

Climate Changed Turbines in Landfill Trigger Debate Over Wind's Dirty Downside



Wind turbines may be carbon-free, but they're not recyclable.

A photograph of dozens of giant turbine blades dumped into a Wyoming landfill touched off a debate Wednesday on Twitter about wind power's environmental drawbacks. The argument may be only beginning.

Fiberglass turbine blades – which in some cases are as long a football field – aren't easy to recycle. And with BloombergNEF expecting up to 2 gigawatts worth of turbines to be refitted this year and next, there could be heaps more headed for dumps.



A technician repairs a wind turbine blade in Adair, Iowa.

Photographer: Daniel Acker/Bloomberg

Cynthia Langston, solid waste division manager for the city of Casper, declined to say where the turbine debris came from. But she's happy to have it. The 1,000 blades will bring in about \$675,000 for the landfill, helping keep trash costs low for local residents. Plus, Langston said, wind-farm junk is less toxic than other garbage.

"It's much cleaner than the contaminated soil and demolition projects from the oil and gas industry," Langston said in an interview. "These are about as non-toxic as you can get."

Wind turbine blades represent a "vanishingly small fraction" of overall waste in the U.S., according to the American Wind Energy Association.

Sachin Shah, chief executive officer of one of the world's largest clean-power operators, Brookfield Renewable Partners LP, said "there will be an aggressive effort to re-use

materials” in the years ahead.

US sanctions Iran's Foreign Minister Mohammad Javad Zarif



The US Department of the Treasury has imposed sanctions against Iranian Foreign Minister Mohammad Javad Zarif.

The sanctions freeze any assets Mr Zarif may have in America, the department said.

“Javad Zarif implements the reckless agenda of Iran’s Supreme Leader (Ayatollah Ali Khamenei),” Treasury Secretary Steven Mnuchin said.

Mr Zarif tweeted the US had imposed sanctions on him because it considered him as a threat to its agenda.

- Iran-US tensions: What’s going on?

- US-Iran relations: A brief history
- Gulf crisis: Are we heading for a new tanker war?

Tensions between the US and Iran have heightened since the US last year withdrew from the 2015 nuclear deal that aimed to curb Iranian nuclear activities.

There are growing concerns that a number of recent incidents in the Gulf could lead to a military conflict in the vital shipping region.

On Wednesday, the US extended waivers which allow Russia, China and European countries to continue civilian nuclear cooperation with Iran.



Media caption Iran's Foreign Minister: We cannot leave our own neighbourhood

White House security adviser John Bolton said on Wednesday that it was a "short 90 day extension".

"I think the idea here is we are watching those nuclear activities very, very closely," he added.

What did the US say?

Mr Mnuchin described Mr Zarif as the Iranian “regime’s primary spokesperson around the world”.

“The United States is sending a clear message to the Iranian regime that its recent behaviour is completely unacceptable.

“At the same time the Iranian regime denies Iranian citizens’ access to social media, Foreign Minister Javad Zarif spreads the regime’s propaganda and disinformation around the world through these mediums,” Mr Mnuchin said.

How did Mr Zarif respond?

Mr Zarif said the US move “has no effect on me or my family, as I have no property or interest outside of Iran”.



“The US reason for designating me is that I am Iran’s ‘primary spokesperson around the world. Is the truth really that painful?’” he asked.

“Thank you for considering me such a huge threat to your agenda.”

What about the 2015 nuclear deal?

Last year, the US unilaterally withdrew from the agreement between Iran and world powers.

Washington has since reimposed tight sanctions affecting the Iranian economy, and also

The other parties of the 2015 deal – China, France, Germany, Russia and the UK – criticised Mr Trump's decision and said they remained fully committed to the deal.



Media caption Inside Iran: Iranians on Trump and the nuclear deal

Iran responded by breaching the limit on its stockpile of low-enriched uranium set under the nuclear deal.

Tehran stepped up production of enriched uranium, used to make reactor fuel but also potentially nuclear bombs, in May.

- Is the Iran nuclear deal finally dead?
- Why do the limits on uranium enrichment matter?
- Iran nuclear crisis in 300 words
- Iran nuclear deal: Key details

Last week, talks were held in Vienna to try to save the nuclear deal.

After meeting representatives from Britain, France, Germany, Russia and China, a senior Iranian official said the atmosphere had been “constructive”.

And what about recent tanker incidents?

Tensions between the UK and Iran rose in July after British forces seized the Iranian tanker, Grace 1, off Gibraltar. It was alleged to be carrying oil to Syria in breach of EU sanctions, a claim denied by Iran.



Media captionFootage released by Iran’s Revolutionary Guard-affiliated Fars news agency appears to show Stena Impero being seized

Several days later the British-flagged Stena Impero was impounded by Iran, which said it had been “violating international maritime rules”.

Britain sent a second warship on Sunday to escort its ships

sailing through the Strait of Hormuz.

Sweden's Biggest Cities Face Power Shortage After Fuel-Tax Hike



Sweden's introduction on Thursday of a tax aimed at phasing out the nation's last remaining coal and gas plants to curb global warming comes with an unintended consequence for some of its biggest cities.

Hiking threefold a levy on fossil fuels used at local power plants will make such facilities unprofitable and utilities from Stockholm Exergi AB to EON SE have said they will halt or cut power production.

The move means that grids in the capital and Malmo won't be able to hook up new facilities including homes, transport links and factories. While Sweden doesn't have a shortage of power, there's not enough cables to ship it to the biggest cities.

"We don't have a problem with generating enough power in Sweden, we have a problem with getting it to where its needed," Magnus Hall, chief executive officer of state-owned utility Vattenfall AB, said in an interview. "This law was added with short notice and I am not sure a proper analysis of it was made."

The tax was introduced in January in a budget deal between the Center Party, Liberals, Social Democrats and the Greens after record long 18 weeks of negotiations. As only one of 73 points hashed out between the political fractions to reach a compromise, time for thorough analysis was probably slim.

Israel, Saudis Talked Gas Deals, Netanyahu Ally Says



Saudi Arabia has looked into buying Israeli natural gas, according to a former member of Prime Minister Benjamin Netanyahu's cabinet, the latest sign of warming ties between two formally hostile nations.

The countries have discussed building a pipeline that would connect Saudi Arabia to Eilat, former Israeli parliamentary member Ayoub Kara, who cited conversations with "senior officials" in the region, said in an interview in Jerusalem. Eilat, the Israeli city which banks the Gulf of Aqaba and is about 40 kilometers (24.9 miles) from the border, was chosen for its proximity to Saudi Arabia.

An energy project of this magnitude would require formal diplomatic relations between Israel and Saudi Arabia and is likely to elicit political pushback. Israel remains largely unpopular in the Arab world for its treatment of Palestinians, who live under occupation in the West Bank and under siege in Gaza. Israel and Saudi Arabia have united behind closed doors in their antagonism toward Iran but formalizing an alliance may still be hard to achieve.

Kara has been one of Netanyahu's closest advisers on relations with Arab countries and was among a handful of Israeli ministers to appear publicly in a Gulf state in the past year. "This is about mutual interest," he said.

Representatives for the energy ministries in Israel and Saudi Arabia didn't respond to requests for comment. The Saudi Information Ministry's Center for International Communication also didn't respond to a request for comment.

In Saudi Arabia, Israel would find an eager partner for its emerging natural gas industry. Companies found massive quantities of gas in Israeli waters about 10 years ago but have struggled to realize the fuel's potential. The partners developing Israel's biggest reservoir, have inked \$25 billion in contracts but still have more than 80% of the reservoir untied to any buyers.

Saudi Arabia plans to invest more than six times that amount in gas over the next decade, in part to meet rising demand for cheaper electricity.

Regional Opposition

Mass demonstrations broke out in Amman in 2016 after the companies developing Israel's biggest offshore gas fields signed a \$10 billion contract with Jordan, home to millions of people of Palestinian origin.

While some Saudis argue that normalizing relations with Israel is a natural merging of interests, many others vehemently oppose the idea. Public resistance to establishing relations with Israel is so strong that a group of more than 2,000 citizens from different Gulf countries circulated an online petition last year "to stop all forms of normalization with the Zionist entity." They signed their full names – a rare step in a region where freedom of expression is limited.

While leaders of the Arab world used to be united behind the

Palestinians, that support began to wane with the rise of the Iranian threat to Sunni Gulf countries, Kara said. Saudi Arabia and its regional allies now pay “lip service” to the Palestinian cause, and are seeking upgraded military and economic ties with Israel to counter Iran, he said.

Gulf states are “not interested in the Palestinian issue,” Kara said. “All they care about is the security and future of their countries.”

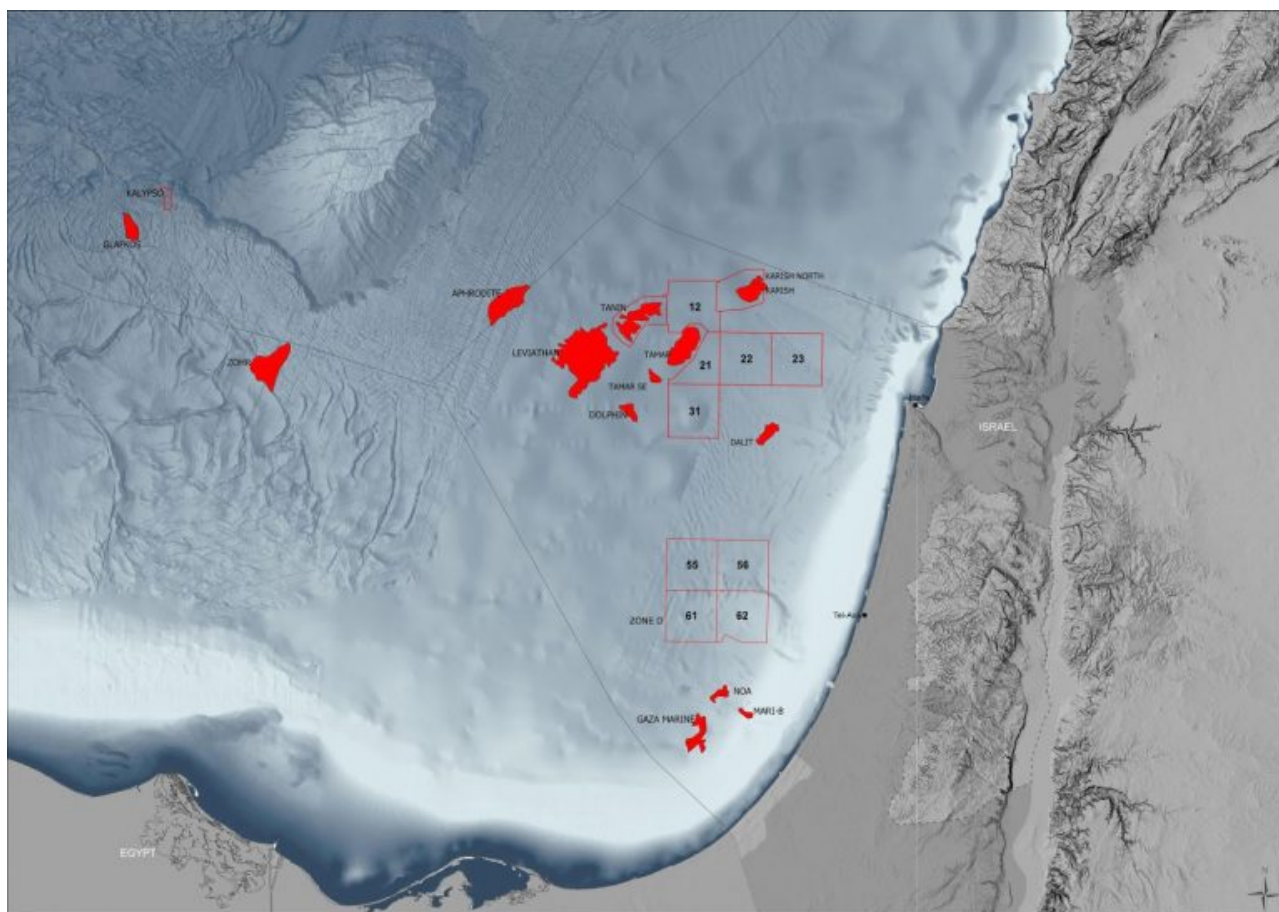
Part of the discussions between officials center on a new energy corridor that would connect Saudi Arabia to the Eilat-Ashkelon Pipeline in Israel. This would allow the Arab kingdom to export its oil to Europe and markets further west while skirting a sea route where the U.S. has accused Iran of carrying out several attacks against commercial ships, Kara said.

Set up in 1968, Eilat-Ashkelon Pipeline Co. was then jointly-owned by Iran and Israel and facilitated oil exports from Iran to Europe. That relationship ended after Ayatollah Ruhollah Khomeini rose to power in Tehran in 1979 and he marked Israel as an enemy to the Islamic Republic.

– *With assistance by Donna Abu-Nasr, and Vivian Nereim*

**Four Further Licences Awarded
to Energean for Oil and Gas
Exploration in Israel's**

Exclusive Economic Zone (“EEZ”) – ENERGEAN OIL & GAS



Energean Oil and Gas plc (LSE: ENOG, TASE: אנוג) is pleased to announce that Israel's Petroleum Council has awarded the Company four new licences for oil and gas exploration in the Israeli EEZ. Energean submitted its proposal in partnership with Israeli Opportunity (20%). The awarded Licences were granted for Block D, located 45 km off the Israeli coast – and include Licences 55,56,61,62 (“Zone D”), offered in the recent Bid Round published by the Israeli Ministry of Energy. Energean has identified a prospect within Zone D analogous to the prolific Tamar Sand fields (Karish, Tamar, Leviathan etc) offshore Israel. The prospect is believed to extend towards the SW of the license contingent to further seismic processing. A relatively shallow Mesozoic prospect was also identified (four way closure).

Mathios Rigas, CEO of Energean, stated: “Energean has proven its ability and commitment to explore and develop resources in a timely and cost efficient manner in the East Med. The addition of the 4 new licenses contained in Zone D adds further upside potential to our portfolio”.

Edison unexpectedly pulls out of Royee license



An exploratory drilling in January at the Israeli offshore field, which has a 36% geological probability of containing 100 BCM in natural gas, has been cancelled.

Edison E&P has unexpectedly quit the Royee license just a short while before a planned exploration drilling was due to begin.

Ratio Oil Exploration (1992) LP (TASE:RATI.L) owns 70% of the license and Israel Opportunity has a 10% stake, while Edison has a 20% stake. But Edison is the operating partner with the experience in drilling. In a brief announcement Edison said, "The current circumstances compel us to our regret to resign from the license."

Greek company Energean plc (LSE: ENOG; TASE: ENOG), which recently acquired Edison declined to comment. However, sources close to Energean pointed out that the acquisition of Edison is yet to be completed.

In effect, Edison's announcement means that the exploration drilling scheduled for January is cancelled. The Royee license is due to expire in April after seven years in which the Ministry of National Infrastructures, Energy and Water Resources extended it for as long as is possible under the law. As the operator Edison was responsible for carrying out the drilling in January but suspicions were raised when no official announcement about the start of drilling was issued.

The Royee offshore license is in a block off of Israel's southern Mediterranean coast bordering Egyptian waters. A survey conducted by Netherland Sewell & Associates (NSAI) Oil & Gas Consulting in May 2017 estimated a 36% geological probability of finding 3.4 trillion cubic feet (TCF) (100 billion cubic meters) of natural gas in the Royee license.

Qatar's fiscal balance/GDP set to rise to 4.6% in 2023:

FocusEconomics



Qatar's fiscal balance as a percentage of GDP is set to rise to 4.6% in 2023 from an estimated 1.3% this year, FocusEconomics said.

The current account balance (as a percentage of the country's GDP) will be 6.6% in 2023 compared with 6.7% in 2019.

Qatar's merchandise trade balance, FocusEconomics said in its latest economic update, will be \$55.1bn in 2023. This year, it will account for \$46.7bn.

Qatar's gross domestic product is expected to reach \$239bn by 2023, it said. By the year-end, Qatar's GDP may total \$196bn.

Qatar's economic growth in terms of nominal GDP will reach 5.2% in 2023 from 2.3% by the year-end.

The researcher said Qatar's public debt will fall gradually until 2023, and is estimated to be 51.7% this year, 48.4% (in 2020), 45.3% (in 2021), 42.7% (in 2022) and 40% (in 2023).

International reserves may exceed \$43bn in 2023, from the current \$37.7bn; FocusEconomics estimated and noted it will cover 12.1 months of country's imports.

The country's inflation, the report noted, will be 2.1% in 2023 and 0.1% this year.

Qatar's unemployment rate (as a percentage of active population) will remain a meagre 0.2% in 2023, unchanged from this year.

According to FocusEconomics, the economy posted a "modest acceleration" to 0.9% year-on-year growth in the first quarter (Q1) after a "weak" 0.5% out-turn in Q4 last year.

Q1's expansion was driven by the mining and quarrying sector's return to growth for the first time since Q4, 2017.

Meanwhile, the manufacturing sector also posted a "solid" turnaround.

"The economy should gather momentum this year, driven mainly by a recovery in the energy sector and stronger government

consumption growth.

“Consumer prices fell 0.4% in annual terms in June (May -0.7% year-on-year). Going forward, inflation should return later this year on stronger economic activity and a supportive base effect, but remain anaemic nonetheless.”

FocusEconomics panellists expect inflation to average 0.1% in 2019, which is down 0.5 percentage points from last month’s forecast, and 2.3% in 2020.

Alumina market roller coaster spins price to two-year lows



By Andy Home

LONDON, July 30 (Reuters) – The alumina market has collapsed over the last three months with both Chinese and Western prices now at their lowest levels in two years.

The action in China has been particularly brutal. Spot prices surged to a six-month high of 3,170 yuan per tonne in May as production in the province of Shanxi was disrupted by environmental closures.

So violent has been the subsequent sell-off to below 2,500 yuan that producers are now voluntarily cutting output to try to support prices.

Since alumina is the key metallic input to the aluminium smelting process, bombed-out alumina prices are bad news for an aluminium market that is itself treading heavy water right now.

The London Metal Exchange (LME) three-month aluminium price is currently trading just above the \$1,800 per tonne level after touching an 18 month low of \$1,745 in June.

Lower alumina prices serve to lower the aluminium production cost-curve, the break-even point for smelters that helps define the market's downside.

Global smelter profitability is once again beholden to the gyrations of the alumina price with still little evidence that such volatility is being hedged in either the CME Group's or LME's new futures contracts.

THE RETURN OF ALUNORTE

The CME alumina price, tellingly, never reacted to the May spike in the Chinese price but rather kept grinding lower to today's \$305 per tonne, a level last visited in June 2017.

The core driver has been the return of the giant 6.3-million tonne per year capacity Alunorte plant in Brazil.

Alunorte had been operating at half capacity since February 2018 under a court order related to allegations of run-offs from a tailings dam holding the "red mud" generated in the

refining process.

Operator Hydro was given clearance to resume full output in May this year and Alunorte was already running at 80-85% capacity in June, the company said in its Q2 results. That should rise to 85-95% in the fourth quarter.

Alunorte's return closes a supply gap in the Western market which had to be filled by Chinese exports, an unusual occurrence in the alumina market.

Chinese exports mushroomed to 1.5 million tonnes last year from just 56,000 tonnes in 2017.

The tide has since turned. Exports have dropped off sharply and the country has returned to being a net importer since January.

The extra supply is no longer needed thanks to the return of Alunorte, the continuing ramp-up of new capacity by Emirates Global Aluminium and stagnant aluminium production.

Metal output outside of China was down by 0.6% in the first half of 2019, according to the International Aluminium Institute.

CHINESE BOOM AND BUST

Chinese alumina prices have boomed and bust in the space of just three months.

Environmental closures in May, triggered by a "red mud" leak at Xinfu Group's Jiaokou alumina refinery in Shanxi, spooked the local supply chain.

Any impact from those closures, however, has been fleeting. National output dipped appreciably in May but has since bounced back to 6.41 million tonnes in June, the highest monthly run-rate since May 2017.

Cumulative alumina output rose by 3% in the first half of the year and with China's own aluminium production also flat-lining this year, analysts at Morgan Stanley calculate a 200,000-300,000 tonne surplus in the country. ("Stopping alumina's slide", July 29, 2019).

Previous fears of a supply shortfall have been rapidly dialled back and spot prices are now at a level where higher-cost producers in northern regions are suffering "serious losses", according to Antaika, the research arm of the China Nonferrous Metals Industry Association.

Producers have announced a collective temporary curtailment of 1.5 million tonnes, Antaika says.

As ever with such coordinated announcements by Chinese producers, there's an element of window-dressing previously scheduled maintenance work, but the real significance is what it says about the margin pain occasioned by falling prices.

Higher-cost producers have in the past been able collectively to support prices around \$300 per tonne but with alumina's own input costs falling, it remains to be seen how disciplined supply will be this time around.

There is growing speculation among analysts that China's alumina sector is heading for the same sort of structural reform treatment already imposed on the smelter segment of the production chain.

That might be a source of long-term support to the alumina price but for now it's down to whether Chinese producers can curtail output sufficiently to balance the domestic market.

RIDING THE ROLLER COASTER

Alumina has been on a high-tempo, high-volatility price trajectory over the last couple of years.

It was above \$600 per tonne as recently as September 2018 before crashing to its current producer pain levels.

The price of alumina was once linked to that of aluminium. Producers embraced spot trading several years ago, arguing that alumina supply-demand fundamentals were different from those of the metallic product.

They have turned out to be right, although not perhaps in the way they imagined. Alumina has turned out to be a much more volatile package of drivers than aluminium.

What's curious is that all this volatility hasn't inspired much interest in using the paper market to hedge price risk.

The LME's newly-launched alumina contract didn't trade at all through June. CME's contract, which started trading in 2016, has seen only sporadic volumes since inception. Activity this year has almost totally dried up with just 240 contracts traded in January-June.

The Shanghai Futures Exchange (ShFE) is undeterred and has promised its own contract later this year.

It's possible that last year's high prices actively deterred producer hedging interest but with the outlook increasingly bearish, that might change.

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Morgan Stanley sees "near term price support around \$300 per tonne, with risk to the downside".

However, given the excitement of the last two years, you wouldn't bet against a few more spins of what Antaike calls the alumina "roller coaster".

(\$1 = 6.8876 yuan)

Centrica CEO to quit after first dividend cut in years



Bloomberg/London

Centrica said its chief executive officer will step down after a tumultuous five-year run at Britain's largest energy supplier, which has lost two-thirds of its value and millions of customers during his term.

Iain Conn, 56, announced his departure along with Centrica's first dividend cut since 2015. He will leave the board in 2020 after he finishes an effort to fortify the utility against increasing competition and a government cap on what it can charge for its electricity and natural gas.

Centrica shares fell as much as 13% in London to the lowest since 1997, the year the utility was spun out of the state-owned British Gas. Conn inherited a company that had under his predecessors diversified into oil and gas production and nuclear energy, businesses that Centrica now intends to sell.

In more recent years, smaller rivals have lured away tens of thousands of customers from Britain's Big Six utilities. Centrica earnings were also hit in the first half as warm weather and operational issues cut its electricity supply by 4%.

Conn said his departure was a mutual decision with the board and the result of months of discussions. Conn is seeking to hand over a smaller entity focused on customer-facing businesses supplying power and energy services. The board will name a successor later.

While the company's share price plunged to new lows, Conn said the company was on the right track and seeing the beginning of stabilisation. He said the earnings outlook is brighter for the rest of the year.

"This set of steps is a fundamental re-positioning of the company and is the end of a journey we began in 2015," Conn said on a call with reporters yesterday. "We haven't changed our strategy. We've made some adjustments, but the board has confirmed we need to keep going toward the customer."

Unions were quick to criticise Conn's plan to maintain the pace of job cuts he announced in February and step up a cost savings target.

Centrica is targeting £1bn (\$1.2bn) of annual cost savings from this year through 2022, up by £250mn since February. The company maintained its estimate that it will shed 1,500 to 2,000 jobs this year from the some 30,520 it had at the end of 2018. "More of the same, more job cuts on top of the thousands already gone and going, are panic measures, not a credible plan for recovery," said Justin Bowden, national secretary of the GMB union. "There must be a pause under a new CEO, investment and a new plan for growth."

The board proposed an interim dividend of 1.5 pence a share, down from 3.6 pence for the same period a year ago. For the full year, the dividend will be cut to 5 pence a share, down from 12 pence in the last four years.

"The departure of Centrica's CEO won't resolve all of its

problems, in our view, as many are outside management's control," Elchin Mammadov, analyst at Bloomberg Intelligence, wrote in a note. "The new team at the helm will need to focus on delivering further cost cuts and growth in energy supply and services."

Customer numbers in Centrica's main energy supply and services business fell 2% to 23.6mn in the first half of the year. Output from its 20% stake in Britain's nuclear plants fell 19% in the first half to 4.9 terawatt-hours, reflecting outages at the Dungeness B and Hunterston B power stations.

"Centrica faced an exceptionally challenging environment in the first half of 2019, which impacted earnings and cash flows," Conn said in a statement yesterday. "This major refocusing of our portfolio will unlock further efficiencies enabling us to be even more cost-competitive, as we focus on being a leading energy services and solutions provider." Looking Ahead Conn maintained guidance for full year earnings. Nuclear plant outages that hit earnings in the first half are likely to pass, and cost savings set to kick in.

Centrica expects growth in its consumer businesses. In its connected homes business, growth accelerated 49% to 1.5mn.

In the months ahead, Centrica will work on selling its Spirit Energy unit, which produces oil and natural gas. It's already divesting its stake in nuclear power plants, although the statement yesterday said nothing new about that process. Conn said Centrica will exit Spirit via a trade sale and use proceeds to restructure the company.

"We are completing the shift we began in 2015 from a company ill-equipped to deal with changes in the energy systems to one in tune with moving toward a lower-carbon economy," Conn said. "Once we've made them, it is now time for me to hand over to a successor."

Along with its shift toward a more customer-facing business, the company also wants to make money off the expansion of electric vehicles. It announced a new partnership with Ford Motor Co yesterday to develop charging stations at hundreds of

dealerships across the UK and Ireland as well as sell home charging equipment and electric vehicle tariffs.

The company is in talks with other car companies to expand further into this area, Sarwjit Sambhi, head of Centrica's consumer business, said on a call with reporters.

Oil Industry Poised to Attack as Trump Boosts Ethanol in Fuels



Oil industry foes are preparing to go to court to fight the Environmental Protection Agency regulation issued Friday that allows year-round sales of higher-ethanol E15 gasoline nationwide.

The agency's final rule offers ethanol producers and corn farmers the promise of greater market access and demand – but the coming legal battle will be the true test of that potential.

The regulation fulfills President Donald Trump's promise to unleash ethanol sales and is a potent show of support to Midwestern farmers who are suffering from Chinese tariffs on soybeans, flooding that destroyed stockpiled grain and a deluge of rain that has delayed plantings. With some 37% of America's corn production going to ethanol mills, any regulatory move lifting demand for the fuel could buttress farmers who helped propel Trump to the White House.

Iowa Republican leaders and biofuel industry boosters will celebrate the shift with EPA's Region 7 administrator during an event at Elite Octane LLC's dry mill ethanol plant in Atlantic, Iowa later Friday. Trump is expected to address the issue during a visit to the state next month.

The EPA rule waives E15 gasoline containing 15% ethanol from vapor pressure requirements that have blocked sales from June 1 to September 15 in areas where smog is a problem, said Bill Wehrum, the assistant administrator for the EPA Office of Air and Radiation. That should cause "a bump" in sales at the roughly 1,200 filling stations that already sell E15 today, while encouraging more of them to offer it, Wehrum told reporters on a conference call.

"Over time, we believe and the industry believes you will see more E15 sold as the infrastructure in the gasoline distribution system and especially at gas stations catches up to the availability of this fuel," Wehrum said. This is going to result in a "substantial increase" in E15 sales, he said.

At Trump's direction, the EPA bundled the E15 shift with modest changes meant to boost transparency and prevent price manipulation in the trading of credits used by refiners to prove compliance with annual biofuel blending quotas. Large integrated oil companies, including ExxonMobil Corp., BP

America Inc. and Chevron Corp., had argued against the EPA's initial proposal of more aggressive trading limitations.

Wehrum said the agency would continue examining allegations of market manipulation and respond to them if needed. "We're applying the theory of first do no harm," he said, noting that proposed position limits and sale requirements "could reduce the flexibility of the market and the efficiency of the market." While the agency takes the issue seriously, he said, the EPA has not yet found clear evidence of significant manipulation.

Senator Joni Ernst, a Republican from Iowa, praised the EPA's action, saying it would mean more consumer choice and savings at the pump.

"The president had made this promise a long time ago: He was really going to work hard for farmers' support and the Renewable Fuel Standard," she said by phone. "And he's coming through with that promise at a time when it's desperately needed. It's something we were going to work toward anyway, but it does bring much-needed relief at a very critical time for our farmers."

Ethanol is already a staple of America's fuel supply, accounting for about 10% of total consumption. Biofuel boosters who have lobbied for the regulatory shift are betting 15% will eventually emerge as the standard. Green Plains Inc. Chief Executive Officer Todd Becker said this month that the higher blend puts in play "year-round demand growth of at least 200 million gallons of annualized incremental demand as only the starting point."

That would come at the expense of oil.

"This action by EPA makes no sense and is contrary to the law, congressional intent and decades of agency precedence," said Frank Macchiarola, a group director at the American Petroleum Institute. "We will challenge it vigorously."

The American Petroleum Institute previewed its legal argument in public comments, arguing that the agency is flouting the plain text of the Clean Air Act by extending an existing waiver to E15. Marathon Petroleum Corp. warned the EPA's move to consider E15 "substantially similar" to conventional E10 gasoline is "arbitrary and capricious" – a fatal failing under a federal law governing rulemaking. And the American Fuel and Petrochemical Manufacturers insisted the EPA is taking action previously rejected by Congress.

Ethanol advocates argue the EPA is on solid legal footing. The agency's move to grant a waiver to E15 "reflects the best, most natural reading" of the Clean Air Act, and that higher-ethanol blend is substantially similar to E10, said Growth Energy Chief Executive Officer Emily Skor.