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Daily Environment Report

Afternoon Briefing - Your Preview of Today's News

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New York State Lawmaker to Lead EPA Regional Office

Posted September 28, 2017, 01:02 P.M. ET

By Abby Smith

Pete Lopez, the EPA's newly appointed Region 2 administrator, will have to hit the ground running.

A New York state assemblyman since 2007, Lopez will now be responsible for the Environmental Protection Agency's region that includes his home state, New Jersey, Puerto Rico, and the U.S. Virgin Islands—the latter two recently devastated by powerful hurricanes. Lopez has served in the New York state assembly for eight years, where he currently sits on the environment committee and the task force on food, farm, and nutrition policy. And he has experience with hurricane recovery: Lopez received an award in recognition of his efforts helping New York recover from Hurricane Irene and Tropical Storm Lee in 2011.

The EPA announced Lopez's appointment Sept. 28.

"His familiarity with the region and his experience working to solve environmental problems in New York will be invaluable in helping EPA serve Americans in the Northeast and the Caribbean," EPA Administrator Scott Pruitt said in a statement.

Lopez is the second regional administrator to be appointed by the Trump EPA. Last month, the EPA appointed Trey Glenn, former head of Alabama's environment department, to lead the agency's Region 4 that includes eight Southeast states.

U.S. Seen Having Long Way to Go to Market Energy Department Land

Posted September 28, 2017, 12:50 P.M. ET

By Emma Ockerman

The U.S. Department of Energy needs to develop a more accurate inventory of federal lands it

manages to promote energy projects by private companies.

While other government agencies such as the Department of the Interior have looked at opportunities to promote renewable energy on public lands, the Energy Department appears to have lagged behind, according to a report released Sept. 28 by the National Academies of Sciences, Engineering, and Medicine.

It recommended the department carry out an up-to-date assessment of properties that can be leased or sold among its 164 sites, with a view to eventually getting companies on board to start developing energy projects. The agency is responsible for 2.4 million acres of land, according to its website—about 735,000 acres fewer than the state of Connecticut.

The report authors reviewed two studies from the National Renewable Energy Laboratory and Colorado School of Mines, intended to examine the potential for energy resource development, which it said were hampered by limited data and budgets.

Given the limited funding, the Colorado analysis of available fossil fuels was "fairly rudimentary," said Paul DeCotis, chair of the committee behind the report and senior director of energy and utilities at West Monroe Partners.

The Colorado report found few opportunities for oil and natural gas development. Nevertheless, if the department were to open an office tasked with managing the leasing of its lands, it could engage developers on what would make them willing to snap up acreage.

"Really it's a question now of perhaps better characterizing the sites and partnering with the private sector to draw private capital to develop the sites," DeCotis said in an interview.

Perry to Talk Rare Earth Minerals at Pennsylvania Coal Mine

Posted September 28, 2017, 02:23 P.M. ET

By Stephen Lee

Energy Secretary Rick Perry is expected to make an announcement today about retrieving rare earth elements from coal during his visit to the Jeddo Coal Mine in Wilkes-Barre, Pa.

Rare earth elements can be found in coal and coal waste products. The minerals are used to make products such as cell phones, computers, wind turbines, and medical devices.

The Trump administration is getting behind research on extracting rare earth elements from coal to boost domestic demand for coal and reduce the need for foreign imports of the metals.

Interior Expects Hot Bidding for Offshore Wind Energy Leases

Posted September 28, 2017, 03:48 P.M. ET

By Adrianne Appel

The Bureau of Ocean Energy Management is betting on heightened interest in offshore wind to

drive up the price of the Atlantic ocean leases it will auction next year— parcels that just two years ago had no takers.

The Interior Department agency will auction two ocean parcels about 15 miles off the Massachusetts coast in late summer or fall of 2018, James Bennett, chief of renewable energy at BOEM, told Bloomberg BNA in a Sept. 28. The agency, which leases federal ocean areas for oil, gas and now, offshore wind, will announce details of the auction in the Federal Register by the end of the year, Bennett said.

"We've had two unsolicited bids" for the parcels already, Bennett said. That and the fact that a recent BOEM auction for an ocean parcel off Long Island, N.Y., netted a $42.5 million winning bid "indicates to us that interest in offshore wind has changed dramatically in just two years," Bennett said.

Battery Boom Spurs One Bank's Pivot from Iron Ore to Lithium

Posted September 28, 2017, 9:14 A.M. ET

By Jasmine Ng

Westpac Banking Corp., Australia's second-largest lender, is targeting deals linked to China that finance renewable energy minerals such as lithium and cobalt as a decade of unprecedented iron ore mining expansion in its home market has largely run its course.

"The next growth area is related to renewables," Paul Gardner, global head of structured commodity finance, said in an interview in Singapore. "If you look to the future, and you look to the electric cars etc., a lot of the lithium where there's accessible sourcing is actually in Australia."

Westpac's planned shift represents a pivot away from old economy iron ore, used to make steel, toward a focus on materials that are attracting increased investor attention as the building blocks for electric vehicles and renewable energy. Rising Chinese demand for the lithium-ion batteries that are needed for new vehicles and energy storage is driving price gains as well as an asset boom in Australia, already the world's largest lithium supplier.

"Right now, what I've seen pick up is interest from Australian miners in China and in pre-payment products," Gardner said. "For a company like ours to join the dots and to put pre-payment type financing structures in place—so the mine gets its capital, and in return for its capital it has a long-term offtake agreement with the Chinese buyer—that would be perfect scenario for us."

Earlier this month, China put the automotive industry on notice by becoming the largest country to seek a phase-out of fossil-fuel powered vehicles, a move sure to accelerate the shift toward electric-car development. That's helped to spur the race for raw materials used in the new technology, including cobalt.

Australia's government said in its latest resources quarterly that lithium, graphite and cobalt are being pulled "into a second commodity boom, with demand rising, prices spiking, and investment gathering steam." In lithium, "a host of companies in Western Australia are already targeting near-term concentrate production for sale to Chinese conversion facilities," it said.

Strategic Resource

Other countries are also seeking to beef up supplies. In Chile, a government commission is

expected to offer guidance by the year-end for private companies that want to start lithium operations, according to Mining Minister Aurora Williams. Lithium is considered a strategic resource in the South American country, and no company has obtained a license in over two decades.

For now, Australia is more associated with iron ore, and the country is the largest exporter, with shipments running at a record pace. Still, resources companies have scaled back investments in increased capacity after a period of breakneck growth, with BHP Billiton Ltd. calling the end of an era of massive expansions in the steel-making raw material in 2014.

Iron has been in retreat, while lithium is soaring. The steel-making raw material is 19 percent lower in 2017, set for the fourth drop in the past five years. Lithium carbonate, the primary base-chemical produced by the industry, more than doubled in the five years to 2016, according to UBS Group AG.

"We've seen a lot of business around iron ore historically because it's abundant: dig a spade in the ground almost anywhere in the Pilbara, you're going to get iron ore," said Westpac's Gardner. "But those large developments in that space have now matured and we're at oversupply."

—With assistance from David Stringer and Laura Millan Lombrana.

Fighting the Toxic Nightmare Next Door

Posted September 28, 2017, 12:01 P.M. ET

By Susan Berfield

It was practical considerations that led Dawn and Brian Chapman to Maryland Heights, a modest suburb of St. Louis bound by two interstate highways, several strip malls, an international airport, and the Missouri River.

They found a three-bedroom, one-bathroom, 1,000-square-foot home near good public schools and parks, and a reasonable drive to her parents, for $146,000. By 2012, after seven years there, the Chapmans had three kids with special needs, and Dawn had given up teaching preschool to stay home with them.

That was when the stench overcame their neighborhood. It wasn't the usual methane smell from Bridgeton Landfill, about two miles away, that sometimes wafted through. "It was like rotten dead bodies, and there was a kerosene, chemical odor, too," says Dawn. "People were gagging."

That fall the St. Louis Post-Dispatch reported that the odors were coming from a fire that had been burning 80 feet to 120 feet below ground at the landfill for almost two years and was likely to smolder for many more. The heat from the fire was accelerating the decomposition of trash, and the pumps and gas flares that normally remove toxic leachate and limit odors from dumps couldn't keep up. Republic Services Inc., the company that owns the landfill, told the paper its staff was working to tame the "subsurface smoldering reaction"—an industry term of art for combustion that has no oxygen fueling it or flames rising from it.

When Chapman's family and neighbors began experiencing headaches, nosebleeds, and breathing problems that winter, she contacted the Missouri Department of Natural Resources, which regulates the state's landfills. She learned that Bridgeton Landfill was only one part of a 200-acre dumping

ground that had been classified as a Superfund site because another part of it, an old landfill known as West Lake, contained radioactive waste from the earliest days of the Atomic Age. One of the two radiation-riddled areas was contiguous with the Bridgeton section. No one knew how the fire had started in the Bridgeton Landfill or when it would end, but it was slowly moving north, toward the contaminated area.

The Environmental Protection Agency, which called the whole sprawling dump the West Lake Landfill complex, had placed it on the National Priorities List in 1990 and announced a remedy in 2008. The plan was to cover the "radiological-impacted material" with several feet of topsoil, clay, and crushed rock and concrete. But the Missouri Coalition for the Environment argued to the agency that it was reckless to leave this particular element—thorium, a byproduct of uranium's decay chain that becomes more radioactive over centuries—in an unlined landfill that sits in a developed area on a flood plain prone to tornadoes. An EPA review board also challenged the decision. Absent consensus, nothing was done. Officials were overseeing studies of other possible solutions when the landfill fire began.

Many people living near the site didn't even know it was there, and most who did gave it scant attention.

"We had no reason to look into the Superfund site before the smell, since it wasn't a nuisance," says Harvey Ferdman, a former volunteer policy adviser to Bridgeton's state representative who now serves as an official, unpaid liaison between the community and the EPA. When he and Chapman first spoke in early 2013, she'd been poring through records dating to the 1970s collected by a lifelong antinuclear activist named Kay Drey.

"Dawn told me about the illegally dumped nuclear waste, that there had been instances where it had gone off-site, which were documented, that when West Lake was unregulated it had received all kinds of toxic chemicals, including paint and jet fuel," says Ferdman. "I told her, 'No offense, but I'm going to be fact-based and objective. If 25 percent of what you've told me is true, we have a big problem.' And unfortunately it all turned out to be true."

In the spring of 2013, Chapman and a neighbor, Karen Nickel, formed Just Moms STL to advocate for the removal of the radioactive waste. Since then, the Moms, as they're known, have held monthly community meetings, appeared at all of the EPA's public sessions, kept watch on the Bridgeton Landfill fire, and become regulars at the state Capitol.

At the center of the swirling unease are the unknowable consequences of possible exposure to low-level radiation. With the initial recommendation to cap the waste, "the EPA has already established the fact that there's a risk to human health if they don't take action," says Ed Smith, policy director of the Missouri Coalition for the Environment. His group wants some, if not all, of the waste removed from West Lake. But the EPA says that since no one is being exposed to the dangerous particles, there's no current health risk. Republic argues that the agency's recommendation to cover the waste is still the safest, quickest, and easiest remedy. At an estimated cost of $67 million, it's also the least expensive; removing the contaminated soil could require nearly 10 times that amount.

Now, in a twist few would have anticipated, Scott Pruitt, the head of the EPA, wants West Lake to be a showcase of Trump-style environmentalism: dismissing climate change, deregulating industry, but taking action on toxic sites. Pruitt told a St. Louis radio host in April, "We're going to get things done at West Lake. The days of talking are over." A few months later, Pruitt said the agency was drawing up a list of the top 10 Superfund sites. West Lake is expected to be No. 1.

This would be great news in Bridgeton, but Trump's proposed federal budget includes cuts to the

Superfund program, and Pruitt has also promised to seek more cost-efficient remedies for the sites. “A million red lights went off when Pruitt talked about West Lake,” Chapman says. “There is no cost-effective solution for the site, only for Republic.”

As World War II raged, the U.S. sent spies on a top-secret mission to secure some of the world’s purest uranium from the Shinkolobwe mine in the Belgian Congo. It was shipped directly to Mallinckrodt Chemical Works in St. Louis, which developed techniques for purifying large quantities of the metal. Over the years the company chemically processed tens of thousands of tons of uranium, including the fissile material for the bomb the U.S. dropped on Hiroshima.

Mallinckrodt also produced about 2 million cubic yards of contaminated waste, some of which was transported hastily and carelessly in uncovered trucks to the St. Louis countryside in the late 1950s and ’60s, according to documents from the Atomic Energy Commission and its successor, the Nuclear Regulatory Commission. From there, selected residue that still had some value was sold by the AEC; Cotter Corp., another uranium processor, eventually acquired about 100,000 tons.

After it stripped out copper, nickel, and cobalt from the waste, Cotter was supposed to dispose of what was left and decontaminate its storage facility in Hazelwood, northwest of St. Louis, by October 1973. As the deadline approached, things went awry. Cotter couldn’t figure out how to get rid of 8,700 tons of leached barium sulfate, which contained 7 tons of unprocessed uranium, and the commission didn’t have any suggestions. A contractor mixed the powdery white substance with 39,000 tons of dirt from the site—later also found to be contaminated with radiation— and, over three months, dumped it at the West Lake Landfill.

In the late 1970s the government began an assessment of the damage caused by the nuclear program, which ultimately led the Department of Energy to put Cotter’s Hazelwood site and Mallinckrodt’s St. Louis processing facilities, as well as two other storage sites, on its list of the country’s most radioactive areas. By 1990 estimates for the cost of cleaning up around St. Louis—which included the removal of tons of soil by the Army Corps of Engineers—had reached $1.5 billion.

When it came to West Lake, the Nuclear Regulatory Commission argued that oversight should fall to the EPA and its Superfund program, since the radioactive material had been dumped without governmental approval and mixed with other industrial waste. The program, which today includes some 1,300 sites, operates on the principle that polluters, if the EPA can find them, should pay to assess contamination and clean it up. At West Lake, the EPA named three so-called potentially responsible parties: the landfills’ owners (now Republic Services’ subsidiaries in Bridgeton); Cotter (whose liability passed on to Exelon Corp.); and the DOE. Identifying who should pay, though, is more a signal to queue up lawyers and consultants than the start of remediation.

“Follow the garbage trucks,” says Russ Knocke, Republic’s vice president for communications and public affairs, by way of directions from my hotel to the Bridgeton Landfill. The facility no longer accepts trash but does have a revenue-generating transfer station, which accounts for the truck traffic. At the entrance there’s a small, faded Republic Services sign, but nothing about a Superfund site.

Knocke was press secretary for the U.S. Department of Homeland Security during Hurricane Katrina and joined Republic in mid-2013, as its handling of the fire was being questioned. He works from the company’s headquarters in Phoenix but has come to Bridgeton to meet me. He’s 43, wearing jeans and a button-down shirt; his hard hat is out, his presentation ready. With him are three of Republic’s experts on the landfill. “All the best in their fields, with years of experience,” he says.

When Republic took over the Bridgeton and West Lake landfills in mid-2008, following a $6 billion merger with Allied Waste, the transaction made Republic the second-biggest company in the industry by revenue. In the years since, Bill Gates's money management firm, Cascade Investment Group Inc., has increased its stake to 32 percent. The Superfund cleanup was considered a footnote to the merger: Under the assumption they'd only have to follow the EPA's requirement to cap the radioactive material, Republic expected to pay about $15 million, one-third of the estimated cost then. There had been at least one small fire at the landfill in 1992, but monitoring at Bridgeton was supposed to be routine. "Basically, we mow the grass," says Knocke of the company's other closed landfills. "A manager can oversee five of them at a time."

At Bridgeton, Republic instead employs a full-time staff of 15, and twice as many consultants. The company has spent more than $200 million to monitor and contain the fire and estimates the total could reach $400 million. In 2014, Republic agreed to pay almost $6.9 million to settle a class action brought by residents who lived within a mile of the landfill over the odors emanating from it. The former Missouri attorney general also brought a suit against the company for allegedly violating state environmental regulations at the trash dump; a trial date has been set for next March.

The Bridgeton Landfill takes up about a quarter of the 200-acre Superfund site. It was created out of an old limestone pit and consists of the North and South Quarries, connected by a narrow area called the Neck. Just beyond the North Quarry is West Lake Landfill, where radioactive particles lurk below the surface, sometimes near it. We drive past a 6-foot chain-link fence topped with three strands of barbed wire. A yellow sign stamped with the symbol for radiation warns not to enter. The soil is covered in vegetation: green grass, dandelions, a few early summer wildflowers.

Bridgeton, in contrast, looks like a botched science experiment. Republic first reported evidence of a problem in its South Quarry—elevated temperatures and carbon monoxide levels—in late 2010. But the state's Department of Natural Resources didn't make the information public, and no one told the fire department until 2012. By then it was hard to hide: A 40-foot section of ground had collapsed as the heat consumed buried trash.

"I wanted to give the company the benefit of the doubt," Matt LaVanchy, the assistant fire chief, told me of his first meeting with Republic to assess the situation. "I brought up the fact that there's a smoldering event in your landfill and a rad-waste dump that's also on your property." When he asked how they would keep the fire from the radioactive waste, "they said it was geologically impossible to reach the rad material because there is a natural barrier." LaVanchy, though, says the trash spills over the quarry wall.

The fire's origins are controversial. Republic's experts say it began spontaneously, while two consultants hired by the state say the company may have inadvertently allowed oxygen to enter the ground through its methane wells or improperly maintained soil cover. Everyone agrees that extinguishing it isn't possible.

Republic tried to cool the hottest spots in 2013, but the heat began moving toward the radioactive material at a faster pace; in June of that year a representative of the Department of Natural Resources said the heat might reach the waste in 400 days. One landfill consultant's worst-case scenario was a release of radioactive particles similar to a dirty bomb. In a report for the Missouri attorney general's office, another expert brought up the possibility of superheated steam carrying radionuclides, which happened at the nuclear plant disaster in Fukushima, Japan.

As fallout fears spread, the Moms put a countdown clock on their Facebook page and brought a child-size coffin and a petition calling for a state of emergency, signed by 13,000 people, to the governor's office in Jefferson City. The expert who'd invoked Fukushima later said in a deposition

that he hadn't meant to alarm residents.

"We've been the only adult in the room for a long time," Knocke says. "It's been this spin-up of noise and fear and anxiety, and we generally feel like we've been the only ones that have been trying to say, 'Guys, here's the science.' "

"You might see the ground dry up a little bit; you might see cracks; you might see radon emitted into the air," he says. "That's the what-happens-if. Not St. Louis goes boom." The Moms, he says, have shown "a complete disregard for science and distrust of institutions" and have scared the community.

Yet in the spring of 2014 the EPA's Office of Research and Development concluded that, although a fire in the radioactive zone wouldn't cause an explosion, it could present long-term risks, including the escape of radon gas into the air "at levels of concern." A few months later the St. Louis County Office of Emergency Management devised a "catastrophic event" plan that instructed those far enough from West Lake to evacuate and those closest to shelter in place. (Republic takes issue with the radon data the EPA used in its calculations.)

Concern intensified in October 2015 when residents noticed a plume of smoke rising from West Lake, prompting panicked calls to LaVanchy. The smoke came from a brushfire about 390 feet from the nearest known location of contaminated soil. The fire department extinguished it within 20 minutes. The EPA later ordered Republic and the other responsible parties to put a noncombustible cover over areas where the radioactivity is close to the surface as a temporary measure.

Below ground, the spread of the heat was slowing and shifting direction away from the Neck. The most intense heat is now deep in the South Quarry, and Republic expects the reaction to wear itself out in seven or so years. "The threat of immediate concern about the fire is lower now," LaVanchy says. "But I'll feel a lot better when the temperatures everywhere start dropping and stay there. It's not a stable situation. The fire is like a hostile animal."

Erin Fanning, the chipper, 35-year-old division manager at Bridgeton Landfill, says that since the reaction began, Republic has installed 57 probes capable of recording temperatures to a depth of 150 feet, more than 200 gas extraction points, 28 cooling wells, and 51,000 feet of piping. Everything has to be kept working amid shifting ground. The cover—made from thin layers of the polymer resin ethylene vinyl alcohol, designed to keep in noxious fumes—requires constant maintenance. "A single fracture or tear could cause an odor," Fanning says. A new waste treatment plant continuously processes the hundreds of thousands of gallons of hazardous leachate created every week by the trash as it decomposes rapidly from the heat.

Knocke casts Republic's investments as evidence that it's been a good neighbor. "We could have just walked away and said, 'Catch me if you can.' Now, without question, the state of the landfill today is as optimal as it's ever been," he says.

"When we hear this," Chapman says, "Karen and I look at each other and we're like, 'You spent $200 million because this is a pretty goddamn big deal,' " and not something Republic could have run from. "We always say they bought a lemon," Nickel says.

In the midst of Republic's firefighting, the EPA made a discovery that further eroded the community's trust in the company and the agency. Scientists found radioactive material 640 feet beyond where they thought it ended, in ground that had been considered part of the North Quarry of Bridgeton. Republic and the EPA said that even though they hadn't known it was there they weren't surprised to find it, and that since the waste wasn't close to the surface it wasn't a risk. "They're

confident they have found the extent of the contamination, and we don't have the same confidence," says Smith of the Missouri Coalition for the Environment, which wants the rest of the North Quarry tested. The EPA says that's not necessary. But the agency has opened an investigation of the groundwater below West Lake after earlier tests detected radium.

This spring, Republic opposed a state bill that would have created a $12 million relocation fund for residents of Spanish Village and Terrisan Reste, a mobile home park, both of which are closer to the Superfund site than Nickel's and Chapman's houses. The company contended that it was unnecessary and would hurt the local economy. "Actually, Republic was lobbying against the precedent. It would be the first time a legislative body acknowledged there is a problem," says Mark Matthiesen, the Republican state representative for the area, who shepherded the failed bill. "Every time we have some positive momentum, Republic starts working hard and putting more money to fight against it."

Matthiesen has watched in frustration as Republic's lobbyists have attempted to convince lawmakers that rural communities would be jeopardized if the EPA forced the company to remove the radioactive soil and an accident occurred during transportation. But the Army Corps of Engineers confirms that tons of such soil have already been moved through the state, accident-free, as the Corps and DOE clean up other contaminated sites in St. Louis County. Republic's argument, Matthiesen says, "just isn't right."

Republic funds its own citizens' group, the Coalition to Keep Us Safe, which seeks to assure Bridgeton residents that all is well and the real danger is in removal. The coalition has a Mom, too: Spokeswoman Molly Teichman, who lives several hours' drive from Bridgeton, calls herself the Mommentator, and once tweeted, "Dear mombots of #westlakelandfill, your reality TV show is over. Go home and hangout with your kids—they miss you."

The day after I tour the landfill, I visit Chapman and Nickel. They're sitting at Nickel's kitchen table in their usual chairs, wearing their usual summer clothes. Nickel is in a T-shirt and jeans; Chapman, a T-shirt and shorts. Nickel, who's 54 and has three adult children and a teenage daughter, is sick with lupus, psoriatic arthritis, and fibromyalgia. She grew up next to Cold Water Creek, an area about 12 miles from Bridgeton that's among those the Corps of Engineers is decontaminating. The U.S. Agency for Toxic Substances and Disease Registry is now assessing public-health risks from any possible exposure.

Nickel worked as an accounting associate at a pharmacy company until it left town; now she cares for a few neighborhood kids after school. "I'm physically strong, but she's the emotional anchor," says Chapman, who's 37. "I'm an analyzer and a processor," says Nickel. "Dawn's more of a jump off the bridge—"

"Jump off the bridge on fire," Chapman interjects, before Nickel continues: "I've got to catch her by her feet and pull her back up and say, 'Hold on. Let's think about this.' But it's worked."

They were in the midst of sorting through thousands of EPA documents that the Environmental Archives, a free digital library, had obtained through the Freedom of Information Act. In one email, an EPA representative remarked on a newspaper report that the activist Erin Brockovich was planning to meet with Chapman and Nickel: "SIX MORE MONTHS!!!!!.....AHHHHHHHHHH." (In a statement, the EPA said the representative had been looking forward to retirement after a long career.) In another, employees discussed not using email.

"The EPA has spent more time handling the people in this community than worrying about what's at that site and how it could harm the people of this community," Nickel says. As we talk, she and

Chapman receive a text from another activist, Robbin Dailey, who says she'd just missed the EPA officials walking around her Spanish Village neighborhood to placate residents, as they occasionally do. "I was going to lay into the EPA today," Dailey says when I visit her and her husband later that afternoon. "They're just mocking us."

She and her husband, Michael, are retirees in their 60s, and he's in poor health. They've lived up the hill from the Superfund site since 1999, in a home they bought for $110,000. For the past few years they've suspected it could be contaminated. About 18 months ago, attorneys at New York City based Hausfeld, known for their fen-phen litigation, got in touch with them, proposing to investigate possible contamination in their subdivision. "I said, 'Finally. We've got somebody that knows what the hell they're talking about and agrees with us that we're not crazy,' " Robbin says.

Scientists hired by the firm used a microanalytical method and said they discovered radioactive particles of Thorium-230 at concentrations 200 times higher than background levels. According to these experts, the thorium has the fingerprint of the uranium that was processed at Mallinckrodt. It was found in "archival dust" behind a loose floorboard in the kitchen where Robbin once hid the family's valuables, as well as along the ledges of their basement windows and in a few spots in their backyard.

Last November, the Daileys, who chose not to accept the early class-action suit most residents signed up for because it would have limited other legal action, filed their own lawsuit against Republic, Cotter, and Mallinckrodt seeking compensation for property damage and the provision of remediation and medical monitoring. They want the companies to admit that radioactive material has already spread beyond West Lake—which the companies deny—and to pay them for their home, which they say they can't, in good conscience, sell. (Knocke says that all neutral experts have deemed the community safe, and, in filings, all three companies deny the allegations.)

The family's lawyers say there is evidence of Thorium-230 and other particles from West Lake in multiple houses in Spanish Village. But when scientists for the EPA tested two other homes near the Daileys using a more standard method, they didn't find anything.

That didn't necessarily surprise Marco Kaltofen, a civil engineer who devised the microanalytical approach and is principal investigator at consulting firm Boston Chemical Data. He used the same method to conduct a study, funded by Drey, the activist who provided Chapman and Ferdman with archival documents, that was peer-reviewed and published last year. He found radioactive lead, another decay product of the Mallinckrodt waste, in a roughly 75-square-mile area around West Lake and Cold Water Creek. The lead was at levels that were within EPA guidelines but exceeded the more stringent Department of Energy standards.

Tom Mahler, the EPA's on-scene coordinator, emphasizes that the agency has been testing outside the Superfund site for the past five years and hasn't found anything of concern. "Is it there?" he asks. "I cannot speak to whether something occurred if I don't have data for it."

Living near West Lake means living with uncertainty. It's difficult to measure exposure to a chronic, low-level presence of unstable material, and it's hard, in an uncontrolled environment, to link it definitively with disease that can emerge years later. Lupus, for example, is an autoimmune disease that's been associated with uranium radiation. Is this what caused Nickel's illness? Right now, no one can say for sure. Science can help establish baselines for health risks, but those don't map to every human body, and it takes only one cell mutation to cause cancer.

A 2014 Missouri health survey found higher-than-expected incidences of leukemia, colon, prostate, bladder, kidney, and breast cancer in communities near contaminated areas in north St. Louis

County, especially Cold Water Creek, and a significantly higher-than-expected number of children with brain cancer in Maryland Heights. But the study didn't assess exposure to radiation, noting that obesity, smoking, and diabetes can contribute to some of these cancers. The Agency for Toxic Substances and Disease Registry concluded in 2015 that given the data from the EPA, other agencies, and the responsible parties, those living near the site aren't facing any health risks from it.

While Faisal Khan, director of the St. Louis County Department of Public Health, accepts that finding, he also says that "the preponderance of anecdotal evidence supports Dawn's conclusions of long-term, low-level exposure." There's no science to directly connect that to certain diseases, he adds, but no one should dismiss the community's fears. "Their health concerns are valid," he says, "and the level of anxiety related to the landfill and the entire toxic legacy is a huge disadvantage to their mental health." Khan would like West Lake to be fully excavated.

"We expect the EPA to acknowledge that there has been some exposure at the low level," says Chapman, "so that people can be proactive if they find a lump or feel sick." When I ask Mary Peterson, head of the Superfund division that oversees West Lake, about this persistent worry, she replies: "I want people to have faith in government. Yet I know sometimes the answers we find in science, no matter how concrete, do not overcome people's concerns."

A few days after I leave Bridgeton, Chapman and Nickel travel to Washington with Smith and Matthiesen for the premiere of Atomic Homefront, a documentary about West Lake and Cold Water Creek that HBO will air early next year. Then they meet with Patrick Davis, a former Trump fundraiser who's a political deputy at the EPA, and Albert Kelly, a former banker from Oklahoma who's now in charge of streamlining the Superfund program, to press their case for getting at least some of the radioactive waste removed and helping to relocate those in Spanish Village and the mobile home park who want to leave. "They gave us their personal cell phone numbers," Chapman says afterward. "That's when I thought: We're being played. When you're helpless, anything that gives you a little sense of power helps. But now we see that's BS. Every lobbyist has their numbers, too."

Chapman and Nickel worry that Pruitt will side with Republic. "I suppose that's a possibility," Kelly says. "The opposite is a possibility as well. I'm sure somebody is going to be unhappy."

Within months, they may know who. "After all these years, the decision will come down to one man," Chapman says, sighing. "There's no appeal." Republic, Exelon, and the DOE, though, will have options if they don't like the verdict. Superfund communities can't legally challenge an EPA decision, but companies can. And if the EPA selects a remedy other than the cap, Knocke says, there would very likely be litigation before anyone lifted a shovel.

Private Water Firms Tap Profit From Struggling Public Utilities

Posted September 28, 2017, 7:02 A.M. ET

By David Schultz

A cash crunch for public water utilities is creating an opportunity for the growing for-profit water companies—but it's one that might drain customers' wallets.

Companies like American Water Works Co. and Aqua America Inc. are finding the time is right to purchase small, troubled water utilities from local governments that are facing political pressure to

keep rates low—often by delaying infrastructure upgrades.

Acquisitions like these are helping private water companies grow even while per capita water consumption continues its long-term downward trend. And private companies say they can use their economies of scale to make the infrastructure investments that local politicians can't, or won't.

The CEOs of several of these companies told Bloomberg BNA that the leaders of municipal-run water systems are motivated sellers, particularly as many cities have been spooked by public health crises like the lead contamination in Flint, Mich. Such incidents have led some local leaders to question whether public control of drinking water still makes sense.

'Very Local, Very Political'

And laws recently passed in Pennsylvania, Illinois, and California removed some of the financial barriers that made these kinds of municipal-to-private utility transactions difficult in the past.

Still, a for-profit water company must walk a very fine line when it buys a public water system to avoid triggering an intense political backlash. The idea of a town ceding control of its drinking water to a company still makes some people squeamish.

"There's just something about water that gets everyone uneasy about selling their [utility]," said Ryan Wobbrock, a utilities industry analyst with Moody's Investors Service. "Water is very local, very political."

Prime Acquisition Targets

Unlike with gas or electric power, most Americans get their water from a utility that is owned and operated by their local government.

Private water companies serve less than one-fifth of the U.S. population, according to Chuck Firlotte, chief executive officer of Aquarion Water, which provides water to more than 600,000 people across New England. That's very different from how water delivery works in the U.K. and the rest of Europe, where it's operated by mostly private companies.

"One of the great mysteries to me is how, in the heart of global capitalism, we have a rather primitive view of how our infrastructure should be ... owned and operated," Firlotte told Bloomberg BNA.

The prime acquisition target for these companies is a small, troubled water utility that serves just a couple hundred homes and businesses, according to Firlotte. For-profit firms can use their resources and expertise to eliminate inefficiencies in these small systems while accomplishing the companies' ultimate goal of growing their customer base.

Companies like Firlotte's are thriving within this niche market, with typical annual revenue growth hovering around 5 percent for most for-profit water firms, according to Bloomberg Terminal data.

"We hope to make advances in that area," he said. These utilities "don't have the operational, financial or engineering expertise and they usually have a boatload of investment needs and probably shouldn't be in business."

State Laws Changing

Chris Franklin, CEO of Aqua America, said he's seeing more interest in doing a deal from these smaller utilities than at any time in his 24 years in the industry.

He attributes this uptick to four factors.

First, the Flint, Mich., lead contamination crisis spurred many local leaders to start asking more questions about how their water systems are run.

Second, many leaders realized that the cost of upgrading their water infrastructure has ballooned, Franklin said.

Third, they realized that the costs of complying with state and federal water quality regulations were becoming increasingly expensive and scientifically complex.

The fourth factor in this new wave of deals is the so-called fair value laws that have been enacted now in several states, Franklin said. These laws change the way for-profit water companies are allowed to raise their rates after making an acquisition.

'Fair Value'

In states without a fair value law, companies can raise their customers' rates only enough to recoup the value of the assets of the utility they're purchasing. But with a fair value law, a water company can recoup the full amount of the price they paid to buy the utility. Essentially, fair value laws take into account the fact that most companies sell for more than the sum total of their assets in an acquisition.

Versions of fair value laws have passed in Pennsylvania, Illinois, and California and have been brought up in several others states.

These laws have the effect of allowing small, fiscally distressed towns to sell their water systems at a much higher price than they would otherwise be able to get, according to Franklin. In essence, he said, fair value laws can provide the final push these towns need.

"What's happening now is that municipals are saying, 'Why are we in this business?'" Franklin told Bloomberg BNA.

'Financing Solution'

There are actually very good reasons for local governments to be in the water business, according to Mary Grant, a campaign director with environmental and consumer group Food & Water Watch.

For one, she told Bloomberg BNA, they have access to the tax-free municipal bond market and therefore can pass along those lower borrowing costs to their customers. This is crucial when considering the mammoth amounts many water utilities spend on capital expenses to maintain their infrastructure.

Also, Grant said, private companies are more likely to raise their customers' rates than municipal-run systems with leaders who are either directly or indirectly accountable to voters. Private companies could save money on the margins by using economies of scale to operate more efficiently, but ratepayers ultimately will be footing the massive bill for infrastructure upgrades.

More federal spending—not privatization—is needed, according to Grant. "Private companies are offering a financing solution, not a funding solution," she said.

'Already Under-Investing'

It's a familiar criticism for these companies, and one they're particularly sensitive to. Dennis Doll, the CEO of mid-Atlantic based Middlesex Water, said it's not totally inaccurate to say that for-profit companies often raise rates after taking over a municipal system. But, he said, that's only because these systems were likely under political pressure to keep their rates artificially low.

"So they're already under-investing," Doll told Bloomberg BNA. "Then the private company comes in and they, unfortunately, have to charge the rates to make that investment. Sometimes there are ways to reduce operating costs," but not always.

That's why Doll is actually leery of fair value laws, a minority among the water company CEOs who spoke to Bloomberg BNA. He said he worries they create a perverse incentive because the laws make it easier for local governments to sell a dilapidated system at a higher price.

"The troubled municipal entity is getting a bit of a windfall above value despite the fact that they haven't been keeping the system in good repair," Doll said. "It can be a reward for bad behavior."

Mandatory Consolidation

Ultimately, Doll said, for-profit companies should only step in when municipal water systems won't, or can't, raise rates high enough to keep their system in good shape—for example, in a town with a shrinking population where there aren't enough ratepayers to cover a system's costs.

A 2015 California law aimed at making this easier, SB 88, gives the state water board the authority to force a small, troubled utility to merge with a larger, healthier one nearby. The board hasn't had to use this authority yet, according to Jack Hawks, head of the California Water Association, which represents for-profit water companies in the Golden State.

But soon many other states could find that they now also have this authority.

Language similar to that in SB 88 was inserted into a federal drinking water bill that cleared a key congressional committee earlier this summer. The bill, H.R. 3387, was approved on a voice vote in the House Energy and Commerce Committee.

Like SB 88 in California, the House bill would give the company acquiring a troubled system some flexibility in paying out any environmental penalties the system may have racked up before being purchased.

That would be a welcome development for private water companies, according to Kathy Pape, a former senior executive at American Water Works who is now an attorney at the Pennsylvania firm McNees Wallace & Nurick.

She said it's often difficult for an acquiring company to grapple with decades of mismanagement immediately after getting handed the keys. That's especially the case with for-profit companies, which often enjoy no leniency from regulators, she said.

"When they get their hands on a private party, now they believe they can clamp down," Pape told

Bloomberg BNA.

New Head of State Air Pollution Group Seeks Common Ground

Posted September 28, 2017, 9:01 A.M. ET

By Jennifer Lu

The newest advocate for state air pollution officials wants to mend fences with a splinter group that objected to his association's often cozy relationship with the Obama-era EPA.

As the new executive director of the National Association of Clean Air Agencies, Miles Keogh said he is "not pushing for the reintegration" with the Association of Air Pollution Control Agencies, a group that formed in 2013 and now includes 20 states. There are issues, however, that the two groups can work on together when talking to the Environmental Protection Agency and providing clean air technology training to states, he told Bloomberg BNA.

"My highest and most urgent priority is to serve the members of NACAA, but also I support all clean air agencies," said Keogh, who started Aug. 7 at the association. "I think if there's leadership support for that collegiality, that gives the cover that states and locals need to be collegial. We both have to interface with EPA, so I don't want it to persist that there's competition between us, because there's not."

Keogh replaces NACAA's longtime executive director Bill Becker, who retired after 37 years at the association.

Clint Woods, executive director of AAPCA, told Bloomberg BNA that he is also open to working with his new counterpart.

Keogh 'The Right Person'

Virginia is a member of both organizations and Michael Dowd, director of air division in Virginia's Department of Environmental Quality and a member of the NACAA board, praised Keogh's "member-focused perspective."

"He's the right person to navigate some very difficult shoals with the Trump administration's EPA," Dowd said. "He knows a lot about how energy and environmental issues intersect."

While Keogh said he has not discussed specific issues with the EPA in his first six weeks as executive director, he said he has met with agency employees including Sarah Dunham, acting assistant administrator for the Office of Air and Radiation, and members of the Office of Transportation and Air Quality and the Office of Air Quality Planning and Standards.

"We're trying to suss each other out," Keogh said. "Everybody is still new on their side; we have new leadership on our side."

'Bread-and-Butter' Issues

Besides working with other state advocates, Keogh said he'll focus on "bread-and-butter" clean air issues such as dwindling funds from the EPA, possible revisions to the agency's greenhouse gas standards for passenger cars, and "stubborn and persistent" pollution from cars and other mobile

sources.

Keogh comes to NACAA from the National Association of Regulatory Utility Commissioners where he directed the research lab, which has studied electrical transmission, natural gas supply, energy efficiency, and cybersecurity. Though Keogh understands the electricity sector, which is a primary source of air pollution, he said his training is like "accelerated K-12 and bootcamp" as he gets up to speed.

"I thought there would be tons of overlap," Keogh said. "It's really unlike the work I was doing before."

Becker, who was not involved with the final hiring decision, said he had worked with Keogh when NACAA and NARUC partnered with the National Association of State Energy Officials in an effort to address the overlap between environmental protection and a reliable and efficient energy grid.

Becker remembered an emissions trading activity Keogh had prepared for the group.

"It showed me he had imagination" and "knows how to engage and bring together various stakeholders," Becker said. "It was a bit quirky, but it worked."

Merkel May Have Promised Too Much in Carbon Pollution Fight

Posted September 28, 2017, 9:21 A.M. ET

By Mathew Carr, Brian Parkin and Lars Paulsson

As German Chancellor Angela Merkel embarks on coalition talks to bed down her fourth term in office, a promise made shortly before her re-election may come back to haunt her.

At least that's the view of nine analysts and researchers from Berlin to London who all say her target of reducing carbon emissions in Europe's biggest economy by 40 percent in 2020 will probably fail. On Sept. 14, Merkel went as far as saying that she will find ways to meet the goal, no matter what. At the end of last year, those emissions were down 27 percent from 1990 levels.

"I think we all know that we're pretty far away from those, and I personally believe it will be extremely challenging to try to reach," said Klaus Schaefer, chief executive officer of Uniper SE, for which fossil fuels accounted for 57 percent of profit in the first half.

Merkel's stoic approach to meet the non-binding 2020 goal would most likely come down to how tough the governing coalition is prepared to be on the nation's biggest polluters. Plants burning coal still produced about 40 percent of the nation's power last year.

But she's got a problem. Ploughing up acre after acre, sometimes moving whole villages, to get to the lignite Germany still very much relies on will put her on collision course with voters expecting her to deliver on the promise to cut emissions. At the same time, closing down sites would irk unions representing thousands of workers in some of the most impoverished parts of the country.

"It's up to the next government to make an exerted effort in the short window available to land on target," said Michael Schroeren, a spokesman for the German environment ministry in Berlin. "This could be achieved in the energy sector in connection with other sectors."

Climate Talks

Germany's work toward meeting its target may face also international scrutiny in November as climate envoys from around the world will descend on its old capital of Bonn for United Nations talks that will be presided over by Fiji.

The talks are meant to beef up the rules of the Paris agreement. So far, climate talks have have failed to make much headway in cutting emissions in the two years since the Paris deal was struck, with global emissions steady at record levels.

Berlin-based environmental think tank Agora Energiewende reckons Germany will miss its target by about 10 percentage points. Emissions reductions "won't be a near miss but a booming failure," Agora researchers wrote in a report.

As many as 135,000 people work in the traditional power sector and associated coal mining industry.

Closing down much of the country's coal power output would result in the loss of thousands of jobs, according to Jahn Olsen, an analyst in London at Bloomberg New Energy Finance. But there's no way the goal can be met by improving energy efficiency or encouraging electric car use at the pace required within four years, he said.

The country could theoretically meet the reduction level through buying international emissions credits or allowances, Olsen said. But that option would counter earlier statements by the nation that it intends to meet its target domestically, making it "politically unpalatable," he said.

Merkel's Christian Democratic Union-led bloc won the weekend ballot with its worst performance since 1949. Her party needs a three-way alliance with the pro-business Free Democratic Party and the Greens, which could take months of negotiating, Barclays Plc said Sept. 25 in a note.

The coalition negotiations between parties with such different positions mean Germany probably won't be able to put together a plan to hit the target, said Deepa Venkateswaran, an analyst in London at Sanford C. Bernstein & Co.

"The Greens want it and the FDP are against," she said. "They might agree to a long-term exit from coal, but it won't be as aggressive as the Greens want."

China Gives Carmakers More Time in Biggest Electric-Vehicle Plan

Posted September 28, 2017, 8:36 A.M. ET

By Bloomberg News

China unveiled a comprehensive set of emission rules and delayed a credit-score program tied to the production of electric cars, giving automakers more time to prepare for the phasing out of fossil-fuel powered vehicles.

Under the so-called cap-and-trade policy, automakers must obtain a new-energy vehicle score—which is linked to the production of various types of zero- and low-emission vehicles—of at

least 10 percent starting in 2019, rising to 12 percent in 2020, the Ministry of Industry and Information Technology said on its website. The rule applies to carmakers that manufacture or import more than 30,000 traditional vehicles annually and those who fail to comply must buy credits or face fines.

"This is the single most important piece of EV legislation globally," said Colin McKerracher, a London-based analyst at Bloomberg New Energy Finance. "Overall, it provides further support for the EV industry in China. EV sales will continue growing quickly, despite the phase-down in direct subsidies."

China previously proposed to start implementing the policy next year, a target that was viewed by automakers as overly ambitious. China, which has vowed to cap its carbon emission by 2030 and curb worsening air pollution, joins the U.K. and France in seeking a timetable for the elimination of vehicles using gasoline and diesel. The country needs to use alternative energy to power some 200 million vehicles that ply its roads and reduce dependence on oil imports.

The targets look achievable for the industry as a whole, McKerracher said. Considering the credit structure, 12 percent in 2020 would translate to about 4 percent to 5 percent of actual vehicle sales, he said.

"Political considerations must have weighed in on the decision to delay the commencement date by a year," said Cao He, chairman of Quanlian Auto Investment Management Co. "Local automakers will likely benefit from this as they will have more buffer time to get ready on the technology front."

Honda, BYD

Honda Motor Co., which plans to sell an electric vehicle in China next year and plans to expand that business going forward, will work to achieve the credit-score target, a company spokeswoman said. Toyota Motor Corp. refrained from commenting on a specific government policy.

"China is sending a clear signal to domestic automakers that had been dragging their feet on EVs that it's time to get on board," McKerracher said.

Earlier this month, China's government said it's working on a timetable to phase out fossil-fuel powered vehicles, helping lift shares of local automakers such as BYD Co., a carmaker that's backed by Warren Buffett. Groups like BYD, Geely, Chery and others will have excess credits, McKerracher said.

While global manufacturers from billionaire Elon Musk's Tesla Inc. to Nissan Motor Co. and General Motors Co. are racing to grab a slice of the electric-vehicle market in China, local manufacturers such as Geely Automobile Holdings Ltd. have also found considerable success in the market, thanks to generous government subsidies.

BYD topped the new energy vehicle makers in sales in the first seven months of this year, delivering 46,855 electric and plug-in hybrid vehicles, resulting in about 30,000 credit points in the first half, according to the company's calculation.

Beijing Electric Vehicle, the EV division of state-owned BAIC Motor, followed with 36,084 units. By comparison, GM has sold 738 cars that run on electricity since it launched the Velite 5 plug-in hybrid model at the Shanghai auto show this April.

As part of efforts to boost sales of electric vehicles, foreign automakers are setting up new joint

ventures in China. Ford Motor Co. is exploring setting up a joint venture to produce electric vehicles in China with Anhui Zotye Automobile Co. while Volkswagen AG has partnered with Anhui Jianghuai Automobile Group Corp. to make electric cars.

—With assistance from Nao Sano and Kevin Buckland.

Modi's $2.5 Billion Power Plan May Stumble on Ailing Buyers

Posted September 28, 2017, 8:49 A.M. ET

By Rajesh Kumar Singh and Anindya Upadhyay

The success of Prime Minister Narendra Modi's ambitious plan to electrify all households in India by December 2018 faces a familiar hurdle: the money-losing state power retailers.

Modi earlier this week announced the government will spend 163.2 billion rupees ($2.5 billion) to provide electricity connections to every home in India by the end of next year, ahead of an earlier deadline of March 2019. The bulk of the cost for providing equipment such as power cables and electricity meters to every poor household will be borne by the federal government and partly by the states and the power retailer.

"The key is not the scheme but the political will to allow for commercial operations of discoms," CLSA analyst Bharat Parekh said in a report on Tuesday, referring to electricity distribution companies. "The key issue is that after electrifying the households, how much power will discoms supply and how will they recover the money."

Several power retailers are losing money on selling electricity below cost, and turning them around is in the hands of the state governments, which have traditionally used cheap power to shore up popular support and advance their political goals. Convincing states to allow profitable power tariffs will be Modi's biggest challenge in fulfilling the pledge that helped him rise to power in New Delhi in 2014. Modi is up for re-election in 2019.

"The onus now lies with the states," according to Debasish Mishra, a partner at Deloitte Touche Tohmatsu LLP in Mumbai. "The federal government is paying for connections, but the purpose will be defeated if the states fail to supply reliable power to people. And for that to happen operational autonomy of the distribution companies and timely payment of subsidies is a must."

Discom Losses

The announcement follows a 2015 proposal to reform power distribution, which sought to transfer three-quarters of utilities' debt to their respective state governments. The utilities were set targets to bring down losses. As a result, total losses of utilities that signed up for the plan dropped 21.5 percent from a year earlier to 403 billion rupees in the year ended March 31.

There's pressure on state governments to bring losses down even further. Starting this financial year, states will begin sharing a part of the losses their retailers make, according to the plan to turn around power distributors. In the year ending March, provincial governments will take over 5 percent of their retailers' losses in the previous year. The state's share of losses will rise each year, reaching up to 50 percent in the year ending March 2021.

Years of selling electricity below cost has eroded discoms' ability to invest in infrastructure, buy enough power from generators and repay bank debts. Power generation plants operate at just about half their capacity, unable to sell all the power they can produce. The power-for-all plan could "act as a major stimulus for the ailing power sector in India, with demand revival," Deutsche Bank analyst Abhishek Puri said in a Sept. 26 report.

"Our analysis suggests that power demand could potentially grow by 20 percent to 35 percent from current levels in two years, if the government is able to meet its target, as against the tepid 15% cumulative growth in the past five years," Puri said.

'Actual Supply'

The Sept. 25 announcement supplements an earlier program to invest 760 billion rupees in rural electrification. Modi's administration embarked on the plan in 2015, beginning with electrifying more than 18,000 un-electrified villages. About 3,000 villages still remain to be electrified, which means creating the infrastructure to take electricity to villages, making sure at least 10 percent of the households and public buildings there have power connections. Taking electricity to every home is the next phase of the plan.

Retailers have coped with losses by limiting power supplies to consumers in rural areas, who are heavily subsidized, and selling more expensive electricity to industrial consumers to help fund a part of the losses. Even if all rural households get power, making adequate returns on their investment will be a challenge for retailers given the low-usage pattern.

"This ambitious scheme needs to be followed up with equal emphasis on actual hours of supply, otherwise there'll be a danger of people not getting the true benefits of electrification, which can reduce their willingness to pay," said Ashwini Chitnis, a researcher at Prayas, a non-profit advocacy group that focuses on energy, health and education. "Poor cost recovery can result in poor maintenance and thus huge investments in network infrastructure can go waste."

Chile Aims to Boost Lithium Output as Electric Cars Rise

Posted September 28, 2017, 12:15 P.M. ET

By Laura Millan Lombrana

The country holding the world's largest reserves of lithium is drafting regulations that would allow companies to set up new mines amid soaring demand for the mineral used in electric-car batteries.

A Chilean government commission is expected to offer guidance by the end of the year for private companies that want to start lithium operations in the country, Mining Minister Aurora Williams said in an interview.

Lithium is considered a strategic resource in Chile, and no company has obtained a license in more than two decades. While global demand for lithium is expected to surge this year as carmakers such as Tesla Inc., Mitsubishi Corp. and others push to bring electric vehicles to the mass market, only two companies mine lithium in Chile.

"What Chile wants is to maintain and increase production so we can capture this space in the market," Williams said. "We are working on a set of documents that effectively set up ways and procedures to mine lithium."

Chile holds more than half of the world's known reserves of the mineral, and CRU Group says the country has the lowest mining costs. Miners pump lithium-rich brine from beneath salt flats in the country's north and leave it to dry in evaporation pools. Sociedad Quimica y Minera de Chile SA and Albemarle Corp. remain the only companies producing lithium in the nation.

The Chilean government will also unify environmental monitoring in Atacama, where both SQM and Albemarle are operating, to ensure that mining operations have no irreversible impact on the salt-flat's delicate environment and on the communities living around it, Williams said.

Privately owned companies that want to start a lithium operation in Chile can either partner with a state-owned company or negotiate special contracts directly with the government. Chilean-owned Minera Salar Blanco spent months in talks with the government before withdrawing from the process.

'No Rules'

"There are no rules, no one knows what the requirements are," Minera Salar Chief Executive Officer Cristobal Garcia-Huidobro said in an interview in his office in Santiago. "When we realized the process wasn't advancing. we decided to withdraw and wait for the government to write down the rules."

The new framework won't change lithium's special status, and companies will still have to negotiate directly with the state, according to Sergio Hernandez, executive vice-president of the Chilean copper commission Cochilco, a member of the committee drafting the rules.

However, it will provide more clarity on financial guarantees for projects, investment requirements, compensation to communities or land owners, environmental rules, taxes, and royalties.

"The lithium royalty will probably be a bit higher than for copper," Hernandez said. "This makes sense because of the natural advantages of starting production of a resource that is fresh, low-cost and easy to extract."

New Players

The framework would be a sign that Chile is opening up to new players and that much more new, low-cost lithium production could enter the market over the medium term. Even a sign that the regulation is business-friendly would have an effect on prices, according to Marcelo Awad, a Wealth Minerals Ltd. manager in Chile.

The lithium market is in deficit, but it could go into a small surplus this year even as new projects experience delays during ramp up and as demand is expected to increase 14 percent, according to Bank of America Merrill Lynch. Established producers including China's Tianqi Lithium Corp. and Albemarle are expanding production in their current operations. But supply disruptions could easily put it back into deficit, according to CRU Group.

"Long-term lithium prices, used to evaluate projects globally, could drop 25 percent when the regulatory framework is out," said Awad, whose company has acquired mining concessions in salt flats across the country. "Chile has the world's largest reserves that can be mined at the lowest

price, so the mere announcement should lower the long-term price."

Companies are using long-term estimates of $11,000 to $12,000 per metric ton of lithium carbonate, which would fall to $8,000 to $9,000 per ton when the regulations are put in place, Awad said. Lithium prices have more than doubled in the five years to 2016, according to UBS Group AG. The mineral averaged $14,250 a ton in July, according to Benchmark Minerals.

"It is important that companies wait for the definitions, but whatever the demands are, they will not diminish in any significant way Chile's geological and institutional advantages as a lithium producer," Hernandez said. "We will remain attractive."