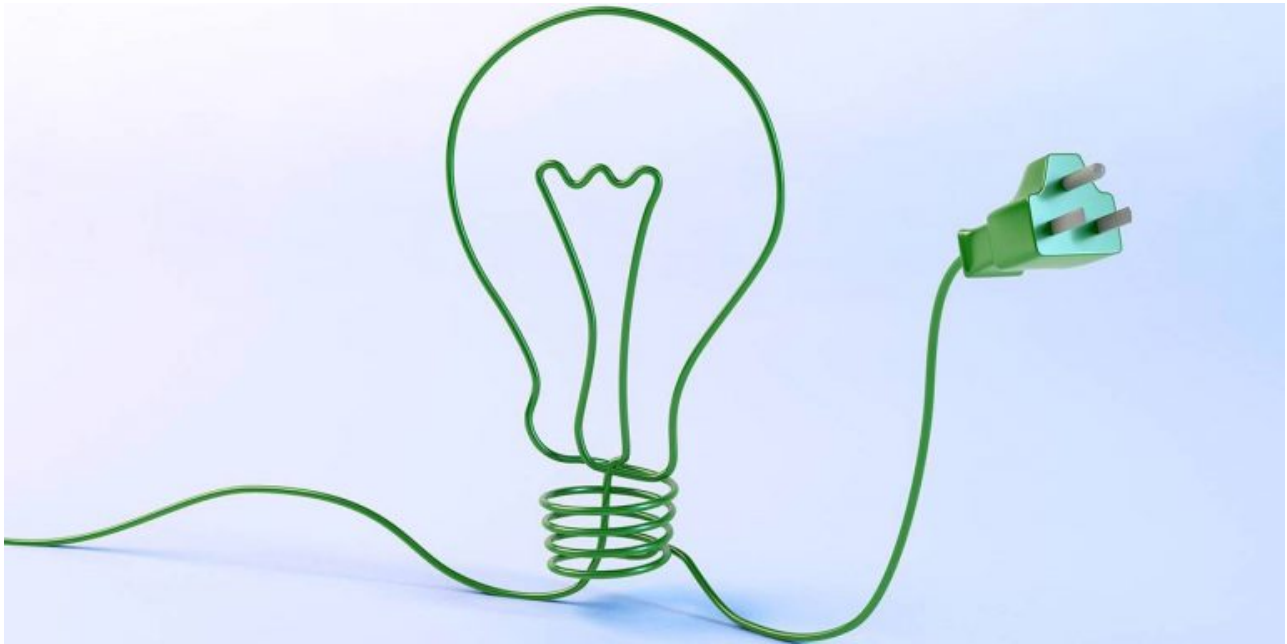


# Winning the electrification race



If governments adopt bold policies to help accelerate the production of clean electricity, the world could build a zero-carbon economy fast enough to limit climate change to a manageable degree. But without such measures, a zero-carbon economy will come much too late.

LONDON – There is no doubt that by the year 2100, the world will enjoy abundant cheap zero-carbon energy. Coal will be confined to museums, and oil and gas use will be dramatically reduced. Technological progress makes that inevitable, even if unassisted by government policy. But to prevent potentially catastrophic climate change, a zero-carbon global economy must be achieved by mid-century. That, too, is possible, but only with strategic vision and strong policy support.

Electricity will dominate the future global energy system. Currently, it accounts for only 20% of final energy demand, with direct fossil-fuel use still dominant in transport, heating, and heavy industry. But most economic activities can be powered by electricity, and many will be far more efficient once electrified.

For example, internal-combustion engines typically turn 60-80% of all the energy they use into wasted heat, and only 20-40% into kinetic energy to drive the vehicle. Electric engines, by contrast, are over 90% efficient. Moreover, they are so much simpler to produce that within five years the cost savings on engines will offset the cost of batteries, making electric vehicles cheaper than diesel or gasoline cars. Similarly, electric heat pumps can deliver more than three kilowatt-hours of residential heating for only one kilowatt of energy input; no gas boiler could deliver more than 0.9 kWh for the same input.

Although battery-powered electric engines will play a growing role in short-distance aviation and shipping, batteries will be too heavy to power long-distance flights or intercontinental shipping for several decades yet. But ship engines could burn ammonia rather than fuel oil – and ammonia can be a zero-carbon fuel if it is made from hydrogen produced by electrolyzing water, using electricity generated from renewable sources. In addition, synthetic jet fuel can be made from hydrogen and carbon dioxide extracted from the air. Hydrogen, whether used as a fuel or a key chemical input, will also play a major role in the decarbonization of heavy industrial sectors such as steel and chemicals.

Without assuming any fundamental technological breakthroughs, we could certainly build by 2050 a global economy in which electricity met 65-70% of final energy demand, and hydrogen, ammonia, or synthetic fuel met a further 12-15%. Bioenergy and fossil fuels would then need to meet only about 20% of total energy use – and applying carbon capture to this greatly reduced fossil-fuel use could then ensure a truly zero-carbon economy.

Moreover, such widespread electrification would deliver huge environmental benefits, eliminating the pollution, noise, and unwanted or wasted heat inevitably produced by burning fossil fuels in vehicles, gas boilers, and industrial processes.

Building this economy will require an annual global electricity supply of about 90,000 terawatt-hours, compared to 23,000 TWh today; all of that must be generated in a zero-carbon way. But this goal, too, is undoubtedly attainable. Every day, the sun radiates to earth enough energy to cover humans' daily energy needs 8,000 times, and we could provide 90,000 TWh of solar electricity using less than 1.5% of Earth's land surface (or less than 0.5% if its water surface could be used as well). Solar-energy costs have fallen by 85% in the last ten years, and in many locations solar power is already cheaper than coal; by mid-century, it will be cheaper still.

Wind-power costs also have declined fast, and nuclear fusion may be a commercially viable technology within two decades. Battery costs have fallen by more than 80% since 2010 and will likely more than halve again by 2030, while a recent report suggests that electrolysis costs will now most probably "plummet." Furthermore, a wide array of other energy-storage and demand-management technologies promises to answer the key question for renewable power systems: what to do when the sun doesn't shine and the wind doesn't blow.

These developments make it inevitable that by 2100 the world will have an ample supply of cheap and totally clean energy. But it is not inevitable that we will avoid catastrophic climate change. Fossil-fuel use is still increasing, and global warming is currently on track to reach 3°C above pre-industrial levels by 2100, dramatically overshooting the target of well below 2°C set by the Paris climate agreement. And although solar and wind costs have plunged, we need to increase capacity at 3-4 times the current rate to have a feasible chance of producing 90,000 TWh of clean electricity by 2050.

The macroeconomic cost of such an effort is not at all daunting: the total incremental investment required to build a zero-carbon economy by 2050 amounts to about 1-1.5% of global

GDP per year. But the required acceleration will not occur without forceful government policies.

Such policies must start by recognizing that massive clean electrification, plus large-scale hydrogen use, is the only route to zero-carbon prosperity. Governments should set challenging targets for increasing renewable (and in some cases nuclear) power capacity, while using auctions to secure private-sector delivery at the lowest possible cost. Road-transport strategies must aim to completely eliminate internal-combustion engines from our roads by 2050 at the very latest: this will require bans on the sale of new internal-combustion vehicles far sooner. In addition, carbon pricing is essential to make industrial decarbonization economic. Finally, governments must support new technologies with initial deployment subsidies of the sort that have helped to reduce rapidly the costs of solar photovoltaic technology, wind turbines, and batteries.

With such policies, the world could build a zero-carbon economy fast enough to limit climate change to a manageable extent. But without the right measures, a zero-carbon economy will come much too late.

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**CEOs in Davos say they can't save the planet on their own**



INTERNATIONAL – As the financial industry comes under pressure to avoid funding dirty energy, the heads of Citigroup Inc. and Zurich Insurance Group AG said they need their clients to do more work too.

“I say to our clients, ‘I don’t want to be the sharp end of the spear,’” enforcing industry standards, Michael Corbat, chief executive officer of the New York-based bank, said Tuesday in a panel discussion at the World Economic Forum in Davos, Switzerland. “You should set those, you get proper buy-in and we will be here to support you.”

Mario Greco, the CEO of Zurich Insurance, agreed with Corbat that carbon was mispriced, and said insurance firms are having a tough time deciding what to underwrite as a result.

Insurers are underwriting “based on ethical standards,” and “compliance with the Paris agreement, but it’s not fast enough and it’s a tough job,” Greco said. “We don’t know exactly” how an industry should restructure itself, “and we are not supposed to do that, so the only thing we can do is stop funding. Stopping funding is a brutal reaction to market displacement.”

This year's meeting of the global business elite in Davos has focused on sustainability, with teenage activist Greta Thunberg criticizing a lack of action on climate during her appearance.

Financial companies are under pressure to retreat from funding industries including coal-fired power, and the European Union is working on a so-called taxonomy governing sustainable investments. Lawrence Fink, who runs BlackRock Inc., last week pledged to incorporate environmental concerns into the asset manager's investment process for both active and passive products.

"We are very much aligned" with Fink, Corbat said in Davos on Tuesday. "Where we don't want to find ourselves is being the person that starts to dictate winners and losers."

Corbat created the new role of chief sustainability officer at his bank in September. He said then that governments should create incentives for companies to adopt sustainable practices, rather than relying on punishments like carbon tariffs.

Greco was pessimistic that there will be more effective global agreements on matters like carbon pricing, calling the prospect "almost unthinkable."

Global companies "will go wherever there is the best financial opportunity short-term for them, and they will follow what prices tell them to do. This is what makes me scared, or pessimistic, that we will achieve the right speed."

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## **Trump Takes Veiled Swipe at Environmental 'Alarmists'**



President Donald Trump launched a veiled attack on environmental “alarmists” in a speech to business and political leaders in Davos, taking a swipe at the World Economic Forum’s key focus this year. Speaking at the Swiss resort town on Tuesday, Trump invoked those who predicted an “overpopulation crisis” and the end of oil, saying: “These alarmists always demand the same thing, absolute power to dominate, transform and control every aspect of our lives.” He also said: “This is not a time for pessimism, this is a time for optimism. Fear and doubt is not a good thought process, because this is a time for tremendous hope and joy and optimism and action, but to embrace the possibilities of tomorrow, we must reject the perennial prophets of doom and their predictions of the apocalypse.” The World Economic Forum audience included 17-year-old climate activist Greta Thunberg, who brought a stark message to the business elite gathering in Davos: Everybody is talking about climate change, but nobody is doing anything. Trump has mocked Thunberg on Twitter. The forum is sounding alarm bells on climate change. This year and for the first time on record, environmental risks occupy the group’s top five long-term concerns, while corporate executives say they’re increasingly concerned about environmental issues. Trump’s remarks were largely focused on

America's economy as an example to other nations, which he urged to cut regulations and taxes. Trump sought to take credit for a booming economy, repeating his reelection arguments just hours before the US Senate was set to formally start his impeachment trial. "I'm proud to declare that the US is in the midst of an economic boom, the likes of which the world has never seen before," Trump said. "We've regained our stride, rediscovered our spirit." Later in the speech, he said "pessimists" can't be allowed to reverse course: "We will never let radical socialists destroy our economy, wreck our country or eradicate our liberty." The president's record on the environment is under attack from Democratic challengers ahead of November elections. Some are calling for significant policy changes to deal with climate change. Trump claims credit for overseeing an economy enjoying its longest-ever expansion, with an unemployment rate that fell to a five-decade low after tax cuts and spending increases. The Standard & Poor's 500 Index, which Trump regularly cites as a marker of success, is up about 25% from a year ago. Trump described low unemployment rates for African Americans and women. But his fight with China over trade and other protectionist policies have created uncertainty among businesses, especially manufacturers. Despite last week's interim trade deal with Beijing, the International Monetary Fund on Monday predicted economic growth will moderate to 2% this year and 1.7% in 2021 from 2.3% in 2019 as fiscal stimulus wanes. In his speech at the Swiss resort, Trump said: "The American dream is back, bigger better and stronger than ever before." President Trump comments on the state of the US-China trade relations during his address at the World Economic Forum's annual meeting in Davos. The president repeated his grievances with the Fed, saying it raised rates too quickly and lowered them too slowly. Trump said in his speech that he and Chinese leader Xi Jinping "love each other" even after their fight over trade. "He's for China and I'm for the US, but other than that, we love each other," Trump said. Trump is due to hold bilateral meetings with Iraqi President Barham Salih, Pakistan's Prime



Minister Imran Khan, European Commission President Ursula von der Leyen, Swiss President Simonetta Sommaruga and Nechirvan Barzani, president of the Kurdistan Regional Government, according to the White House. Trump will also meet with the forum's executive chairman, Klaus Schwab, and has said he'll meet with business leaders, too. He leaves Davos on Wednesday. This is Trump's second visit as president to the annual gathering of business chiefs, central bankers and foreign leaders. Hanging over the trip this time, however, is his impeachment trial set to formally begin in the Senate. Trump will almost certainly be acquitted by the Republican majority in the Senate, but the trial may produce surprises.

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## **Energy Chiefs Tout CO2 Capture as Thunberg Slams Lack of Action**



Capturing carbon dioxide from the fossil-fuel industry is key to slowing dangerous global warming, energy chiefs said in Davos as climate concerns dominated the annual business forum more than ever before. Oil and gas producers are under mounting pressure to help prevent a damaging rise in temperatures, and carbon capture is increasingly luring investors as a tool to curb emissions. Whether pulled from the exhaust of smokestacks or from the open air, the CO<sub>2</sub> can be buried underground or used to extract oil. "There are investors that care, that want to protect our environment; those investors are starting to make a difference for us," Vicki Hollub, chief executive officer of Houston-based Occidental Petroleum Corp, said on a panel in Davos. "Within two years we will be building the largest direct air capture facility in the Permian." Occidental's air capture site will separate carbon dioxide directly from ambient air. The CO<sub>2</sub> can then be injected into oil reservoirs to boost output in Texas's Permian Basin. "If we can perfect direct air capture, then we can use it anywhere," Hollub said. Climate concerns dominated the panel discussion, and run through the entire

program of this year's World Economic Forum. Climate campaigner Greta Thunberg spoke to a packed room in the WEF's opening session, issuing a sharp rebuke to leaders over the world's failure to curtail emissions. Also addressing the climate challenges facing the oil and gas industry was Fatih Birol, executive director of the International Energy Agency. Birol, like Hollub, touted the potential of carbon capture to help curtail emissions. Fatih Birol, IEA executive director, discusses "peak oil" and the need for carbon capture and storage. He speaks with Bloomberg's Francine Lacqua.

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## **You've done nothing on climate change: Thunberg tells Davos**



Greta Thunberg brought a stark message to the business elite gathering in Davos: Everybody is talking about climate change,

but nobody is doing anything.

Her appearance at the opening of the World Economic Forum was a striking sign that the debate about how to stop the Earth warming has become mainstream in business circles. Yet only a handful of executives from the oil, gas and coal industries that are chiefly responsible for warming the planet were seen attending the panel at which Thunberg spoke on Tuesday.

Meanwhile, U.S. President Donald Trump used his speech at the event to tout the benefits of soaring American oil and gas production and make a thinly veiled attack on those who warn about looming environmental catastrophe.

“The climate and environment is a hot topic right now, thanks to young people pushing,” 17-year-old Thunberg said at the Swiss ski resort, where about 3,000 business and political leaders gather each year. “Pretty much nothing has been done, since the global emissions of CO<sub>2</sub> have not reduced.”

The Swedish activist’s words came as the World Economic Forum sounds alarm bells on climate change. This year and for the first time on record, environmental risks occupy the group’s top five long-term concerns, while corporate executives say they’re increasingly concerned about environmental issues. But young activists at Davos said none of this is enough.

Thunberg is giving relevance to the Davos gathering, which for years has suffered from criticism that it was largely a billionaires’ playground where the rich debated among themselves without hearing outside voices. On Tuesday, there was a full room at this first 8:30 a.m. panel featuring young activists – something relatively unusual for a climate change event at Davos.

The debate on climate change is forcing businesses to respond to demands to stop carbon dioxide and other greenhouse gas emissions. While some have been slow in embracing the fight,

executives at Davos highlighted that the overall views from within the business community have dramatically changed over the last decade or so, moving from denial and questioning science into complete acceptance.

“I have come to Davos for well over a decade and I see behind the scenes, among top executives, a huge change in perception of the risk of climate change,” said Marco Dunand, the head of Mercuria Energy Trading SA, one of the worlds’ largest oil traders. “It’s not just talk: it’s translating into billions of dollars in investments in the energy transition.”

Activists’ language has made its way to boardrooms across the world too. At another morning panel at Davos, Iberdrola SA Chief Executive Officer Ignacio Galan called on companies to close coal-powered plants in order to curb emissions.

“We are in a hurry, we have to move fast,” he said. “There is already money available, cheap money, cheap technology, competitive technology and political decision in many countries to do so. Let’s not continue delaying and postponing”

## **Trump Encounter**

Trump landed at Davos on Tuesday morning and was welcomed by the words “Act on climate,” carved into the snow on a hill near the helicopter landing zone. He didn’t mention the topic in his speech at the forum later in the day, focusing instead on America’s growing economy and record oil and gas production.

“This is not a time for pessimism, this is a time for optimism,” Trump said as Thunberg watched from the audience. “We must reject the perennial prophets of doom and their predictions of the apocalypse. They are the heirs of yesterday’s foolish fortune tellers.”

The President and the activist’s first and only meeting last

year became instantly viral as Thunberg was filmed furiously staring at Trump. While they've never spoken face to face, they both seem to follow each other closely on Twitter.

"Greta must work on her anger management problem, then go to a good old fashioned movie with a friend! Chill Greta, Chill!", Trump tweeted in December shortly after the activist was named person of the year by Time magazine. Thunberg didn't directly answer, but changed her Twitter biography to "A teenager working on her anger management problem."

## **Three-day March**

Hundreds of climate activists are due to arrive at Davos on foot on Tuesday following a three-day march across the Swiss Alps. Protesters will gather at the ski resort and stage a demonstration calling for the end of the World Economic Forum. Companies attending Davos for the past five decades bear a great responsibility for today's climate crisis, activists say.

"We are tired of empty promises. But we have hopes," said Puerto Rican activist Salvador Gomez-Colon. "We're not waiting years to see the change that we want to see."

Thunberg urged businesses, governments and the media to listen to scientists. She cited research by the Intergovernmental Panel on Climate Change from 2018 that concluded that the carbon budget—the amount that can be released while still keeping global warming limited to a specific level — stands at 340 gigatons of carbon dioxide and that, at current emission levels it will be gone in less than eight years.

"Since last summer I have been repeating these numbers over and over again in every speech," she said. "I know you don't want to talk about this. I assure you I will continue to repeat these numbers until you do."

– *With assistance by Jeremy Hodges*

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# BP pulls out of Iraq's Kirkuk field as expansion plans stall



LONDON – BP has pulled out of Iraq's giant Kirkuk oilfield after its \$100 million exploration contract expired with no agreement on the field's expansion, dealing a fresh blow to Iraq's hopes to increase its oil output, three sources told Reuters.

The move came as Western energy companies are reassessing operations in Iraq amid political turmoil following months of anti-government protests and a flare-up in tensions between the United States and Iran in the country.

BP informed Iraqi authorities in December that it was removing its staff from the oilfield in the north of the country after

its 2013 service contract expired at the end of 2019, the sources familiar with the matter said.

A senior source at Iraq's North Oil Company (NOC), which oversees the Kirkuk operations, confirmed BP's withdrawal.

"The results of its field study for Kirkuk oilfield development have been handed over to the North Oil Company and unfortunately it was below expectations... at least for us," the official said.

"It's very obvious study results were not encouraging for BP to extend its operations," he added.

The Iraqi government did not reply to a request for comment.

BP confirmed it had completed field work and studies and said it gave its recommendations for the development of the field to the NOC. The London-based company did not comment on staff movements.

"In 2013, BP signed a letter of intent with the North Oil Company of the Iraqi Ministry of Oil to support field activity studies in Kirkuk. As planned, in December 2019 BP completed field work, studies and recommendations," it said.

Another senior NOC engineer said BP staff members left their laptops with the NOC after completing the survey and technical study of the field.

Iraq was hoping BP would help it triple output from the field to 1 million barrels per day (bpd) – more than one-fifth of Iraq's current production and 1% of global output.

BP's contract was put on hold in 2014 when the Iraqi Army collapsed in the face of Islamic State's sweeping advance in northern and western Iraq, allowing the Kurdish regional government (KRG) to take control of the Kirkuk region.

Baghdad regained full control of the deposit from the regional



government in 2017 after a failed Kurdish independence referendum, at which point BP resumed its studies on the field.

Kirkuk, where oil was discovered in 1927, is the birthplace of Iraq's oil industry. BP and Iraq's Oil Ministry signed in 2013 a letter of intent to study the development of the field with a planned spending of \$100 million.

BP's work included a 3D seismic study of the field's reservoir to expand on the existing 2D data.

Kirkuk is estimated to contain about 9 billion barrels of recoverable oil, BP said.

Most of Iraq's crude is produced from areas managed by the central government of Baghdad, in the south, and exported from southern ports on the Gulf. The KRG exports about 300,000 bpd of crude from northern Iraq through a pipeline across Turkey.

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## **DAVOS-Oil industry in Davos: torn between Greta and Trump**



Oil majors are at the sharp end of the climate debate and face a bewildering balancing act to secure their futures.

It's a Catch-22 situation: to meet ambitious emissions targets by investing in low-carbon technologies, they will have to rely on revenue from expanding their businesses in oil and gas, for which there is still growing global demand.

On one hand, they must satisfy the big investors who are rewarding companies with progressive climate policies and dumping heavy polluters; yet on the other, they can't risk cutting the generous dividends that keep shareholders sweet.

How energy companies navigate this maze could determine the winners and losers in a lower-carbon future, and help govern whether the world can rein in warming. So no pressure, then.

The confusion has been thrown into stark relief this week at the World Economic Forum in the Swiss ski resort of Davos, where oil majors, state oil giants and ministers have been debating behind closed doors in their biggest gathering of the year.

While climate activists, notably Greta Thunberg, have called for all fossil fuel production to be halted to avert catastrophe, U.S President Donald Trump has decried “prophets of doom” and hailed the economic importance of oil and gas.

“It feels like we are at the epicentre of this debate. We sit right there between energy needs and climate change,” said Al Cook, executive vice-president of Norway’s energy giant Equinor.

“If you listen to Davos speeches, you’ve got some people who say only economic growth and energy matter. Others ask to stop oil and gas immediately. We need to find a way to balance this but the challenge is that you cannot always be popular with either side,” Cook told Reuters.

#### CLEAN ENERGY: FRACTION OF CAPEX

Repsol is at the vanguard of an industry climate drive, announcing this year that it plans to become carbon neutral by 2050. As a result, Norway’s wealth fund has doubled its stake in the Spanish energy firm.

Equinor has meanwhile launched a target to reduce emissions to near zero in Norwegian offshore production by 2050, and is co-investing in a \$10 billion wind farm in Britain, the world’s largest.

French oil major Total this year announced investments into one of the world’s largest solar power plants, in Qatar. It also plans to open 20,000 power charging points in the Netherlands and invest in planting millions of trees in Peru.

Europe’s top oil firms have all set carbon reduction goals of various breadth. Shell has set out an “ambition” to halve “Scope 3” emissions by 2050 from fuels and products sold to customers rather than from its own operations.

Reuters reported this week that BP is also looking to significantly broaden its targets.

Companies might tout green credentials to satisfy sustainable investors and activists, but how can they pay the bill?

Fatih Birol the head of the International Energy Agency, the energy watchdog for industrialised nations, said the reality was that industry investments in clean energy represented a small fraction of their spending.

“Last year only 1% of total capex went into clean technologies. But those investments will grow as companies have to balance their short-term profit goals with long-term social licence,” he said.

“Some companies won’t need to borrow more, some companies may need to borrow more, but no company will stay unaffected by the energy transition.”

He said the industry would focus in coming years on reducing methane emissions from their own operations, which constitute 15% of all global greenhouse emissions.

“This part can be done relatively inexpensively,” he added. “The more expensive part will include carbon capture and storage, offshore wind and increased use of hydrogen.”

#### THE TRUMP EFFECT

Another major challenge to climate action is a lack of a global consensus.

In the United States, where Trump is encouraging oil and gas production and has exited the Paris climate deal, oil majors lag their European rivals on emissions goals. Chevron has set limited reduction targets while ExxonMobil has no targets.

A U.S. energy boom has helped make the country one of the world’s biggest gas flarers.

“No-one has been able to fill the previous political leadership role on climate change that was played by the U.S. in the past,” said Majid Jafar, chief executive of UAE-based

Crescent Petroleum.

Jafar argues that if the world replaced all coal with gas, it would achieve the Paris climate target of by keeping global warming to well below 2 degrees Celsius. The problem is that the biggest coal consumers, China and India, will not be able to do that for years if not decades, he said.

“The efforts of the West will be futile without bringing on board Asia and Africa, which are driving the growth in energy demand and emissions,” he added.

Richard Herrington, head of earth sciences at London’s National History Museum also said a speedy energy transition may simply be impossible.

“If the UK were to turn tomorrow all of its cars into electric ones, we would need twice the world annual cobalt and half of annual copper production,” he said. “You can imagine what happens if you scale it up to the whole world.”

Source: Reuters (Reporting by Dmitry Zhdannikov; Editing by Pravin Char)

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# **The Truth About the Trump Economy**



It is becoming conventional wisdom that US President Donald Trump will be tough to beat in November, because, whatever reservations about him voters may have, he has been good for the American economy. Nothing could be further from the truth.

NEW YORK – As the world's business elites trek to Davos for their annual gathering, people should be asking a simple question: Have they overcome their infatuation with US President Donald Trump?

Two years ago, a few rare corporate leaders were concerned about climate change, or upset at Trump's misogyny and bigotry. Most, however, were celebrating the president's tax cuts for billionaires and corporations and looking forward to his efforts to deregulate the economy. That would allow businesses to pollute the air more, get more Americans hooked on opioids, entice more children to eat their diabetes-inducing foods, and engage in the sort of financial shenanigans that brought on the 2008 crisis.

Today, many corporate bosses are still talking about the continued GDP growth and record stock prices. But neither GDP nor the Dow is a good measure of economic performance. Neither tells us what's happening to ordinary citizens' living standards or anything about sustainability. In fact, US

economic performance over the past four years is Exhibit A in the indictment against relying on these indicators.

To get a good reading on a country's economic health, start by looking at the health of its citizens. If they are happy and prosperous, they will be healthy and live longer. Among developed countries, America sits at the bottom in this regard. US life expectancy, already relatively low, fell in each of the first two years of Trump's presidency, and in 2017, midlife mortality reached its highest rate since World War II. This is not a surprise, because no president has worked harder to make sure that more Americans lack health insurance. Millions have lost their coverage, and the uninsured rate has risen, in just two years, from 10.9% to 13.7%.

One reason for declining life expectancy in America is what Anne Case and Nobel laureate economist Angus Deaton call deaths of despair, caused by alcohol, drug overdoses, and suicide. In 2017 (the most recent year for which good data are available), such deaths stood at almost four times their 1999 level.

The only time I have seen anything like these declines in health – outside of war or epidemics – was when I was chief economist of the World Bank and found out that mortality and morbidity data confirmed what our economic indicators suggested about the dismal state of the post-Soviet Russian economy.

Trump may be a good president for the top 1% – and especially for the top 0.1% – but he has not been good for everyone else. If fully implemented, the 2017 tax cut will result in tax *increases* for most households in the second, third, and fourth income quintiles.

Given tax cuts that disproportionately benefit the ultrarich and corporations, it should come as no surprise that there

was no significant change in the median US household's disposable income between 2017 and 2018 (again, the most recent year with good data). The lion's share of the increase in GDP is also going to those at the top. Real median weekly earnings are just 2.6% above their level when Trump took office. And these increases have not offset long periods of wage stagnation. For example, the median wage of a full-time male worker (and those with full-time jobs are the lucky ones) is still more than 3% below what it was 40 years ago. Nor has there been much progress on reducing racial disparities: in the third quarter of 2019, median weekly earnings for black men working full-time were less than three-quarters the level for white men.<sup>5</sup>

Making matters worse, the growth that has occurred is not environmentally sustainable – and even less so thanks to the Trump administration's gutting of regulations that have passed stringent cost-benefit analyses. The air will be less breathable, the water less drinkable, and the planet more subject to climate change. In fact, losses related to climate change have already reached new highs in the US, which has suffered more property damage than any other country – reaching some 1.5% of GDP in 2017.

The tax cuts were supposed to spur a new wave of investment. Instead, they triggered an all-time record binge of share buybacks – some \$800 billion in 2018 – by some of America's most profitable companies, and led to record peacetime deficits (almost \$1 trillion in fiscal 2019) in a country supposedly near full employment. And even with weak investment, the US had to borrow massively abroad: the most recent data show foreign borrowing at nearly \$500 billion a year, with an increase of more than 10% in America's net indebtedness position *in one year alone*.

Likewise, Trump's trade wars, for all their sound and fury, have not reduced the US trade deficit, which was one-quarter higher in 2018 than it was in 2016. The 2018 goods deficit was



the largest on record. Even the deficit in trade with China was up almost a quarter from 2016. The US did get a new North American trade agreement, without the investment agreement provisions that the Business Roundtable wanted, without the provisions raising drug prices that the pharmaceutical companies wanted, and with better labor and environmental provisions. Trump, a self-proclaimed master deal maker, lost on almost every front in his negotiations with congressional Democrats, resulting in a slightly improved trade arrangement.

And despite Trump's vaunted promises to bring manufacturing jobs back to the US, the increase in manufacturing employment is still lower than it was under his predecessor, Barack Obama, once the post-2008 recovery set in, and is still markedly below its pre-crisis level. Even the unemployment rate, at a 50-year low, masks economic fragility. The *employment* rate for working-age males and females, while rising, has increased less than during the Obama recovery, and is still significantly below that of other developed countries. The pace of job creation is also markedly slower than it was under Obama.

Again, the low employment rate is not a surprise, not least because unhealthy people can't work. Moreover, those on disability benefits, in prison – the US incarceration rate has increased more than sixfold since 1970, with some two million people currently behind bars – or so discouraged that they are not actively seeking jobs are not counted as “unemployed.” But, of course, they are not employed. Nor is it a surprise that a country that doesn't provide affordable childcare or guarantee family leave would have lower female employment – adjusted for population, more than ten percentage points lower – than other developed countries.

Even judging by GDP, the Trump economy falls short. Last quarter's growth was just 2.1%, far less than the 4%, 5%, or even 6% Trump promised to deliver, and even less than the 2.4% average of Obama's second term. That is a remarkably poor

performance considering the stimulus provided by the \$1 trillion deficit and ultra-low interest rates. This is not an accident, or just a matter of bad luck: Trump's brand is uncertainty, volatility, and prevarication, whereas trust, stability, and confidence are essential for growth. So is equality, according to the International Monetary Fund.

So, Trump deserves failing grades not just on essential tasks like upholding democracy and preserving our planet. He should not get a pass on the economy, either.

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## Turkey, Greece brace for standoff over Cyprus gas drilling plans



# US ROLE 'CRUCIAL' FOR EAST MED OIL AND GAS BOOM – ENERGY EXPERT



ATHENS, Greece: Keeping the United States engaged in the Eastern Mediterranean is the surest way to help the region get the most out of its hydrocarbon resources, an industry veteran told a conference in Athens on Thursday.

Roudi Baroudi, CEO of Energy and Environment Holding, an independent consultancy based in Qatar, told the first day of the Athens Energy Dialogues that peace and stability were prerequisites for sound development of the sector.

“This part of the world has long and painful experience of instability, and recent events indicate that the ingredients for more conflict are still very much on the table,” he told his audience. “In order to realize the potential offered by oil and gas, we need to learn from our shared history and avoid repeating it.”

While several East Med countries have discovered significant oil and gas deposits off their coasts in recent years, most of the region’s maritime boundaries are yet to be agreed, leaving ownership of the resources in dispute. The uncertainty threatens to discourage investment and delay development on multiple fronts, including the auctioning of offshore blocks for exploration and production, and the construction of processing and pipeline facilities for the export of liquefied natural gas (LNG) to Western Europe. Baroudi’s frequent advocacy of diplomacy to resolve these differences has made him something of an unofficial ambassador for dialogue and other peaceful means of dispute resolution under international law.



His Excellency Minister Kostis Hatzidakis, Minister of Environment  
& Energy of Greece, greeting Mr. Roudi Baroudi

With more than four decades in the energy business, Baroudi has helped shape policy and investment choices for companies, governments, investors, and supranational organizations like the United Nations and the European Union. He said the UN and related institutions offered a variety of mechanisms by which

countries might find ways to replace politico-military competition with at least tacit cooperation, but also warned that much of the internationalist playbook was under threat.

Citing former UN Secretary General Boutros Boutros-Ghali, he noted that UN institutions only work as intended when member states follow the rules and encourage others to do the same.

The effectiveness of the rules-based system developed after World War II, he argued, “stems primarily from the participation and goodwill of all member states, but especially the strongest and most influential among them – and in particular, therefore, the United States.”

“Much of this architecture has recently been undermined by some of the very countries that once championed its suitability for keeping the peace, maintaining stability, and otherwise providing peoples with the tools, the time, and the space they need to govern themselves and grow their economies,” Baroudi warned. “The UN itself can only promote the kind of preventive diplomacy that abets both peacemaking and peacekeeping; actual implementation depends very much on the policies and practices of member states. And then as now, no member state is more crucial to that reality than the United States. It alone has the requisite power, presence, and influence ... It behooves all regional states, therefore, to keep the USA engaged in the Eastern Med.”