Rothschild & Co
Wealth Management

The decarbonisation train accelerates

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Much has already been written on ambitious targets set by governments, international organisations, and the private sector to reach net zero emissions within a tightly monitored timeframe.

The recent conflict between Russia and Ukraine re-emphasized the geopolitical angle to the decarbonisation debate: Europe's need for energy security. The region's recent policy prioritisation shift on reducing dependence on Russian fossil fuels acts as a catalyst to speed up decarbonisation efforts. In this short note we explore the longer-term dynamics of the energy transition in Europe, and the opportunities they create for investors in clean energy, hydrogen, and green bonds.

How did Europe become so dependent on Russian oil and gas?

In 1980, less than one-third of Europe's oil and gas was imported from Russia. As Europe became more ecologically aware, it shunned carbon-intensive energy sources at home but allowed its dependence on imports of traditional carbon intensive energy commodities to increase. Today, the EU relies on Russia for more than 45% of natural gas supply – up 20% since 2010[1]. At the same time, Russia also accounts for around 25% of oil imports and 45% of coal imports[2].

1. U.S Energy Information Administration, Europe relies primarily on imports to meet its natural gas needs, February 2022, link.
2. European Commission, REPowerEU: Joint European action for more affordable, secure and sustainable energy, March 2022, link.

Supportive policy environment

Numerous government frameworks supporting the energy transition already exist – for example the EU has set a binding target of achieving carbon neutrality by 2050 and, as an intermediate step, commits to cutting carbon emissions by at least 55% by 2030. Another initiative, "Fit for 55", aims to ensure that EU policies are in line with the climate goals agreed by the European Council and Parliament.

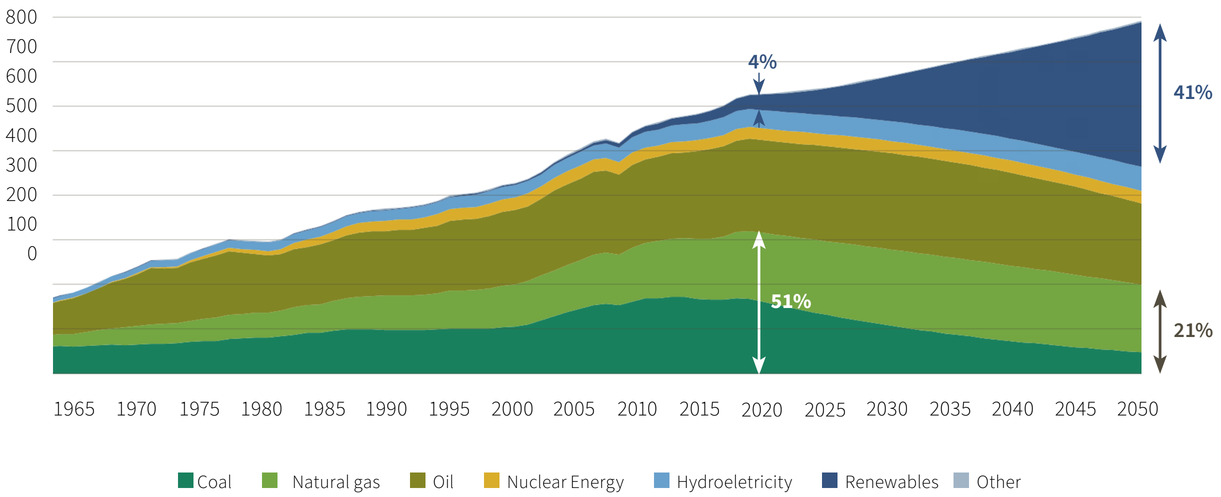
The current conflict in Ukraine brought Europe to publish the REPowerEU plan (8th March 2022). This new initiative seeks to build on Fit for 55 with a specific focus on European independence from Russian fossil fuels by 2030 and cutting its gas imports from Russia by two thirds before year-end. It states an approximate doubling of incremental renewables capacity to 900GW by 2030, reiterating that climate-driven decarbonisation is supportive of geo-strategic energy security needs. Further, the plan indicates a 4-fold upward revision of an already ambitious hydrogen target for the region, which would account for a replacement of 16-32% of imported Russian gas volumes[3].

> "... We must become independent from Russian oil, coal and gas... . We need to act now to mitigate the impact of rising energy prices, diversify our gas supply for next winter and accelerate the clean energy transition. The quicker we switch to renewables and hydrogen, combined with more energy efficiency, the quicker we will be truly independent and master our energy system... ."

Ursula von der Leyen
Commission President
8th March 2022

To unwind this dependence on Russia, governments are therefore set to spend heavily on developing a mix of on- and off-shore renewable and hydrogen energy sources[4]. Renewable energy is expected to grow from 4% in 2020 to 41% of total energy consumption (Chart 1) by 2050.

Chart 1 - World Fuel Consumption (exajoules) and share (as a % of total)



Source: BP, International Energy Agency (IEA)

3. ESG Investor, More than hot air, April 2022, link.
4. AA Energy, EU says natural gas, nuclear energy have roles to play in clean energy transition, January 2022, link.

How to keep the lights on

First, as the proportion of power generated from renewables accelerates, intraday and seasonal variability will need to be addressed in order to secure energy reliability.

EU monthly gas consumption is on average more than **twice as high** in the winter months than in the summer. This will make it very difficult for Russian gas to be substituted fully with renewable power, especially solar power, which has opposite seasonality. To reach full replacement of fossil fuels, hopes are high for two key technologies: **batteries** and **hydrogen**. These two solutions have a complementary role, with batteries addressing intermittency and hydrogen addressing seasonality.

Second, the transition to a fully renewable future cannot be viewed in a vacuum. Governments will have to also invest in the broader energy ecosystem, especially in Liquified Natural Gas (LNG) and nuclear energy, both less carbon intensive than oil and coal, to support long-term energy transition strategies.

Energy security concerns do not mean the end of globalisation

Finally, recent geopolitical tensions between Russia and the West will not mark the end of globalization. Self-sufficiency cannot be fully achieved with many interdependent stages of the renewable value chain requiring commodities spread across the globe. An example is the composition of a traditional EV battery, which requires cobalt, nickel and manganese. 68% of cobalt is sourced in the Democratic Republic of Congo, 20% of nickel comes from Australia and 28% of manganese originates in South Africa.

Whilst the costs and efforts to reallocate capital to renewables, innovative technology as well as energy efficiency may be high, the resulting opportunities and social significance will certainly be much higher. We view certain sectors as strategically positioned to benefit from the acceleration of European policy efforts towards a more independent, greener approach to energy supply.

Investors can participate in the current energy transition trend either from the financing side, for example through green bonds, or via specific companies which are considered as the decarbonisation winners of tomorrow. Those are companies that should directly benefit from increased government spending (Green Capex) on energy security and cleaner energy sources as well as changing consumer behavior.

With our Investment & Portfolio Advisory team at Rothschild & Co Wealth Management, we can advise on the most appropriate ways of investing in energy security and decarbonisation as a long-term investment theme. We look forward to answering any questions in relation to this publication, at a time convenient for you.