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Energy transition, Europe, and geopolitics

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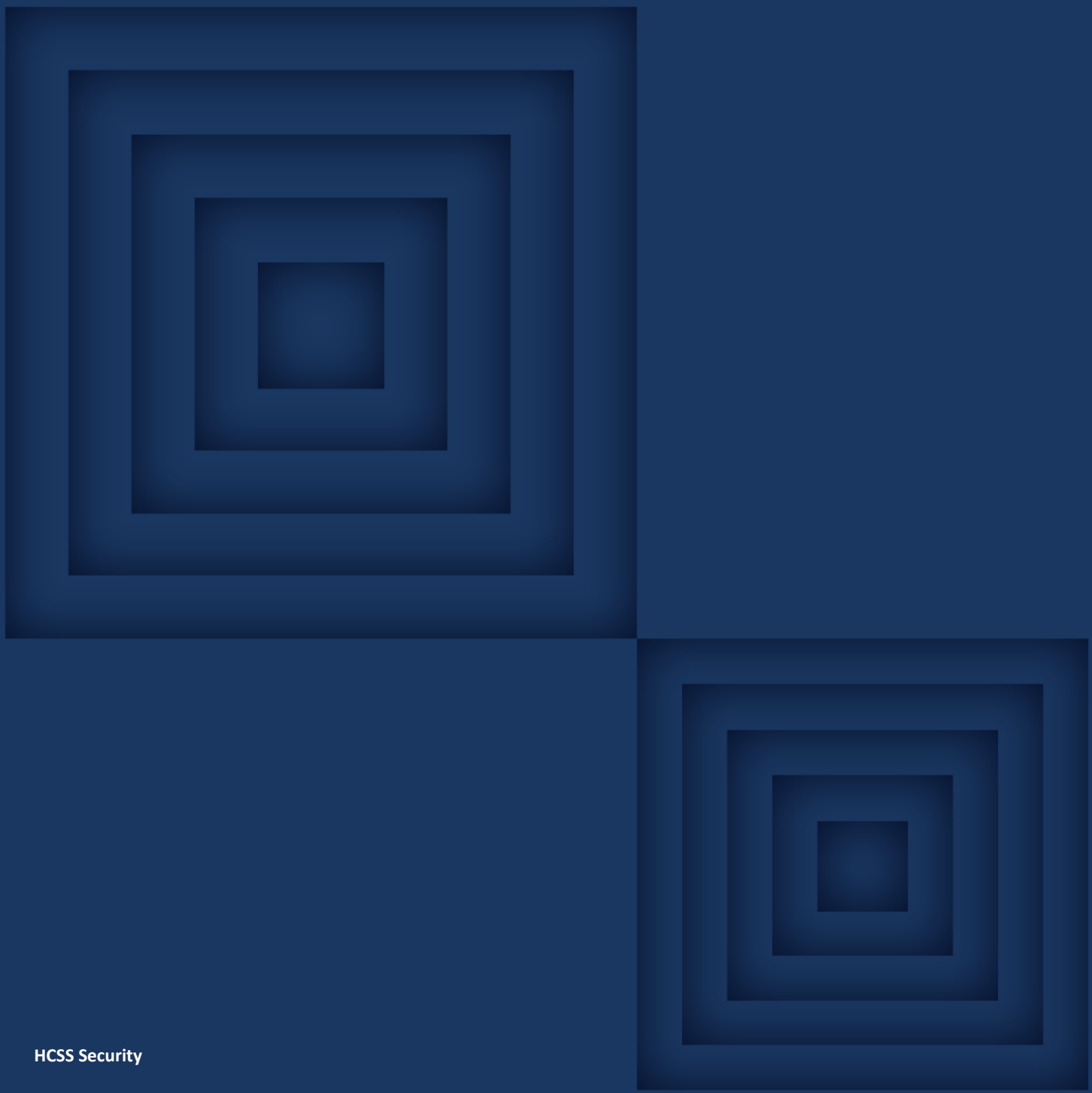

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Whilst current European strategy debates tend to focus on military capacities or the defence industry, one of the key challenges with which continental Europe will be confronted in the upcoming years will be in the domain of energy. The world is currently undergoing a fundamental transition from fossil forms of energy such as coal, oil, and later natural gas towards renewable energy. The ongoing debate about so-called strategic autonomy in Europe will hence need to be expanded to the energy domain. Access to basic resources needed in the renewable energy economy, but also developing renewable energy technologies, intellectual property and standards, will be crucial. In the not-too-distant future, European countries will face a vastly different world in which renewable technologies will fundamentally shift our energy and resource needs whilst being confronted with challenges relating to scarcity and renewed resource competition. Geo-economic needs and geopolitical realities may not always be in sync. Strategies will be needed to overcome this gap.

The energy transition of continental Europe will pick up steam in the coming years. This will also start to affect continental Europe's geopolitical needs and partnerships around the world. If the EU is to remain a relevant actor in world politics, Europe's energy policy will have to be firmly on the radar of those who are carving out and implementing a more comprehensive European strategy in an age of increased competition. Failures to incorporate the energy domain in such a strategy could undermine Europe's geo-economic and geopolitical position in the world. Whilst the demise of the 'old energy regime' will create geopolitical fallout, the rise of a new energy regime will need to be guided into a more favourable configuration for Europe's immediate geo-economic needs and longer-term geopolitical interests.

Changing energy mixes, changing geopolitics

Many governments around the world are already changing their respective energy mixes. In the past, that mix constituted a combination of coal, oil, and some natural gas. In the upcoming decades, oil will not decline in absolute but in relative terms. By contrast, the share of various renewables will grow in combination with natural gas – both in absolute and relative terms. This may provoke crises in the business models of traditional oil producers such as in the Middle East, which could produce domestic societal instability. Countries like Saudi Arabia are already trying to diversify their respective business models, but it remains a race against time. [1] The natural resource wealth of the past made the rulers of such countries more autonomous vis-à-vis their citizens. Internally, the decarbonization of the European energy market may put the social

[1] One option for Saudi Arabia could be to harness the power of the sun and become a global hub for green hydrogen. With *'Helios Green Fuels'*, Saudi Arabia tries to become the world's largest hydrogen producer; 650 tons a day by electrolysis – enough for conversion to 1.2 million tons per year of green ammonia, to be shipped abroad. Read more: Verity Ratcliffe, "Saudi Arabia's bold plan to rule the $700 billion hydrogen market," *The Economic Times*, 7 March (2021), https://economictimes.indiatimes.com/news/international/saudi-arabia/saudi-arabias-bold-plan-to-rule-the-700-billion-hydrogen-market/articleshow/81374199.cms?utm_source=contentofinterest&utm_medium=text&utm_campaign=cppst.

contract in particular oil regimes under pressure. [2] Externally, such countries may fall into the sphere of influence of other powers, such as the People's Republic of China. Several geopolitical theatres around Europe may reconfigure as a result of decarbonisation and energy transition. As a consequence, some voices from the European think tank world, such as Leonard et al., propose to help neighbouring oil and gas-exporting countries manage the repercussions of the European Green Deal. In their opinion, the EU should engage with these countries in order to encourage their economic diversification, including into renewable energy and green hydrogen that could in the future be exported to Europe. [3]

Natural gas will grow in relative importance as a 'bridge fuel' towards a renewable energy future. Compared to oil and coal, natural gas is 'cleaner,' provided there is no methane evaporation at production sites. On the demand side, a growing number of countries are hence opting for an increased share of natural gas in their national energy mixes. Important changes are also taking place on the supply side. Thanks to innovative exploration techniques, novel supplies of natural gas are being discovered. This is prompting new shifts in geopolitical relations, potentially weakening Russia's geostrategic position because of added supply and competition. [4] Over the last decade, innovative exploration techniques have uncovered several substantial natural gas fields off the coast of Israel, Cyprus, and Egypt. There are signs of more to come. This has led to geopolitical tensions between Turkey and Greece over their competing claims to natural gas deposits in the Eastern Mediterranean.

Equally important is that the electrification of transportation in the EU will change Europe's dependencies towards horizon 2030 and beyond. We may start witnessing scarcity and supply problems when it comes to key resources such as nickel, cobalt, copper, silver, scandium, lithium, and rare earth materials. This has led to calls for a European critical materials strategy. For the European Commission, critical raw materials have a high economic value and supply risk. Building on the EU's Raw Materials Initiative and in the wake of the COVID-19 health crisis, the Commission published a report in which the EU 2020 list of critical raw materials is developed.[5] In addition, the report identifies challenges to obtaining a secure and sustainable supply of critical raw materials and proposes steps to increase EU resilience and strategic autonomy. The European Commission has already developed the Raw Materials Information System and will further update and refine it, but more is needed. The Commission will strengthen its work with Strategic Foresight Networks to develop robust evidence and scenario planning on raw material supplies, demand, and use for strategic sectors. These networks ensure long-term policy coordination between all Directorates-General in the Commission. The methodology used to assess the criticality of certain resources may also be reviewed for the next list (2023) to integrate the latest knowledge.

Meanwhile, in February 2021 U.S. president Joe Biden signed an executive order that addressed critical materials, essential goods, supply chains, and key technologies for the energy sector.[6] Europe could find itself in a world in which the US-China rivalry will affect its own options for developing its continental-wide geopolitical

[2] Daniel Scholten, David Criekemans, and Thijs Van de Graaf, "An energy transition amid great power rivalry," *Journal of International Affairs*, 73:1 (2020).

[3] Mark Leonard et al., "The geopolitics of the European Green Deal," *Policy Contribution*, 21:4 (2021), https://www.bruegel.org/wp-content/uploads/2021/02/PC-04-GrenDeal-2021-1.pdf.

[4] David Criekemans, "Geopolitiek van aardgas: brug naar de toekomst?," *Karakter: tijdschrift van wetenschap*, 16:62 (2018), https://www.tijdschriftkarakter.be/geopolitiek-van-aardgas-brug-naar-de-toekomst/.

[5] European Commission, "Critical Raw Materials Resilience: Charting a Path towards greater Security and Sustainability" (3 September 2020), https://ec.europa.eu/docsroom/documents/42849.

[6] The White House, "Executive Order on America's Supply Chains" (24 February 2021), https://www.whitehouse.gov/briefing-room/presidential-actions/2021/02/24/executive-order-on-americas-supply-chains/.

strategy in terms of renewable energy. European countries must avoid a scenario in which US and Chinese led-blocs drive renewable energy technologies and standards and redirect relevant natural resources towards their respective economies.

European countries will also need to re-evaluate their relations with countries in Africa, Asia, and the Americas in order to balance and diversify their needs. Increased competition may also mean that, in addition to China, the US could sometimes function as a competitor. Europe's energy transition thus creates several new energy security risks. If the EU is to develop its own strategy, its altered energy needs will need to be taken into account in order to avoid dependence. Strategic autonomy in energy would mean that a well-diversified portfolio of external suppliers is maintained. In this way, European companies and governments will not become overly dependent on others.

Conclusion

Decarbonization and the energy transition means much more than adapting the EU's energy mix to meet climate challenges. It requires a fundamental rethinking of Europe's geo-economic needs and developing a geopolitical strategy for the longer term. It involves essentially changing our energy dependencies. It entails systematic and coordinated efforts to jointly develop renewable energy technologies. It is a process which needs to be structured and consolidated through a standardization of renewable technologies by EU entities, as a response to similar Chinese and US regulation efforts to shape world markets. But there will be winners and losers. And those countries in Europe's neighbourhood that feel they are losing could resort to power politics or might change alliances. The concept of strategic autonomy, often used in European discussions on defence, will therefore need to be expanded to the energy domain. The EU will need an adapted energy diversification strategy and renewed technological alliances. This means that Brussels will have to do more than desk research. Instead, the EU must develop an adapted geopolitical and diplomatic strategy whilst making sure that the internal industrial and geo-economic needs are addressed for the longer term. Europe's energy needs may ultimately also have to be defended geostrategically via a credible defence posture. Through such an integrated strategy, geopolitics itself may be reshaped in a scenario that remains favourable to EU interests.