To: Jackson, Ryan[jackson.ryan@epa.gov]
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Daily Environment Report

Afternoon Briefing - Your Preview of Today's News

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Hurricane Maria May Be Preview of Climate-Fueled Migration

Posted September 27, 2017, 9:42 A.M. ET

By Christopher Flavelle

Hurricane Maria's devastation of Puerto Rico may offer a preview for Americans of one of the most jarring potential consequences of global warming: the movement of large numbers of people pushed out of their homes by the effects of climate change.

The storm, which destroyed houses, washed away roads, and cut off power to the commonwealth's 3.4 million residents, risks accelerating an exodus that's already under way as people flee economic stagnation and rising taxes brought on by a fiscal and debt crisis.

On Sept. 26, Puerto Rico Governor Ricardo Rossello warned that without "unprecedented relief" from the U.S. government, "thousands if not millions" of residents could leave the island for the mainland. That would strain housing and job markets in the cities that received those people, as well as local government services.

In Puerto Rico, a further drop in population would make it harder to reverse its economic decline. The commonwealth declared bankruptcy in May and has stopped making payments on much of its more than $70 billion in debt. Fewer residents would mean less economic activity, further reducing tax revenue and leaving officials even less able to repay Puerto Rico's loans.

Scientists say higher water and air temperatures, as well as rising sea levels, increase the intensity and destructive power of hurricanes, a trend that will continue as the concentration of greenhouse gases in the atmosphere increases.

Migration Underway

Researchers at the International Monetary Fund, in a report released Sept. 27, looked at the links between extreme weather and emigration in more than 100 countries over three decades. They found that "a rise in temperature and greater incidence of weather-related disasters increase out-migration," according to Petia Topalova, the IMF researcher and lead author of the report.

It describes migration as an "adaptation strategy for households hurt by weather shocks" and predicts that "substantial migration flows, potentially spilling across country borders, could arise if climate change causes a significant rise in sea levels."

In some parts of the world, that's already happening.

In Africa, climate change forced an estimated 1 million people to leave their homes in 2015; in the Pacific, the World Bank has urged Australia and New Zealand to open their doors to residents forced off small island nations such as Tuvalu and Kiribati. Even in Syria, internal migration sparked by a historic drought contributed to the civil war, which has added to the wave of people trying to enter Europe in recent years.

Maria, which struck Puerto Rico Sept. 20, could expose the U.S. to a similar dynamic. The scale of destruction on the island, combined with its large population and Puerto Ricans' legal right to move anywhere in the U.S., could prompt migration on a larger scale than other natural disasters.

East Coast Influx

That raises questions about the country's ability to handle such a movement of people. The housing market in those cities may not be able to accommodate that kind of influx, according to Jesse Keenan, an expert on climate adaptation at Harvard University.

"Let's say just 350,000 leave," Keenan said. Of those, he added, "let's say just half end up in cities. It's a major housing crisis. We don't have that much slack in housing inventory."

Keenan used the example of New York, which has the largest concentration of Puerto Ricans outside of the island. The city's traditionally Puerto Rican neighborhoods, where new arrivals might settle—East Harlem, Bushwick, parts of the Bronx—already have low vacancy rates and high rental costs, Keenan said.

"The city of New York right now needs to set up a plan to house these people," he said. If they're forced to stay with friends or relatives, "you're talking about housing being burdened by having too many people legally in the unit," Keenan said, leading to fire risks, domestic strife and other problems.

Large numbers of newcomers also would place "a tremendous burden on social service delivery, at least for a couple of years," Keenan said.

Climate Migration

Topalova, the IMF researcher, said that people who leave Puerto Rico because of Maria may have a harder time finding their feet in their new homes.

"Previous IMF work suggests that people who were forced to depart their home country due to various events outside their control may be different, in terms of demographics and skills, than economic migrants," she said. "They may face greater challenges integrating in the job market relative to economic migrants who—by definition—chose their destination to maximize employment outcomes."

With enough planning and foresight, the U.S. “will be able to absorb and put to good work a wave of climate refugees,” said Giovanni Peri, an economist at the University of California, Davis, who studies climate migration.

Natasha Lycia Ora Bannan, an associate counsel at LatinoJustice, an advocacy group in New York, got a call Tuesday from a friend on the island, asking if she could help him find a job in the city. She described him as “somebody I never imagined asking that.“

For those who feel they need to leave the island, “this promise of economic opportunity elsewhere often does not lead to a job, or the job that they thought they would encounter,” she said. “I call it the forced migration.“

Debt-Ridden, Maria-Menaced Puerto Rico Faces Environmental Crisis

Posted September 27, 2017, 10:27 A.M. ET

By Adam Allington and David Schultz

Days after Hurricane Maria ripped through Puerto Rico, a severe reality is settling in: Food and gasoline are scarce, the island’s electric grid is decimated, and nearly half of the population lacks access to clean drinking water.

“In previous hurricanes, like Hugo [in 1989] and Georges [in 1998], people in rural areas or poor communities went to rivers and springs to get water,” said Alan Covich, an ecologist studying natural disturbances at the University of Georgia.

But Maria knocked down trees on mountain hillsides, making them susceptible to landslides and muddy waters, Covich told Bloomberg BNA. “When all of that sediment and debris makes its way into the river, it could contaminate the water, but it’s also going to create problems for treatment plants further downstream,” he said.

In the coming days and weeks, Covich said there will be a tremendous need for water purification kits across the U.S. territory, especially in rural areas. Without those kits, people will be drinking contaminated, stagnant water and face greater exposure to mosquito-borne diseases like Zika and Dengue fever, he said.

In a statement provided to Bloomberg BNA Sept. 26, the Federal Emergency Management Agency said it has delivered 6 million liters of water, 4 million meals, 300 infant and toddler kits, and 70,000 tarps to the U.S. Virgin Islands and Puerto Rico since Hurricane Maria’s Sept. 20 landfall, which brought 150 mph winds.

“An additional 7 million meals and 4 million liters of water are en route by barge,” said FEMA.

According to the Department of Defense and others that are assisting in the humanitarian response, about 44 percent of Puerto Rico’s 3.4 million residents are without clean drinking water.

And the destruction that Maria caused also could compound environmental risks in certain neighborhoods—particularly in low-income and rural areas.

Compromised Water Utility

Hurricane Maria's devastating landfall came just two weeks after another powerful hurricane, Irma, skirted the island, leaving 1 million without power.

But even before the twin storms, the Puerto Rico Aqueduct and Sewer Authority (PRASA), was facing criticism for systems operating in violation of the Safe Drinking Water Act.

And the island's main water utility was hamstrung by $4 billion in outstanding debt, rendering the agency effectively unable to fund much-needed infrastructure upgrades.

Under a 2015 settlement with the U.S. Department of Justice and the Environmental Protection Agency, PRASA agreed to undertake major upgrades, improve inspections, and prioritize island-wide capital improvement projects. In recognition of the financial conditions in Puerto Rico, the U.S. government agreed to waive payment of civil penalties.

But tropical storms and hurricanes put so much stress on infrastructure that it can be difficult to fortify them, even when money isn't tight, civil engineers said. And, compared to most municipal water authorities, Puerto Rico's PRASA is much, much larger.

"PRASA has eight dams and reservoirs and 114 water-treatment plants," said Melissa Pomales, a civil engineer for Arcadis, based in Puerto Rico. "They also have 51 waste water treatment plants and over 20,000 miles of water and sewer pipes."

Between 2005 and 2015, PRASA invested about $3 billion in capital improvements to bring itself back into regulatory compliance, Pomales said.

"But since 2015, the government hasn't had access to the financial markets to lend them the money," she told Bloomberg BNA.

The main problem now, said Pomales, is simply getting gasoline and wireless communications necessary to conduct damage assessments before treatment plants can resume pumping water.

'All Been Blown Away'

Puerto Rico declared a form of bankruptcy in May, facing a crushing multi-billion-dollar debt load following years of financial mismanagement. For the past decade, the government hasn't had the funds to pay its creditors or improve its aging infrastructure, let alone deal with the consequences of a major hurricane.

"Many times, when public utilities get into trouble, they quit funding maintenance and Puerto Rico has been failing to fund infrastructure for about 15 years now," said Brookings Institution Economist Barry Bosworth.

"I think they were starting to at least develop a plan to reduce costs and prioritize new spending," Bosworth told Bloomberg BNA, "but that's all been blown away now."

The extended public debt crises had already cast a pall over the island's economic future. But Bosworth notes that none of that should factor into providing people with the aid they need to survive and start to rebuild.

Island Isolation

Yet, even with FEMA able to provide an infusion of capital and equipment, the problem going forward might turn on whether people are willing to come to assist with the recovery, according to Bosworth.

“Think about what happens when we see hurricanes hit the mainland,” he said. “Utility companies from states all across the country send in resources and workers—those companies might be hesitant to send their staff down to Puerto Rico to help, because they’re worried they might not get paid back for that work.”

Under normal circumstances, municipalities might split the cost of disaster recovery 25–75 percent, with the government picking up the larger share, he said.

In the case of Puerto Rico, the only realistic way forward now is for the U.S. government to simply give the island the money to rebuild, no strings attached, according to Bosworth.

Appropriation From Congress

The momentum for an emergency funding bill for Puerto Rico is growing on Capitol Hill. Republicans in both chambers said Congress will have to act quickly to respond to the widespread destruction the hurricane caused.

GOP leaders in the House are preparing a bill similar to the one that was passed earlier this summer to help mainland U.S. communities in response to Hurricanes Harvey and Irma, according to Rep. Bob Gibbs (R-Ohio). He also told Bloomberg BNA that congressional leaders are waiting to hear from FEMA and other federal agencies about what types of aid will be needed on Puerto Rico.

That process is being complicated, however, by the massive logistical problems the storm triggered on the island including gasoline shortages and damaged roads. For example, disaster specialists from the Army Corps of Engineers have had a difficult time responding to congressional inquires because of downed communications infrastructure, according to Rep. Brian Mast (R-Fla.).

‘Between a Rock and a Hard Place’

Mast also told Bloomberg BNA that the Coast Guard is having trouble sending flights to Puerto Rico as “we can’t even get on the ground because they’re worried about places where martial law is in place.”

Sen. Marco Rubio (R-Fla.), floated the idea of extending ultra-low interest loans to the island. But it’s unclear how much capacity the local government has to take on more debt at any interest rate.

“Puerto Rico, its government, and its people are between a rock and a hard place,” Sen. Tom Carper, (D-Del.), told Bloomberg BNA. “They deserve our help and we need to provide it.”

Sen. Charles Schumer (D-N.Y.), the Democratic leader in the Senate, said Congress should be talking about grants, not loans.

“Low-interest loans are down the road,” he told reporters. “They need help now.”

—With assistance from Dean Scott

Broader Look at Chemical Uses Needed in EPA Rules, Groups to Say

Posted September 27, 2017, 03:54 P.M. ET

By Pat Rizzuto

The EPA is not casting a wide enough net in considering how people are exposed to certain chemicals, environmental and health groups plan to argue in lawsuits challenging two of its regulations. By ignoring certain pathways of exposure to particular chemicals, the Environmental Protection Agency is effectively narrowing how carefully it regulates these products, Andy Igrejas, the founder of the Safer Chemicals, Healthy Families coalition, told Bloomberg BNA. His group and others, including the Environmental Defense Fund and the Alliance of Nurses for Healthy Environments, are challenging two rules intended to implement the 2016 amendments to the Toxic Substances Control Act, saying the agency unlawfully allows itself to exclude chemical uses from its risk evaluation.

"EPA's position that it can ignore known and foreseeable uses violates the text of the law," wrote the Environmental Defense Fund in comments it recently submitted to the EPA about the agency's preliminary plans to determine whether 10 chemicals pose risks to people or the environment.

The range of uses and exposures the EPA considers could determine whether companies as diverse as the Occidental Chemical Corp., Tiffany & Co., and General Motors could face restrictions on their products. Regulations to control risks are required under TSCA if the agency evaluations conclude a chemical or its specific uses pose an unreasonable risk to people or the environment.

The narrower the scope of the EPA's assessments, the fewer the companies that would be subject to resulting regulations if the EPA concludes a chemical or its particular uses pose an unreasonable risk. A broader scope means more of a company's use or manufacture of chemicals could be regulated.

Rationale

The two rules being challenged describe how the EPA will go about prioritizing chemicals for risk evaluation and the procedures it will use for those reviews. The risk evaluation rule summarizes the agency's rationale for excluding uses.

The EPA may exclude chemical uses "in order to focus its analytical efforts on those exposures that are likely to present the greatest concern, and consequently merit an unreasonable risk determination," the agency said.

Companies and trade associations supported that rationale in comments and public meetings that proceeded the final rule. No company or trade association would discuss legal arguments to be raised in the upcoming lawsuits, but the American Chemistry Council and more than a dozen other trade associations asked the courts to allow them to intervene in the lawsuits supporting the EPA.

"Some stakeholders claimed that EPA is required to examine all conditions of use, all vulnerable subpopulations, aggregate risks, continuing exposures to legacy contamination, intended and actual uses (even misuses), and incidental and cumulative exposures," the chemistry council wrote in comments on the agency's plans to evaluate the risks of asbestos, pigment violet 29, seven solvents, and a cluster of three related flame retardants.

"ACC is concerned that such a comprehensive approach is neither legally required nor practical," it said. The American Public Health Association said the agency should look at exposures from all current and legacy uses and consider them together to do an adequate assessment and risk characterization.

"Asbestos is widely prevalent in the environment due largely to legacy uses and risk evaluations that assess only exposures from current uses will fail to characterize the risks these chemicals pose," wrote Georges Benjamin, a physician and executive director of the health association.

Lawmakers Eye Common Ground on Wildfires, Forest Management

Posted September 27, 2017, 6:33 A.M. ET

By Alan Kovski

Congress is stepping up action on forest management and wildfire funding bills, with potential for disagreements over streamlining environmental analyses but notable areas of agreement, too—especially in the case of a court decision that has entangled forest managers and logging projects.

A decision by the U.S. Court of Appeals for the Ninth Circuit that frustrated the Obama administration, as well as members of Congress, is on the chopping block. Lawmakers may make changes in the law to override the Cottonwood decision, as it is known, to make it easier for forest managers to approve projects such as logging in the federal forests.

Wider-ranging legislation may have a tougher time. Environmental advocates and many Democrats usually are strongly opposed to streamlining of environmental review requirements or most ideas about restraining litigation.

The bills are important to logging and sawmill companies in many rural parts of the West, to communities dependent on those business activities or threatened by wildfires, and to many environmental activists. Wildfires in 2017 have burned more than 8 million acres.

Sen. John Barrasso (R-Wyo.), chairman of the Senate Environment and Public Works Committee, presided over a Sept. 27 hearing on three bills concerning forest management strategies for reducing the risk of wildfires. Barrasso told reporters he intended to advance bills out of committee this year. Forest management has been a contentious subject for several years because of arguments over logging, environmental analyses, and litigation relief, but Congress gets a little closer each year to passing legislation, according to Sen. Steve Daines (R-Mont.).

Cottonwood Decision Targeted

Daines is the author of the Litigation Relief for Forest Management Projects Act (S. 605). It targets the Cottonwood decision and has the support of Sen. Jon Tester (D-Mont.). It is mirrored by a House bill (H.R. 1483) that also has bipartisan support.

The bill also received support from Collin O'Mara, president of the National Wildlife Federation, during the Senate hearing that Barrasso chaired.

The 2015 Cottonwood decision by the Ninth Circuit said forest managers must start new consultations with the U.S. Fish and Wildlife Service whenever new information indicates potential impacts on endangered species from federal agency decisions.

The U.S. Forest Service told Bloomberg BNA Sept. 26 that the Cottonwood decision has led to some extensive projects being halted by litigation in the service's Montana-based northern region. The stalled projects mean an estimated 99.6 million board feet of timber are waiting to be harvested and 1,539 associated full-time or part-time jobs are unfilled, the service said.

Much of the proposed work is to reduce the buildup of hazardous fuels that can contribute to wildfires, according to the service. The projects also are intended to help trees withstand insect infestation and disease, the service said.

The Cottonwood decision came about after the Fish and Wildlife Service revised the critical habitat of the endangered Canada lynx. Environmental activists argued forest managers should be required to restart consultations with the Fish and Wildlife Service and revise forest management plans as needed for the lynx.

The Cottonwood decision confronts national forest managers with the prospect of endless rounds of consultations on species, because new information is always coming up, U.S. Forest Chief Tom Tidwell said in June, two months before his retirement.

Money and Management

Bipartisan bills also have been proposed to revise federal funding of wildfire suppression. Rep. Mike Simpson (R-Idaho) in June proposed again a bill (H.R. 2862) to use budget cap adjustments to allow more funding of wildfire suppression. Sen. Ron Wyden (D-Ore.) introduced a companion bill (S. 1842) Sept. 19 in the Senate, where it was referred to the Senate Budget Committee.

Several lawmakers, including the Republican chairmen of the Senate Energy and Natural Resources Committee, the Senate Environment and Public Works Committee, and the Senate Agriculture, Nutrition, and Forestry Committee, have said it makes sense to enact changes in forest management policies along with wildfire funding because better management can reduce the frequency and severity of forest fires.

That is where environmental advocates and many Democrats dig in their heels. They worry that the revised forest management policies will lead to too much logging under the guise of forest "restoration" or forest "resilience."

"Timber companies would be the only winners if these terrible bills pass," Brett Hartl, government affairs director with the Center for Biological Diversity, said in a statement.

O'Mara of the National Wildlife Federation was less condemning, though he warned against short-changing environmental reviews. Congress could marry some changes in forest management to wildfire funding changes for a valuable package, he told the Senate committee.

Bills S. 1731 by Sen. John Thune (R-S.D.), S. 879 by Sen. John Barrasso (R-Wyo.), S. 1752 by Sen. Dean Heller (R-Nev.), and H.R. 2936 by Rep. Bruce Westerman (R-Ark.) all would mandate streamlining of National Environmental Policy Act procedures. Barrasso's bill also contains minimum annual acreage requirements for forest improvement projects, and it would require the establishment of an arbitration program as an alternative to judicial review.

The Environment and Public Works Committee discussed both Thune's and Daines' bills. After the hearing, Barrasso said he also had been talking to senators about wildfire funding, increasing the prospect of a legislative package combining forest management and funding changes.

Another Sept. 27 hearing, in a subcommittee of the House Natural Resources Committee, also looked at forest management strategies, although the full committee approved Westerman's bill in June.

Sen. Pat Roberts (R-Kan.), chairman of the Agriculture Committee, said this month he intended to work with Daines to develop a forest management bill in his committee, especially with ideas from Daines. Asked if the various committees of jurisdiction in the Senate would work well together to get a bill passed, he said, "That's a damn good question."

Maryland to Take EPA to Court Over Interstate Air Pollution

Posted September 27, 2017, 01:08 P.M. ET

By Leslie A. Pappas

Maryland is suing the EPA for failing to limit air pollution blowing in from others states, it announced Sept. 27.

Maryland Gov. Larry Hogan (R) directed state's Attorney General Brian Frosh to file a lawsuit against the Environmental Protection Agency for failing to act on a November 2016 petition that seeks new pollution controls on 19 coal-fired power plants in five upwind states.

Pollution from Indiana, Kentucky, Pennsylvania, Ohio and West Virginia impedes Maryland's ability to meet federal air quality standards, the state said. About 70 percent of Maryland's pollution problems come from emissions from those states, the state said.

Delaware and Connecticut also filed petitions with the EPA in 2016, targeting plants such as NRG Energy's Cheswick plant outside of Pittsburgh and Duke Energy's East Bend Generating Station in Kentucky.

S.C. Regulators Asked to Review Rate Hikes for Canceled Project

Posted September 27, 2017, 9:43 A.M. ET

By Jim Polson

South Carolina utility regulators are weighing a request to suspend previously approved rate increases for Scana Corp. related to its canceled V.C. Summer nuclear plant expansion.

The request by staff of the Public Service Commission of South Carolina cites a state attorney general's opinion that rate hikes for unfinished or abandoned power plant projects were approved under a "constitutionally suspect" state law. Customers may be due credits or refunds should the law be amended or deemed unconstitutional, according to the filing Tuesday. Scana will "vigorously contest the request," the Cayce, South Carolina-based utility owner said Sept. 27 in a separate filing.

Scana and its partner, state-owned utility Santee Cooper, halted construction on two new reactors at the Summer plant after costs ballooned to over $20 billion, a decision that leaves Southern Co. as the only utility building a nuclear plant in the U.S. Scana had asked utility regulators for permission to recover $4.9 billion in expenses for the project before withdrawing the request in August to give officials more time for review.

"This would be a severe, a huge financial blow to the utility," Kit Konolige, a New York-based utility analyst for Bloomberg Intelligence said by phone Wednesday. "My guess would be, the commission won't want to do that."

Scana shares fell 2.1 percent to $54.41 at 9:43 a.m. in New York.

The utility's South Carolina Electric & Gas utility is collecting about $445 million a year for the Summer project, Konolige said. Suspending rate hikes would save the average residential customer about $27.03 a month, according to the staff filing.

The commission staff also cited allegations that Scana failed to disclose information that would have appeared to provide a basis for challenging rate increases. The utility "should not be allowed to continue to benefit from nondisclosure," it said.

Wal-Mart Steps Up Push to Remove Potentially Harmful Chemicals

Posted September 27, 2017, 9:46 A.M. ET

By Lauren Coleman-Lochner

Wal-Mart Stores Inc. is expanding its program to clean up the products it sells, setting a 2022 target for reducing potentially harmful substances and widening the list of chemicals it wants to avoid.

The world's largest retailer aims to reduce the chemicals in products such as household cleaners, cosmetics, skin care and infant items by 10 percent by then, according to a company statement Sept. 27. It's also added some fragrance allergens to its so-called priority list of substances it wants to remove from goods.

The new goal is the latest in the retailer's efforts to respond to consumers seeking greener products and more information about what's in them. Last year, Wal-Mart named eight high-priority chemicals it wants eliminated from the goods it sells, and it's on schedule to have the chemicals listed on its broader priority list labeled online and on packaging next year.

"We're trying to center around a broader approach that emphasizes three elements: building trust, delivering impact and really staying ahead of regulation," said Zach Freeze, Wal-Mart's senior director for strategic initiatives for sustainability.

Last month, Wal-Mart also started participating in the Chemical Footprint Project, which helps companies track and eliminate dangerous substances. The program gives Wal-Mart a tool to make further reductions, Freeze said. So far, its suppliers have removed 96 percent of high-priority chemicals by volume weight from consumables products sold in U.S. stores.

Wal-Mart announced in 2013 that it would ask suppliers to find safer alternatives for ingredients in personal care, cleaning and beauty products. Some of its suppliers have recently announced their own initiatives. Unilever and Procter & Gamble Co. both said this year they'll start labeling fragrance ingredients in their products, illuminating an area that's long been opaque.

Climate Shocks May Cost U.S. $1 Billion a Day as Planet Heats Up

Posted September 27, 2017, 12:17 P.M. ET

By Joe Ryan

Stronger hurricanes, hotter heat waves, more frequent wildfires and more severe public-health issues are all adding to the costs of climate change, which will reach almost $1 billion a day in the U.S. within a decade, according to a report released Sept. 27.

Total costs to address the impact of rising temperatures will swell 50 percent by 2027, to $360 billion annually, according to the study from the Universal Ecological Fund. That equates to about 55 percent of expected economic growth in the U.S.

The report comes as the U.S. continues to reel from one of the costliest hurricane seasons in history. Hurricanes Harvey, Irma and Maria have inflicted an estimated $173 billion in damage in Texas, Florida, Puerto Rico, and the U.S. Virgin Islands. On the West Coast, record dry conditions and heat have triggered wildfires in nine states. Unless the U.S. cuts fossil fuel use, the economic toll from such events will continue to rise, the study concludes.

"The increasing damage from climate-change related storms, wild fires, human health, agriculture loss and the like are taxing the potential of economic growth," said James McCarthy, a Harvard University professor whose co-authors included Robert Watson, former chairman of the Intergovernmental Panel on Climate Change. The researchers weren't paid for their work.

The study's conclusion that fossil fuels exacerbate global warming and create a drag on economic growth runs counter to the view of the White House.

President Donald Trump, who has called climate change a hoax, has put oil, natural gas and coal production at the center of his economic agenda. Energy Secretary Rick Perry told a meeting of the National Petroleum Council Sept. 25 that fossil fuels are even saving lives in developing nations by increasing access to energy.

The economic toll of climate change is not limited to storms. Droughts in states including California, Texas and Oregon have led to $56 billion in crop losses since 2012, according to the study, which used data from the National Oceanic and Atmospheric Administration, the Centers for Disease Control and Prevention, and other federal agencies. If global warming goes unchecked, corn and soybean production may fall as much as 30 percent in the next three decades, costing farmers as much as $25 billion annually, according to the study.

For years, policy makers argued it was impossible to grow the economy without increasing fossil fuel use. Renewable energy has become more common, challenging that notion.

"That's no longer true," McCarthy said.

Landfill Gas for Dinner? Scientists to Cook Food from Waste

Posted September 27, 2017, 9:49 A.M. ET

By Ann Koh

Imagine a world where gas emitted from landfills can be turned into edible protein that ends up on your plate as a burger or a steak.

That's what scientists are hoping for. Calysta Inc. in California and String Bio in the Indian city of Bengaluru are among biotechnology firms that have separately discovered ways to turn methane into protein. Bacteria found in soil are fed a liquid containing the gas, sparking a fermentation process similar to making beer. Instead of alcohol, protein is released into the water, which is then dried into a brown powder. The product is already being used in animal feed, the first step toward readying it for human consumption.

The companies are betting their products will help alleviate the strain of a growing global population on agricultural land and oceans while natural gas prices trade near the lowest level in almost two decades. String Bio, a start-up which won $200,000 in Indian government grants, and Calysta, backed by investors including Japan's Mitsui & Co. and Cargill Inc., hope methane-made protein will become a sustainable food of the future.

"It's way better to turn methane into food than burn it," said Calysta's chief executive officer, Alan Shaw, a Menlo Park-based chemist who led efforts to turn crop waste into fuels at his previous firm. "What better use for it than to turn it into protein and put it into the human food system, and take a lot of the pressure off?"

Landfills, sewage plants and farms all naturally produce methane when organic matter decomposes, which can be captured and transported to a facility, said Ezhil Subbian, the co-founder of String Bio in Bengaluru. Shaw says the amount of methane from such sources is too small to feed a large plant economically at the moment but Calysta is working on "scaling down" its technology. Subbian is optimistic that String Bio will be able to build plants using biogas methane in the next five years.

"We're working on a way to essentially be economic, but at a smaller scale," said Shaw. "That's not easy, but we do have some ideas and are working on it."

For now, Calysta will use natural gas from a pipeline at its $500 million Memphis, Tennessee facility instead of biogas. In May, the company received $40 million in funding from investors and expects to start operating in 2019, with the aim of having an annual capacity of 200,000 tons of protein. Global feed production broke above 1 billion tons, according to 2017 Alltech estimates. Mitsui & Co., one of the investors, saw a business opportunity given the growing demand for protein that can't be met through fishmeal, said Yuhei Saito, who oversees the nutri-science business at the Japanese trading house.

String Bio is still seeking funding from investors to commercialize its technology, and is producing a few kilograms a month at its pilot plant in Bengaluru. Local suppliers deliver canisters of methane that's fed to bacteria, which ferments to produce wet protein clumps that are dried and sent to poultry and fish farmers for testing.

"You just mix the protein with regular feed and feed it to animals," said Subbian, a synthetic biologist who worked on developing fuels and chemicals from plants. "I envision us purifying it further where it could be ready for human consumption."

By creating food from waste gas, the companies say they'll be able to feed emerging economies in Africa, South America and Asia, where arable land and ocean resources are declining. By 2050, the world population is expected to surge to 9.6 billion, leading to a 61 percent increase in food production, according to the Food and Agriculture Organization of the United Nations.

The market for gas and fishmeal has also turned in favor of the scientists. U.S. natural gas prices plummeted to $1.639 per million British thermal units in March last year, the lowest level since 1999. It's now trading at $2.923 as of 4 p.m. Singapore time, still about 80 percent below the December

2005 peak.

Meanwhile Peruvian fishmeal, a common source of protein for livestock and shrimps, has more than doubled from a record low $373.16 a ton in June 1993 to $1,092.07 a ton in June this year, according to data from the International Monetary Fund.

“Natural gas is transforming the world economy at the moment because of its relative cheapness to oil and other forms of carbon,” said Shaw. “You’re not going to stop people from using fishmeal, but you will be able to provide a sustainable replacement.”

Subbian shares Shaw’s vision for the future, and is trying to think of ways it can be shared at the dining table. The taste, she says, can be best described as similar to whey -- a protein derived from milk favored by body builders.

“We’d sell it to someone else who makes it into a steak-like product, or a fish-like product, or something like a tofu perhaps, that we could grill and eat,” she said. Laughing, she adds: “When it gets there, we’ll need to bring a good chef on board.”

—With assistance from Stephen Stapczynski.

World’s First Green Exchange Lists $74 Billion in Its First Year

Posted September 27, 2017, 9:13 A.M. ET

By Anna Hirtenstein

The Luxembourg Green Exchange, the world’s first bourse for securities related to climate change, listed 63 billion euros ($74 billion) of bonds after one year.

“This far outstripped what we expected,” Jane Wilkinson, head of sustainable finance at the Luxembourg Stock Exchange, said in a phone interview. “It clearly outstrips the growth we’ve seen in Luxembourg on the regular market, which was stable.’’

The Luxembourg Green Exchange, also known as the LGX, was set up as a place where investors could be certain that what they were buying was really a green bond. The industry is unregulated to date, although issuers can voluntarily follow frameworks such as the Green Bond Principles or the Climate Bond Initiative. The LGX obliges its issuers to provide full documentation, both before and after issuance.

The 63 billion euros makes up about 1 percent of the Luxembourg Stock Exchange, in terms of value of listed assets, according to Wilkinson. The global green bond market reached $95 billion last year. After a record-breaking 2017 first half, Bloomberg New Energy Finance raised its 2017 forecast for issuance to $130 billion from $123 billion. Wilkinson said the figure could be as much as $140 billion.

The LGX receives as many as two to three questions and requests daily from parties such as treasury departments and law firms that are interested in issuing green bonds, according to Wilkinson.

“There’s definitely an increased interest by potential issuers,’’ Wilkinson said. “New players that are waking up and thinking this could be an interesting market for us and starting to do their homework.”

There is rising interest in China, U.S. municipalities and Latin American financial institutions, she said. Corporate issuers are also getting more involved.

“It’s still a bit of a nascent market, if you’re a big company I feel like they should lead the way,” Wilkinson said. “I understand that they don’t need to list because they have enough interest, but that kind of issuer can use their influence.”

Some large companies in the clean energy industry haven’t labeled their bonds as green, even if they could, such as Tesla Inc.’s recent $1.8 billion offering. This may be because of the additional reporting that’s generally expected from investors to prove that the funds raised are only being used for environmentally-focused projects, Wilkinson said.

Now One of the World’s Energy Powerhouses Has a Coal Squeeze

Posted September 27, 2017, 10:14 A.M. ET

By Perry Williams and Ben Sharples

Australia’s energy crisis keeps getting stranger.

The world’s second-biggest seller of liquefied natural gas is already threatening producers with export curbs as it struggles to find enough supply for its own use. Now the country that ships more thermal coal overseas than almost any other is scrambling to replenish stockpiles at some power plants after they dwindled following a surge in demand and constrained supply.

It’s the latest twist in the saga of how a global energy powerhouse is struggling to sustain reliable and affordable electricity for its own population. Power price spikes and gas shortages have already frustrated businesses and homes across the nation and put pressure on the government and generators to prioritize domestic customers over sometimes more lucrative export markets.

Coal inventories at Australia’s three largest electricity providers—AGL Energy Ltd., Origin Energy Ltd. and CLP Holdings Ltd.’s EnergyAustralia—have shrunk over winter as they use more of the fuel to compensate for natural gas shortages. The closure of the Hazelwood coal-fired power plant in Victoria state also put further pressure on the nation’s remaining generators to produce more power, eating through their stockpiles at a faster pace.

Against this backdrop, the power producers have struggled to get sufficient supplies as they compete with overseas buyers for lower-quality coal that was once considered too poor to export. Miners in Australia can command higher prices for coal known as high ash in China, South Korea and India.

“The high ash market has developed in North Asia over a number of years and that has caused complications for some power stations,” said Robin Griffin, a research director at Wood Mackenzie Ltd. in Brisbane. “It means that miners can actually sell a much lower quality product into the export market.”

Griffin estimates miners can probably sell coal to international customers at double the price sold to domestic utilities. Australia exported 116.1 million metric tons of thermal coal during the first seven months this year, compared with 114.4 million in the same period last year, according to government data.

“The local power producers have got a set delivery amount and they may be asking for more coal,” he said. “It’s going to be very difficult to convince miners to sell coal at a lower price to domestic utilities, it’s just a no-brainer.”

Strong Chinese imports and the price gap Australian producers can achieve by exporting coal rather than selling to local plants was a factor contributing to low stockpiles, according to Gavin Wendt, a senior resource analyst at MineLife Pty.

There’s growing concern power supply disruptions may trigger blackouts during the peak summer demand period. Three of the biggest LNG producers on Wednesday guaranteed to supply more of the fuel to alleviate domestic shortages and lower spiraling prices after Prime Minister Malcolm Turnbull threatened to impose export curbs from their projects.

Australia has been scrambling to find additional sources of electricity since the national market operator said in March that gas-fired power shortfalls may be possible next year. The warning spurred Turnbull to propose rules to restrict gas exports in the eastern state of Queensland amid concern outbound shipments had contributed to supplies being crimped and a tripling of Australia’s wholesale gas price in the past two years.

‘Historic Lows’

Coal accounts for 76 percent of Australia’s power generation. Stockpiles at AGL’s Liddell and Bayswater plants in New South Wales state fell to “historic lows” over winter as consumption rose due to limited natural gas supplies and the loss of power from the Engie SA-owned Hazelwood, an AGL spokesperson said in an emailed statement. International coal demand has also placed pressure on the rail lines that thread through the Hunter Valley region of the state, adding to constraints.

EnergyAustralia and Origin have struggled to procure sufficient quantities of the fossil fuel. The Mt. Piper power station, which supplies 15 percent of electricity demand in New South Wales, only has stockpiles to operate at “very low production levels” for a few months due to a legal dispute impacting mine supplies, EnergyAustralia said in an emailed statement.

Origin said its Eraring power station in the state “ran very hard” to meet demand over winter that created an issue with coal stockpiles, which now “needs to be managed.” It has since sourced additional supply to replenish stocks and expects record coal to be delivered by rail to Eraring in September, according to Origin’s general manager for energy supply and operations, Greg Jarvis.

The New South Wales government is working with the Australian Energy Market Operator to ensure there is sufficient fuel supplies this summer while also looking at how it may reduce demand on the power grid during heatwaves.

“There are many parallels with what is happening in the gas space and what’s happening in the coal space right now and I think it’s taken the market by surprise,” MineLife’s Wendt said in an interview Sept. 27.

Amazon.Com for Fuel Is How China Oil Wolves Battle State Tigers

Posted September 27, 2017, 8:18 A.M. ET

By Alfred Cang and Serene Cheong

China's oil-industry "wolves" want to help fuel buyers get rid of paperwork, and instead provide them with the Amazon.com experience.

Dongming Petrochemical Group, the biggest of China's private refiners in the eastern province of Shandong, has set up a website where traders, factories and pump stations within a 300 kilometer radius can ask for fuel to be delivered within 12 hours. They can also choose to place orders via an app or even through instant messaging service WeChat. There's a digital wallet payment option too. Chambroad Petrochemicals Co., another independent processor in the region, also has a similar service.

The strategy is part of their plan to take on more powerful state-owned refining giants such as Sinopec amid increased competition in the domestic market, while fuel demand is threatened by everything from electric vehicles to shared bikes. Moreover, while the state behemoths have government approval to export their oil products, the private companies, known as teapots, don't—meaning they can't access overseas markets for their merchandise.

Dongming says it's having to sell fuel to its bigger state rivals at a discount of 1,200-1,500 yuan ($180-$226) per metric ton to market prices. Other private refiners outside Shandong province, such as Rongsheng Petrochemical Co., are also seeking to make their mark and are posing a threat to the independent processors within the region. Dongming will be part of a new $5 billion group that's banding together to better take on rivals and have support from the regional government.

"Independent refiners in Shandong think of themselves as wolves, alongside tigers that are the national oil companies," Zhang Liucheng, vice president of Dongming Petrochemical, said in an interview in Singapore during the S&P Global Platts APPEC conference. "But with the emergence of other bigger independents that will soon bring new capacity online, they will become the wolves, while the tigers remain, and we will be the sheep in their presence."

China's New Silk Road Seen as Spur for Electric Cars in Europe

Posted September 27, 2017, 02:16 P.M. ET

By Jonathan Tirone

China's new silk road stretching into the heart of Europe may be what ultimately delivers more climate-friendly technologies like batteries and electric cars.

The trade route known in Beijing as the Belt and Road Initiative is spurring $1 trillion of investment on rail, highways and ports linking Europe and Asia. China's renewable-energy companies already are using the initiative to open new markets in southern Asia, the Middle East and Africa, according to Bloomberg New Energy Finance.

Austrian executives gathered outside Vienna to discuss the future of energy are banking on similar market-making effects in Europe. They anticipate the scale of manufacturing from China and quicker market access through the Belt and Road links to drive down the costs of electric cars and energy storage technologies in Europe.

"It's not a question of if but when, because it's happening," Verbund AG Chief Executive Officer Wolfgang Anzengruber said Sept. 27 at a green energy conference in the small Alpine town of Fuschl, Austria. "If China says it, it is so."

China's market-making role in Europe extends beyond developing EVs and is striking at the heart of traditional European businesses, according to Wolfgang Hesoun, chief executive officer of Siemens AG's Austrian unit, which employs 2,500 workers making trains and trolleys.

"The best ideas come from outside," Ramon Vullings told the energy executives gathered in Austria. The Dutch consultant said he traveled China's ancient silk road for 1 1/2 years in a bid to bring back new ideas to help Europe's companies deal with transition to renewables.

European companies will only be able to challenge Chinese companies by developing "locally-oriented" supply chains that cultivate customer loyalty, Hesoun said at the event a day after Siemens merged its rail unit with Alstom SA.

Similarly, just how quickly European companies can develop things like the lithium-ion batteries—used in electric cars and grid-balancing systems— depends on how much demand there is for those things consumers in China at the other end of the Belt and Road.

Automakers who employ 300,000 in Austria—and supply German giants Volkswagen AG and Daimler AG—are looking for ways to use electric cars to tap into China's market of 1.4 billion people.

"We need to start developing these technologies because if we don't, others will," World Energy Institute Secretary General Christoph Frei said, adding that China's huge market is leading the green energy shift.

Brazil Gets $3.8 Billion Boost to Budget from Power Auction

Posted September 27, 2017, 02:28 P.M. ET

By Vanessa Dezem and Rachel Gamarski

Brazil raked in 12.1 billion reais ($3.8 billion) in revenue from a power plant auction that was key for efforts to hit a closely-watched budget goal.

The government sold concessions to operate four hydroelectric plants previously run by state-owned utility Cemig in an auction Sept. 27 that lasted less than an hour and beat policy makers' expectations of 11 billion reais in revenue. A separate auction for 287 oil exploration blocks is also underway, with that sale seen raising around 500 million reais.

The power auction results boost chances that President Michel Temer's administration will deliver its 2017 fiscal goal of a 159 billion reais deficit. Even after announcing plans to target a wider budget gap than previously forecast, policy makers are facing an up-hill battle as Latin America's largest economy recovers slowly from recession.

"In the short-term, the income will help deliver the target," Leonardo Costa, an economist at Rosenberg Associados, said in an interview. "But the pressure continues."

Since assuming the presidency last year, Temer has placed fiscal responsibility at the center of his strategy to woo back investors and spark growth. His government has cut spending, announced plans to postpone civil servant pay raises and said it will sell other assets including a lottery service run by state-controlled bank Caixa Economica.

Still, a series of corruption allegations against Temer have hindered the agenda. Lawmakers are now focused on voting on the second round of charges against the president, which will likely further delay deliberations on his flagship pension reform.

After the results were announced, Temer said on his Twitter account confidence in Brazil has been recovered. The government will use additional funds from the sale to help compensate any future disappointment in tax income, according to an official with direct knowledge of the matter.

The government expected to raise at least 11.05 billion reais with auction, while analysts from Goldman Sachs had an estimated range of 14.45 billion reais to 17.99 billion reais

China's State Power Investment Corp., known as SPIC, won the rights to operate the biggest of the hydroelectric dams being auctioned, Sao Simao. The bid was 7.18 billion reais, 6.51 percent above the set minimum

Engie SA won the contracts for Jaguara and Miranda plants, paying 2.171 billion reais and 1.36 billion reais, respectively. The company paid the highest premiums for the assets in the auction

Enel SpA, Italy's biggest utility, had the winning bid on the Volta Grande dam for 1.419 billion reais

The plants have a combined 2,922 megawatts of installed capacity and are located in the states of Minas Gerais, Goias, and Sao Paulo. They were previously operated by Cia. Energetica de Minas Gerais, a state-run utility known as Cemig

—With assistance from Ana Carolina Siedschlag.

U.K. Opposition Steps Up Push to Nationalize Energy Companies

Posted September 27, 2017, 01:14 P.M. ET

By Jessica Shankleman

Jeremy Corbyn's Labour Party is talking more about nationalizing Britain's energy companies, suggesting it could "take control" of major utilities like SSE Plc and Centrica Plc if the opposition wins the next election.

Key figures at the party's conference in Brighton the week of Sept. 25 hinted that Labour is poised to go beyond its current pledges of renationalizing local grid networks, a move they say would bring down costs for consumers and expand clean energy supplies.

To a standing ovation, Corbyn pledged "to take utilities back into public ownership" during his speech to the party conference Sept. 27. Shadow Chancellor John McDonnell on Sept. 26 vowed to bring energy companies under the "ownership and control" of "the people who use and work in them."

Their promises are broader than the manifesto pledge published in May to only change the licensing arrangements for regional grids in order to take them into public ownership and to make new publicly-owned grid companies that would compete with the Big Six utilities.

Rebecca Long-Bailey, the party's lawmaker who speaks on business, energy, and industrial strategy, explained some of these details at a energy-policy meeting on the sidelines of the conference. The party leadership may be banking on many members confusing the finer points of the manifesto with more popular pledges made on stage.

“We’ve said we want to set up regionally owned energy companies to rival the ‘Big Six’ energy companies and create competition in the market. But that’s not the only thing we want them to do,” Long-Bailey said. “In time we want them to be able to harness the ability to generate electricity on a local level alongside other business in the area.”

CBI business group, which represents British industry, bristled at the idea.

“Forced nationalization of large parts of British industry will send investors running for the hills and puts misplaced nostalgia ahead of progressive vision,” said Carolyn Fairbairn, the CBI’s director-general.

The Conservative Party said Labour’s entire nationalization plan of rail, mail, water, and energy networks listed in the manifesto could add at least 134 billion pounds ($180 billion) to the public debt, citing figures from the non-partisan Institute for Fiscal Studies.

Chi Onwurah, a Labour lawmaker speaking on industrial strategy, said nationalizing energy companies wasn’t “a backward step.”

“What isn’t working is what we have now,” Onwurah said at an event at the conference on Monday. “Where we have private sector generation and distribution and a market which is supposed to be competitive but isn’t.”