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INDUSTRY DIRECTION™

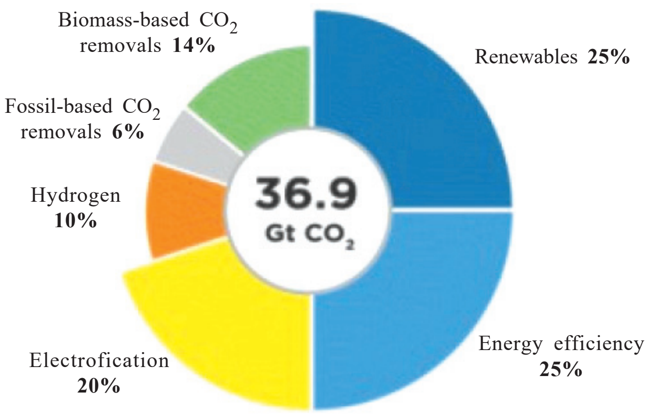
Can Russia-Ukraine war interrupt clean energy transitions for the industries?

Introduction

By the end of the COP26 climate summit in Glasgow in November, negotiators felt a fragile sense of progress had been achieved. More than 80 per cent of the world's emissions were covered by governments' pledges to achieve net zero— that is, when the amount of greenhouse gases added to the atmosphere is equal to the amount taken out. The summit had witnessed key agreements on deforestation, methane emissions and coal production. At least 23 countries made new commitments to phase out coal power, including in south-east Asia and Europe.

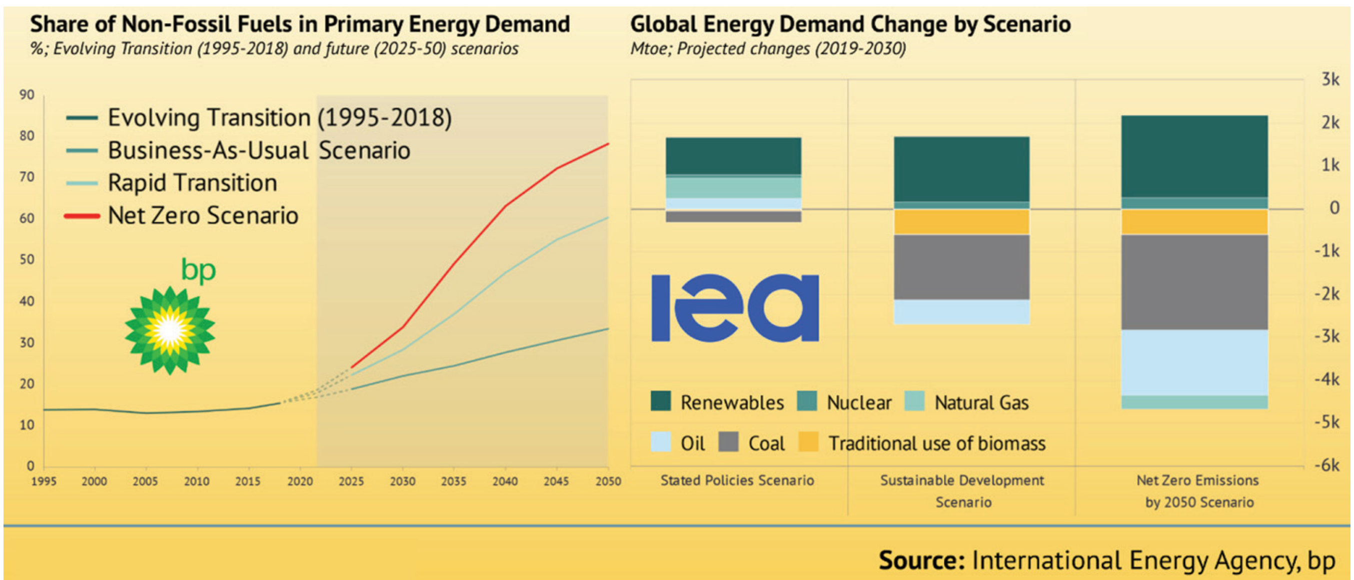
The final deal between 197 countries contained an agreement to draw down fossil fuel subsidies, despite a fierce argument that broke out over whether coal should be "phased down" or "phased out". But the direction of travel was clear, said COP26 president Alok Sharma. "Countries are turning their back on coal," he said. "The end of coal is in sight." Is that so?

Six components of the energy transition strategy



Total mitigation in 2050

Scenarios for energy transition up to 2050



The goal of energy transitions

Fossil fuel

Four months on, the global energy picture has shifted significantly – and opposite to the direction Sharma and other COP negotiators wanted. Far from declining, coal use globally surged to record levels over the winter, causing emissions to rise, while clean energy installations fell below the levels needed to reach climate targets. And that was before Russia invaded Ukraine, precipitating a global energy crisis that has forced countries, especially in Europe, to look for ways to quickly wean themselves off Russian oil and gas, and reconsider timelines of commitments to cut the use of fossil fuels.

Economist Dieter Helm, professor of energy policy at Oxford University, says the shift away from fossil fuels has rarely looked more complicated. "The energy transition was already in trouble— 80 per cent of the world's energy is still from fossil fuels," he says. "I expect that in the short term, the US will increase oil and gas output, and the North Sea may see some further investments." On top of that, EU coal consumption could increase, he adds. European leaders are urging the bloc to accelerate the transition to renewables in response to the war. At a meeting to discuss an EU-wide energy strategy this week, they are expected to push for a green response.

King coal… again?

Even before the war began, coal was enjoying a comeback as the surging post-pandemic economic recovery led to high demand for power. That was the case even in countries with lofty environmental goals. In the US, coal-fired power generation was higher in 2021, under President Joe Biden, than it was in 2019 under then president Donald Trump, who positioned himself as the would-be saviour of America's coal industry. In Europe, coal power rose 18 per cent in 2021, its first increase in almost a decade .The global surge in demand has delivered windfall profits for companies such as Glencore, Whitehaven Coal and Peabody Energy, the once bankrupt Wyoming group now planning to expand production after its most profitable quarter ever. Peabody chief executive Jim Grech expects this year to bring "a period of elevated demand" for coal, and continued high prices.

The war in Ukraine could boost coal demand even further, at least in the short term. That point was acknowledged last week by Germany's economy minister Robert Habeck, of the country's Green party, who said Europe may be forced to burn more coal in the face of Russian aggression and spiraling gas prices. Gas prices hit a record above •335 per megawatt hours this week, and at that level it is cheaper for some power stations to burn coal rather than gas even when the cost of carbon permits is taken into consideration.

Energy security concerns are also contributing, with some countries including Italy saying they may need to burn more coal, in order to burn less Russian gas. The IEA recently acknowledged this trade-off. "The faster EU policymakers seek to move away from Russian gas supplies, the greater the potential implication, in terms of economic costs and near-term emissions," the IEA said, in a report last week. The conflict in Ukraine is having an impact on the global coal market in other ways, as Russian coal exports are called into question. As banks, insurers and shipping companies shun Russia, coal consumers in Europe and Asia are now scouring the market for alternative sources of supply and pushing up prices, which last week hit more than $400 a tonne, from $82 a year ago. At those prices, 2022 promises to be another year of bumper profits for the industry. Russia accounts for about 30 per cent of Europe's imports of thermal coal, which is burnt in power stations to generate electricity.

A solar park around a power plant in Germany

Industry is nervous

Moving investments away from oil, gas and coal to sustainable sources like wind and solar, limiting and taxing carbon emissions, and building a new energy infrastructure to transmit electricity are crucial to weaning Europe off fossil fuels. But they are all likely to raise costs during the transition, an extremely difficult pill for the public and politicians to swallow. The crisis that has inspired the countries to more quickly reach toward clean energy sources like wind and solar also risks pitching it backward by unwinding efforts to shut coal mines and stop drilling new oil and gas wells to replace Russian fuel and bring prices down. In Germany, Europe's largest economy, leaders are planning to have several coal-fired power plants that were recently taken off the grid placed in reserve, so that they could be quickly fired up if needed. After years of dithering about investing so much in the natural gas infrastructure, Germany is also accelerating plans to build its own terminals for receiving liquefied natural gas, another fossil fuel."Security of our energy supply stands above everything else at the moment," said Robert Habeck, the country's economy minister and a Green party leader in the coalition government.

The Europe is wary

In many ways, Europe has been a leading laboratory for the decades long transition. It started establishing taxes on carbon emissions more than 20 years ago. The European Union pioneered an emissions trading system, which capped the amount of greenhouse gases companies produced and created a marketplace where licenses for those emissions could be bought and sold. Polluting industries like steel were gradually pushed to clean up. Last year, members proposed a carbon tax on imports from carbon-producing sectors like steel and cement. It has led the way in generating wind power, especially from ocean-based turbines. Siemens Gamesa Renewable Energy, for example, has been instrumental in planting rows of colossal whirligigs at sea that can generate enough green energy to light up cities. Europe, too, is on the verge of investing billions in hydrogen, potentially the multipurpose clean fuel of the future, which might be generated by wind turbines.

Such exhilarating innovation, though, sits next to despair-inducing obstacles

Even before the invasion of Ukraine, a tight natural gas market, exacerbated by Russia's restraining of supplies, had pushed gas and electricity prices to record levels, leading to shutdowns of fertilizer plants and other factories because of high costs. Household energy bills are set to rise by about 50% in Britain and drivers across Europe faced shock at the pump. European countries, most notably Germany, had mapped out strategies that relied on increasing dependence on Russian gas and oil in the medium term. That is no longer an option. European Union leaders are again meeting to discuss the next phase of proposals, but deep divisions remain over how to manage the current price increases amid anxieties that Europe could face a double whammy of inflation and recession. Recently, United Nations Secretary-General António Guterres warned that intense focus on quickly replacing Russian oil could mean that major economies "neglect or kneecap policies to cut fossil fuel use." There are other technological, financial, regulatory and political hurdles. The ability to cheaply generate, transport and store a clean replacement fuel like hydrogen to power trucks, cars and airplanes remains years away.