

# ENERGY POLICY

## In Focus

### About LAVAUX

We are a leading strategy, operations consulting and organizational transformation firm.

At the heart of everything we do is our unrelenting drive to peek into and make sense of the future.

We are strategists, management consultants and advisors — inspired by transforming clients' businesses so that they can reach escape velocity.

#### Global policy developments and trends

Energy policy was on a roller-coaster in the recent past. The COVID-19 pandemic was a stress test for the resilience of energy systems. In the run up to COP26 in Glasgow, climate change was in the driving seat: pledges of net-zero emissions by mid-century flourished and pressure to limit financing of fossil fuels increased. At the same time, affordability became an issue as rapid post-pandemic recovery and years of chronic underinvestment led to rapidly rising energy prices in the second half of 2021.

In 2022, geopolitical developments brought energy security back to the top of the policymaker priority list. Structural changes affected energy systems regarding investment, physical flows, trading and market function.

#### Scaling up GHG-emission-mitigation ambitions

The International Panel on Climate Change (IPCC) Sixth Assessment Report— Working Group I underlined that limiting global warming to 1.5°C above the pre industrial level by the end of the century requires rapid, deep, and sustained reductions in GHG emissions. At COP26, countries agreed to reduce global carbon dioxide emissions by 45% relative to the 2010 level by 2030, aim to achieve net zero emissions around mid-century, and severely reduce other GHG emissions.

The Nationally Determined Contribution (NDC) Synthesis report revealed that the estimated aggregate GHG emission level, considering all submitted NDCs, would be 13.7% above the 2010 level in 2030. This led to a work programme initiative to urgently scale up mitigation ambitions.

Furthermore, the UNFCCC parties agreed to revisit and strengthen their 2030 climate plans before COP27, phase down unabated coal power, and phase out inefficient subsidies for fossil fuels. However, the 2022 energy crisis has led energy security and affordability to become policymakers' priorities. In response to soaring energy bills, governments have deprioritised pledges to end inefficient fossil fuel subsidies and are supporting the sector through energy bill relief for consumers.

Governments, including in Europe, have set aside the negative narrative surrounding coal due to its abundance and affordability while ramping up production and use. Only a few major GHG emitters have responded to the call to update and strengthen their NDCs for 2030. Furthermore, the dialogue between China and the US on climate change has been stalled as geopolitical and trade tensions have risen.

### **More energy policies to promote renewables**

The recent energy crisis demonstrated that renewables are not yet sufficiently reliable unless backed up by dispatchable sources of electricity, notably natural gas. Still, countries have continued to enact renewable-supportive policies to support longer-term energy security. It is now fully recognised that natural gas paired with renewables is a realistic, cost-effective, and secure mitigation pathway in most countries and regions.

The cost of solar and wind electricity generation has declined considerably in the past decade. According to the International Renewable Energy Agency (IRENA), the cost of electricity from solar PV and onshore wind has declined by 88% and 68%, respectively, since 2010. As a result, renewables are competitive with fossil fuels in the power sector and attract the bulk of global investment in this sector.

Moreover, the recent run-up in fossil fuel prices has created an opportunity for faster renewable rollout. Many countries have enacted new and additional support for renewables, focusing on the power sector. Furthermore, electrification of end uses such as heating and road transport has emerged as a new area of interest for policymakers. In the US, the landmark Inflation Reduction Act of 2022 (IRA) aims to encourage investment in renewable projects.

In Europe, the REPowerEU plan outlines measures to accelerate the transition to clean energy by scaling up renewable use in power generation, industry, buildings, and transport. In China, the 14th Five-Year Plan for the energy sector and sub-sector plan on renewable energy were adopted in the spring of 2022.

Still, renewables development faces serious obstacles. Primarily, the current energy system remains compatible with fossil fuels. Adapting the structure for renewables requires a deep transformation, with substantial effort in overhauling systems and habits, plans, policies, and fiscal regimes, together with massive investment in both new capacity and enabling technologies and infrastructure. For example, despite good global progress in the deployment of renewables in the power sector, end-use sectors (such as industrial processes and domestic heating) still rely heavily on fossil fuels.



Another challenge is the variable and intermittent nature of renewables, which determines their need to be integrated with alternative sources, such as natural gas, to create a reliable system. Finally, investments associated with the penetration of renewables, such as the expansion of transmission and distribution grids, are substantial and difficult to bear, especially in highly indebted countries. The environment is further complicated by an inflationary and high interest-rate environment.

### Policy support for natural gas

Since 2015, policy focus has favoured sustainability to the detriment of security and affordability. Low natural gas prices and ESG-related pressures on financial actors to cease financing natural gas projects led to a dramatic decline in investment. Years of underinvestment in the gas sector fostered a situation in which a growing supply deficit triggered a sharp rise in prices to balance the market in the second half of 2021

Geopolitical tensions in Eastern Europe and the subsequent decline in Russian gas flow to Europe have further exacerbated the situation. Europe became the preferred market for LNG cargoes instead of the market of last resort as in the past. High prices have eroded demand in several Asian countries, with severe and protracted effects on energy availability and costs for billions of people. In addition, despite European coal phase-out policies, its consumption and the subsequent GHG emissions have increased sharply. This highlights the paramount role of natural gas in balancing energy transition and energy security. For the world to meet the 1.5°C long-term temperature goal, the use of natural gas should be scaled up rapidly, particularly through oil and coal substitution.

The upscaling of mitigation ambition and 'phasing down' of coal could encourage increased gas use, primarily because of increasing demand in fast growing emerging economies as they continue to industrialise and reduce their reliance on coal. Global carbon markets and the Global Methane Pledge could incentivise the scale-up of methane emissions reduction, carbon capture (CCS/ CCUS), and blue hydrogen, all of which will give natural gas an expanded role in the energy transition. In the US, the IRA provides support to the oil and gas industry, including expedited access to federal land leases for both onshore and offshore developments and streamlined project permitting. In addition, the legislation provides financial incentives for CCS/CCUS.

Moreover, the Complementary Climate Delegated Act, published in the EU Official Journal on July 2022, includes specific nuclear and gas energy activities in the list of economic activities covered by the EU Taxonomy. This green classification system identifies economic activities that are environmentally sustainable, leading to more confident investment and financing.



## The coal industry struggling in an increasingly carbon-constrained world

According to the IPCC, GHG emissions from coal should have peaked in 2020 to limit the temperature increase to less than 1.5° C. Furthermore, coal used to generate electricity should be 80% lower than 2010 levels by 2030, with OECD countries entirely ceasing coal use by 2030 and shutting all coal-fired power plants by 2040.

The Glasgow Climate Pact includes the provision for 'accelerating efforts towards the phasedown of unabated coal power'. Also, more than 40 countries have agreed to stop using coal-fired power, and more than 100 financial institutions and other groups have decided to stop funding coal development.

Furthermore, major coal-consuming countries (such as Canada, Poland, South Korea, Ukraine, Indonesia, and Vietnam) pledged to stop using coal to generate electricity. The largest economies committed to ceasing using coal power by the 2030s, while the other economies pledged by the 2040s. However, some of the largest coal-dependent economies (such as Australia, China, and India) were not part of the deal.

Furthermore, the US joined European nations in pledging US\$8.5 billion to help accelerate South Africa's transition from coal to cleaner energy. More broadly, donor countries the UK, US, Germany, France, and Japan are focusing attention on South Africa, Vietnam, Indonesia, India and Senegal. But these efforts are proving difficult in the current environment where record-high gas prices and constrained supply have prompted countries to consume more coal. Price sensitivity in Asia has been a critical driver.

Europe has also restarted coal plants as well in an effort to shore up energy sources. As a result, the global coal phase-out is slowing. Still, the prospect of new coal investment is dim. Banks and other financial institutions are averse to backing coal projects, while their customers are committed to net-zero emissions— most of them by 2050.

## Accelerating hydrogen developments

Hydrogen offers opportunities to simultaneously contribute to decarbonisation targets and enhance energy security. It will be used increasingly to decarbonise hard-to-abate processes and activities, especially in industry and transportation.

Green and blue hydrogen are the primary low-carbon hydrogen sources, with blue hydrogen benefitting from a significant cost advantage compared to green hydrogen. The number of countries considering hydrogen in their energy sector strategies has grown rapidly during the last year (2022). Europe's REPowerEU initiative outlined a plan to produce 10 million tonnes per annum (mtpa) of renewable hydrogen within the member states and import another 10 mtpa by 2030.



The UK's Energy Security Strategy doubled its ambition for low-carbon hydrogen production to 10 GW by 2030, with at least half coming from electrolytic hydrogen, and China's Hydrogen Industry Development Plan targets the production of 100-200 kilotonnes (kt) of renewable hydrogen by 2025.

Several gas-exporting countries such as Oman, Russia, and Trinidad and Tobago, have published national hydrogen strategies and roadmaps in the last year. Others, including the US, Algeria, UAE, and Egypt, are currently preparing theirs. Oman's green hydrogen strategy aims to produce 1 mtpa of green hydrogen by 2030, while the UAE is targeting 25% of the global hydrogen market. Russia aims to export 0.2 million tonnes (mt) by 2024, 2 million by 2035, and 15-50 million by 2050.

The world's first shipment of liquefied hydrogen from Australia to Japan in February 2022 was a milestone in the development of an international hydrogen market. Still, the adoption of hydrogen as a clean industrial feedstock and energy vector is still nascent enough to elicit wide variability in possible long-term outcomes for the fuel, along with its energy security and energy transition roles.

And if you missed it:

### Summary of COP27 Key Points

The 27th session of the Conference of the Parties of the UNFCCC (COP27) convened in the Egyptian coastal city of Sharm el-Sheikh in November 2022. Under the slogan "Together for Implementation", 112 world leaders and delegates from 190 countries discussed how to advance the global climate agenda and ensure implementation of climate commitments.

The results were mixed, focusing more on climate change impacts than causes, with the Sharm el-Sheikh implementation plan an overarching cover decision. Some of the key outcomes are highlighted in the following points.

- **Loss and Damage:** Parties reached a historic decision to respond to loss and damage caused by the adverse impacts of climate change. A loss and damage fund was set up for the first time, with the details to be figured out over the next year. This landmark decision was a great success, particularly for the most vulnerable developing countries.



- **Mitigation:** The Sharm el-Sheikh implementation plan reiterated the long-term goal of limiting the temperature increase to 1.5 °C above the pre-industrial level and phasing down coal from the Glasgow Climate Pact achieved the previous year. References to renewable energy were replaced with language referencing "low emission and renewable energy", which may be interpreted as a positive sign for natural gas. Also, countries were asked to "revisit and strengthen" their 2030 climate targets by 2023 – if they have not already done so. However, some parties were concerned that the results of the efforts might not be enough to "keep 1.5°C alive".
- **Climate Finance:** The need for a "transformation of the financial system and its structures" was acknowledged for the first time. Multilateral development banks and international financial institutions were asked to modify their practices and priorities in response to the "global climate emergency". Furthermore, the "Sharm el-Sheikh dialogue" was launched to align financial flows with global temperature targets. However, no new finance target was set, even in the most crucial climate finance negotiations, which aimed to replace the \$100 billion target with a new, higher threshold that would take effect after 2025.
- **Methane emission reduction:** Methane was once again a popular topic of discussion. At a side event, it was announced that Global Methane Pledge members had reached 150 countries. China, the world's largest annual methane emitter, which is not party to this pledge, proclaimed its national methane plan.



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A handwritten signature in black ink, appearing to read 'D. Iosif', written over a horizontal line.

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