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The energy transition: Progress in 2024 and implications for business

March 2024

Introduction

The focus of governments and companies on climate change is likely to intensify incrementally over the coming year, with 2024 forecast to be even warmer than 2023 as the El Nino weather phenomenon continues. Forming every three to seven years, El Nino causes a warming of the Pacific Ocean that changes temperature and precipitation patterns on land. This can stress agricultural supply chains, increasing debt stress and food insecurity in the most vulnerable countries, and risking tightening commodity markets and worsening global financial conditions – especially when combined with other climate-change impacts (see FINANCE: El Nino farming stress will have wide economic impacts – September 15, 2023).

Whether converging risks can prompt the drastic action needed to cap global emissions and then reduce them in the next few years remains doubtful. The COP28 climate summit, held in December 2023, highlighted the scale of the action required. Thus far, actions have lagged behind the requirements identified by scientists as necessary to prevent global temperatures rising by more than 1.5 degrees Celsius from pre-industrial times. Without much more investment in clean energy, greenhouse gas emissions will not reach net- zero by 2070, let alone 2050. Variance between developed and developing economies on policies and funding for clean energy and resilience will also slow the energy transition (see ENERGY: COP28 actions will fall short of Paris goals – December 19, 2023).

In this White Paper, we consider current progress in the energy transition, the demand for fossil fuels versus renewable energy investment, government policies and regulations to tackle climate change, and the implications for businesses needing to meet climate-change targets.

COP28: Agreements and impacts

COP28 and earlier subsidiary conferences highlighted two core topics of international disagreement: the phase-out of fossil fuels and climate finance. The reference to fossil fuel transition in the final text and the multiple voluntary multilateral pledges agreed outside of it add to the pressure to replace fossil fuels with renewable energy. However, there is still no commitment to phase out fossil fuels among major polluters, nor for those developing states with plans to build new coal power stations (as developed states did in the past) to change course. Thus the world remains on course for a temperature increase of at least 2.5 degrees.

Debate in the final days of COP28 focussed on just one part - 'Paragraph 28', pertaining to energy. This section instructs countries on the options for achieving the 1.5-degree temperature goal, calling for the transition away from fossil fuels as well as a tripling of renewable energy capacity and a doubling of energy efficiency by 2030 (see INT: Tripling renewable power by 2030 is unfeasible - November 29, 2023).

These last two steps have the support of China, which increasingly is championing the need for fossil fuel 'substitution' with renewable energy in COP talks.

China, India and the United States will be the key determinants of whether this goal is met. As such, the US-China Sunnylands agreement on enhancing climate cooperation, signed in November, was well-timed.

The text strengthens the argument of those who claim that the COP28 outcome mandates a move away from fossil fuels and should ultimately support progressive domestic climate policies. However, multiple loopholes and potential distractions exist within the text, including a call for the scale-up of removals technologies such as carbon capture and storage (see INT: Carbon capture and storage to surge in the 2030s - September 15, 2023) and a recognition of the role of gas as a transition fuel, which will allow fossil fuel companies greater latitude to continue business as usual, at least in the short-term.

With COP28 President Sultan Ahmed Al Jaber also presiding over the Abu Dhabi National Oil Company (a firm that is expected to increase production by 9-20% before 2030) such loopholes are perhaps unsurprising.

Hopes for strong language on phasing out fossil fuels were further dashed by strong Saudi Arabian and Russian opposition. That pattern is likely to be repeated at COP29, hosted by Azerbaijan, a major fossil fuel producer.

Renewable energy investment

Transitioning away from fossil fuels and tripling the world’s renewable energy capacity by 2030 requires huge investment. Climate investment globally topped USD1tn last year but remains well short of the estimated USD8tn requirement. Most funding goes to developed economies and mitigation projects, leaving poorer countries and adaptation projects starved of resources.

At present, renewable energy targets look unachievable (see INTERNATIONAL: Renewable ecosystem key to climate aims - May 23,

2023). While annual additions of renewable energy capacity are rising at record rates, with 295 gigawatts added in 2022, tripling capacity by 2030 requires another 954 gigawatts each year.

Renewable energy spending is heavily concentrated in the advanced nations and China, whereas the ambition for 2030 implies a more global effort. Insufficient international solidarity and financial flows exist between the advanced nations and the Global South to sustain a widespread and more equitable energy transition.

Many countries also lack the expertise and institutional capacities to enact and implement appropriate policies and have poor quality grids incapable of sustaining the electrification required without substantial investment.

Furthermore, the tripling of renewable energy capacity needs to be accompanied by doubling the rate of energy intensity improvement, according to the International Energy Agency (IEA). This depends on much more widespread electrification, particularly in buildings and transportation. It also requires behavioural changes such as greater collective transport use, another area of long-lead-time investment.

Meanwhile, developing countries with fossil fuel resources are likely to develop these further to fund their own energy transitions and achieve other developmental goals (see INTERNATIONAL: Energy plans signpost more volatility - June 16, 2023).

Substantial policy shifts and the mobilisation of trillions of dollars in public and private finance are required. This will require significantly more international support for the Global South, which in the near term looks unlikely.

Oil and gas demand: Slowdown or growth?

The International Energy Agency (IEA) forecasts a marked slowdown in oil demand growth in 2024, whereas OPEC expects another year of robust expansion. Increased non-OPEC supply is expected this year, leaving the major uncertainty around the impact on demand of increased energy efficiency and the electrification of transport globally, as well as China's economic slowdown (see FINANCE: Different demand pictures dominate the outlook for oil – January 29, 2024).

In its World Energy Outlook 2023, the IEA predicted that global oil demand will peak by 2030, if governments meet their current commitments on climate change (see PROSPECTS 2024: Oil market - November 21, 2023). This was the first time it has made such a prediction, but the caveat on pledge

realisation is important. By contrast, OPEC expects oil demand to continue rising for more than a decade at least.

The energy transition is far less advanced in non-OECD economies, bar China, than in OECD economies. This unevenness appears to support OPEC's view of demand growth more than the IEA's. Growth in heavy transport and petrochemicals demand continues to outweigh gains in energy efficiency and demand reductions from greater adoption of electric vehicles (EVs).

While growing energy transition momentum is expected to reverse the situation, at what point and by how much remains uncertain.

Amid such discussions, the IEA expects the Brent crude oil price to be stable. The January 11 US-led airstrikes on Houthi bases in Yemen in retaliation for attacks on Red Sea shipping caused a 4% spike in oil prices. This was based on concerns that the war in Gaza could spread regionally and the elevation of the risk that Iran might impede shipping in the Strait of Hormuz, through which up to 20% of global oil and liquefied natural gas (LNG) supply is carried.

However, with Iran signalling that it does not want the conflict to spread, despite its support for Houthi rebels, the threat of wider conflict in the Middle East appears low. Investor confidence has returned, along with a belief that oil and gas will remain key fuels during the energy transition.

United States oil and gas revival

In the United States, the oil and gas sector enters 2024 in a strong position following a remarkable turnaround from 2020 and record output last year (see UNITED STATES: Oil and gas revival will reach new records in 2024 – January 19, 2024).

The pandemic sharply reduced demand for fuel. Dozens of US independent oil and gas companies filed for bankruptcy protection and laid off thousands of workers. Billions of dollars in tax benefits as part of the government's pandemic relief measures, higher oil and gas prices following Russia's Ukraine invasion in February 2022 and the avoidance of a widely forecast US recession in 2023 have restored the sector's fortunes (see UNITED STATES: Refining sector has promising future - July 25, 2023).

Even as the Biden administration seeks to encourage a transition from fossil fuels, the United States is producing record volumes of oil and natural gas. Unlike earlier booms based on exploiting new fields, US producers are raising production by adopting new technologies, process efficiencies,

economies of scale and financial discipline. This is allowing them to profit from historically high oil prices, new export markets and still relatively strong economic activity.

Production and exports are likely to reach new records this year unless prices weaken considerably. While maximising fossil fuels extraction ahead of 'peak' oil demand, the US oil and gas sector has secured a key position in the energy transition, advancing low-carbon fossil fuels and carbon capture and storage technologies. A second Trump administration from 2025 would boost the industry's drilling prospects further.

United States: Climate policies and election prospects

The world’s largest economies have begun to support and subsidise industry under ‘green investment’ policies, a trend accelerated by the US Inflation Reduction Act (IRA). Clean energy provisions in the IRA could add up to USD1.2tn by 2032, while the non-partisan Joint Committee on Taxation published a ‘very preliminary’ estimate indicating that clean energy tax credits could reach UDS663bn.

Other Biden administration initiatives for tackling climate change include:

- The 'CHIPS and Science Act' of 2022, which seeks to strengthen US manufacturing and supply chains "and accelerate the industries of the future" – including clean energy.
- The use of the Defence Production Act to speed up US production of energy technologies relevant to the green transition.

The possible return of a Republican administration promises a rollback of President Joe Biden's incentives to transition the US economy away from fossil fuels and from their use as feedstock for plastics (see UNITED STATES: Federal support will aid green energy - January 4, 2024). The oil and gas sector is lobbying against plastic reuse and recycling restrictions to ensure a future replacement market for fuels.

This would break the trend of renewables becoming increasingly cost-effective compared with fossil fuels, particularly when building new power-generation capacity. Natural gas is the leading fuel for US electricity generation, at 37% in 2022, but renewables (around 20%) passed nuclear in 2021 and coal in 2022.

The reduction or elimination of environmental protections that impede oil and gas drilling and transportation is also likely in the event of a change of administration.

EU emissions disclosure and management

The first of California's new climate disclosure requirements for companies took effect on January 1, 2024, and these are set to expand in the coming years. New York and other non-energy-producing states may follow California's lead. Meanwhile, the Securities and Exchange Commission has been trying, with difficulty, to finalise a disclosure rule for climate-related financial risk that would apply to all US-listed public companies (see US: SEC expects challenges to climate disclosure rules - October 31, 2023).

Assuming one of the two current presumptive candidates wins the election, a Biden victory would likely see an intensification of emissions reporting requirements and climate-related regulation. The return of President Donald Trump promises the reverse.

However, legislation in Democrat-run states such as California, allied to the EU's new climate disclosure regime, would keep the sector under commercial pressure to produce less carbon-intensive products. These will become significant product differentiators for US oil companies.

California has also passed anti-fossil fuels legislation, including restrictions on licensing new projects, additional funding requirements for near-end-of-production well capping and limits on new drilling locations. The state has given itself the power to fine oil companies USD70,000 daily for spills.

The result of next year's US presidential election will inevitably shape the agenda and prospects of COP29 (see PROSPECTS 2024: US politics - November 20, 2023). Former President Donald Trump (2017-21) looks likely to be the Republican nominee. His re-election would almost certainly see the US government disengage from climate negotiations, hampering global climate mitigation efforts.

European Union: Green policies

On February 1, 2023, the European Commission presented its Green Deal Industrial Plan. This rests on four pillars:

- A predictable and simplified regulatory environment
- Faster access to funding
- Skill enhancement
- Open trade for resilient supply chains.

The proposal for a Net-Zero Industry Act, which stems from the plan, works towards achieving a 55% reduction in EU carbon emissions by 2030 compared to 1990, and seeks to ensure the EU's manufacturing capacity in eight strategic net-zero technologies reaches at least 40% of annual deployment needs by 2030.

The green industrial strategy complements previous initiatives, such as the EUR300bn (USD323bn) 'REPowerEU' Plan launched in May 2022 to accelerate the substitution of Russian fossil fuels with renewable sources of energy.

Carbon border duties

In addition, in October 2023, the EU started the gradual implementation of its Carbon Border Adjustment Mechanism (CBAM), with the first reporting period of importers ending 31 January 2024. This is an import duty on carbon-intensive products, seeking to avoid 'carbon leakage', which occurs when companies move the production of these goods to jurisdictions with less stringent rules.

Other jurisdictions may also create their equivalent schemes in the coming years:

- In late March 2023, the UK government launched a consultation about possible policies to avoid carbon leakage, including a CBAM and mandatory product standards.
- In the United States, Senators Chris Coons (Democrat) and Kevin Cramer (Republican) in June 2023, introduced a bill to require the government to calculate the emission intensity of goods imported from different countries, potentially a first step towards a US CBAM.

The EU, US and UK schemes will not be identical, and might not be fully compatible, creating complexity for companies affected in two or three of those markets.

Navigating regulations: The challenges for business

Climate and other environmental-related legislation varies widely across jurisdictions and will continue to vary as legislation extends. Navigating the thicket of regulations will be an increasingly burdensome challenge for businesses.

Confusion may also emerge due to multiple rules and other policies that apply within the same jurisdiction. For example, twelve US states participate in carbon markets, 33 have adopted or are developing or revising a climate action plan and 24 (plus the District of Columbia) have greenhouse emission targets.

In the EU, different new rules are being developed or rolled out, including the Corporate Sustainability Reporting Directive and the Corporate Sustainability Due Diligence Directive.

Reporting on emissions and wider Environmental Social and Governance (ESG) metrics is another area that is in a state of flux. Currently, different standards exist, including those of:

- The Task Force on Climate-related Financial Disclosures
- The Sustainability Accounting Standards Board
- The Climate Disclosure Standards Board
- The Global Reporting Initiative.

The International Sustainability Standards Board's (ISSB's) Climate-related Disclosures, issued in June 2023, come into effect in 2024. And the US Securities and Exchange Commission and the European Financial Reporting Advisory Group are also developing their own standards, as are other authorities.

While different standard-setters have been working to promote interoperability, the lack of global alignment adds complexity to the business environment.

Transition to transformation

Efforts to combat climate change will create demand for innovation in products and services, and some sectors will be able to tap generous subsidies. However, expanding regulation across multiple jurisdictions will increase the cost and complexity of doing business, while political tensions at the country level will make for a potentially unstable regulatory and operating environment.

While there remains an urgent case for tackling climate change, the practicalities of doing so within a landscape of competing demands and complex regulatory developments will remain difficult. Success will require nothing short of the transformation of the global business environment.

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