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Daily Environment Report

Afternoon Briefing - Your Preview of Today's News

Improved Desalination Technology Seeks to Quench World's Thirst

Posted October 03, 2017, 7:15 A.M. ET

By Adam Allington

Desalination, long rebuffed as a costly energy guzzler with a heavy carbon footprint, could become a cheaper, cleaner, more energy-efficient solution to the global water crisis— provided initial cost barriers can be overcome.

The U.S. Department of Energy plans to allocate $15 million in funding for projects aimed at making solar desalination technologies more cost-effective, it announced recently. The agency said solar methods represent the best chance to recover freshwater from otherwise unusable water resources in remote areas.

The money will be divided among "seven to 10 projects that explore early-stage technologies with the prospect of significantly reducing the cost of desalination through solar thermal energy," according to the department's Office of Energy Efficiency and Renewable Energy.

"The biggest barrier facing desalination is really cost," said Avi Shultz, program manager for DOE's Concentrating Solar Power team. "Desalination is expensive technology, especially here in the U.S., where it has to compete with conventional water sources."

'Reverse Osmosis'

Despite the cost, several U.S. states—California in particular—already have invested billions of dollars in desalination technology. The current state-of-the art is a system of "reverse osmosis," in which massive pumps send pressurized seawater through a membrane filter.

The process requires huge amounts of electricity, meaning the treatment plants must be connected to a sufficiently sized power grid. That makes it unfeasible to develop outside of large urban areas.

If a method is developed to run the desalination process away from the grid infrastructure, "that

opens up the potential for a variety of other applications," Shultz said. That could, for instance, purifying the massive amounts of wastewater created by hydraulic fracturing or agriculture.

"We hope to develop systems that can be used without being connected to an electric grid, perhaps even making them small enough to be portable," he said. "In this context, we could see them being used in disaster relief situations."

That might include, for instance, a situation such as in Puerto Rico, which is facing a months-long rebuild of its electricity infrastructure in the wake of Hurricane Maria.

Tapped Out

The world is facing a growing water crisis, but the underlying facts are not new: We use more water than the ecological systems can replenish.

According to the United Nations, water scarcity affects more than 40 percent of the global population and is projected to rise.

"It is estimated that 783 million people do not have access to clean water and over 1.7 billion people are currently living in river basins where water use exceeds recharge," according to U.N. data.

The worst drought in over half a century is currently hitting parts of the Horn of Africa, where close to 17 million people need humanitarian aid due to drought, including 2.6 million in Kenya and 3.2 million in Somalia, according to the U.N.

Resource managers point out that confronting the double-threat posed by climate change and population growth means that water resources are becoming increasingly stressed. That has forced cities, farmers, and other users to tap formerly overlooked sources including seawater, brackish groundwater, and various forms of wastewater.

"Desalination of seawater is the only hope we can come up with for meeting human needs," Leon Awerbuch, of the International Desalination Association (IDA), said.

Reverse osmosis is currently the most efficient method of desalination in use today, requiring 3.5 kilowatt hours per 1,000 liters of water produced, Awerbuch said.

Globally, the growth in desalination capacity is now sufficient to produce 100 billion liters per day—enough for roughly 15 liters for every person in the world, per day, he said. "But that still accounts for only 1-2 percent of global use per day," he said.

The total number of desalination plants worldwide is 19,372 in 2017, up from 18,983 last year, according to the IDA.

Wherever the Sun Shines

Thermal desalination, by comparison, involves basically heating the saltwater and capturing the steam, leaving behind the salt and other impurities. The method has been used extensively in the Middle East, where large fossil-fuel power plants located on the coasts use the excess heat created to power thermal systems. It works, but it's not very portable, and relies heavily on fossil fuels as the source of energy.

Putting up the kind of solar infrastructure necessary to power a major desalination plant comes with a number of built-in challenges besides the technology and cost—such as finding sufficient land on densely-populated coastal areas. But given technological innovations, other applications apart from municipal drinking water may be the best first use for small-scale solar desalination.

"Can you build smaller scale plants cost effectively?" asked John Lienhard, a Massachusetts Institute of Technology professor of mechanical engineering. "We have pretty good evidence that we can do it with photovoltaics," or electricity derived from solar panels.

Lienhard has researched technologies for desalination of seawater and brackish water. In some cases, he said, certain factors are more favorable for the adoption of solar-thermal desalination technology.

"Many arid parts of the world, that are interested in desalination, also tend to have a pretty big solar capacity," he said.

Likewise, Lienhard said, the oil and gas industry is under increasing pressure to find a cost-effective method of water purification. In Oklahoma, re-injecting fracking water back in the earth has been linked to increases in seismic activity and earthquakes.

"There is lot of opportunity to think of small scale systems in places like" Oklahoma or other shale-oil states to "take advantage of the sun or wind to process wastewater on site," he said. "You may have heard, West Texas is a very sunny place."

Desalination Business Growth

Since water is a commodity, the cost for desalination is a major barrier, as along as cheaper sources of water can be found elsewhere. But many entrepreneurs point out that new technologies often are able to enter the market despite higher costs, as long as they offer compelling benefits.

Rooftop solar panels and electric vehicles are two examples of products that were both able to grow in market share, despite lower-priced alternatives. Researchers say the same scenario also may apply to solar desalination.

Aaron Mandell is co-founder and chairman of WaterFX, a California-based company which developed a concentrated solar thermal collector capable of producing 65,000 gallons of freshwater per day.

"Sixty-seven percent of the planet is expected to have severe water shortages by 2025," Mandell said. "That's only eight years away, so the need for cheaper desalination is as big as it gets."

Mandell's company has developed a $30-million modular system, a "solar still," to recover tainted irrigation runoff in California's Panoche Water and Drainage District.

Providing California with the water it needs to maintain its position as the largest producer of fruits and vegetables for domestic consumption, he said, will ultimately hinge on desalination technology.

"There are only two ways to solve this problem: water conservation and water generation. And we can't conserve our way to economic growth. So generation, through affordable desalination, is absolutely critical," Mandell said.

California's Projects

In California, Mandell said solar desalination is quickly approaching an inflection point where it could become less expensive than the marginal cost of developing new natural freshwater sources.

Two years ago, the city of Santa Barbara, Calif., brought a mothballed desalination system back online to alleviate the state's ongoing drought. Since then, other plants were added in San Diego, as well as one planned for Huntington Beach, Calif.

In 2016, however, substantial storms brought by El Nino gave California its best rainfall totals in five years. Gov. Jerry Brown (D) then declared the state's six-year drought over.

But the way forward with desalination, both solar and reverse osmosis, is not to think of them as a replacement for natural water sources, MIT's Lienhard said. He said that often what's needed "is something to provide a hedge to help meet demand during drought times, but one that doesn't take up massive resources to build."

A multipronged approach ultimately will be the final answer to cope with the impact of climate change and population growth on water resources, he said.

"Desalination is part of the answer," he said, "Being more efficient and finding new methods to reuse the water we do have" is also necessary.

"Addressing the water shortage is going to require all three," he said.

Trump's EPA Asks Drillers, Miners for Advice on Regulating Them

Posted October 03, 2017, 02:57 P.M. ET

By Jennifer A. Dlouhy

President Donald Trump's Environmental Protection Agency is asking miners, oil drillers and manufacturers to collaborate with the government on how to regulate their industries.

The EPA began its new "Smart Sectors" program with an inaugural meeting between agency staff and representatives of its regulated industries Oct. 3 and a promise to work together to "develop sensible approaches that better protect the environment and public health."

The program, modeled after a similar 2003 initiative, follows Trump's vow to end "job-killing regulations" and comes as the administration moves to revise Obama-era rules governing power plant emissions, methane leaks from oil wells, and mining pollution. The meeting convened amid criticism of the agency has taken a pro-business tilt at the expense of environmental issues.

"When we consider American business as a partner, as opposed to an adversary, we can achieve better environmental outcomes," EPA Administrator Scott Pruitt said in a news release. "When industries and regulators better understand each other, the economy, public, and the environment all benefit."

Pruitt said the new program, run by EPA's Office of Policy, "is designed to effectively engage business partners throughout the regulatory process." The program is set to collaborate with 13 specific sectors, including agriculture, autos, chemical manufacturing, mining, oil and utilities.

Although the EPA says additional sectors may be added over time, right now, the program provides no formal role for environmental advocates and public health experts.

'Creative Solutions' Sought

The EPA says the initiative's sector-based, collaborative approach will lower compliance costs, drive "creative solutions" to environmental challenges, better protect the Earth and increase regulatory certainty.

While the "Smart Sectors" program may be a formal effort for EPA to regularly consult with the industries it regulates, Pruitt is already leading that outreach.

Records of Pruitt's calendar from February through May, just disclosed to the liberal watchdog group American Oversight, show an array of meetings with lobbyists and corporate executives, including representatives of businesses that stand to benefit from the administration's regulatory rollback.

"These calendars show in black-and-white what we already suspected: that Administrator Pruitt has an open-door policy at the EPA for polluters, the fossil fuel industry and other special interests," said Austin Evers, executive director of American Oversight. "Instead of focusing on protecting our families and the environment from pollution, Pruitt has worked in secret to turn the EPA into an ally and tool of the corporations he's supposed to be regulating."

By contrast, Pruitt's predecessor under former President Barack Obama, Gina McCarthy, met more frequently with environmental groups, though she highlighted efforts to consult with electric utilities and oil companies over regulations governing power plants and drilling.

Although Pruitt's calendar is dominated by interactions with industry representatives, it includes at least one meeting with a public health group, the American Academy of Pediatrics, and at least two sessions with environmental activists.

"The truth is: EPA has met with over 25 consumer protection, public health and environmental groups," said agency spokesman Jahan Wilcox in an email.

EPA Opts for Pollution Trading Over Emissions Controls in Texas

Posted October 03, 2017, 02:31 P.M. ET

By Nushin Huq

Eight Texas coal-fired plants can join an air pollution trading program rather than installing expensive new sulfur dioxide controls, the EPA said as part of a rule aimed to improve visibility in the state.

Joining the trading program could prove to be a boon for utilities such as Luminant Generation that had said installing the required pollution controls would have been cost prohibitive and forced some of the power plants to close. The companies that own the eight affected coal-powered power plants include Luminant, Xcel Energy, and Dynegy.

Instead, the plants may participate in a newly created, yet-to-be-finalized, intrastate emissions trading program, the agency said in its final rule approving portions of Texas' plan to improve visibility in national parks and wilderness areas, including Big Bend National Park. The regulation, signed by EPA Administrator Scott Pruitt Sept. 29, was released by environmental advocates Oct. 3.

Many coal plants across the country already have updated their pollution controls, and the new trading program will not ensure a decrease in emissions, Elena Saxonhouse, senior attorney for the Sierra Club, told Bloomberg BNA. She expects that the environmental group will challenge the final rule in court.

The Sierra Club has received funding from Bloomberg Philanthropies, the charitable organization founded by Michael Bloomberg, founder of Bloomberg L.P. Bloomberg BNA is an affiliate of Bloomberg L.P.

Luminant declined to comment.

New York City Climate Plan Calls for Efficient Buildings, Electric Cars

Posted October 03, 2017, 02:26 P.M. ET

By John Herzfeld

New building standards and more electric vehicle fast chargers are part of New York City's new three-year plan to meet Paris Agreement greenhouse gas reductions—even if the country as a whole does not.

Mayor Bill de Blasio (D) issued the plan Oct. 3, calling it "the first Paris Agreement-compliant plan from any city in the world."

Covering energy, transportation, buildings, and solid waste, the plan aligns with the international agreement's goal of pursuing policies to help limit warming to a 1.5 degree Celsius increase (2.7 degrees Fahrenheit) this century.

For new buildings, the city would work to set advanced energy codes in 2019, with energy-use targets growing stricter with each subsequent code cycle. In its procurement and purchasing, the city would aim to use 100 percent renewable electricity for municipal operations as soon as a sufficient supply becomes available.

The plan follows an executive order de Blasio issued in June committing the city to the Paris goals, in response to President Donald Trump's announcement that the U.S. would pull out of the international climate agreement. Advocates for action on climate change have turned to states, cities, and private companies and organizations to take leadership roles in the aftermath of Trump's withdrawal.

'Existential Threat to a Coastal City'

"In the Trump era, cities have to lead the way when it comes to fighting climate change," de Blasio said in a statement. "Hotter summers and powerful storms made worse by climate change are an existential threat to a coastal city like ours, which is why we need to act now."

Other components of the city's climate plan include a rollout of citywide single-stream recycling by 2020, which would do away with sorting recyclables from other trash. Composting of organic trash would be made available citywide by 2018, the mayor said, with some of the waste possibly destined for wastewater treatment plants.

The plan says increased recycling, reduced waste and removing organics from the waste stream will reduce truck traffic and associated emissions from waste collection.

The previously announced electrical vehicle expansion is meant to foster a goal of having those vehicles account for 20 percent of new car registrations by 2025. The city also plans to boost its infrastructure support for bicycles.

New Council Members

De Blasio rounded up statements of support from city council members and other elected officials, but it remains to be seen how the components of his plan requiring legislation will fare with a reconstituted council. Many term-limited council members, including Speaker Melissa Mark-Viverito (D), a de Blasio ally, are due to be replaced in the November election.

New York has had a long-term sustainability plan including carbon reduction goals since 2007, but de Blasio stepped up the city's targets soon after taking office in 2014 to call for an 80 percent reduction in greenhouse gases from 2005 levels by 2050.

Trump Isn't Acting on Verbal Attacks Against Wind, Dong Says

Posted October 03, 2017, 7:49 A.M. ET

By Peter Levring

President Donald Trump's threats against wind energy have so far proven empty, according to an industry giant that expects to grow in the U.S.

Thomas Thune Andersen, the chairman of Dong Energy A/S, says the world's biggest offshore wind developer hasn't seen any actions that have followed Trump's verbal attacks. In fact, he says there are signs that American commitment to the industry might even be growing.

"One thing is Trump getting up and commenting on this," Thune Andersen said in an Oct. 2 interview in Copenhagen. "But he hasn't acted on it. And many of the decisions are made at a state level. They're still pushing this agenda and they may even have accelerated it as part of the political game."

Trump, who has blamed wind turbines for killing bald eagles, has as a businessman unsuccessfully tried to stop offshore parks that spoil the view from his golf course in Scotland. As president, he has dragged the U.S. out of the Paris climate accord, and promoted coal in favor of wind energy, promising to bring back jobs in the process.

But before Trump took office in January, the U.S. congress extended a production tax credit, or PTC, that will give tax breaks to wind producers until 2020. Shares in Dong have risen 36 percent this year, more than four times the gain in the Stoxx Europe 600 index over the same period.

Dong, which is based in Denmark, this year sold its oil and gas business in order to focus entirely on

renewable energy. The company is changing its name —an acronym of Danish Oil and Natural Gas—to Orsted to mark the shift. (H.C. Orsted was a 19th century Danish physicist who discovered electromagnetism.)

Dong is focused on the east coast of the U.S., where it's using existing contacts to achieve growth, according to the chairman.

"It's very important we don't spread our focus too much," Thune Andersen said. "But although the U.S. east coast is a vast area, it's still very much the same people we're talking to."

The company sits on about one-quarter of the global market, "but the market is growing tremendously fast," he said. "We still have an ambition to remain the biggest player, but because the market's been successful, competition is growing."

These Suburbanites May Have No Fracking Choice

Posted October 03, 2017, 8:59 A.M. ET

By Catherine Traywick

When Bill Young peers out the window of his $700,000 home in Broomfield, Colo., he drinks in a panoramic view of the Rocky Mountains. Starting next year, he may also glimpse one of the 99 drilling rigs that Extraction Oil & Gas Inc. wants to use to get at the oil beneath his home.

There's little that Young and his neighbors can do about the horizontal drilling. Residents of the Wildgrass neighborhood own their patches of paradise, but they don't control what's under them. An obscure Colorado law allows whole neighborhoods to be forced into leasing the minerals beneath their properties as long as one person in the area consents. The practice, called forced pooling, has been instrumental in developing oil and gas resources in Denver's rapidly growing suburbs. It's law in other states, too, but Colorado's is the most favorable to drilling.

Now fracking is coming to an upscale suburb, and the prospect of the Wildgrass homeowners being made by state law to do something they don't want to do has turned many of them into lawyered-up resisters. "It floors me that a private entity could take my property," says Young, an information security director.

Many states require 51 percent of owners in a drilling area to consent before the others have to join. Pennsylvania doesn't allow forced pooling at all in the Marcellus, one of the most prolific shale gas regions in the country. Texas, the center of the nation's oil production, has strict limits on the practice. Despite its founding cowboy ethos of rugged individualism, Colorado has one of the lowest thresholds. "There's a tension in oil and gas law between allowing private property owners to develop their mineral estates on their own and the state's desire to ensure that ultimate recovery of oil and gas is maximized," says Bret Wells, a law professor at the University of Houston.

The rise of horizontal drilling and hydraulic fracturing over the past decade has ushered in a modest oil boom on Colorado's Front Range by enabling companies to wring crude more cheaply from the stubborn shale that runs beneath Denver's northern suburbs. From 2010 to 2015, Colorado's crude output almost quadrupled. This year the state is pumping more than 300,000 barrels a day, most of it from the Wattenberg oil field beneath Wildgrass and beyond.

Colorado's population is booming, too. As Denver's suburbs bloom northward into oil and gas territory—Wildgrass is about 20 miles north of Denver, not far from Boulder—housing developments are erupting where once there were only drilling rigs and farmland. And because horizontal drilling can reach as far as 2 miles in all directions from a well, companies need underground access to more land to maximize production from each site. The Colorado Oil & Gas Conservation Commission issues hundreds of pooling orders every year. "It's an entirely new issue," says David Neslin, former director of the commission, now an attorney at Davis Graham & Stubbs in Denver. "That's creating some understandable friction with local governments and local communities."

Denver-based Extraction Oil & Gas is at the epicenter of that friction. Almost all its acreage is in populated areas. So the company, like others in the region, has put a lot of energy—and cash—into making its operations more palatable to suburbanites who fear the prospect of a drilling rig sprouting up within sight of their kiddie pools. Extraction almost exclusively uses electric drills, which are quieter than diesel-powered, and a new generation of hydraulic fracturing equipment that cuts noise. "It's incumbent upon us to learn to live with these communities," says Extraction spokesman Brian Cain. "Where we can go the extra mile to minimize impacts, we wish to do so."

The company's latest project involves drilling 99 horizontal wells in Broomfield. That means leasing mineral rights from Wildgrass residents. Letters went out to some of them last year offering a 15 percent royalty and a $500 signing bonus. Some signed, others demurred, and still others organized a campaign aimed at blocking the project. Extraction hasn't applied for a forced pooling order, but Young and his neighbors have come to believe it's inevitable.

The suburb's agitation prompted the city to create a special task force to evaluate Extraction's proposal. The company responded by taking members of the task force on a tour of oil and gas country. It wanted to show how its operations are less disruptive than traditional drill sites.

Ultimately, the company agreed to more stringent environmental standards than the state requires. It will move some wells 1,300 feet from neighborhoods, almost three times farther than the law mandates. It will reduce the number of wells per site, monitor air emissions as well as water and soil quality, and build pipelines to transport oil immediately off-site instead of storing it in the city. "I can see Broomfield turning out to be a new model for how large-scale development gets done," says Matt Lepore, director of the state commission, which will rule on Extraction's applications for siting the wells this month.

Such concessions have smoothed the path for development in many communities. But for some Wildgrass residents, any leasing is unacceptable. They say they fear accidents, such as the April pipeline explosion that killed two people and destroyed a home in Firestone, 20 miles away. Some simply find the terms of the initial lease offer laughable.

"The money is so negligible," says Elizabeth Lario, a health coach who's lived in Wildgrass since 2005. And then there are property values: Homes in Wildgrass range from $500,000 to more than $1 million. "The royalties won't offset the drop in property value," says Stephen Uhlhorn, an engineer who's lived in Wildgrass for four years. Oil development "is now hitting affluent neighborhoods where people have assets and livelihoods that exceed the value of any royalty they're offered."

The bedrock of Colorado's oil and gas policy is a 1951 law that says responsible fossil fuel development is in the public interest. The state, the law says, must protect the public from "waste"—industry parlance for oil that's left in the ground. While Colorado has some of the strictest environmental regulations of any oil-producing state, it gives companies latitude in choosing where

to drill. The Colorado Supreme Court has repeatedly held that the state's interest in developing mineral resources preempts any local law that would curb drilling.

Efforts to change the statute have fizzled. State Representative Mike Foote, a Democrat whose district is adjacent to Broomfield's, introduced a bill earlier this year to raise the pooling threshold to 51 percent. It passed the House by a slim margin but died in a Senate committee in a party-line vote, with Republicans opposed.

"The oil and gas industry pretty much controls the capital, particularly in the Senate," Foote says. "Operators can do whatever they want." Lepore, the head of the state oil commission, concedes the pooling threshold is low compared with other states. "I have no philosophical objection to a 51 percent requirement," he says. "There are intelligent changes that could be made to the forced pooling law."

Young, the Wildgrass resident, received a lease offer last year. Since then he's been working with a lawyer to consider his options, and so far he doesn't like them. "You couldn't put a Walmart where they're putting these wells—no one would approve that zoning," he says. "But for some reason, the industry is completely exempt from everything."

Left Behind by the Shale Boom, Oklahoma Oilmen Fight to Survive

Posted October 03, 2017, 8:00 A.M. ET

By Meenal Vamburkar

Not every oilman is gaining from the U.S. shale boom. Just ask Joe Warren.

Warren, a partner at Brown & Borelli Inc., is caught in a historical hiccup, of sorts. More than a third of the 65 to 70 old-line vertical wells his company operates in Oklahoma are negatively affected by horizontal drilling, he says. The new-style wells can run sideways for miles in a shale play, carrying sand, water and chemicals that can leak into older wells, gumming up the works.

The cost: For Warren's company, it's about $250,000 a year in lost production and $150,000 in added operating expenses, he said. It's an issue spurring rising anxiety among small drillers. Already, several lawsuits are in the works while a group representing old-guard drillers is gathering data, aiming to force legislation guaranteeing compensation when damages occur.

"We should not be sacrificing our property to these guys for horizontal development," Warren said by telephone. "We don't want to stop horizontal development -- we just want to make the rules fair."

Some of Warren's wells saw a slight drop in output while others, hit multiple times, weren't salvageable, he said. Warren hasn't been involved in litigation himself but expects more legal action to occur in the region moving forward, even though cases can be costly and take several years to resolve.

51 Wells

Already, a study by the Oklahoma Energy Producers Alliance, the group representing conventional drillers, has found 451 vertical wells in one county that were negatively affected by horizontal

drilling, 80 percent of which were located outside of horizontal well unit boundaries.

The damage can add costs to replace equipment, clean out water or sand, or address environmental damage, according to Mike Cantrell, a board co-chair for the group. It can also kill a well outright, he said.

“I’m afraid when we look into further, we’re going to find out it’s much worse,” he said.

Horizontal drilling has allowed producers to tap into shale reserves more economically. When explorers tap shale, they are actually drilling into the rocks where the oil feeding those old-line vertical wells was created. Geologists refer to it as “source rock.” The technique allows drilling to continue laterally for up to two miles, replacing the need for multiple vertical wells. Kingfisher County, where Warren’s well are largely located, is part of the so-called Scoop and Stack region, where drilling has increased since the oil slump.

Oil rigs in that area’s Cana Woodford basin have climbed to 62 from 36, just since the start of the year.

Many of the vertical well most affected are so-called stripper wells, which produce a daily average of 15 barrels of oil or less. Though they may be inconsequential to large companies, for small operators, it’s a matter of their livelihood, Cantrell said.

In August, a district court ordered Devon Energy Corp. to pay $220,000 after two operators alleged negligence and “subsurface trespass” that led to two damaged wells. Devon inherited the wells in question from Felix Energy LLC, according to the company.

‘Safe and Reponsible’

“Devon always seeks to conduct its operations in a safe and responsible manner, with respect for the rights of other well operators,” spokesman John Porretto said in an emailed statement. “When evidence shows that Devon’s operations may have damaged an existing vertical well, Devon is proactive in attempting to negotiate fair compensation for the affected vertical well owner.“

The company also noted, “the jury awarded the vertical well owner an amount that was both significantly lower than what was demanded at trial and less than what Devon had previously offered the well owner as compensation to settle the claim.“

The case is indicative of a broader problem, said Matt Skinner, public information officer at the Oklahoma Corporation Commission, a regulatory body. The agency tried and failed to pass a rule to require operators to report incidents even if they didn’t cause environmental damage, he said, but couldn’t get support from bigger players in the industry.

The main obstacle has been a lack of data, according to Skinner. So now, the commission is focusing on encouraging vertical well operators to report problems. They’ve confirmed 20 incidents and have at least 55 more pending, Skinner said.

“We know it’s happening, we know it’s an issue,” he said. “We have every reason to think there are more incidents out there than we know of.“

Cantrell’s organization, meanwhile, is pushing to slow down further development of horizontal drilling until better data is gathered on their effect on existing wells.

"We need to slow this process down until we can get the regulatory regime to keep up with it," he said. "We've applied a vertical regulatory regime to a horizontal world."

Costly Coal Ash Cleanup Order at Gallatin Spurs TVA Appeal

Posted October 03, 2017, 02:18 P.M. ET

By Andrew M. Ballard

The estimated $2 billion it could cost the Tennessee Valley Authority to dig up and move coal ash from its Gallatin, Tenn., site, as required by a federal court, has prompted the power authority to challenge a court order.

The TVA asked the U.S. Court of Appeals for the Sixth Circuit in Cincinnati to review an Aug. 4 order by Waverly D. Crenshaw Jr., chief judge of the U.S. District Court for the Middle District of Tennessee. Responding to a lawsuit filed by conservation groups in April 2015 alleging violations of the Clean Water act from the coal plant, the judge said that, although the "burden of closure by removal may be great, it is the only resolution" (Tenn. Clean Water Network v. Tenn. Valley Auth., M.D. Tenn., No. 3:15-cv-00424, notice of appeal 10/2/17).

Complying with the August 2017 order to remove the ash and dispose of it in a lined landfill "is a significant investment in time and resources on behalf of consumers of TVA power," Scott Brooks, a spokesman for the power authority, told Bloomberg BNA Oct. 3. "We feel it is important for TVA to exercise our legal option to appeal the ruling."

If TVA is forced to move the ash to a storage area offsite, it will cost about $2 billion, according to Brooks. Another potential option—lined storage at another onsite location—would cost some $550 million, he said.

The ultimate approach requires court approval and either option would take about 24 years to complete, Brooks said.

TVA Will Comply

Judge Crenshaw said the excavation is necessary because he said the storage ponds onsite were unlined and leaking and shouldn't have been located in "karst terrain immediately adjacent to a river."

Brooks said overturning Crenshaw's decision would allow the power authority to consider other approaches to comply with federal requirements including "closure in place" or removal.

"We have not studied a preference at Gallatin because of the pending litigation," he said.

While the appeal is pending, the power authority will continue to comply with the district court's order, Brooks told Bloomberg BNA.

"We are beginning an extensive site selection process which will look at locations both onsite and offsite as possible storage locations, pending approval from the court," Brooks said.

Federal regulations require some type of ash management at Gallatin and "capping and closure in place is our preferred option at our other coal sites," he added.

Cost, Time Estimates Questioned

Beth Alexander, an attorney with the Southern Environmental Law Center in Nashville who is representing conservation groups in the matter, questioned TVA's offsite storage cost and timeline estimates.

"Utilities in other states are accomplishing that for much less money and a much shorter time frame," Alexander told Bloomberg BNA.

TVA should "do the right thing" and excavate the coal ash for disposal in a lined landfill as leaks at Gallatin's storage ponds have and continue to cause water pollution, Alexander said.

Global Summit Warns Against Mercury Use in Small-Scale Mining

Posted October 03, 2017, 02:35 P.M. ET

By Bryce Baschuk

The first global meeting of countries devoted to stamping out mercury in the environment ended with incremental progress, but left unanswered questions about how to tackle one of the largest contributors to global mercury poisoning—artisanal and small-scale gold mining.

The conference of the parties to the Minamata Convention on Mercury, the world's first legally binding global treaty aimed at controlling mercury emissions in the environment, produced several new guidelines last week in Geneva, Switzerland, at a meeting of representatives from 165 countries.

United Nations officials said the conference brought greater attention to the difficulty of regulating a global industry that supports 15 million miners in poor and underdeveloped nations.

"It was really revealing to see the challenges that countries are having on the ground to handle the problem with respect to artisanal gold mining," said Rolph Payot, executive secretary of the joint secretariat of the Basel, Rotterdam, and Stockholm Conventions. "I think it provided more clarity on what priorities and which areas we need to work together to address the issue," and that will be taken up at a later meeting in 2018.

But the first annual conference made limited progress on implementing the agreement. And rather than imposing new restrictions on mercury use in artisanal gold mining, delegates argued over the procedural question of where the secretariat of the convention should be located.

Small-Scale Gold Mining

Miners in poor countries often use mercury to extract gold from ore in a process that can create toxic mercury vapors that are inhaled or leach into water sources.

Mercury can have toxic effects on the nervous, digestive, and immune systems, including the brain, according to the World Health Organization. WHO considers mercury one of the top 10 chemicals or

groups of chemicals of major public health concern.

Minamata parties agreed that any countries that have a "more than insignificant" artisanal and small-scale gold mining industry should notify the secretariat of the convention and develop a national action plan. The plan is to include a snapshot of the situation on the use of mercury in gold mining, and a plan for how to address the problem, according to a spokesperson from the United Nations Environment Program.

Switzerland to Host

Minamata parties agreed to locate the secretariat of the convention in Geneva following a robust debate over continuing Swiss exports of recycled mercury.

Switzerland is not a member of the European Union's mercury export ban and the alpine nation accepted imports of mercury in 2011 from the waste management company DELA GmbH in Germany, according to a recent U.N. report.

"There are Swiss industries that are currently exporting mercury and it seems to be getting more visibility for the mere fact that the Swiss would like to host the secretariat," said Bjorn Beeler, a general manager at the environmental advocacy group IPEN in San Francisco.

Doris Leuthard, president of the Swiss Confederation, said the country will soon ensure that all its mercury will be responsibly stored and exported "for only specific time-limited uses as required by the convention."

"We are strongly encouraging the Swiss government to find solutions to sourcing gold from illegal mining where mercury is used," Erik Solheim, executive director of the U.N. Environment Program, told Bloomberg BNA. "That is a critical issue."

Switzerland agreed to support the Minamata Convention with an annual contribution of 1 million Swiss francs ($1,026,000) that it said would help implement the treaty and host the secretariat.

Energy Agency Grid Resiliency Rule Gets Three-Week Comment Deadline

Posted October 03, 2017, 10:56 A.M. ET

By Rebecca Kern

Public comments are being taken for three weeks on an Energy Department proposal directing the Federal Energy Regulatory Commission to help coal and nuclear plants in the wholesale energy markets.

FERC said the initial public comments on the proposal are due Oct. 23, according to a Oct. 2 notice.

Separately, 11 energy industry groups, including renewables, oil and natural gas associations, filed a joint motion to FERC Oct. 2 urging the agency to deny the request for an interim final rule, initiate a technical conference, and allow for at least a 90-day comment period for initial comments in this proceeding.

On Sept. 29, the Energy Department invoked rarely used authority under Section 403 of the Department of Energy Organization Act to direct FERC to issue a final rule within 60 days that

would allow generators with a 90-day supply of fuel on site—which would include coal and nuclear facilities—to recover their operating costs at "a fair rate of return."

The proposed rule is the first concrete outcome from the Energy Department grid reliability study issued in August, which said that wholesale energy markets need to do more to compensate plants with on-site fuel supply for their ability to operate around-the-clock and in extreme weather.

Fortum's Bid for Uniper Stake Seen Spurred by Carbon Reform

Posted October 03, 2017, 10:42 A.M. ET

By Mathew Carr

Fortum Oyj's bid for a stake in German utility Uniper SE is partly a bet that the European Union will finally succeed in fixing its environmental policy.

A successful repair of the world's biggest climate trading program would probably see prices surge and boost the value of Uniper's power plants, according to Kari Kankaanpaa, Fortum's senior manager of climate affairs. The Espoo, Finland-based utility agrees with Barclays Plc estimates that a tripling of European emission allowances would add 18 percent, or 965 million euros ($1.1 billion), to the value of Uniper's generation assets by 2020, he said Monday.

Fortum is continuing to press lawmakers to improve their attempt to deal with a glut of EU emission allowances that's suppressed market prices for most of the past decade. One way to do so more quickly would be to require countries with overlapping policies that cut demand for permits to agree on reducing the volume they sell in daily auctions, Kankaanpaa said.

"It could rectify the impact of these other policies," such as renewable-energy subsidies and energy-efficiency rules, he said in an interview at the Carbon Forward conference in London. "It could establish the market balance sooner than otherwise would have happened."

By buying EON SE's 47 percent Uniper stake, Fortum is positioning itself as a utility that'll provide supply even when the sun doesn't shine and the wind has stopped. Should carbon prices surge, the increased value of the utility's cleaner hydro and natural gas plants would more than offset declines in Uniper's coal assets, Mark Lewis, an analyst in Paris at Barclays, said in a Sept. 19 note.

Under a scenario where EU carbon permit prices almost triple to 20 euros a metric ton, the value of Uniper's assets would jump to 6.5 billion euros, according to Lewis. Higher carbon contracts lift traded power prices because they are a cost of fossil-fuel generation.

Barclays is helping to finance Fortum's purchase of Uniper. Uniper shares rose 1.5 percent Monday to 23.54 euros, the highest since its initial public offering in September 2016. Fortum shares rose 0.4 percent to 17.12 euros on Tuesday at 5:04 p.m. in Helsinki, after settling Monday at their highest since July 2015.

For every 1-euro advance in the EU carbon price, Fortum's value increases about 50 euro cents a share, according to Peter Crampton, an analyst at Macquarie Group Ltd. in London. There's the possibility of a "significant rise in European carbon prices," and Fortum shares may advance should lawmakers seal a deal on Oct. 12 to remove a glut in the emissions market, Crampton said Monday in an emailed research note.

Getting the carbon price to 20 euros isn't certain. Renewable-energy incentives and efficiency policies have already hurt the carbon market and will probably reduce demand by another 1 billion tons in the 10 years through 2030, Kankaanpaa said. That's more than half of a full year's supply.

Fortum's latest push for higher carbon prices started before it embarked on the Uniper deal, Kankaanpaa said. The drive for EON's stake is linked to the direction of climate policy "to some extent," he said.

—With assistance from Ewa Krukowska, Jesper Starn and James Cone.

Peru's Dream of Usurping Copper King Chile Faces Roadblocks

Posted October 03, 2017, 10:10 A.M. ET

By Laura Millan Lombrana

The biggest obstacle to Peru's dream of some day supplanting Chile as the world's biggest copper producer may be Peru itself.

Despite higher-grade ores and lower mining costs than neighboring Chile, the Peruvian government says the country's potential in copper is being restricted by too much bureaucracy. Mine owners also complain about weak infrastructure and strong opposition to projects from people who fear increased environmental risks and disruption to their communities.

President Pedro Pablo Kuczynski, who was elected last year, is pushing expansion of the mining industry as a key to stimulating growth and reducing poverty. His government wants to exploit ore reserves that are the third-largest in the world. While copper output has been rising in the past two years, it remains well below the amount produced in Chile.

"We are not saying it will be easy," Peru Mines and Energy Minister Cayetana Aljovin said in an interview, referring to matching Chile's output. "We can reach those levels if Peru keeps sending positive signals. We need to create the necessary conditions for mining to grow in our country so the government can invest in basic services, healthcare, education and infrastructure."

Peru already is the second-largest producer in the world. Last year it boosted output by 35 percent, driven by increases at the Las Bambas mine, run by Chinese-owned MMG Ltd., and by gains at Phoenix-based Freeport-McMoRan Inc.'s Cerro Verde, the largest copper mine in the Andean country. Based on data from the first eight months of 2017, Peru already has surpassed Chile as the largest supplier of mined copper to China, the world's No. 1 metals buyer.

The Peruvian government sees more growth ahead, with $51 billion of new projects slated to start in the next few years as demand from China grows and commodities prices recover. Copper on the London Metal Exchange has rallied 38 percent since the end of 2015, halting a three-year slide, though prices still remain well below their 2011 peak.

Peru's production last year of 2.3 million tons of refined copper lagged behind its southern neighbor Chile, which supplied 5.5 million tons. Plus Chile remains an "attractive" place to invest, said Erik Heimlich, a copper analyst at CRU Group.

But if Peru can overcome obstacles such as local antipathy to mining, its growth possibilities are huge. “Peru’s potential in terms of resources is unquestionable,” Heimlich said last week by phone.

Three-Pronged Plan

To get there, Minister Aljovin says the country has a three-pronged plan:

• Reduce regulations and the number of permits required to mine

• Create a single government department where companies can request all required mining permits at once

• Create a fund the government can use to invest in social programs in areas that may be affected by mining

At the moment, mining companies operating in Peru need to abide by 265 different rules and regulations, compared with 12 in 2001, the minister said. Of these, only 10 percent are under the Mines and Energy Ministry, with the rest under the aegis of a host of other governmental organizations, according to Luis Marchese, who runs the local assets held by Anglo American Plc and serves as head of Peru’s mining association.

“This has an impact on the country’s competitiveness and affects issues such as informal miners,” Marchese said. “How are you going to bring them into the system if there’s such a legal tangle?”

General Zeal

The bigger challenge, says Luis del Carpio, a professor at Pontificia Universidad Catolica del Peru’s business school, will be getting the general populace to join in the government’s zeal for mining.

“Bureaucracy doesn’t stop projects,” Del Carpio said by phone. “Community relations remain our Achilles’ heel. That’s the main reason why many projects are on the waiting list.”

Peruvian citizens living close to mines tend to oppose them, while citizens living far away tend to favor them, according to research by the International Council on Mining and Metals.

“It’s exactly the other way around in other mining countries,” Tom Butler, ICMM’s chief executive officer, said at the recent Perumin mining conference in Arequipa, Peru. “A high proportion of Peruvians reject mining, and the situation around the issue remains highly polarized because people living close to the operations don’t feel empowered.”

Road Blocks

MMG’s Las Bambas was the latest mining operation to face disruptions because of community protests. The company has agreements with villages around the mine, but some communities along the road oppose the traffic of heavy trucks that transport copper concentrate to Pacific ports. Five people have died in protests since 2015 and supply has been interrupted three times in the past year.

“We have been engaging with each of those communities and we are involved with the government,” Suresh Vadnagra, head of MMG’s South American operations, said in an interview. “We have made some real advances, but this is a long-term game.”

Infrastructure is a challenge in a country where road and rail links can be antiquated and some of the largest deposits are in the Andes, several thousands of meters above sea level and hundreds of kilometers from the sea. Despite government commitments to invest in remote regions, no projects have been made public yet.

"We are not seeing great changes in infrastructure investment that can lead us to think the situation will be different in five years' time," Del Carpio said. "Mining companies are developing their own infrastructure, but this means they need to invest more and projects become less competitive."

Still, the example of Las Bambas provides hope. The only copper mine to start operating in Latin America last year, it became Peru's second-largest mine within its first year of operation. MMG compared the deposit's potential with the world's largest copper mine, BHP Billiton Ltd.'s Escondida in Chile.

"To MMG, Peru is a strategic destination," Vadnagra said. "Las Bambas is a platform for growth for the company, and we want to use that to grow more locally and at a regional level."