

# The geopolitics of the energy transition

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- The international politics of climate change can be split broadly into two sets of issues: one relates to the consequences of climate change on security, i.e., the tensions that may erupt if the international community fails to keep climate change within manageable limits. Under this heading, foresight studies are conducted on which parts of the world and its population are most vulnerable to higher temperatures and more violent weather patterns and how this may translate into conflict over water, food, migratory pressure etc... This is, however, not the subject of today's event. Today's event is instead about the geopolitics of a move to radically reduce greenhouse gas emissions, in particular by halting the consumption of fossil fuels. It is about the major international economic and political side-effects and potential problems of a fundamentally very happy story, that of de-carbonisation and its tremendous benefits for the environment.
- It is useful to distinguish between five aspects of the geopolitical consequences of the transition toward climate neutrality. The first, which is the most familiar and also the main object of the report presented today, is the fragility it may cause to many fossil-fuel exporting countries. The second is the revision of existing military strategies and alliances put in place to secure the international transport of oil and gas. Some hotspots, like the straits of Hormuz or of Malacca, will probably become less vital for global energy supply than they are at present. The third, to which I will devote the better part of my presentation today, are the resources security questions associated with the rapid deployment of low-carbon technologies. Moving out of fossil

fuels does not do away with import dependence altogether, but creates new forms of dependencies that call for a pro-active foreign, industrial, energy and trade policy. Fourth, the power deriving from fossil fuels in the past was largely a question of natural endowment, a gift of nature. The future power relationships with respect to energy will be much more rooted in technological dominance than in the past. Exploiting that technological dominance and denying access to it by third countries may become a source of future conflict. Fifth and final, and not unrelated to the fourth as it also has to do with technological innovation, successful de-carbonisation is likely to be contingent on systematic digitalisation. Smart, digitally-based, infrastructure will be a key facet of energy autonomy, hence cybersecurity will be part of the geopolitical equation of the green economy.

- Today's presentation, centering on six case studies, confirms the well-known fact that fossil fuel export dependent states are in danger of significant revenue losses weakening their international influence and possibly triggering major social and political turmoil at home. The main source of public expenditure, and notably of all sorts of subsidies to large parts of the population, will dry up. The ability to adapt to the cut in fossil fuel demand will hinge on a host of factors, such as the state of diversification of the economy, a country's political cohesion, population growth etc... The geopolitical risk may be exacerbated if governments attempt to deflect attention from the public finance and balance of payments crisis through foreign policy adventures, typically at the expense of neighbours. Countries that are often mentioned in analyses as heavily reliant on fossil fuel revenue include Nigeria, Venezuela, Algeria, Libya, Iraq, Iran, whilst Gulf countries are in a better position thanks to the vast financial reserves they have been able to accumulate since the first oil shock of 1973. It buys them more time to adjust. Russia is in a category of its own because dwindling revenues will also put its 'great power' status to the test.
- The shift away from fossil fuel will exert huge effects not only on countries, but also on numerous multinationals, on financial and foreign exchange markets. Coal, oil and gas imports, and the associated demand for petro-dollars, will shrink. This will cause major international economic adjustments, with geo-political ramifications.

- The report presented today rightly underlines that the EU should try to anticipate the turbulence that the accelerating decarbonisation process may bring to countries that were thriving hitherto on fossil fuel, countries that are often located in regions confronted with plenty of other problems.
- However, in the remainder of my intervention I will touch upon the new questions of resource security for the EU stemming from the low-carbon economy. For decades, the EU and its Member States have developed a largely successful strategy that has allowed to avoid too strong a dependence on, and thus political vulnerability to, specific oil or gas exporters. The rapid, widespread, deployment of clean energy and greater energy efficiency has to be flanked by internal and external policies that lower the risk of a new dependence on imported raw materials, which otherwise third countries may be tempted to weaponise.
- More concretely, renewable technologies and batteries require certain minerals for their production. Within the perspective of achieving climate neutrality by 2050, it has been estimated that the EU's demand for these minerals will rocket. To give some examples, for batteries for electric vehicles and energy storage, we would need up to 18 times more lithium and 5 times more cobalt in 2030, and almost 60 times more lithium and 15 times more cobalt in 2050 compared to what is supplied today. Demand for a series of rare earth metals – which have in common that they all having difficult names to pronounce! – used in magnets for electric vehicles or wind turbines could increase tenfold. For a big uptake of hydrogen we would need a reliable supply of platinum for fuel cells and electrolyzers.
- The demand for these minerals will not only soar in Europe, but world-wide. What is more, some are relatively scarce and mined in a limited number of countries. Critical raw material deposits are sometimes more concentrated than those of oil or gas.
- The security issues the supply of raw materials for the low-carbon economy brings out are similar to the ones we are familiar with for fossil fuels, but there are some important differences. For one thing, these raw materials are not needed in a massive, daily flow; they can be stockpiled more easily; for another, they can be recycled; and finally, it may be more straightforward to find substitutes.

- On a general level, the recipes to tackle the risk of foreign supply disruption are well-known.
- As regards internal policy, three things come to mind: first, reduce, re-use and recycle, i.e., lower the demand for fresh raw materials, which anyway is a core component of the EU's Green Deal programme (this may also happen by skipping steps in the input process and importing renewable energy directly, like electricity from Northern Africa or sea-borne hydrogen from countries with abundant sunshine); second, step up research and innovation into the availability of substitutes; three, explore the possibilities of mining the raw materials within Europe.
- A comprehensive raw materials strategy also calls for external action, notably in the domains of energy diplomacy and trade. Here the overall aim to pursue is to diversify the portfolio of foreign suppliers of a specific raw material or, as a matter of fact, of green electricity or hydrogen, and to establish stable, predictable, relationships with exporting countries where any measures taken are rules-based in the framework of a bilateral contractual relationship or of multilateral energy or trade disciplines.
- The forthcoming Commission Communication on Critical Raw Materials will provide an overview of main global producers for all raw materials that are critical for European industry. For cobalt, the current lead producer is Congo; for lithium, Chile and China; for platinum South Africa and Russia; for most rare earth minerals China. For green electricity, the most obvious candidate for imports would be North Africa, whilst for hydrogen Gulf countries and Australia are frequently mentioned.
- Many of these countries are characterised by a pronounced role of the state in the economy, be it by way of state-owned enterprises, mining or processing licenses, or export restrictions. Securing supplies cannot be left therefore to European industry alone, but requires EU institutions and Member State governments to engage in an energy/raw materials partnership dialogue with the authorities. Equally importantly, the discussion with other big importers should be sustained such as the annual Trilateral on Critical Raw Materials with the US and Japan. To be sure, between importers there is unavoidably an element of rivalry, but exchanges of views on market outlooks and risk assessments are of common interest.

- To conclude, the fossil fuel epoch, which we seem to be leaving faster than expected only a short while ago, had its supply security agenda and geopolitical map. The decarbonisation era will have its agenda and map. They will be considerably different, but the insights from the past on how to manage vulnerabilities should stand us in good stead.