

# Can small nuclear reactors really help the climate?



Much of the world has been turning away from nuclear power, with its ageing plants, legacy of meltdowns and radioactive waste. But some governments, big companies and billionaires including Bill Gates and Warren Buffett are convinced the technology can help save the planet.

Unlike wind and solar sources, nuclear power can be switched on and off at any time, and without the planet-warming emissions produced by gas and coal.

Investments of hundreds of millions of dollars are going toward a new generation of so-called small modular reactors (SMRs), which ultimately could provide a safe and nimble source of carbon-free energy – if they can overcome challenges related to economics, safety and public opinion.

## **HOW SMALL IS SMALL?**

Of the more than 70 such reactors that the International Atomic Energy Agency lists as in some stage of design or development, the smallest are less than 5m in diameter and 10m in height. (The plant that would be built to operate the reactor would be bigger, of course.)

SMRs typically have less than 300 megawatts of generating capacity, about a third of that of existing reactors. The “M” in SMR – modular – means these reactors can largely be built in factories and shipped in standardised parts for assembly on-site. That means shorter construction times and greater flexibility to expand to meet demand.

## **WHY AREN'T TRADITIONAL NUCLEAR PLANTS ENOUGH?**

Since the Fukushima Dai-ichi meltdowns in Japan in 2011, there has been a dearth of investor interest in building expensive new plants, with China, Russia and India as notable exceptions.

Instead, utilities have gravitated toward carbon-intensive coal and gas plants to supplement less reliable solar and wind resources. That has led climate advocates such as James Hansen, one of the first scientists to publicly warn about the danger of global warming, to call for more nuclear energy.

## **DO SMRS ALREADY EXIST?**

The only ones currently in commercial operation are two 35-megawatt units on a floating power plant deployed by Russia in the Arctic in 2020. China expects to begin trials in 2026 on an SMR being built near an existing power plant on Hainan island.

The first commercial SMR project in the US, planned for the site of the Idaho National Laboratory, will consist of six reactors capable of producing a combined 462 megawatts. It's supposed to be operational by the end of this decade.

## **ARE THEY SAFE?**

Proponents say SMRs will be safer than earlier generations of nuclear power plants.

The basic idea remains the same – splitting atoms to release energy, a process known as nuclear fission, that heats water to produce steam that spins turbines to make electricity. About half of the SMR models under development use water as a coolant, as most currently operating reactors do.

Explosions at Fukushima and at Three Mile Island in the US in 1979 were caused by heat from exposed fuel rods splitting the hydrogen from the steam used to cool the reactor.

Some SMR designs, by contrast, use molten salt and metals as coolants. SMR designs also integrate new kinds of fuel and backup emergency systems that should reduce the likelihood of meltdowns.

On the other hand, smaller reactors would ideally be located closer to population centers, increasing the possible danger from an accident. And like their larger brethren, SMRs produce radioactive waste that must be stored safely for centuries.

## **WHAT ARE THE ECONOMIC CHALLENGES?**

Cost competitiveness is an uphill climb. US manufacturer NuScale Power, to cite one example, is aiming for an SMR that can sell power for US\$55 per megawatt-hour.

Yet wind power in much of the world is now about US\$44 a megawatt-hour, solar is US\$50, and in some regions, renewable

energy will be below US\$20 a megawatt-hour by the end of the decade, according to BloombergNEF.

A 2020 study by professors at the University of British Columbia found that on a lifetime basis, the cost of electricity produced by SMRs could be 10 times greater than the cost of electricity produced by diesel fuel.

The economics might be more favorable when considering SMRs as alternatives to large-scale batteries to serve as at-the-ready backups for solar and wind power when the sun isn't shining or the wind isn't blowing.

## **WHO'S INVESTING IN SMRS?**

Electricite de France, China National Nuclear, Japan's Toshiba and Russia's Rosatom are pushing SMR designs, as is NuScale. Gates and Buffett have teamed up to build and test a reactor at an abandoned coal plant in Wyoming.

Rolls-Royce Holdings raised £455 million (US\$608 million) to fund the development of SMRs, with almost half of the financing coming from the UK government. The Canadian and US governments have also offered hundreds of millions of dollars in subsidies to kick-start the SMR industry.

---

## **What's Behind Europe's Skyrocketing Power Prices**



Europe's energy ambitions are clear: to shift to a low-carbon future by remaking its power generating and distribution systems. But the present situation is an expensive mess. A global supply crunch for natural gas, bottlenecks for renewable energy and wind speeds in the North Sea among the slowest in 20 years, idling turbines, have contributed to soaring prices for everything from electricity to coal. Governments are preparing to intervene if needed in volatile energy markets to keep homes warm and factories running.

### 1. What's the problem here?

Energy prices skyrocketed as economies emerge from the pandemic – boosting demand just as supplies are falling short. Coal plants have been shuttered, gas stockpiles are much lower than normal and the continent's increasing reliance on renewable sources of energy is becoming a vulnerability. Even with mild weather, benchmark gas prices traded as high as 100 euros per megawatt-hour on Oct. 1, the first day of the official heating season for the European energy markets. That's up almost 400% from the start of the year. Italy's ecological transition minister, Roberto Cingolani, said he

expected power prices to increase by 40% in the third quarter. In the U.K., CF Industries Holdings Inc., a major fertilizer producer, shut two plants, and Norwegian ammonia manufacturer Yara International ASA curbed its European production because of high fuel costs. Mining company Boliden AB says the record prices will boost costs for the industry for years to come.

## 2. What do gas prices have to do with electricity?

Some 23% of European Union electricity was generated from gas in 2019, just behind the 26% that came from nuclear plants. Electricity is very hard to store, which means that big swings in fuel costs translate quickly into price volatility. Large batteries exist, of course, and that technology is developing quickly, but it will be many years before they can offer serious storage capacity for renewable energy. Some European countries have become increasingly dependent on electricity exports from others with an abundance of power.

## 3. Why is there a supply shortfall?

Storage sites in Europe reached late summer, when natural gas inventories usually get replenished, at their lowest levels in more than a decade for the time of year. Supplies from Russia were limited because it was rebuilding its own inventories, while Norwegian gas flows were lower than average during maintenance work at its giant fields and processing stations. That said, prices in Europe would need to rise even higher in order to attract cargoes of liquefied natural gas away from Asia, where China is stockpiling to power its economy and build reserves for winter.

## 4. Why is China important for European energy markets?

It's by far the biggest consumer of energy and commodities in the world, and it has ordered state-owned companies to secure supplies at all costs.

## 5. How are power prices set in Europe?

Utilities and big companies buy and sell power years in advance, relying heavily on forecasts about the economy and long-term fuel costs. The broader European power market has traditionally been focused on the price for the following day, with auctions supplying a day-ahead price functioning as the benchmark. Traders submit bids and offers for each hour based on their calculations of supply and demand, and then an average price is calculated by the exchange handling that market. Consumer prices are set by state regulators after utilities request rate changes based on how much they've paid for wholesale power, transmission investments and overall upkeep of their grids.

#### 6. What's new in the system?

The explosion of renewable energy, which is more intermittent than fossil- or nuclear-fuel generators. Because weather patterns can create big price shifts, markets for shorter time periods later the same day have also become vital.

#### 7. How reliant is Europe on wind?

Northern coastal countries including the U.K., Germany and Scandinavian nations have become leaders in wind generation and technology. In Spain, the growth in wind and solar plants helped send its share of renewable energy to a record 44% of total power in 2020. France also is producing more power from wind, but its electricity generation is still dominated by nuclear plants.

#### 8. Which countries are most at risk of running out of power?

Those with limited cable links to their neighbors. In a crisis, they are less able to benefit from Europe's interconnected market, which enables power to flow to where it's needed the most and where it fetches the highest price. Ireland's grid operator warned in September that there was a risk of blackouts due to lack of wind. Many U.K. plants are old and break down from time to time. If big outages coincide

with little wind or sun, the nation could be close to running out of electricity.

9. What does this mean for Europe's climate goals?

Renewable energy brings volatility, and that's going to make it very costly for the continent to reach its targets. In Germany, for instance, outgoing Chancellor Angela Merkel's energy policies have cost citizens hundreds of billions of euros in subsidies. EU climate chief Frans Timmermans has said higher prices must not undermine the bloc's resolve to expand renewable power and that the industry should speed up instead to make more cheap green energy available.

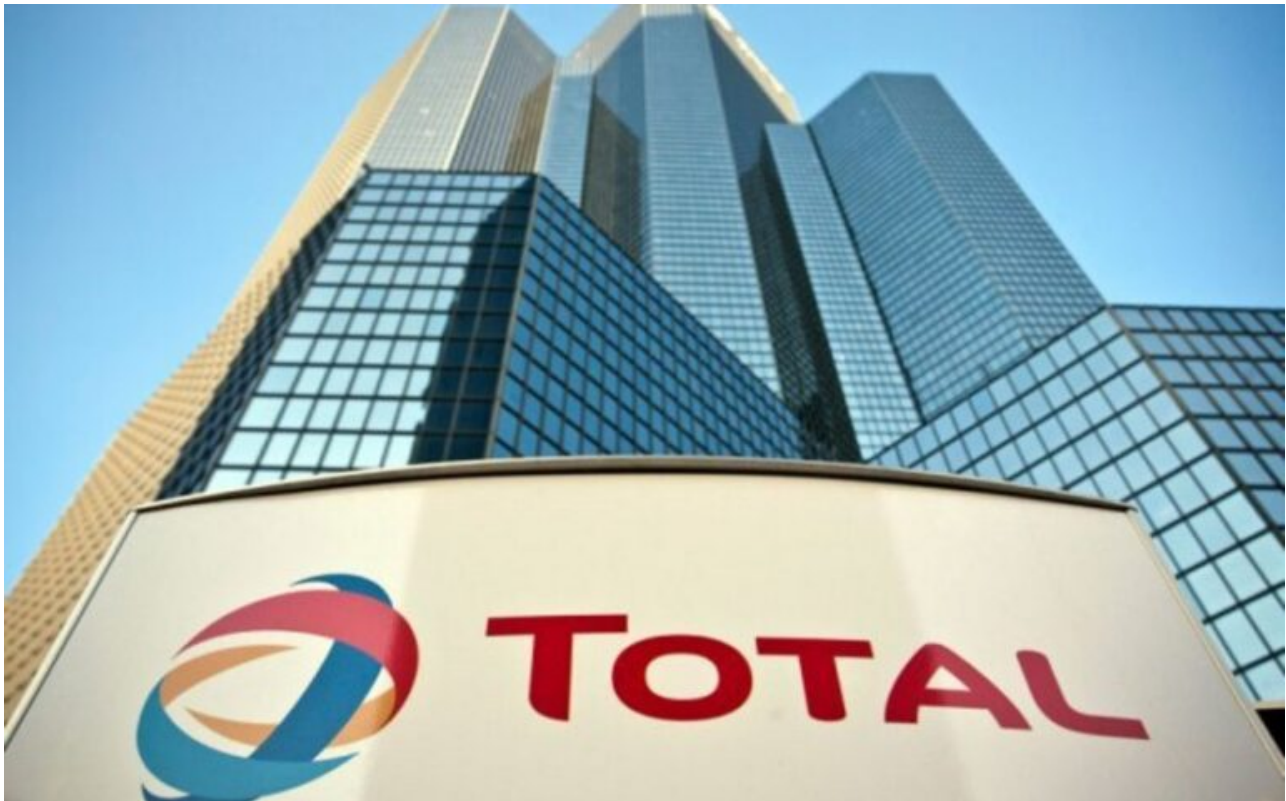
More stories like this are available on [bloomberg.com](https://www.bloomberg.com)

©2021 Bloomberg L.P.

---

**Total, Eni to invest in  
Libya's energy sector**





France's TotalEnergies and Italy's Eni said they were ready to invest billions of dollars in Libya as the OPEC nation emerges from a decade of conflict and civil war. France's TotalEnergies and Italy's Eni said they were ready to invest billions of dollars in Libya as the OPEC nation emerges from a decade of conflict and civil war. "I want to contribute to Libya's comeback," TotalEnergies' Chief Executive Officer Patrick Pouyanne said on Monday at an energy conference in the capital, Tripoli.

"Some may see more boldness than wisdom in TotalEnergies' decision to partner with Libya. I don't. Where they see risks, I see the opportunities." The Paris-based firm will put \$2 billion into Libya's Waha oil project, which will boost production by around 100,000 barrels a day, he said. It will also work to raise output at the Mabruk field and help build 500 megawatts of solar power to feed the local grid. Libya will be a vital source of supply for global petroleum markets over the next decade, Pouyanne said. The nation contains Africa's biggest oil reserves but has been mired in fighting for much of the period since 2011, when leader Moammar Qaddafi was toppled in an uprising.

Warring sides struck a truce in mid-2020, leading to more stability and enabling crude output to rise from barely anything to around 1.1 million barrels a day. The government has said it needs plenty of foreign investment to sustain that level of output, let alone reach its target of between 2 and 2.5 million barrels per day within six years. Elections Loom An interim government led by Prime Minister Abdul Hamid Dbeibah is meant to govern the country until shortly after presidential elections scheduled for Dec. 24. Dbeibah said this week that he will run for the presidency, joining a field that includes Saif al-Islam Qaddafi, a son of the former dictator, and eastern-based commander Khalifa Haftar. The two-day conference is the first prominent energy forum in Libya for over 10 years. Pouyanne and Eni's chief operating officer, Alessandro Puliti, were the highest-profile foreign executives to attend on the first day. Eni will push ahead with oil, natural-gas and solar projects, according to Puliti. "Libya has significant remaining oil and gas potential," he said. "Eni is ready to support that development." The Italian company was one of the first firms to explore in Libya and struck oil there in the late 1950s. It currently pumps about 400,000 barrels a day of oil and gas, making it the biggest foreign energy company in the country, Puliti said.

---

## **Reeling in a deal to save the ocean**



By Helen Clark, Arancha González, Susana Malcorra, And James Michel Auckland/Madrid/Victoria/Anse Royale

The ocean covers more than 70% of our planet's surface, produces half of the oxygen we breathe, feeds billions of people, and provides hundreds of millions of jobs. It also plays a major role in mitigating climate change: over 80% of the global carbon cycle passes through the ocean. But this precious natural resource is not invincible. Despite all the benefits it affords us, the ocean today faces unprecedented man-made crises that threaten its health and its ability to sustain life on Earth.

The greatest threat to marine biodiversity is overfishing. More than one-third of global fish stocks are overfished and a further 60% are fully fished. Each year, governments around the world encourage overfishing by providing \$22bn in harmful fisheries subsidies. Although these subsidies are designed to help support coastal communities, they instead prop up unsustainable and unprofitable fishing activity, depleting the very resource on which local populations' livelihoods depend. This problem is not new. In fact, the World Trade Organisation's members have been trying to negotiate a deal to curb these damaging payments since 2001. World leaders

reiterated their commitment to tackling the issue when they agreed in 2015 to the Sustainable Development Goals (SDGs). Under SDG 14, which aims to put a healthy ocean at the heart of the global sustainable-development agenda, leaders promised by 2020 to reach an agreement at the WTO that would reduce fisheries subsidies. But they missed the deadline, as negotiations slowed during the worst of the Covid-19 pandemic. Research shows that if WTO members were to eliminate all harmful fisheries subsidies – the most ambitious scenario – global fish biomass could increase by 12.5% by 2050. That's an additional 35mn metric tonnes of fish, or more than four times North America's annual fish consumption in 2017. And this is a conservative estimate. Removing destructive subsidies really will mean more fish in the sea.

The aim is not to remove support from fishing communities, but rather to redirect it in a more meaningful and less damaging way. Even if a deal does not eliminate all harmful subsidies, it would create a global framework of accountability and transparency for subsidy programmes. That, in turn, would spur dialogue between governments, fishing communities, and other stakeholders to spur the development of redesigned policies that better support fisherfolk while protecting our global commons.

Moreover, an agreement is within reach – if the political will is there to deliver it. The most recent lapse of the negotiations resulted from differences over how to structure flexibility in subsidy regimes for developing countries, as well as how to define and enforce rules on illegal fishing and sustainable stocks. But after numerous proposals and discussions, the comprehensive draft now on the table combines measures to curb harmful subsidies with specific exceptions for developing countries.

With the start of the WTO's 12th Ministerial Conference in Geneva just days away, now is the moment for a deal. Failure to conclude one would not only harm the ocean and the livelihoods of those who depend upon it, but also would diminish the global rules-based system and damage the pursuit

of the 2030 Agenda for Sustainable Development. In contrast, ending harmful fisheries subsidies would reduce the cumulative pressures on the ocean and increase its resilience in the face of climate change.

In the wake of the UN Climate Change Conference (COP26) in Glasgow, governments must demonstrate their willingness to use every tool at their disposal to tackle the climate crisis. The stakes at the upcoming WTO Ministerial Conference have perhaps never been higher. The future of multilateral trade co-operation is at risk; but, above all, jobs, food security, and the health of our global commons are on the line.

That is why 33 former government leaders and ministers from around the world have joined forces with nearly 400 scientists in urging WTO members to “harness their political mandate to protect the health of the ocean and the well-being of society.”

Governments have given their word that they will curb destructive fisheries subsidies. Next week’s meeting in Geneva will test the credibility of that pledge.

This commentary is also signed by: Axel Addy – Minister of Commerce and Industry of Liberia (2013-18); Mercedes Araoz – Prime Minister of Peru (2017-18) and Vice-President of Peru (2016-2020); Hakim Ben Hammouda – Minister of Economy and Finance of Tunisia (2014-15); Herminio Blanco – Minister for Trade and Industry of Mexico (1994-2000); Maria Damanaki – European Commissioner for Maritime Affairs and Fisheries (2010-14); Eduardo Frei Ruiz-Tagle – President of Chile (1994-2000); Michael Froman – US Trade Representative (2013-17); Tim Groser – Minister of Trade of New Zealand (2008-2015); Enrique V Iglesias – President of the Inter-American Development Bank (1988-2005); Hilda Heine – President of the Marshall Islands (2016-2020); Ban Ki-moon – UN Secretary-General (2007-2016); Ricardo Lagos – President of Chile (2000-06); Pascal Lamy – Director-General of the WTO (2005-2013); Roberto Lavagna – Minister of Economy of Argentina (2002-05); Cecilia Malmstrom – European Commissioner for Trade (2014-19); Peter Mandelson – European Commissioner

for Trade (2004-08); Sergio Marchi – Minister of International Trade of Canada (1997); Herald Munoz – Minister of Foreign Affairs of Chile (2014-18); Pierre Pettigrew – Minister for International Trade of Canada (1999-2003), Minister of Foreign Affairs of Canada (2004-06), Tommy Remengesau, Jr. – President of the Republic of Palau (2001-09, 2013-2021); Jose Luis Rodríguez Zapatero – Prime Minister of Spain (2004-2011); José Manuel Salazar – Minister of Foreign Trade of Costa Rica (1997-98); Susan Schwab – US Trade Representative (2006-09); Juan Somavia – Director-General of International Labour Organisation (1999-2012); Alberto Trejos – Minister of Foreign Trade of Costa Rica (2002-04); Allan Wagner – Minister of Foreign Affairs of Peru (1985-88, 2002-03, 2021); Andres Velasco – Minister of Finance of Chile (2002-06); Ernesto Zedillo Ponce de León – President of Mexico (1994-2000); and Robert Zoellick – US Trade Representative (2001-05). – Project Syndicate

• *Helen Clark is a former prime minister of New Zealand (1999-2008). Arancha González is a former foreign minister of Spain (2020-21). Susana Malcorra is a former foreign minister of Argentina (2015-17). James Michel is a former president of the Republic of Seychelles (2004-2016).*

---

**بارودي: قرار بايدن لخفض أسعار النفط العالمية... ودول أخرى ستلجأ إلى احتياطيها**





**المركزية-** لفت الخبير الاقتصادي في شؤون الطاقة رودي بارودي إلى أن "القرار الذي اتخذته الرئيس الأميركي جو بايدن باستخدام جزء من احتياطي النفط الأميركي، "يهدف إلى خفض التضخم والمحافظة على الاسعار العالمية بشكل اقتصادي أكثر استدامة".

وأكد بارودي في مقابلة مع "الجزيرة" - إنكليزي، "استخدام ما يعدل 7% فقط من أصل مجموع الاحتياطي الأميركي الذي يعادل ٧١٤ مليون برميل". وكشف أن "واشنطن اتخذت هذا القرار للحد من تحكم دول "أوبك بلس" وروسيا بسعر النفط العالمي".

كذلك أكد أن "الصين، الهند، كوريا الجنوبية وبريطانيا سيبدأون باستخدام احتياطي النفط المتوفر لديهم، وذلك لدعم استقرار سوق النفط"، مشدداً على أن "الرئيس الأميركي لديه أسلحة وطرق اقتصادية أخرى ومنها الطلب من منتجي الغاز الصخري في الولايات المتحدة زيادة الإنتاج، والذي من الممكن أن يؤثر بشكل كبير على الأسعار العالمية".

# Where is the money? Climate finance shortfall threatens global warming goals

Rich nations under pressure to deliver unmet \$100-billion pledge

- \* More ambitious climate plans hinge on international funding
- \* Eyes on U.S. to boost finance at U.N. gathering next week

KUALA LUMPUR/BARCELONA, Sept 16 (Thomson Reuters Foundation) – For a storm-prone developing country like the Philippines, receiving international funding to protect its people from wild weather and adopt clean energy is not only an issue of global justice – the money is essential to deliver on its climate plan.

Without promised support, many vulnerable poorer nations – battered by the economic impacts of COVID-19 and surging climate disasters – say they simply cannot take more aggressive action to cut planet-heating emissions or adapt to a warmer world.

The Philippines, for example, has pledged to reduce its emissions 75% below business-as-usual levels by 2030.

But only about 3 percentage points of that commitment can be delivered with its own resources, its national climate plan says. The rest will require international finance to make sectors like farming, industry, transport and energy greener.

“Environmental groups say our (target) is unambitious because it’s highly conditional. What they don’t see, however, is what we submitted is what is doable for the Philippines,” said Paola Alvarez, a spokesperson at the Department of Finance.



“Our economy is not doing well because of the pandemic and we have back-to-back typhoons every now and then,” which means national resources need to be prioritised for social programmes, she told the Thomson Reuters Foundation.

As leaders prepare to attend the United Nations General Assembly in New York next week, wealthy nations are coming under ever-greater pressure to deliver on an unmet pledge, made in 2009, to channel \$100 billion a year to poor countries to tackle climate change.

With budgets worldwide squeezed by the COVID-19 crisis and U.N. climate talks postponed for a year, the original 2020 deadline to meet the goal was likely missed, analysts have said.

But as November’s COP26 climate summit approaches fast, time is running out to convince developing countries – both big and small emitters – that any efforts at home to raise their climate game will be met with solid financial backing, analysts say.

Alden Meyer, a senior associate in Washington for think-tank E3G, focused on accelerating a low-carbon transition, said the \$100-billion promise is well below what is actually needed by emerging economies to mount an adequate response.

But delivering on it is key to spurring them on, he added.

Right now, they can say, “the developed countries aren’t doing what they said they would do in terms of support, so why should we ramp up ambition (to cut emissions)?” Meyer said.

Government officials in India – the world’s fourth-biggest emitter of planet-heating gases – have said, for example, that any further commitment to reduce its carbon footprint will depend on funding from rich countries.

National pledges to cut emissions so far are inadequate to

keep global temperature rise to “well below” 2 degrees Celsius above preindustrial times, and ideally to 1.5C, as about 195 countries committed to under the 2015 Paris Agreement.

The U.N. climate science panel warned in a report in August that global warming is dangerously close to spiralling out of control and will bring climate disruption globally for decades to come, in wealthy countries as well as poor ones.

#### ‘BARE MINIMUM’

Some big greenhouse gas emitters, including China, Russia and India, have yet to submit more ambitious plans to the United Nations, as they committed to do by 2020 under the Paris pact.

But of the roughly 110 plans delivered by other countries ahead of an adjusted U.N. deadline in July, nearly all hinge on one key condition: money.

According to the World Resources Institute (WRI), a U.S.-based think-tank that tracks national climate pledges, “well over half” of those updated emissions goals include actions that can only happen with the support of international finance.

“This underscores why it’s so critical for developed countries to deliver on their \$100-billion pledge. It’s the bare minimum,” said Taryn Fransen, a climate policy expert at WRI.

In the latest submissions, a growing number of developing nations have stepped up with emissions goals they can implement on their own, she added, including Argentina, Chile and Colombia, which have dropped requests for support entirely.

But honouring the \$100-billion annual commitment – which covers the five years until 2025, when a new yet-to-be-negotiated goal is set to kick in – is key to fostering trust within the global climate talks and facilitating a faster green transition, she stressed.

The latest available figures from the Organisation for Economic Co-operation and Development show that in 2018, a little under \$80 billion was delivered to vulnerable countries.

An analysis by aid charity Oxfam last year put the real figure – when counting only grants and not loans that have to be paid back – much lower, at \$19 billion-\$22.5 billion.

Meanwhile, the 46 least-developed countries between 2014 and 2018 received just \$5.9 billion in total for adaptation, a level that would cover less than 3% of the funds they need this decade, found a July study from the International Institute for Environment and Development.

## **U.S. FALLS SHORT**

Climate and development experts argue industrialised countries built their prosperity by burning fossil fuels, making them responsible for a large part of the losses happening in countries on the frontlines of worsening floods, droughts, storms and rising seas, many of them in the southern hemisphere.

A 2020 study in The Lancet Planetary Health journal estimated that, as of 2015, nations in the Global North were responsible for 92% of carbon emissions beyond safe levels for the planet, while the Global South accounted for just 8%.

Diann Black-Layne from the Caribbean nation of Antigua and Barbuda, which is battling sea level rise and more frequent hurricanes, said climate action for developing countries “has to be conditional, because we can’t get the money”.

Black-Layne, lead climate negotiator for the 39-member Alliance of Small Island States, questioned why wealthy governments continued to fund the fossil fuel industry while failing to meet their \$100-billion-a-year pledge.

“That money is available,” she said. “There is no shortage of money to get us to the 1.5C (temperature goal).”

Ahead of the COP26 summit, which starts on Oct. 31, host nation Britain has tasked Germany and Canada with coming up with a delivery plan for the elusive \$100 billion a year, but observers believe that is unlikely to land until next month.

A major question is whether U.S. President Joe Biden will unveil a bigger U.S. finance commitment at the U.N. General Assembly next week, as concerns grow that the world’s biggest economy is failing to cough up its fair share.

At an April summit he hosted, Biden said the United States would double its climate finance to about \$5.7 billion a year by 2024 – but that level is still seen by many climate finance experts as far below what it owes to developing countries.

A recent analysis from the Overseas Development Institute said the United States should be stumping up more than \$43 billion a year based on cumulative carbon emissions, gross national income and population size.

It called the United States the biggest offender among 23 donor states in terms of falling short of its responsibilities.

On Wednesday, the European Union pledged to boost the \$25 billion per year it provides in climate funding to poorer countries by 4 billion euros (\$4.7 billion) through 2027, and called on the United States to step up too.

Laurence Tubiana, CEO of the European Climate Foundation and a key broker of the Paris Agreement, said this week that “serious pledges” were now needed from Washington given that some European nations had already raised their commitments.

“The U.S. must step up solidarity,” she said, adding she understood Washington was working hard to do so. (\$1 = 0.8462

euros) (Reporting by Beh Lih Yi @behlihyi and Megan Rowling; Editing by Laurie Goering. Please credit the Thomson Reuters Foundation, the charitable arm of Thomson Reuters, that covers the lives of people around the world who struggle to live freely or fairly. Visit [news.trust.org](https://news.trust.org))

---

## How global institutions die



In the aftermath of World War II, the victors established a set of institutions that have underpinned the world order ever since. While those institutions have often been contested, they have proved to be highly resilient. But this does not mean they are invulnerable. On the contrary, their effectiveness may be gradually eroded – especially when they are used as geopolitical pawns.

Academic research offers abundant analysis of the factors that boost institutional hardiness, and those that tend to hasten institutional failure. One key message – which my own experience at the World Bank and in the European Union confirms – is that institutions thrive when there is trust. Small wonder, then, that the international order's institutional arrangements are at risk.

Former US president Donald Trump's administration threw the institutional-trust deficit into sharp relief. In just four years, Trump either defunded or disengaged from several United Nations agencies and multilateral agreements, paralysed the

World Trade Organisation, and withdrew the United States from the World Health Organisation.

The multilateral system passed the stress tests of Trump's attacks – but just barely. Moreover, Trump's departure from the White House did not bring the reprieve, let alone revival, for which some hoped. Instead, according to the 2021 Edelman Trust Barometer, global trust in institutions has continued to decline.

The Covid-19 pandemic is largely to blame. Despite some successes, multilateral institutions failed to bring about the collaboration needed to address the crisis effectively. The highly uneven distribution of vaccine doses is a case in point.

Some have already written off the post-WWII institutions, arguing that they have outlived their usefulness. For these critics, talk of reforming bodies like the UN Security Council or the International Monetary Fund merely distracts from the more important task of “figuring out what a new order should look like.” Should it, for example, rely more on ad hoc formations, like those that have proliferated in recent years? The answer to that question is plainly no. After all, those formations have so far failed to produce anything close to the kinds of multilateral cooperation the world needs.

To be sure, traditional governance frameworks have indeed fallen short. For example, as Mark Leonard of the European Council on Foreign Relations recently observed, UN Climate Change Conferences have “failed to produce a model of global governance that can tame power politics, let alone forge a sense of shared destiny among countries.” The just-concluded COP26 in Glasgow lent further support to this conclusion.

But while post-WWII international institutions are far from perfect, their collective record suggests that they remain the world's best hope for coping with the complex challenges ahead. As Harvard University's Joseph S Nye recently pointed out, established institutions entrench “valuable patterns of behaviour,” as they underpin a “regime of rules, norms, networks, and expectations that create social roles, which

entail moral obligations.”

Of course, the mere existence of institutions is not enough to deliver solutions to the world’s problems. As Nye put it, they must be used in ways that “bind others to support global public goods” that advance shared long-term interests.

That is not what the EU did last week, when the debate over the taxonomy of green investment devolved into an acerbic exchange between the bloc’s renewable heavyweights and those who view gas and nuclear as integral to any green transition. This debate will surely dent the EU’s painstakingly built reputation as a global standard-bearer on sustainability.

If such division exists within the EU, it is difficult to imagine how consensus can be reached within global organisations, especially at a time of intensifying great-power competition. In fact, nowadays, international institutions are becoming a theatre – and often collateral damage – of geopolitical confrontation.

In recent years, China has taken steps to expand its influence within multilateral institutions. It now heads four of the 15 UN agencies – a gain that has helped to protect it from international scrutiny.

China is also at the centre of the recent data-rigging scandal at the World Bank. An independent investigation carried out by the US law firm WilmerHale found irregularities in the data used to determine China’s ranking in the 2018 and 2020 editions of the Doing Business index.

IMF Managing Director Kristalina Georgieva, who was serving as the World Bank’s Chief Executive Officer in 2018, was accused of playing a central role in the effort to boost China’s ranking. Within weeks, Doing Business was discontinued, and Georgieva’s IMF job was on the line.

Ultimately, the IMF board stood behind Georgieva. Furthermore, the WilmerHale investigation has faced heavy criticism for its lack of hard evidence and clear display of bias. Joseph E Stiglitz has aptly likened the entire episode to a “coup attempt,” aimed at neutralising Georgieva’s efforts to advance bold reforms. Georgieva has also been justly praised for her

leadership during the pandemic, including the IMF's unprecedented use of special drawing rights.

Nonetheless, the Doing Business scandal could do lasting damage to an already beleaguered international system. Beyond eroding trust in the World Bank and the IMF, the debacle has highlighted how bilateral tensions can shape – and distort – the activities of multilateral institutions.

While the Covid-19 pandemic has highlighted international institutions' shortcomings, it has also made plain, yet again, that the biggest challenges today are global in nature. In this context, defending multilateral institutions is hardly a display of "nostalgia." Rather, it is an act of realism. Few would benefit from the unravelling of the existing order. The question is whether public trust can be restored before it is too late. – Project Syndicate

---

## **Scoping out corporate carbon neutrality**





By Geoffrey Heal/New York

In the run-up to this year's United Nations Climate Change Conference in Glasgow (COP26), a growing number of companies hopped on the sustainability bandwagon, declaring commitments to achieve carbon neutrality – net-zero carbon-dioxide emissions – by mid-century. And among the many ambitious announcements to come out of COP26 is that almost 500 financial-services firms have “agreed to align \$130 trillion – some 40% of the world's financial assets – with the climate goals set out in the Paris agreement, including limiting global warming to 1.5°C.”

But many commentators have been sceptical about such proclamations, suggesting that they amount to greenwashing. Critics point to corporations' heavy reliance on “offsetting,” which has become an increasingly important – and controversial – issue in the broader climate debate. So great is the confusion about what is real and what is not that the Taskforce on Scaling Voluntary Carbon Markets, led by UN Special Envoy for Climate Action and Finance Mark Carney, has established a new governance committee to review corporate emissions pledges.

The sceptics are right to be concerned about the use of

offsets. The world needs to get to net-zero by mid-century, and it cannot do that with offsets. Companies buy offsets precisely so that they can continue emitting greenhouse gases (GHGs) while claiming that their emissions are zero, net of the offsets. The very existence of an offset means that the purchaser's emissions are not zero.

But not all offsets are alike. The critics focus on offsets in which one company or country pays another to reduce emissions and then claims the reduction as its own. This is the kind of offset that cannot be allowed if the world as a whole is to get to zero emissions. There is a place, however, for offsets generated by removing GHGs from the atmosphere, for example by direct air capture or forest growth. If a company emits 100 tons of CO<sub>2</sub> and then removes the same amount, its net emissions really are zero. If all companies do this, the world as a whole will achieve net-zero emissions.

True, the recourse to forestry requires a cautionary note. Growing trees raises issues of both additionality and permanence – additionality because it is hard to be sure that the forest growth would not have occurred anyway, and permanence because there is a risk that the forest will burn, a problem that has grown more visible and severe in recent years.

Still, offsets can play a positive role. The costs of reducing GHG emissions, and the willingness and ability to pay for such reductions, vary greatly from country to country, depending on the sources of its emissions and its stage of development. Some countries may not be willing or able to pay for an expensive reduction in emissions at home but could still pay for less costly reductions abroad. When this happens, an offset market can facilitate a reduction in emissions that would not otherwise have occurred, or that would not occur without a policy that penalises CO<sub>2</sub> emissions.

In this case, offsets may be useful at least in moving the world closer to net-zero emissions. But to reach the finish line, they will have to be phased out at some point. There ultimately is no place for offsets in a zero-emissions world.

In the meantime, policymakers and business leaders would do well to attend to a related issue that has been neglected: the failure to distinguish between so-called scope-one, scope-two, and scope-three emissions. Scope one refers to emissions that arise from a company's own operations, whereas scope two applies to those associated with the production of electric power purchased by the company, and scope three to those arising from other parts of the supply chain, particularly from the consumption of the product.

Clearly, there is potential for massive double counting here if one adds up all the emissions across companies. If my company purchases electricity from a local utility, the associated emissions are scope two for me and scope one for the utility. If Exxon sells jet fuel to American Airlines for use in Boeing aircraft, the emissions are scope three for Exxon and Boeing, and scope one for American Airlines. These emissions are counted three times, which is anathema to any competent accounting system. Every scope-two or -three emission is someone else's scope-one emission.

Fortunately, such confusion is avoidable. If every company has reduced its scope-one emissions to zero, aggregate corporate emissions will be zero. It therefore makes sense for every company to focus only on this factor. If scope-one emissions are brought to zero, scope-two and scope-three emissions will take care of themselves.

This should help to simplify the general policy guidance and instructions given to companies: Focus on reducing your scope-one emissions. Plan on phasing out offsets over the long run. And continue to look for opportunities to remove GHGs from the atmosphere, as these reductions can still be counted against your own scope-one emissions. – Project Syndicate

? Geoffrey Heal is Professor of Social Enterprise at Columbia Business School.

---

# Electrification and urbanisation will drive growth in copper



## The long-term growth drivers of copper

The green transformation will electrify the global economy as cars go electric and more homes in colder areas will switch from natural gas as heating source to that of air to water heat pumps. In warmer parts of the world we will continue to see an acceleration in air conditioners to cool homes. The main usage of refined copper is for electrical applications, but it is also used in housing (pipes and fittings), cars, telecommunication and industrial machines. Copper has the second highest thermal conductivity at room temperature among pure metals and is thus the preferred metal used in electrical applications. As the world electrifies in the name of the green transformation and rapid urbanization continues in Asia,

Africa, and South America, copper will continue to enjoy strong annual growth rates.

### **How to get exposure to copper?**

Copper has been rebranded as a *green metal* because of its importance for the green transformation and investors are increasingly asking us how to invest in copper. The most direct way is of course to invest in high grade copper futures on COMEX (part of CME Group) with the current active contract being the Mar 2022 contract (Saxo ticker: HGH2), but the contract has a contract value of around \$106,537 at current level making it inaccessible to most retail investors. One could also invest through CFD on futures (Saxo ticker on the Mar 2022 is COPPERUSMAR22) where the investor could buy 100 pounds of copper instead of 25,000 pounds in the futures reducing the contract size to \$425. However, getting exposure through CFDs and futures the investor must regularly roll the contract to the next active contract, and the investor could also incur financing cost increasing the drag on performance. The chart below shows the continuous futures contract on high grade copper since 2002.

### **Few miners offer pure exposure to copper**

Another way to get exposure to copper that removes the difficulties of rolling futures or CFD contracts is to invest in mining companies that extract or refine copper. The table below shows 16 mining companies with exposure to copper with Codelco, the largest copper producer in the world, absent from the list as the Chilean miner is only listed in Chile and thus not investable for our clients. The copper mining industry has delivered a median total return in USD of 132.6% over the past five years beating the global equity up 105% in the same period. The rising copper prices the past year driven by investors positioning themselves in *green metals* (defined as metals that will play a key role in the green transformation) which in turn has pushed up revenue in the industry by almost

40%. Sell-side analysts are generally bullish on copper miners with a median upside of 16% from current levels. In our view investors should select one or two copper miners to get exposure and avoid the ETFs on the industry as they are too broad-based and lack the pure exposure profile needed to play the copper market.

As the table also show, there is no such thing as pure exposure to copper except for futures, options and CFDs on the underlying copper. The miner with the highest revenue exposure to copper is Antofagasta with 84.8% revenue share from copper extraction and refining. Most copper miners also extract gold and silver as part of their copper operations. Out of the 16 copper miners in our list, only 6 of these miners have more than 50% of revenue coming from copper extraction and refining.

## **Outlook and risks**

High grade copper futures have been range trading for more than half a year as slowing demand out of China due to a slowdown in housing construction has weighed on the demand side. On the positive side inventories have been tight in copper which has helped support the copper price and the global pipeline of new copper mines, but also potential tax charges in Chile and Peru (roughly around 40% of global supply) could negative impact supply and keep copper prices high. The annualized growth rate in global refined copper demand has been around 3% in the period 2009-2020.

China has for many years been the key driver of demand growth for copper, but going forward electrification (electric vehicles and air-to-water heat pumps and urbanization in India will begin to play a bigger marginal role on demand creating a more steady and diversified demand picture. In 2022, demand outside China will be driven by construction, grid infrastructure, and transport. Another risk to copper demand is significantly higher interest rates next year as that would

curtail growth in construction which is interest rate sensitive.

---

## **QatarEnergy, Pavilion Energy, Chevron launch GHG reporting methodology for delivered LNG cargoes**



Doha: QatarEnergy, Pavilion Energy Trading & Supply Pte. Ltd.<sup>1</sup> (Pavilion Energy), and Chevron U.S.A. Inc (Singapore branch) (Chevron) yesterday announced they have jointly published a quantification and reporting methodology to produce a statement of greenhouse gas emissions (SGE) for delivered LNG cargoes.

This is the first such published methodology that will be applied to sales and purchase agreements (SPAs), specifically the executed SPAs by Pavilion Energy with QatarEnergy and Chevron. Intended for wide adoption, the methodology provides a calculation and reporting framework for greenhouse gas (GHG) emissions from wellhead-to-discharge terminal, based on

industry standards.

The SGE Methodology was developed by a team of technical specialists representing Pavilion Energy, QatarEnergy and Chevron, supported by global sustainability consultancy Environmental Resources Management (ERM). It aims to create a common standard for the measurement, reporting and verification of GHG emissions associated with producing and delivering an LNG cargo to drive greater transparency and enable stronger action on GHG reduction measures.

Independent academic experts, commercial institutions and verification bodies have reviewed the SGE methodology. It complements key industry efforts being developed in parallel, specifically the Monitoring, Reporting and Verification (MRV) and GHG Neutral Framework by the International Group of LNG Importers (GIIGNL).

“We share a common and decisive vision with QatarEnergy and Chevron to advocate for transparency and accuracy of GHG emissions associated with delivered LNG cargoes,” said Alan Heng, Interim Group CEO of Pavilion Energy, “The SGE Methodology sets a strong tone for increased accountability of emissions along the LNG value chain, paving the way for more decarbonisation strategies towards a lower carbon future.”

Ahmad Saeed Al-Amoodi, QatarEnergy’s Executive Vice President of Surface Development and Sustainability, said: “This joint effort to develop a greenhouse gas quantification and reporting methodology is part of a series of projects and initiatives that reflect QatarEnergy’s commitment to reduce GHG emissions and to de-carbonize the LNG value chain. We are proud to join hands with our partners Pavilion Energy and Chevron in this landmark project.”

“We jointly developed this LNG carbon-footprinting methodology for delivered cargoes to help advance a standard for GHG product-level accounting,” said Bruce Niemeyer, Chevron’s vice



president of strategy and sustainability. “This methodology is expected to enhance transparency, improve accuracy and build stakeholder confidence in data reliability to help advance net zero ambitions.”