

▶ adopt targets for carbon-free electricity. Credit Suisse, a bank, estimates that utilities need to spend over \$100bn by 2030 to meet states' renewables goals.

Most important, the economics of power is being turned on its head by the falling costs of renewables. The "levelised" cost of electricity—which includes capital and operating spending to generate it over a plant's lifetime—is now lower for wind or solar power than it is for coal. Coal's share of power generation has sunk from about half in 2005 to 27% in 2018. It will fall further, despite President Donald Trump's plan, announced in June, to loosen regulation of coal plants.

The big question for utilities is how much of coal's declining share to replace with natural gas, and how much with renewables. The answer depends partly on their location. The high cost of shipping natural gas and oil to Hawaii is one reason why that state has particularly bold goals for renewables. On July 10th Hawaiian Electric filed an ambitious proposal to solicit bids for new wind and solar power. Some of the states where xcel serves customers are blue and others red, but all are among America's gustiest. That made it easier for Ben Fowke, its chief executive, to espouse a renewables strategy. That it appeals to climate-friendly investors is "icing on the cake", he says.

Regulated utilities make money by investing capital; the variable costs of fuel are borne by consumers. But wind has the benefit of being free, no matter how hard it blows. So xcel settled on a strategy to please both investors and customers: invest more in wind farms, on which it can earn a regulated return, and spend less on fossil fuels, on which it cannot. In the long term, consumers save money and utilities make more of it.

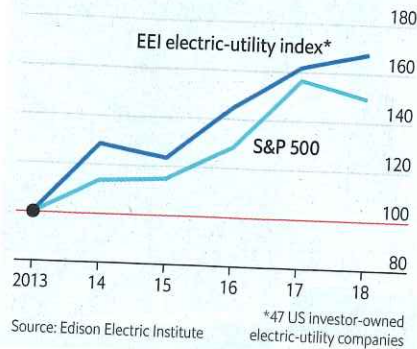
Shareholders have welcomed this "steel for fuel" strategy, as Mr Fowke calls it. Last year xcel's earnings per share grew by almost 10%. Utilities such as CMS, in Michigan, are following its lead.

For others, accelerating the move away from fossil fuels holds less allure, and not simply because they operate in places with less wind or sun. Securing land for wind farms in America's densely populated north-east is costlier than in the Midwest. Retiring an ageing coal plant is one thing, points out Michael O'Boyle of Energy Innovation, a research group; scrapping a newer or newly refurbished one is another. Some states continue to prop up coal. Ohio's senate passed a bill this month to subsidise coal plants in which Duke holds stakes.

Natural gas complicates the picture further. Most investors reckon that some gas is necessary to balance the intermittent power of the wind and sun—at least until storage becomes cheaper and more efficient. The question is, how much?

Wind in their sales

Total stockmarket returns, 2013=100



The availability of cheap gas has dissuaded many utilities in the region that sits atop the shale-rich Marcellus formation in America's east from investing much in renewables, says Michael Weinstein of Credit Suisse. Renewables struggle to compete in Florida, too, where newish, efficient gas plants owned by a subsidiary of NextEra, a giant power company, offer cheap electricity. The Energy and Policy Institute, a pro-renewables think-tank, recently analysed America's 22 dirtiest investor-owned utilities. It found that about half, including Duke, Dominion and American Electric Power, plan to decarbonise more slowly in the coming decades than they did from 2005 to 2017 mainly because of investments in gas plants. In proposals for new investments in Indiana and the Carolinas, Duke argues that natural gas is needed to keep prices low and power reliable.

Despite xcel's clean-power plans, which include nuclear energy on top of renewables, even Mr Fowke says that eschewing gas altogether would be "a little short-sighted". His firm's plan for the upper Midwest is for gas to generate a quarter of electricity by the mid-2030s.

But big investments in gas—such as Duke's plan for it to account for two-thirds of the Carolinas' new generating capacity—carry risks. The first is that some gas plants, like coal ones before them, become uneconomic as renewables keep getting cheaper. In April, Indiana's utility commission rejected a proposal for a gas plant by Vectren, another utility, for just that reason. If America one day sets a price on carbon emissions, customers could be left paying for utilities' bad bets on fossil fuels.

The second risk is that if utilities do not offer enough clean power, customers may get it elsewhere. Homeowners are installing solar panels on their roofs. Big corporate buyers of electricity, including Google and General Motors, this year launched a campaign to ensure an affordable supply of clean power. Such challenges make life for utilities less boring. Tackling them head on could make it more lucrative. ■

Tech and governments

The sun also sets

SAN FRANCISCO

Regulatory woes multiply, but Big Tech may yet emerge unscathed

"HOW DID YOU go bankrupt?... Gradually and then suddenly." Many technology entrepreneurs know this quote, from a novel by Ernest Hemingway—and often, from experience. The words have, of late, taken on new meaning. After years during which tech's titans could do no wrong, they are now being pulled into a vortex of regulatory woes that make headlines almost daily. Big Tech is not about to implode. But will it come out intact?

The latest burst of antitrust activity came on July 24th, when Facebook said that the Federal Trade Commission (FTC), an American regulatory agency, had launched an investigation into the company. The news came soon after the FTC released details of a much-anticipated privacy settlement with the firm.

The social network will pay a \$5bn fine for violating a previous privacy deal with the FTC. But Facebook also agreed to formalise its privacy processes, for instance by creating a special committee on its board and by designating compliance officers. Its boss, Mark Zuckerberg, will also have to certify the firm's compliance—which could make him personally liable should Facebook fail to get its act together.

A day earlier, America's Department of Justice announced that it would look into how big online platforms have achieved market power and whether they abuse it. The DOJ did not say which firms it had in mind, but Google is likely to be one. The department's lawyers are reportedly already preparing to investigate it.

Trustbusters on the other side of the Atlantic—who have already fined Google more than €8.2bn (\$9.3bn) in recent years—are not resting on their laurels. On July 17th Margrethe Vestager, the European Union's competition regulator, announced that her department had opened an investigation into whether Amazon uses the data it collects from merchants' sales on its sites to push its own products. Insiders expect the EU's next target will be Apple, which stands accused of using its control of the app store on its iPhones to favour its own services, mainly Apple Music.

All this suggests that the tech titans are in trouble both in Europe and America. Some Democrats hoping to run for the presidency have called for their break-up. William Barr, a lawyer for media and telecoms firms who became attorney-general in February, has spent years fighting them. ▶