who said, "there is a lot more we can do to emphasize the benefits and potential of natural infrastructure."

WATER POLICY

Committee advances WRDA with contentious finance amendment

[Ariel Wittenberg](#), E&E News reporter

Published: Tuesday, May 22, 2018

The Senate Environment and Public Works Committee unanimously advanced a modified version of a water infrastructure bill today.

The "America's Water Infrastructure Act of 2018," [S. 2800](#), includes many reforms to the water infrastructure authorization process.

"Our committee has taken an important step towards improving America's water infrastructure," EPW Chairman John Barrasso (R-Wyo.) said in a statement. "This legislation will cut Washington red tape, create jobs, and grow our economy. America's Water Infrastructure Act will increase water storage in the West, protect communities from dangerous floods, and upgrade old drinking water systems."

The bipartisan bill has been largely without controversy, but the manager's amendment passed by the committee could change that.

It includes a modified version of a bill that water utilities had expressly asked lawmakers to exclude from the water infrastructure reauthorization: The "Securing Required Funding for Water Infrastructure Now Act," or "SRF WIN Act," [S. 2364](#).

The "SRF WIN Act" would authorize \$200 million annually over five years to support state revolving fund (SRF) projects and encourage states to bundle their projects by waiving the \$100,000 application fee and streamlining the application projects to a maximum 180-day turnaround.

The bill would also simplify the federal approval process by allowing thousands of vetted drinking water and wastewater projects to receive funding, eliminating the need for EPA to process additional loan applications.

The bill, sponsored by Sen. John Boozman (R-Ark.), has received the support of a number of organizations, including the American Society of Civil Engineers, Ducks Unlimited, the U.S. Chamber of Commerce and the National Association of Clean Water Agencies.

In a [letter](#) last week, they wrote that the language "will make a good bill even better," noting that states currently have "thousands of vetted water infrastructure projects awaiting SRF funding." But water utility groups, including the Water Environment Federation, Association of Metropolitan Water Agencies and American Water Works Association, have [asked](#) the Environment and Public Works Committee not to combine S. 2800 with the "SRF WIN Act," which they say is a "fundamentally flawed proposal."

They noted that the proposal has not had its own hearings in committee, and said it could pose a "severe threat to the viability of the WIFIA program."

The utilities also called the bill "inequitable" because it would expedite the processing of infrastructure funding through the state revolving funds, which, they say, could in turn slow processing requests under the Water Infrastructure Finance and Innovation Act (WIFIA) low-interest loan program.

The version of the "SRF WIN Act" added to S. 2800 today was modified from its original form. One new provision would allow projects to apply for WIFIA financing either through the SRF bundle or separately.

State infrastructure authorities would still have to choose one mechanism from which to receive funding and would have to withdraw from financing authorities it does not select.

It is unclear whether the modifications will appease the utility groups.

During the markup, Barrasso described the provision as helping "smaller rural communities leverage WIFIA dollars so that they can help complete needed infrastructure projects."

Sen. Cory Booker (D-N.J.), a co-sponsor of the "SRF WIN Act," said he was "proud" that the provision was included in the broader infrastructure package, saying it "will help states fund bundles of water infrastructure projects that are construction-ready but often lack the funding to move forward."

Sen. Sheldon Whitehouse (D-R.I.) also praised the language, saying that WIFIA, as it is currently operated, "is simply not useful to Rhode Island."

"It operates at a scale and with interest costs that simply make it noncompetitive, and I think Sen. Boozman's amendment that would open up the WIFIA program to states like mine is potentially a game changer for us," he said.

The House Transportation and Infrastructure version of its water infrastructure authorization bill does not contain any similar provisions.

Senators today also added a provision to S. 2800 directing the Army Corps of Engineers and the Energy and Interior departments to study barriers to offshore wind development in New England and the Mid-Atlantic. The study, the legislation says, should ultimately make "recommendations on further research needed to improve ports in the United States for offshore wind facility development and deployment."

Another amendment would create new positions at each EPA regional office to act as "liaisons" for minority, tribal and low-income communities.

The bill, as amended, would confirm that tribes recognized by the Indian Self-Determination and Education Assistance Act can participate in water infrastructure projects as non-federal sponsors.

Another provision would require the Army Corps to submit a report to Congress identifying the ongoing and recently completed projects in coastal states and how those projects correspond to states' coastal plans.

Barrasso also indicated that he would work with Booker to support an amendment during floor debate to provide grants to low- and moderate-income households to help them connect to existing wastewater infrastructure.

LEVEES

Increase flood risk — analyses

Published: Tuesday, May 22, 2018

Infrastructure to protect towns along the Mississippi River from its frequent floods could be making the problem worse, scientists warn.

Levees along the river increase the flood risk for everyone and especially for the people who live across from them, a series of analyses shows.

"When a new or larger levee is built, there is often hue and cry, and if there isn't, there should be," says Nicholas Pinter, a geologist and the associate director of the Center for Watershed Sciences at the University of California, Davis.

"What you're doing in many cases is taking a floodplain out there — it can be 5 [or] 6 miles wide — and you're forcing the water that would otherwise spread across that area to go through a narrow passageway."

The floods also become more severe because of the levees.

"Just because you live behind a great big, strong levee does not mean that there's no chance of getting flooded," Pinter said. "There are two types of levees: those that have failed and those that will fail" (Rebecca Hersher, [NPR](#), May 21).

LEVEES

Reports rank New Orleans' levee system as 'high risk'

Published: Wednesday, May 23, 2018

Two Army Corps of Engineers reviews of the levee system in the New Orleans area raise serious questions about the system's stability and local districts' ability to maintain the levees between storms.

The levee system got the second-worst classification — "Urgent (Unsafe or Potentially Unsafe)" — in one of the reviews from 2011.

The classification was preliminary because improvements following Hurricane Katrina were not yet completed. However, the ranking still applies today, according to a New Orleans District spokesman for the Army Corps. Because of changes in classification names, the system is now considered "high risk."

The rankings have gotten little public attention despite internal discussion within the Army Corps.

New Orleans' system has a good chance of handling so-called 100-year flooding events, the documents show. But when it comes to 200-year events, almost 1,000 people could die if a storm surge overcame the east bank levees.

All of the levee segments on the east and west banks are "minimally acceptable," according to 2016 and 2017 inspections.

The Army Corps turned down a Freedom of Information Act request from NOLA.com asking for inspection reports.

"Shouldn't we know where the weak points are?" said Sandy Rosenthal, president of Levees.org. "The Army Corps of Engineers is legally the only entity to judge levee districts' operation and maintenance efforts. There isn't another qualified judge" (Mark Schleifstein, [New Orleans Times-Picayune](#), May 22).

SEA-LEVEL RISE

Miami's risk isn't scaring away foreign investors

Published: Wednesday, May 23, 2018

Rising sea levels and frequent flooding in Miami are not deterring foreign investment in real estate.

The region's real estate market is booming thanks to foreign investors. About 5 percent of foreign buyers purchased property in South Florida last year without even visiting. Experts say they are looking for a short-term investment; they'll sell before climate change impacts the homes.

But they might not have a lot of time.

"Foreign investors think they're going to sell before climate change affects the price of their units," said Nicholas Nehamas, a *Miami Herald* reporter who has explored the role of foreign real estate investors. "It's a case of the segment of the market most driving the market being divorced from reality."

Even inland streets are increasingly flooding during high tide. Sea critters have washed up in the floodwaters; storm drains work in reverse. The city wants to install 80 new pumps in a decade to reroute water back to the ocean. That translates to \$500 million in infrastructure upgrades.

Despite these efforts, by the end of the century, about half a million Miami homes could be underwater, according to Zillow. That's a record nationwide. Local officials are aware of the risks.

"What we do with existing buildings, what kind of retrofitting we do, what kind of pressure we're prepared to put on our national government, is extremely important," said Donna Shalala, a former Clinton administration official who served as president of the University of Miami. "Look, I own an apartment down on Miami Beach that's right on the water; I really could not get hurricane and flood insurance. There's just no question" (Roben Farzad, [NPR](#), May 21)

CARBON CAPTURE

Senate panel passes Barrasso-Whitehouse bill

Christa Marshall, E&E News reporter

Published: Tuesday, May 22, 2018

A Senate panel advanced legislation this morning that aims to boost technologies removing carbon dioxide from fossil fuel emissions — and straight from regular air — by altering the Clean Air Act and other federal laws.

By voice vote, the Senate Environment and Public Works Committee passed a revised version of the "Utilizing Significant Emissions With Innovative Technologies (USE IT) Act," which would direct EPA to support carbon utilization and air capture research.

S. 2602 also would require the White House Council on Environmental Quality to establish guidance on CO2 pipelines and clarify that carbon removal projects qualify under the permitting review process established by the 2015 Fixing America's Surface Transportation (FAST) Act. That measure, signed by then-President Obama, authorized billions of dollars for infrastructure.

The amended version of the bill gained new sponsorship from ranking member Tom Carper (D-Del.) and Sen. Tammy Duckworth (D-Ill.).

Original backers are Chairman John Barrasso (R-Wyo.) and Sens. Sheldon Whitehouse (D-R.I.), Shelley Moore Capito (R-W.Va.) and Heidi Heitkamp (D-N.D.). The same coalition supported legislation that passed Congress in February expanding tax credits for carbon storage.

"Innovation is how America will be a leader in reducing emissions," Barrasso said. The manager's amendment makes the text "stronger," he said.

The updated bill adds environmental safeguards and public notice and comment periods for any guidance produced by CEQ on permitting, Carper said. It also would require EPA to consult with the Department of Energy to avoid duplication and would direct CEQ to produce a "robust" report that assesses regulatory gaps and provides information about the permitting process for project developers, he said.

"If we are going to truly address big issues like climate change, we're going to have to find compromises that can work for both parties," Carper said. He said he had assurance from Barrasso that the bill would not be a vehicle to attack the Clean Air Act.

Still, Natural Resources Defense Council Legislative Director Scott Slesinger said the text would give special treatment to one type of favored project and could lead to inadequate environmental reviews.

"Although Senator Carper and Senator Whitehouse have improved this section of the legislation since introduction, we still oppose the provision as it continues to push the false and harmful argument that environmental permitting is an obstacle to new industries and economic growth," Slesinger said.

NRDC and other environmental groups sent a letter to the committee last month criticizing bill language they said would "sow confusion at best" (*E&E Daily*, April 12).

The bill has support from Wyoming Gov. Matt Mead (R) and more than 20 groups, including the Western Governors' Association, National Rural Electric Cooperative Association, Clean Air Task Force and Bipartisan Policy Center Action. Supporters say the legislation is needed to boost technologies critical to ensure global temperatures remain in check. It's an important compliment to the Furthering carbon capture, Utilization, Technology, Underground storage and Reduced Emissions (FUTURE) Act that passed last year and doubled tax credits for carbon storage, they say.

"In passing this bill, EPW has taken another step toward establishing the U.S. as a major global player in commercializing carbon capture technologies," said ClearPath Action Executive Director Rich Powell.

The Carbon Capture Coalition and the Energy Advance Center — a lobbying group that launched last month and includes Southern Co., BP PLC, Chevron Corp. and other oil interests — are also backing the bill.

In addition to its pipeline provisions, the legislation would set up a direct air capture technology advisory board, authorize \$50 million for research on utilizing captured CO₂ and establish a prize administrated by EPA to boost direct air capture technologies.

In a statement, the Carbon Capture Coalition — which includes 51 groups and companies — added that the bill would support collaboration between federal, state and nongovernmental interests to facilitate the planning and construction of pipeline systems transporting CO₂.

CLIMATE

NASA chief concedes to 'evolution' on global warming

[Arianna Skibell](#), E&E News reporter

Published: Thursday, May 24, 2018

In his first appearance before Congress since his confirmation, NASA Administrator Jim Bridenstine doubled down on his recently honed perspective that global warming is real and that the main driver is human activity.

"The National Climate Assessment that includes NASA and the Department of Energy, and it includes NOAA, has clearly stated that it is extremely likely — that's the language they use — it is extremely likely that human activity is the dominant cause of global warming, and I have no reason to doubt the science that comes from that," Bridenstine said before a Senate Appropriations subcommittee hearing on the NASA fiscal 2019 budget.

Sen. Brian Schatz (D-Hawaii) pressed Bridenstine further, asking whether he agreed with the scientific consensus that the climate is changing and that humans are the leading cause.

After Bridenstine replied in the affirmative, Schatz asked, "Is it fair to call this an evolution of your views?"

"Yes," Bridenstine said. The former Oklahoma Republican congressman also said he commits "without question" to supporting the funding, independence and integrity of climate science at NASA.

Bridenstine's public comments regarding climate change have been steadily shifting since he embarked on an embattled bid to win Senate confirmation as NASA administrator.

When President Trump nominated Bridenstine to lead the science agency, Democrats were quick to cite comments he made in 2013 as a congressman. In a floor speech that year, he questioned the science around rising atmospheric temperatures.

"There is no credible scientific evidence that greenhouse gas atmospheric concentrations, including carbon dioxide, affect global climate," he said. "I oppose regulating greenhouse gases."

Bridenstine has also said spending federal dollars to study global warming is a waste. In a 2013 tweet, Bridenstine wrote, "Today's House Science Committee Hearing on Global Warming Was Cancelled Because of Snow!"

When he first came before lawmakers on the Senate Commerce, Science and Transportation Committee as Trump's NASA pick last November, Bridenstine's tune shifted slightly.

"Right now, we're just scratching the surface of understanding the science," Bridenstine said at the time. "NASA is the only agency in the world that can do this kind of science."

Schatz at the time pressed him, asking whether he disagreed with the scientific consensus that humans are the primary factor in driving unprecedented global warming.

"The scientific consensus is that humans have contributed to the climate change we are seeing today," Bridenstine said, deflecting the question of whether they are the main cause ([*E&E Daily*](#), Nov. 2, 2017).

Before a town hall meeting for NASA employees last week, Bridenstine was asked to clarify his comments on climate change. Bridenstine explicitly said that global warming is real and primarily driven by human activity.

"I don't deny the consensus that the climate is changing; in fact, I fully believe and know that the climate is changing. I also know that we humans are contributing to it in a major way," he said ([*Climatewire*](#), May 18).

"Carbon dioxide is a greenhouse gas. We're putting it into the atmosphere in volumes we haven't seen, and that greenhouse gas is warming the planet. That is absolutely happening, and we are responsible for it," he added.

At the budget hearing yesterday, Schatz thanked Bridenstine for moving through "this period" of "ideological" and "political" disagreement.

"You and I have had multiple conversations both over the table, but since then in person and on the phone, and I just want to recognize your evolution on this issue. I think it's essential for one

of the premier science agencies of the federal government for you to abide by the science," Schatz said.

The senator continued, "I don't think it's easy for you to come to that conclusion. But on the other hand, what I have seen from you and in my interactions with you, I have come to the conclusion that this is a true evolution, that you respect the people with whom you work, you respect the science, you want their respect, and there's no way to move forward if you're going to be undermining the science, and so I'm really pleased to see this change."

UTILITIES

Is gas the next coal? One think tank says yes

Benjamin Storrow, E&E News reporter

Published: Wednesday, May 23, 2018

U.S. utilities are on track to invest more than \$500 billion in new natural gas plants by 2030, saddling consumers with costly projects while pumping billions of tons of carbon dioxide into the atmosphere, according to a new analysis.

The **report** from the Rocky Mountain Institute (RMI) — a think tank that advocates for a move to low-carbon energy — found power companies could save money and cut emissions by instead investing in a combination of renewables, energy efficiency, storage and demand response.

"Renewables and demand response and batteries are about to do to gas what gas has done to coal," said Mark Dyson, the report's author.

He argued that technological advancements and falling prices have made renewables, storage, energy efficiency and demand response a suitable replacement for fossil fuel generation.

RMI's findings come amid a boom in natural-gas-fired generation nationwide.

Richmond, Va.-based Dominion Energy Inc. said earlier this month it plans to build at least eight natural gas plants in the next 15 years. In Arizona, regulators have asked the Arizona Public Service Co. to reconsider its long-term plans, saying they included too much new gas (*Climatewire*, March 19).

All told, the U.S. Energy Information Administration **expects** new natural gas plants to represent 64 percent of new power plant capacity in 2018, the first time gas has outstripped renewables in terms of plant additions since 2013.

The shift to gas has largely coincided with the aging of the U.S. coal fleet. RMI estimates that half of U.S. fossil-fuel-fired power plants are set to retire by 2030. Already, power companies have announced plans to invest \$110 billion in new natural gas generation through 2025.

If utilities were to replace all that power with gas, they would spend more than \$520 billion. That would result in 5 billion tons of CO2 emissions through 2030 and 16 billion tons of carbon through 2050, RMI found.

"There is a near-term [emissions] reduction from replacing old coal capacity with new natural gas," Dyson said. "But by doing that, you lock in emissions from new natural gas generation for the next couple decades."

RMI compared four gas plants planned around the country — two combined-cycle projects and two peaking facilities — with proposed clean energy portfolios. The portfolios varied by region.

In Texas, for instance, a clean energy portfolio relying on a large measure of residential demand response would offer a 25 percent savings on the capital costs of a new gas peaker.

On the West Coast, a clean energy portfolio with a large dose of wind would have higher capital costs than a proposed combined-cycle facility but would save consumers \$120 million over 20 years through lower operating costs.

In all but one scenario, the clean energy portfolio was less expensive, RMI found. Across all four cases, the clean energy portfolios saved \$308 million and avoided 157 million tons in carbon dioxide emissions.

CLEAN ENERGY- N.J.

Greens fume as reactors win a bailout in N.J.

Saqib Rahim, E&E News reporter

Published: Thursday, May 24, 2018

New Jersey Gov. Phil Murphy (D) signed a group of energy bills yesterday, including nuclear subsidy legislation that still has some in the environmental movement irate.

Shortly after the governor signed bills meant to preserve solar and advance solar and energy efficiency, some environmental groups put out statements celebrating new policies on solar and energy efficiency, skating past the nuclear part.

Not New Jersey Sierra Club Director Jeff Tittel, who held a call to slam the whole lot as "greenwashing," especially the one that sets up a process for Public Service Enterprise Group Inc. to request ratepayer support for two nuclear stations it operates in the state.

"These bills will move us backward with clean energy and are a complete contradiction to Murphy's campaign promises for renewables and a green economy," said Tittel, who was joined on the call by representatives of Environment New Jersey, Clean Water Action and AARP, among others. "We'll never get to 100 percent renewable energy if we're locked into 40 percent [nuclear]."

Murphy's intent to sign the bill was never in doubt. Ever since he took office in January, he's been clear he considers nuclear essential to his long-term carbon goals, as well as a major job creator. The stations are in the district of state Senate President Steve Sweeney (D), a key labor ally.

"If you wonder about the economic impact and the job impact, go down to Salem County and see with your own eyes, and imagine what that would look like if those plants weren't operational,"

Murphy said at a signing event yesterday. "Put aside what you may or may not think about nuclear energy, it is a huge game-changer in the economy."

The nuclear bill represents one of the first times Murphy has displeased anyone in the state's busy environmental movement.

Murphy campaigned on a promise of 100 percent "clean" energy in the state by 2050; he vowed to make New Jersey a leader in renewable energy and restore tough climate goals.

Since taking office, he's earned environmentalists' plaudits for fast-tracking the state's policies on offshore wind and mounting legal challenges against the PennEast pipeline, a natural gas artery. In January, he issued an order to return New Jersey to the Regional Greenhouse Gas Initiative.

Yesterday's package included New Jersey's most ambitious renewable energy target to date: a standard of 50 percent by 2030, with aggressive waypoints that come sooner.

Nuclear, though, has turned out to be a more divisive subject, even in a state where climate science is accepted. Some, such as Tittel and the state's Rate Counsel director, Stefanie Brand, called it a waste of money that should be going to renewable energy.

Nuclear's defenders, most assiduously Public Service Enterprise Group, said if the plants closed, fossil fuel would fill the void. Competitive generators, many of which operate plants burning natural gas, said that would be the correct way of letting markets work.

These divisions were all reflected in the Legislature, and in the end, the only way a nuclear bill could pass was with votes that wouldn't have necessarily been cast for solar, wind or energy efficiency bills ([Energywire](#), April 13).

"Together, these measures create a forward-looking energy policy that makes New Jersey a national leader in advancing clean energy," Ralph Izzo, chairman, president and CEO of PSEG, said in a statement. "Our company looks forward to working with state leaders to make sure the promise of this legislation is achieved."

But a legal challenge could be in the offing. "It's unfortunate the courts may be necessary to bring a dose of reason to the debate," said the NJ Coalition for Fair Energy, which has advocated on behalf of competitive power generators in New Jersey.

If it takes after legal challenges of similar programs in Illinois and New York, it may argue that subsidizing nuclear power through this kind of "zero-emissions credit" is trespassing into wholesale power markets, which fall under federal regulation.

CLEAN ENERGY – N.J.

New renewables law will take some pushing, and some cash

[Benjamin Storrow](#), E&E News reporter

Published: Thursday, May 24, 2018

New Jersey Gov. Phil Murphy (D) signed a bill yesterday to double the state's renewable portfolio standard to 50 percent and enshrine his ambitious offshore wind targets into law.

It was a major step toward delivering on his campaign pledge to turn the Garden State into a clean energy juggernaut.

Now comes the hard part: turning ambition into reality.

New Jersey illustrates the opportunities and challenges facing states with ambitious clean energy and climate goals.

Analysts said the **measure** signed by Murphy provides a foundation for deep carbon reductions. Combined with a companion **bill** that provides \$300 million in annual subsidies to the state's ailing nuclear plants, the law should bring large amounts of wind and solar online, they said.

"If you keep your existing nuclear plants and build up your renewables, you can make substantial progress toward clean energy and climate goals," said Jesse Jenkins, who tracks the power sector at the Massachusetts Institute of Technology's Energy Initiative. "In contrast, if you let your existing nuclear plants retire, you may end up wasting that renewable energy growth on displacing nuclear instead of coal and natural gas."

Others were more circumspect. Boosting the state's renewable portfolio standard and offering subsidies to nuclear plants is likely a more expensive climate mitigation strategy than simply placing a price on carbon, said Noah Kaufman, an economist at Columbia University's Center on Global Energy Policy.

"It's not the most cost-effective way to do it, but it might be the only politically feasible way to do it at the moment," he said.

It remains to be seen where New Jersey will get the large amounts of wind and solar the new law calls for. The Garden State has long been one of America's most enthusiastic solar installers. Largely thanks to generous subsidies, the Garden State ranks fifth in the country in terms of installed solar, with 2.4 gigawatts through 2017.

Even so, New Jersey remains far from its clean energy goals.

Large-scale renewables account for 12 percent of New Jersey's electricity sales today. Under the law signed by Murphy yesterday, large-scale renewables will need to rise to 21 percent by 2021, 35 percent by 2025 and 50 percent by 2030.

New Jersey has several avenues for meeting its targets. As a member of the PJM Interconnection, a wholesale electricity market encompassing 13 Mid-Atlantic and Midwestern states, New Jersey can look to wind and solar imports to help meet its targets. But PJM's renewable penetration is limited. In 2016, wind and solar **accounted** for less than 1 percent of the region's electricity generation.

The potential for utility-scale solar and onshore wind projects is somewhat limited by a lack of available land. New Jersey is the country's most densely populated state.

That leaves offshore wind to shoulder much of the work. The new law calls for 3.5 gigawatts of offshore wind by 2030, the most ambitious target of any state in America. Wind offers several advantages.

Technological advancements in Europe, where offshore wind is more prevalent, have driven cost reductions. Offshore turbines also have the benefit of being close to coastal cities that account for much of the Northeast's electricity demand.

Still, offshore wind remains years away. The industry saw progress stall in New Jersey under former Gov. Chris Christie, a Republican, even as states like Massachusetts and Maryland forged ahead ([Climatewire](#), Jan. 16). Yesterday, Massachusetts announced it had selected an 800-megawatt project slated to begin operation in 2021.

And offshore wind figures to be expensive compared with the low wholesale prices now available in PJM, Jenkins said.

"In the short run, it's going to be expensive," he said. "In the long run, it may be relatively cost-effective as a climate strategy."

Dale Bryk, a lawyer with the Natural Resources Defense Council's climate and clean energy program, is bullish on New Jersey's ability to meet its goals. The law also contains ambitious energy efficiency targets, requiring utilities to reduce electricity use by 2 percent annually. By reducing overall electricity supply, the efficiency measures will make it easier for New Jersey to meet its clean energy targets, she said.

All the focus on the power sector hints at an even larger challenge for New Jersey, analysts said. Power-sector emissions accounted for 18 percent of the state's greenhouse gases in 2015, according to New Jersey's most recent [greenhouse gas inventory](#). Transportation-sector emissions, by contrast, represented 46 percent of the state's carbon emissions.

State efforts in that area remain limited, they noted.

But after eight years under Christie, many greens are now happy to simply be taking a step forward.

"Through this legislation, New Jersey will reduce harmful emissions in a cost-effective manner while creating tens of thousands of jobs tied to renewables and energy efficiency," said Barbara Blumenthal, research director at the New Jersey Conservation Foundation.

Building a clean energy juggernaut, it turns out, is a step-by-step process.

ELECTRICITY

Capacity prices nearly double in largest U.S. power market

Jeffrey Tomich, E&E News reporter

Published: Thursday, May 24, 2018

The cost of ensuring adequate available generation in the nation's largest power market surged as power plant operators raised offer prices to offset lower energy revenues and fewer new natural gas plants coming online.

PJM Interconnection yesterday said clearing prices for capacity across much of its 13-state footprint nearly doubled to \$140 per megawatt-day (MWh) from \$76.53 last year. The increase means consumers in the Mid-Atlantic and Midwest will pay about \$2.3 billion a year in additional costs to keep air conditioners running in 2021-22.

Pockets within PJM will see even higher prices because of transmission constraints. In areas served by Baltimore Gas & Electric Co. and by Commonwealth Edison in the Chicago area, and for Public Service Electric and Gas Co.'s New Jersey service areas, prices range from \$195 to \$205 per MWh.

Grid operator PJM procures capacity each spring on behalf of utilities three years in advance of when it's needed. The lead time is meant to provide time to build or upgrade power plants if needed.

Price movements are seen as an indicator of oversupply or the need for new investment. Rising prices generally indicate a tightening market, while lower prices suggest that a larger supply cushion exists.

The auction **results** are watched closely, but especially this year amid proposals to reform PJM's capacity market and as the Department of Energy continues to weigh a request by bankrupt FirstEnergy Solutions Corp. to rescue money-losing coal and nuclear plants.

This year's jump in clearing prices came as a surprise for many analysts who were expecting only a slight increase in prices.

Stu Bresler, PJM's senior vice president of operations and markets, said a key reason for the increase was the continued decline of energy prices, which affected the auction in a couple of ways.

Generators, for instance, raised offer prices in response to lower realized and expected energy revenues, he said.

While the higher capacity costs offset the benefit of lower energy prices, the trade-off can be viewed "as a bit of an insurance policy for end-use customers," who can be sure there will be ample generation available when it's needed, Bresler said.

Auction low on gas, hard on nuclear

This year's auction attracted less new capacity than in years past as the wave of new combined-cycle natural gas plants entering the PJM market slowed down. Overall, about 1,400 megawatts of new generation cleared the auction, compared with more than 5,000 MW of new gas generation two years ago.

"New generators held back entering PJM this year, which drove up capacity auction," said Toby Shea, a vice president at Moody's Investors Service, who said the higher prices benefited all independent power producers.

The higher prices, however, didn't help many nuclear operators across PJM, where 7,400 MW of nuclear generation — more than one-fourth of the nuclear capacity that cleared a year ago — failed to make the cut.

PJM officials wouldn't name which specific units or plants didn't clear the auction, but it's anticipated the list includes the three FirstEnergy Solutions nuclear plants in Ohio and Pennsylvania, representing more than 4,000 MW of capacity, that are slated to close in 2020 and 2021 ([Energywire](#), April 2).

Bresler said FirstEnergy Solutions was required to offer its nuclear plants in the auction unless the company either notified PJM ahead of a September deadline to be exempt or received a waiver from the Federal Energy Regulatory Commission.

The void from the sharp decrease in nuclear capacity was partially filled with an increase in existing natural gas-fired generation as well as a 500-MW increase in coal generation, prompting immediate concerns about the climate implications of the increased reliance on fossil fuels.

Significantly higher levels of wind and solar capacity, energy efficiency and demand response — when end-users commit to voluntarily reduce their electricity usage during periods of peak demand — also cleared the auction.

PJM said 11,126 MW of demand response cleared, 3,832 MW of energy efficiency, 1,417 MW of wind and 527 MW of solar.

While some of the renewable and demand-side resources were aggregated seasonal resources, much of the demand response was offered on a year-round basis, meaning it's committed to be available when called.

Seasonal changes

Environmental advocates have urged the grid operator to change the auction rules to allow resources to bid into the market on a seasonal basis to increase participation by clean energy resources.

Bresler said yesterday that he was "a little surprised" by the amount of year-round demand response that cleared and said the market response might deem the issue moot.

"I have to sit back and question whether we have an issue there," he said.

Jennifer Chen, an attorney for NRDC's Sustainable FERC Project, said the increases in demand response and renewable resources shouldn't be taken as a signal that PJM's capacity market design doesn't need changes.

"Seasonal resources should be increasing as technology and innovation drive down prices," she said.

Chen said a two-season capacity market, as proposed during a recent FERC technical conference on the topic, would allow more wind, solar and demand response to participate.

"It would enable even more of these resources to participate at an even lower price," she said.

Overall, the 163,627 MW of capacity that cleared this year's auction represents a reserve margin of 21.5 percent, which exceeds PJM's required reserve margin of 15.8 percent.

The 2021-22 auction conducted this month is the second year in which all capacity is subject to phased-in performance standards approved by federal regulators in 2015.

The so-called capacity performance standards mostly stem from the 2014 polar vortex, when some generators failed or could not get fuel. The rules establish penalties for units that fail to run when needed. Owners of the most reliable units can earn bonuses.

ELECTRICITY

Senators press FERC on integrating renewables

Rod Kuckro, E&E News reporter

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Sixteen Democratic senators led by Sheldon Whitehouse of Rhode Island are urging federal regulators to act quickly on advising electric grid operators on how to integrate distributed energy resources (DERs) such as renewables into their day-to-day operations.

"DER adoption and renewable energy aggregation continue to grow in the United States, driven by state and federal policies as well as consumers choosing cost-competitive innovative technologies such as smart thermostats, electric vehicles, and customer-sited energy generation and storage," the lawmakers wrote yesterday to Kevin McIntyre, chairman of the Federal Energy Regulatory Commission.

The senators told McIntyre that DERs can help improve grid reliability and resilience, echoing a popular theme in today's discussion of electricity policy.

The consideration of what to do about DERs was part of a proposed rule encouraging energy storage technologies. But FERC in February finalized the energy storage portion of the rule and carried over its consideration of DERs for further public comment and study.

In April, FERC held a two-day technical conference on the issue and heard from more than 50 experts ([*Energywire*](#), April 9).

At the conference, "there was consensus from utilities and grid operators that without better real-time data of where DERs are located on the grid, consumers could see higher prices because generation could run when it is not needed," said the senators' letter.

The lawmakers told McIntyre there was also agreement "that a unified national framework accounting for these resources would be more effective" than having each grid's operator developing its own solution.

Last year, on the day the Senate confirmed Neil Chatterjee to serve on the commission, Whitehouse and Sen. Ed Markey (D-Mass.) issued a statement commending him for agreeing that FERC "should not give short shrift to our renewable energy industry" and that the rule concerning DER integration should "not be unduly delayed."

"I will hold him to that commitment," they said.

This week's letter asked for a response no later than June 15

GAS EXPORTS

Texas project expansions mark LNG's 'second wave'

Jenny Mandel, E&E News reporter

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The developers of an under-construction liquefied natural gas terminal going up in Freeport, Texas, have applied to expand it to export more LNG, while another project expansion announced plans yesterday to move forward.

The Freeport LNG project is currently authorized to build three LNG "trains," each of which could liquefy up to 500 million metric tons per year (mtpa) of natural gas and sell them into world markets.

In a notice to be published today in the *Federal Register*, the company seeks authorization from the Department of Energy to export the output of a fourth 500-mtpa train.

The Energy Department has authority over LNG exports, which it can allow to either just U.S. free-trade partners or to non-free-trade nations, as well. Construction and siting of projects is overseen by the Federal Energy Regulatory Commission, which accepted Freeport's construction application last year.

Freeport's first three trains are expected to be brought into commercial service late this year and early next year.

"Following closely on the heels of our successful development of the initial three trains of the Freeport Liquefaction Project, Train 4 will position Freeport LNG to supply the next wave of U.S. Gulf Coast LNG," the company said in a statement when it began the construction review with FERC.

There are currently two LNG export plants operating in the U.S., Cheniere Energy Inc.'s Sabine Pass LNG and Dominion Energy Inc.'s Cove Point LNG, and four others under construction, plus ongoing expansion work at Sabine Pass.

Many industry analysts have said that since the first wave of export plants were approved several years ago and have gone into construction, markets and financing conditions have become tighter and could make it difficult for the next round of projects to get off the ground.

Among the challenges they point to are a shift toward spot and short-term markets that have reduced buyer interest in the 20-year, long-term contracts that have traditionally underpinned financing for the costly projects ([Energywire](#), May 18).

As global LNG markets shift in response to the growing availability of LNG, some analysts say smaller projects are more likely to pull together the necessary financing to go forward. Brownfield projects like Freeport's that expand on existing — or almost-existing — capacity to control costs may also have an advantage.

Another LNG export project announced yesterday that it would also add capacity.

Cheniere said it had decided to proceed with a third train of export capacity at its under-construction Corpus Christi plant. That project eventually envisions up to five LNG production trains, but the final investment decisions are being made incrementally. It is reportedly the first new U.S. capacity to get a financial green light since 2015.

Other large projects continue to advance, though. In addition to those projects, FERC lists 11 import-export terminals as proposed and pending approval. Four other projects — Lake Charles LNG, Magnolia LNG and Cameron LNG in Louisiana, and Golden Pass in Texas — have been approved by FERC but are not under construction.

SECURITY

Digital 'timebomb' discovered in devices worldwide

Blake Sobczak, E&E News reporter

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At least half a million devices in 54 countries have been infected with dangerous malware that could be used to snoop on critical infrastructure, according to an alert shared yesterday by Cisco Talos.

The "VPNFilter" malware can steal data and wreck internet routers and appears to have been built by nation-state hackers, the cyber intelligence branch of Cisco Systems Inc. concluded.

"Both the scale and the capability of this operation are concerning," Talos said in a [blog post](#) shared yesterday.

The U.S. Justice Department said it had taken control of the "botnet" of hacked devices in the wake of Talos' announcement, according to a [press release](#) issued last night. Law enforcement officials said the hackers, identified as the Russia-linked Sofacy or "Fancy Bear" group, have been active since 2007 and target "government, military, security organizations, and other targets of perceived intelligence value."

"By seizing a domain used by malicious cyber actors in their botnet campaign, the FBI has taken a critical step in minimizing the impact of the malware attack," said Scott Smith, assistant director for the FBI's Cyber Division.

Researchers cautioned that they were still analyzing the full extent of the campaign, which first keyed in on Ukrainian targets but has spread worldwide.

Talos cited several "concerning" characteristics of the malware, including its authors' interest in the industrial control systems underpinning the power grid and other critical infrastructure networks.

VPNFilter includes a component capable of scooping up Modbus communications protocols, enabling hackers to spy on specialized grid equipment. Modbus is a kind of digital language shared by many common industrial control system (ICS) devices.

Talos said VPNFilter carries technical echoes of the "BlackEnergy 3" malware unearthed in Ukrainian power utilities 2 ½ years ago. But unlike BlackEnergy 3, which helped suspected Russian hackers burrow farther into Ukraine's grid and ultimately cut off power in late December 2015, the VPNFilter tool isn't known to have been used in any damaging cyberattacks.

"I'm not sure that monitoring Modbus means much without additional context," noted Adam Crain, founder of the Automatak LLC consultancy and an expert in control system communication protocols. He pointed out that control system traffic isn't normally encrypted, allowing attackers to eavesdrop without much effort. "If the intelligence gathering is used to gain enough context to later control [or] manipulate the process — yeah, that's a big deal."

Talos security researcher Joe Marshall said that the ICS sniffer module wasn't well-written compared with the rest of VPNFilter and "has a possibility of missing certain types of traffic it was likely intended to detect."

Still, he added that an attacker with access to control system traffic "can perform reconnaissance for future potentially disruptive attacks."

"Modbus is an incredibly common ICS protocol, and is found in all major industrial verticals," Marshall pointed out in an emailed response to questions.

Destructive potential

VPNFilter could wipe infected routers en masse, blocking internet access for hundreds of thousands of users and perhaps causing headaches for infrastructure operators who rely on the networking devices. Products from Linksys, MikroTik and Netgear are among those affected, according to a rare **alert** from the Department of Homeland Security.

The depth and reach of the campaign drew warnings from former White House security officials.

Rob Joyce, who until this month served as President Trump's cybersecurity coordinator, called VPNFilter an "important intrusion to address," while Michael Daniel, who served in the same

role during the Obama administration, **urged** organizations "to review Cisco's blog and implement its recommendations as soon as possible."

U.K. cybersecurity firm SophosLabs likened VPNFilter to a "malware timebomb" in a **blog post** yesterday, emphasizing that homes and small businesses aren't immune from being roped into the "zombie" army of hundreds of thousands of hacked devices.

"As far as we can see, performing a firmware refresh on many home routers will wipe the VPNFilter malware, along with many other strains of router malware," SophosLabs said.

Talos offered similar advice, urging everyone to reset routers to factory defaults and reboot them.

But the company noted that "this threat is extremely difficult" to defend against, given the number of known vulnerabilities in routers that average users will have trouble fixing.

"Most devices targeted, particularly in older versions, have known public exploits or default credentials that make compromise relatively straightforward," Talos said. "All of this has contributed to the quiet growth of this threat since at least 2016."

Talos noted a May 17 uptick in malicious activity involving VPNFilter in Ukraine, prompting the company to go public with its preliminary findings.

For its part, Ukraine's security service has blamed Russia for the cyber intrusions, **suggesting** the VPNFilter tool may be part of an effort to disrupt the upcoming Champions League final soccer match in Kiev, Ukraine, this Saturday.

The Security Service of Ukraine added that the malware's focus on control systems is "of particular concern," saying that the country's critical infrastructure networks are "priority targets."

NUCLEAR

White House keeps Congress, advocates guessing about review

Sam Mintz, E&E News reporter

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Eleven months ago, President Trump stood onstage at the Department of Energy and promised a "complete review" of the country's domestic nuclear energy policy, with the aim of revitalizing a struggling industry.

Since then, while his administration has tried to push several specific policies to help keep plants operating, with mixed results, details of where the comprehensive review is heading have remained spare, so much so that a Republican congressman this week expressed frustration with a lack of communication.

Rep. Morgan Griffith (R-Va.) said at an Energy and Commerce Committee hearing Tuesday that he had asked Edward McGinnis, head of DOE's Office of Nuclear Energy, several questions about the review in early February.

"Nearly three months after those questions were submitted to you, we have not yet received a response from you or your team," Griffith told McGinnis, who was testifying at a hearing on advanced nuclear technology.

DOE's slow response to Griffith mirrors a lack of information provided by the White House to the public and press about the review.

The administration has repeatedly declined to comment on the matter. Yesterday, a White House aide directed questions to the Office of Science and Technology Policy.

OSTP, which is part of the Executive Office of the President, has also declined several times, including yesterday, to make any comment even to broadly describe the scope of the nuclear review.

And a request by E&E News under the Freedom of Information Act for documents connected to the analysis, acknowledged by OSTP on Jan. 31, has not earned any response, either.

So what do we know?

Bits and pieces have come out in recent months, including on Capitol Hill this week. OSTP is leading the review along with the National Economic Council and National Security Council, according to White House adviser Michael Kratsios, who commented briefly on the review at a November event ([*E&E News PM*](#), Nov. 14, 2017).

As a member of the NSC, Energy Secretary Rick Perry is providing "direct input," McGinnis said Tuesday. He also confirmed that the review involves engagement with other agencies, including the departments of Commerce and State.

McGinnis said he did not know whether the White House is seeking review from nongovernment stakeholders or Congress.

And, despite a suggestion from Kratsios in November that results would be seen "in coming months," McGinnis said he did not know what the timeline is for the nearly year-old review.

"I do not know the answer to that, other than to tell you that we have attended quite a few meetings, very substantive; we have made significant progress," McGinnis said. He added that DOE is not waiting for completion of the review to take action.

The agency's moves to help the industry, which is struggling largely because of economic factors, have included a proposal, ultimately rejected by the Federal Energy Regulatory Commission, to change electricity markets to compensate coal and nuclear plants for their contributions to grid resilience.

The agency also offered \$3.67 billion in conditional loan guarantees to the companies building two new reactors at Plant Vogtle, a nuclear plant in Georgia that has fallen years behind schedule and cost billions above budget ([*Greenwire*](#), Sept. 29, 2017).

The nuclear industry is hopeful that there's more to come.

"I think they've set some expectations that this isn't going to be a bunch of studies," said Dan Lipman, vice president of supplier and international programs at the industry's top trade group, the Nuclear Energy Institute. "I believe they have a bias for action."

That could include executive orders and support for legislation, along with general support of the industry.

Lipman said the review is focusing on four areas: the current operating fleet, technology and innovation, the fuel cycle, and international exports.

"We're very pleased with what we're seeing, and we're hopeful that the policy review is going to come up with tangible, concrete initiatives that can be implemented quickly," he said.

For the moment, though, administration officials are stuck saying they're sorry.

"I'd like to apologize for not getting those answers to you. I'm fully aware of them; I've been part of that process. We will get them back to you," McGinnis told Griffith this week.

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