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Research Report

The geopolitics of the European Green Deal

Bruegel Policy Contribution, No. 04/2021

Provided in Cooperation with:

Bruegel, Brussels

Suggested Citation: Leonard, Mark; Pisani-Ferry, Jean; Shapiro, Jeremy; Tagliapietra, Simone;
Wolff, Guntram B. (2021) : The geopolitics of the European Green Deal, Bruegel Policy
Contribution, No. 04/2021, Bruegel, Brussels

This Version is available at:

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The geopolitics of the European Green Deal

Mark Leonard, Jean Pisani-Ferry, Jeremy Shapiro,
Simone Tagliapietra and Guntram Wolff

Executive summary

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THE EUROPEAN GREEN DEAL is a plan to decarbonise the EU economy by 2050, revolutionise the EU's energy system, profoundly transform the economy and inspire efforts to combat climate change. But the plan will also have profound geopolitical repercussions. The Green Deal will affect geopolitics through its impact on the EU energy balance and global markets; on oil and gas-producing countries in the EU neighbourhood; on European energy security; and on global trade patterns, notably via the carbon border adjustment mechanism. At least some of these changes are likely to impact partner countries adversely.

THE EU NEEDS TO wake up to the consequences abroad of its domestic decisions. It should prepare to help manage the geopolitical aspects of the European Green Deal. Relationships with important neighbourhood countries such as Russia and Algeria, and with global players including the United States, China and Saudi Arabia, are central to this effort, which can be structured around seven actions:

1. Help neighbouring oil and gas-exporting countries manage the repercussions of the European Green Deal. The EU should engage with these countries to foster their economic diversification, including into renewable energy and green hydrogen that could in the future be exported to Europe.
2. Improve the security of critical raw materials supply and limit dependence, first and foremost on China. Essential measures include greater supply diversification, increased recycling volumes and substitution of critical materials.
3. Work with the US and other partners to establish a 'climate club' whose members will apply similar carbon border adjustment measures. All countries, including China, would be welcome to join if they commit to abide by the club's objectives and rules.
4. Become a global standard-setter for the energy transition, particularly in hydrogen and green bonds. Requiring compliance with strict environmental regulations as a condition to access the EU market will be strong encouragement to go green for all countries.
5. Internationalise the European Green Deal by mobilising the EU budget, the EU Recovery and Resilience Fund, and EU development policy.
6. Promote global coalitions for climate change mitigation, for example through a global coalition for the permafrost, which would fund measures to contain the permafrost thaw.
7. Promote a global platform on the new economics of climate action to share lessons learned and best practices.

Recommended citation

Leonard, M., J. Pisani-Ferry, J. Shapiro, S. Tagliapietra and G. Wolff (2021) 'The geopolitics of the European Green Deal', *Policy Contribution* 04/2021, Bruegel



The Green Deal will redefine Europe's global policy priorities; as such, it is a foreign policy development with profound geopolitical consequences

1 Introduction: the Green Deal is foreign policy

In December 2019, the European Commission introduced the European Green Deal, an ambitious policy package intended to make the European Union's economy environmentally sustainable. The goal is to reach climate neutrality by 2050, and to turn the transition into an economic and industrial opportunity for Europe. The deal is made up of a wide array of policy measures and subsidies aimed at cutting pollution while increasing research and investment in environmentally friendly technologies.

The Green Deal is at root an effort to transform the European economy and European consumption patterns. But because it entails a fundamental overhaul of the European energy system and because it ranks so high on the EU policy agenda, it will also change the relationships between the EU and its neighbourhood and it will redefine Europe's global policy priorities. As such, it is a foreign policy development with profound geopolitical consequences.

First, such a sweeping structural change will alter European trade and investment patterns. The EU imported more than €320 billion worth of energy products in 2019 and more than 60 percent of EU imports from Russia were energy products¹. A massive reduction in this flow will restructure EU relationships with key energy suppliers. Countries including Russia, Algeria and Norway will ultimately be deprived of their main export market. Inevitably, Europe's exit from fossil-fuel dependency will adversely affect a number of regional partners, and may even destabilise them economically and politically.

Second, Europe accounts for around 20 percent of global crude oil imports. The fall in oil demand resulting from Europe's transition to renewables will impact the global oil market by depressing prices and the reducing the income of the main exporters, even if they do not trade much with the EU.

Third, a greener Europe will be more dependent on imports of products and raw materials that serve as inputs for clean energy and clean technologies. For example, rare-earth elements, of which China is the largest producer, are essential for battery production. Moreover, Europe could remain a major net importer of energy but that energy will need to be green, such as green hydrogen produced in sun-rich parts of the world.

Fourth, the Green Deal will impact Europe's international competitiveness. If European firms take on regulation-related costs that their foreign competitors do not bear, they will become less competitive both domestically and abroad. And if the EU attempts to limit this loss and avoid carbon leakage by imposing tariffs on carbon-rich imports, it risks being accused of distorting international trade. That might lead to friction with major trading partners, particularly carbon-intensive ones, if they view a carbon border adjustment mechanism as an illegal trade barrier.

But most fundamentally, the Green Deal is foreign policy because climate change is a global problem. A transition away from carbon that would only focus on Europe would not do much to mitigate global warming, as Europe represents less than 10 percent of global greenhouse-gas emissions. Worse, if the Green Deal simply displaces Europe's greenhouse gas emissions to its trading partners, it will have no impact at all on climate change. If only for this reason, the EU is likely to push very hard for ambitious enforceable multilateral agreements on containing global warming and will subordinate some of its other objectives to this overriding priority. Already, the European Commission has recognised that it will either need to export its standards or create a border adjustment mechanism to maintain European competitiveness and prevent carbon leakage.

All these factors imply the EU will need to develop new trade and investment agreements, new models of financial and technical assistance and, more generally, a new approach to

¹ See <https://ec.europa.eu/eurostat/statistics-explained/pdfscache/46126.pdf>

international diplomacy that will encourage sustainable investment and development. This international activism will necessarily spill over into relationships with the United States and China, which have their own views on how to promote sustainable development and manage international climate negotiations. Relationships with other countries, including the Gulf states and Russia, whose export interests will be directly affected, will also be transformed.

All these foreign policy efforts will provoke a geopolitical response from the EU's international partners. Responses will range from cooperation in implementing complementary climate policies, to competitive efforts to redirect trade and investment flows, to downright hostile efforts to counter the effects of the Green Deal.

In this paper, we map out the geopolitical implications of the Green Deal. We look not only at the effects of purposeful efforts to export climate policy, but also at the unintended side-effects. The second section focuses principally on the effects on Europe's energy trade patterns, its development policy, its approach to climate negotiations and, most controversially, the proposed carbon border adjustment mechanism.

The third section examines how other countries (with case studies of the US, China, Russia, Algeria and Saudi Arabia) might understand the Green Deal and how they are likely to respond.

The final section proposes an external action plan as an integral part of EU climate strategy. To succeed, the EU must address head-on the difficulties the Green Deal is likely to create with economic partners and neighbours. Only a pro-active EU attitude will help turn potential frictions into opportunities for renewed international partnerships. We therefore suggest a series of EU foreign policies to buttress the Green Deal. To succeed in implementing the Green Deal, the EU and its members will need to mobilise all their instruments of foreign policy in support of that agenda.

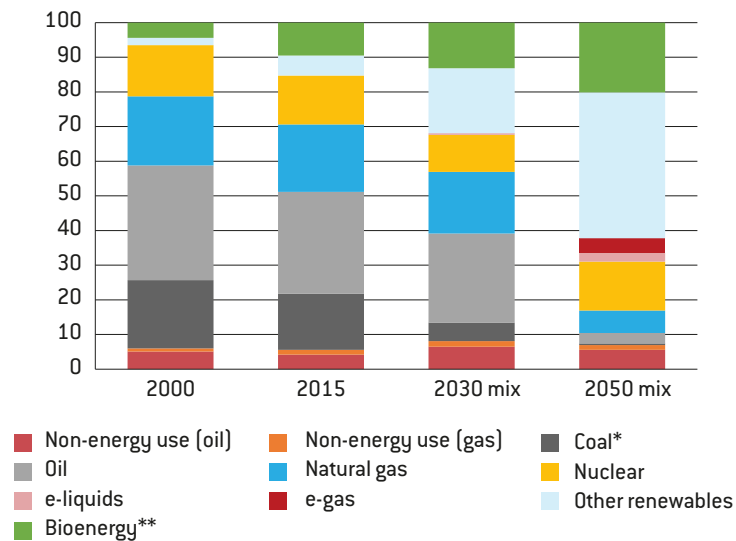
2 Mapping the geopolitical implications of the Green Deal

To make Europe climate neutral by 2050, the European Green Deal must pursue one main goal: to reshape the way energy is produced and consumed in the EU. The production and use of energy across the economy account for more than 75 percent of the EU's greenhouse-gas emissions (IEA, 2020).

Almost three-quarters of the EU energy system relies on fossil fuels. Oil dominates the EU energy mix (with a share of 34.8 percent), followed by natural gas (23.8 percent) and coal (13.6 percent). Renewables are growing in share but their role remains limited (13.9 percent), similarly to nuclear (12.6 percent) (Eurostat, 2019).

This situation will change completely by 2050, if the European Green Deal is successful. But change will be incremental. According to European Commission projections, fossil fuels will still provide about half of the EU's energy in 2030. But fossil fuels differ in their pollution intensity. Use of coal – the most polluting element in the energy mix – has to be substantially reduced by 2030, while oil and, especially, natural gas can be phased out later. Most of the change for oil and gas will happen between 2030 and 2050. Within this timeframe, oil is expected to be almost entirely phased-out, while natural gas would contribute just a tenth of EU energy in 2050 (Figure 1).

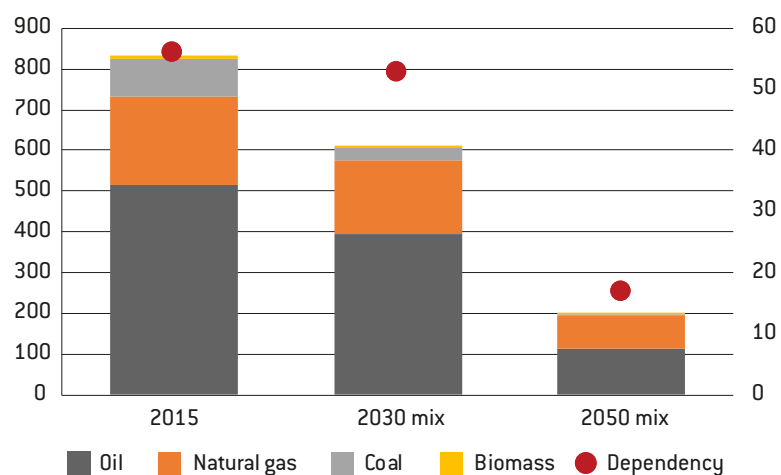
Figure 1: EU energy mix evolution (55 percent lower emissions in 2030 compared to 1990 and climate neutrality in 2050)



Source: Bruegel/ECFR based on European Commission [2020]. Note: among the various scenarios consistent with EU climate targets used by the European Commission, we picked the MIX scenario. E-liquids and e-gas are synthetic fuels, resulting from the combination of green hydrogen produced by electrolysis of water with renewable electricity and CO2 captured either from a concentrated source or from the air. Bioenergy includes solid biomass, liquid biofuels, biogas, waste.

Depending on the exact scenario, EU imports of coal would drop by 71-77 percent between 2015 and 2030, while oil imports will drop by 23-25 percent and imports of natural gas by 13-19 percent. After 2030, oil and natural gas imports are expected to shrink dramatically, with oil imports down 78-79 percent and natural gas imports down 58-67 percent compared to 2015 (Figure 2).

Figure 2: Evolution of EU energy imports (55 percent lower emissions in 2030 compared to 1990 and climate neutrality in 2050)



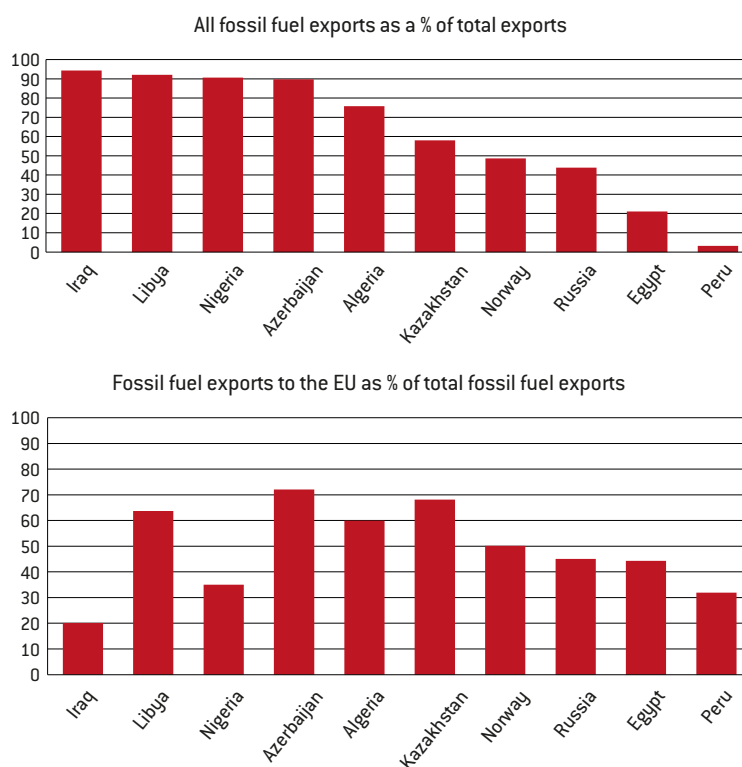
Source: Bruegel/ECFR based on European Commission [2020] MIX scenario.

This profound transformation of the EU energy system will have a wide variety of geopolitical repercussions. These can be grouped into four categories: i) repercussions for oil and gas-producing countries in the EU neighbourhood; ii) repercussions on global energy markets; iii) repercussions for European energy security; and iv) repercussions for global trade, notably via carbon border adjustment measures.

2.1 Repercussions for oil and gas producing countries in the EU neighbourhood

Discussions on the potential repercussions from global decarbonisation naturally focus on the impacts that reduced need for oil and gas in large markets could have on producing countries (IRENA, 2019). For Europe, this is notably the case for its major gas supplier, Russia, but also for other suppliers, from the Middle East and North Africa, the Caspian and Central Asia, which base their economies on the fossil fuels rents, and mostly export their fossil fuels to Europe (Figure 3).

Figure 3: Fossil fuel exports to EU as % of total exports, selected countries



Source: Bruegel/ECFR based on UN Comtrade. Note: Trade values taken from 2018, as reported global and EU27 imports from each country presented. Fossil fuels are the sum of 2701, 2709, 2711.

The anticipated decline in EU imports of oil and gas will have an almost immediate effect by reducing investment in new fossil fuel infrastructure and even reducing maintenance efforts for existing infrastructure. This will happen even though, as noted above, the EU is expected to keep importing oil and natural gas at more or less unchanged volumes for at least another decade.

It is important to note that for gas, in the 2030 timeframe, Europe's main energy supplier, Russia, could even benefit from the European Green Deal, as a coal-to-gas switch is necessary to quickly curb EU energy sector emissions. The role of natural gas as a transition fuel in the EU is likely to mean increased imports.

It is also important to highlight another potential, long-term impact of the European Green Deal on the EU's neighbourhood: a possible surge in trade in green electricity and green hydrogen.

One of the major drivers to deliver the European Green Deal will be electrification. To meet its increasing need for renewable electricity, Europe might well rely over the next decades on imports of solar and wind electricity from neighbouring regions. The Middle East

and North Africa, in particular, benefits from some of the best solar irradiation in the world², and from world-class wind energy locations³. While these renewable resources will primarily be exploited to meet Middle East and North African countries' own rapidly growing energy demand, there might be a case for future exports to Europe. Decreasing generation and transport technology costs might allow economies of scale that have so far prevented the implementation of such cooperation schemes⁴.

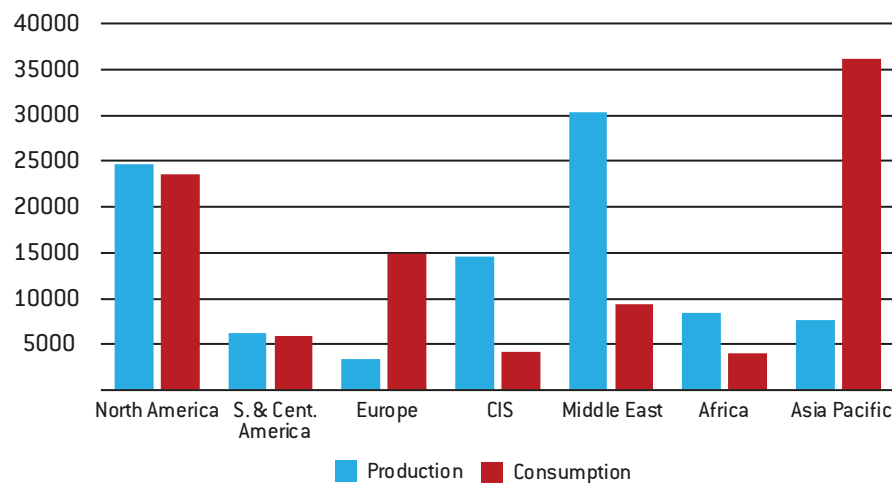
While renewable electricity is expected to decarbonise a large share of the EU energy system by 2050, hydrogen is increasingly seen as a way to decarbonise parts of the energy system electricity cannot reach⁵. This is why the European Green Deal includes a hydrogen strategy (European Commission, 2020a), aimed at installing 40 gigawatts (GW) of renewable hydrogen electrolyzers by 2030. Considering North Africa's renewable energy potential and geographic proximity to Europe, the region is being considered as a potential supplier of cost-competitive renewable hydrogen to Europe. Germany, for example, has partnered with Morocco to develop Africa's first industrial plant for green hydrogen, with intention of future exports to Germany⁶.

Future imports of renewable electricity and green hydrogen from the Middle East and North Africa (or other neighbours, such as Ukraine) could raise new energy security concerns, which will have to be mitigated with proper diversification.

2.2 Repercussions for global energy markets

Given the size of the European economy, the European Green Deal is also likely to have repercussions for global energy markets. Currently, Europe is the world's second largest net importer of oil after Asia Pacific (Figure 4).

Figure 4: Oil balance by region, 2019



Source: Bruegel/ECFR based on BP Statistical Review of World Energy (2020).

The fall in global oil demand resulting from Europe's transition to clean energy will have an impact on the global oil market, notably by depressing prices. The extent of the price decline will, of course, also depend on other countries' decarbonisation trajectories. Should Europe be alone in significantly cutting oil consumption, while other economies continue

² From the Sahara to the Arabian Peninsula.

³ From Morocco's Atlantic coast to Egypt's Red Sea coast.

⁴ This was, for instance, the case of the failed Desertec project and of similar initiatives, such as the Mediterranean Solar Plan.

⁵ For example, some industrial processes such as steel and cement, and certain transport segments such as trucks, shipping and aviation.

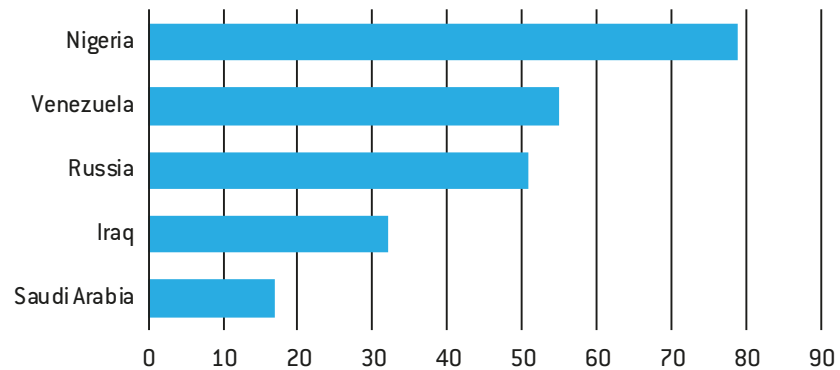
⁶ See <http://www.bmz.de/en/issues/wasserstoff/index.html>.

to rely on fossil fuels in their growth, markets and demand in Asia, Latin America and Africa might partially – and temporarily – counterbalance Europe’s withdrawal. But overall, Europe’s global share of oil imports is so significant that general equilibrium effects are likely to lead to a sizeable reduction in the value of oil assets.

Oil producers will be affected differently depending on how concentrated they are on oil exports, as well as their break-even oil price.

For instance, Saudi Arabia and Iraq can produce oil relatively cheaply, covering costs with a price of about \$30/barrel or less, while countries including Russia, Venezuela and Nigeria need higher prices to break even (Figure 5).

Figure 5: Break-even oil price, selected countries (2015)



Source: OECD (see https://read.oecd-ilibrary.org/view/?ref=136_136801-aw9nps8afk).

Low-cost oil producers, such as Saudi Arabia, are thus better positioned to deal with declining global oil prices resulting from the European Green Deal. In the medium term, they might even increase their market shares, as high-cost producers will be kicked off the market.

However, even low-cost oil producers will feel the impact of declining prices. Already, at the current oil price of \$40/barrel, Saudi Arabia’s budget deficit is at 12% of GDP. This implies that economic diversification away from the oil rent is a must for all oil-exporting countries, though to different degrees.

2.3 Repercussions for Europe’s energy security

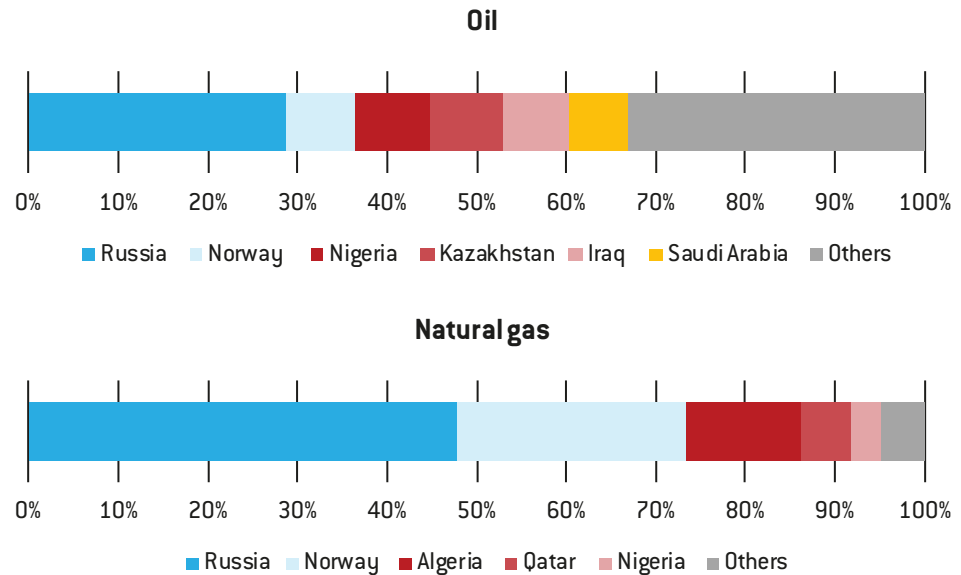
In Europe, energy security has traditionally been associated with the need to ensure sufficient oil and gas supplies in the short term. Being poorly endowed with domestic resources, the EU has to import 87 percent of the oil and 74 percent of the natural gas it consumes (Eurostat, 2019). Moreover, being reliant on a limited number of suppliers (Figure 6 on the next page), the EU has developed over-dependency concerns. This has particularly been the case for natural gas, given its rigidities arising from reliance on pipeline infrastructure and long-term contracts. These features contrast with the flexibility of the global oil market in which bilateral dependencies are limited by a global transport infrastructure (oil tankers).

Europe’s core energy security concern has been its dependence on Russian natural gas. After the Russia-Ukraine-Europe gas crises of 2006 and 2009, Europe pursued a diversification strategy targeting infrastructure (liquified natural gas terminals in Poland and the Baltics; the Southern Gas Corridor) and legislation (including EU regulations on the security of gas supply, (EU) 2017/1938, and on risk preparedness in the electricity sector, (EU) 2017/1938). These efforts have already greatly strengthened the security of supply for natural gas imports into the EU. By reducing the continent’s gas import requirements between 2030 and 2050, the European Green Deal will definitively solve Europe’s oil and gas security concerns – and will also reduce Europe’s oil and gas import bill, estimated at €296 billion in 2018 (Eurostat, 2020).

However, the European Green Deal can also create new energy security risks, most notably

from the import of the minerals and metals needed for the manufacturing of solar panels, wind turbines, li-ion batteries, fuel cells and electric vehicles. These minerals and metals have particular properties and few to no substitutes.

Figure 6: EU imports of oil and natural gas by main trading partner, 2018

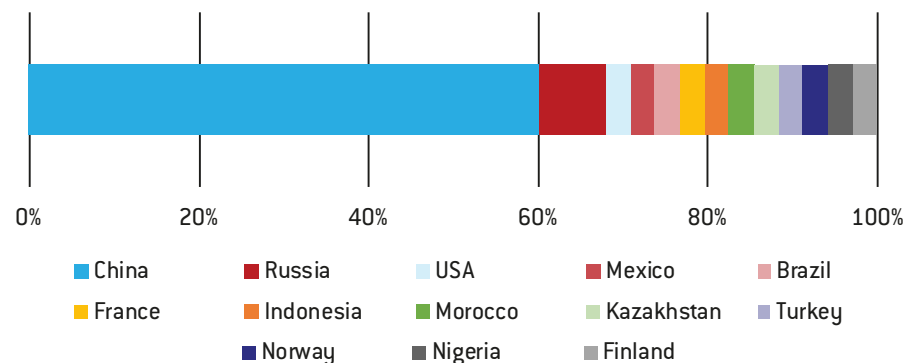


Source: Bruegel/ECFR based on Eurostat (2020).

While some of these minerals and metals are widely available and relatively easy to mine, others are either geographically concentrated in a few resource-rich countries, or treated and processed in a few countries. Europe itself has no significant mining and processing capacities for these critical raw materials. For instance, it produces only around 3 percent of the overall raw materials required in li-ion batteries and fuel cells (JRC, 2020).

In 2011, the European Commission produced a first list of critical raw materials, which has been updated every three years⁷. At time of writing it includes 27 materials judged critical because of their importance for high-tech and green industries, their scarcity and/or the risk of supply disruption.

Figure 7: Main suppliers to the EU of critical raw materials, average from 2010-2014



Source: Bruegel/ECFR based on European Commission (2017).

⁷ Other countries, such as the United States, Japan and Australia, have produced similar lists.

China is a leading producer and user of most critical raw materials. The import of rare earths from China is probably the most critical issue in this area, also because Europe has no mining or processing activity for these important minerals (Figure 7).

For Europe, dependence on China will further increase as demand for green technologies increases. For example, the JRC (2020) estimated that the EU's annual critical raw material demand for wind turbines will increase between 2 and 15 times over the next three decades. Overall, the European Commission (2020) expects Europe's demand for raw materials to double by 2050.

2.4 Repercussions for global trade, notably from carbon border adjustment measures

Taxing the carbon content of domestic production without taxing imports in a broadly similar way in principle disadvantages domestic production. Consumers would have an incentive to continue buying the same products but shift to foreign suppliers rather than switching to more efficient domestic producers. The European Commission has therefore said it will introduce a border carbon adjustment. The rationale is clear: if Europe puts in place a stringent climate policy while other parts of the world do not, there is a risk that emissions-intensive companies might leave the EU with its high carbon prices, and relocate to places with significantly lower or no carbon prices (see Wolff, 2019, for an illustration). This leakage issue is set to become more relevant with the EU pursuing a more ambitious climate policy, even if the exact order of magnitude of carbon leakage is unclear (Claeys et al, 2019).

A carbon tariff would have a double aim: i) preventing carbon leakage by ensuring that all goods consumed in the EU, whether imported or produced domestically, are treated the same; ii) incentivising other countries across the world to also decarbonise. The tax or tariff would be based on the emissions embedded in imported products. In addition, EU exporters might reclaim the cost of the emissions embedded in their products to ensure that European companies are not at a competitive disadvantage when selling abroad. Given that the EU already imports significantly more carbon than it exports, the issue of carbon leakage cannot be ignored⁸.

But introducing a carbon tariff would be a substantial practical and political challenge – and indeed no country in the world has so far adopted such a tariff⁹. The initiative will face two main difficulties. The first, of technical nature, relates to the difficulty of calculating the emissions content of imports, as all emissions along the entire value chain would need to be considered. The second, of a geopolitical nature, relates to the risk of retaliation by trade partners. The European Commission has made clear that a carbon tariff should be compatible with the rules of the World Trade Organisation (WTO), to ensure that countries cannot retaliate based on WTO rules (Horn and Sapir, 2019, explain how this can be done)¹⁰.

But even if the carbon tariff is safeguarded against formal objections, trade partners might still perceive it as overreach and threaten or adopt retaliatory measures. Something similar happened in 2012 when the EU directive on aviation emissions (2008/101/EC) went into effect. The directive entailed a form of carbon border adjustment by extending the EU emissions trading system (ETS) to all flights entering or leaving the EU. A group of 23 countries – including the United States, China, India, Japan and Russia – strongly opposed the EU move and listed retaliatory measures they would take unless the EU changed the rule. Because of this forceful reaction, and in view of some developments in international negotiations on emissions controls, the EU withdrew the measure for intercontinental flights.

8 See Borghesi *et al* (2019). For France, for example, consumption of carbon dioxide is 60 percent greater than production; see <https://www.hautconseilclimat.fr/publications/maitriser-lempreinte-carbone-de-la-france/>.

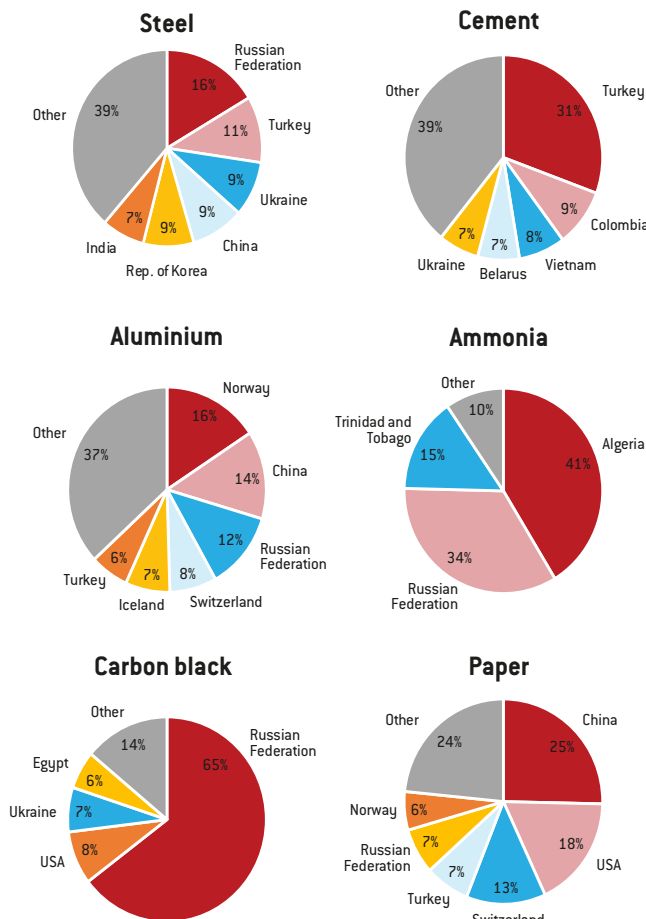
9 California's emissions trading system, which applies a border carbon adjustment to electricity imports from neighbouring states, is the only context in which border adjustment has been tried.

10 Horn and Sapir (2019) showed that under certain conditions carbon border adjustment mechanisms can be implemented without endangering the multilateral trading system.

Introducing a carbon tariff would be a substantial practical and political challenge, facing technical and geopolitical difficulties

International reactions to the introduction of an EU carbon border tax are likely to be very diverse. Countries that strongly emphasise action to tackle the climate problem are likely to be supportive of the initiative, and might replicate it. However, countries that export emissions-intensive goods to Europe (Figure 8) are likely to oppose it.

Figure 8: EU27 imports of carbon-intensive goods by country of origin (share of imports)



Source: Bruegel/ECFR based on UN Comtrade. Note: trade data for 2018.

3 Reviewing the geopolitical context

The four channels through which the Green Deal will have a geopolitical impact will affect the EU's geopolitical partners differently, depending on how they relate to the EU. Countries in the European neighbourhood, such as Russia and Algeria, will mostly feel the effect of changes to the European energy market and European approach to energy security. Global players, including the United States, China and Saudi Arabia, will feel the impact more strongly through the Green Deal's effect on global energy markets and trade. This section analyses those five countries to assess how they might understand and respond to the initiative.

3.1 Neighbouring countries: Russia

Russia is the world's fourth largest emitter of greenhouse gases and it has long been resistant to the idea of environmental policies that would reduce fossil fuel use: *"The country's environmental doctrine – and even its ratification of the Paris Agreement – are more of an*

The Green Deal could have a major impact on Russia, especially after 2030 when Europe is expected to substantially reduce its oil and gas imports

international PR strategy than anything else. Its domestic climate policy documents are vague declarations that often contradict other projects" (Paramonova, 2020). Except for monitoring carbon output, all emissions regulations remain voluntary.

Russian President Vladimir Putin continues to deny that climate change is caused by human activity and insists that Russia has *"the greenest energy system in the world"*¹¹. Meanwhile, Russia remains enormously dependent on hydrocarbons. Russia failed to meet Putin's goal of reducing the share of fossil fuels in the country's economy by 40 percent between 2007 and 2020 (it decreased by only 12 percent)¹². Russia's coal development programme for 2035 was revised upward in 2019, setting a new target of a 10 percent to 20 percent growth in coal output. There remains strong opposition in Russia to any regulatory effort to limit carbon emissions, particularly from the Russian Union of Industrialists and Entrepreneurs.

In context, the Green Deal could have a major impact on Russia. In 2016, oil and gas revenues contributed 36 percent of the country's government budget¹³ and Europe absorbed 75 percent of Russian natural gas exports and 60 percent of its crude oil exports¹⁴. Over the next decade, the EU-Russia oil and gas trade will not be substantially impacted, as Europe would only marginally reduce its oil and gas imports by 2030 even in a 55 percent emissions reduction scenario (see section 2), but the situation will radically change after 2030 when Europe is expected to substantially reduce its oil and gas imports. The EU will possibly shift from suppliers such as Russia where extraction is emissions-intensive to suppliers such as Saudi Arabia where extraction has roughly half the carbon footprint it has in Russia¹⁵.

Moreover, a carbon border adjustment mechanism (on EU imports other than oil and gas) would also reduce Russian goods exports as they tend to be very carbon intensive (Makarov and Sokolova, 2017). It is not clear how much Russia will seek to resist these efforts. Ruslan Edelgeriev (Putin's climate adviser) told companies in February 2020 to prepare for the EU border tax, noting that *"the EU wants to push through these regulations not because they don't like our companies, but so that their own companies don't overstep emissions targets"*¹⁶. Russia's inefficient energy system implies many opportunities to reduce carbon intensity in its economy. There is ample scope for European cooperation with Russia on increasing the use of renewables, reducing methane leakage and boosting energy efficiency.

Russia's most likely geopolitical response will be to seek diversification of its energy customer base. An effort to pivot energy sales to China has been underway since at least the 2007-2009 financial crisis, accelerating after the 2014 Ukraine crisis soured Russia's political relationship with Europe. In 2016, Russia displaced Saudi Arabia as China's largest crude oil supplier and, in 2018, Russia sent 1.4 million¹⁷ barrels/day of crude oil to China, accounting for more than 25 percent of Russian oil exports. Until recently, Russia only supplied China with very small amounts of natural gas, but the Power of Siberia gas pipeline opened in December 2019 and is expected to supply 38 billion cubic metres of gas/year to China by 2024, or about 15 percent of Russian 2018 natural gas export volumes. Despite these advances, however, China has proved unwilling to support the Russian energy industry for geopolitical purposes. In an environment of falling energy prices, China has taken advantage of Russia's lack of options and has forced continually lower prices on Russia (*The Economist*, 2020).

The long-term risk for Russia is that if this effort to move towards the Chinese market is not paired with a green transformation that will allow continuation in serving the European market, Russia will grow increasingly dependent on China.

11 See <https://www.themoscowtimes.com/2019/12/19/putins-end-of-year-press-conference-in-quotes-a68686>.

12 See <https://www.themoscowtimes.com/2020/02/10/putins-top-climate-adviser-calls-for-urgent-climate-action-a69207>.

13 See <http://stats.oecd.org/wbos/fileview2.aspx?IDFile=09aac246-c7ef-4159-898e-2a287deb3341%20%20>.

14 See <https://www.eia.gov/international/analysis/country/RUS>.

15 See <https://www.bcg.com/en-gb/publications/2020/how-an-eu-carbon-border-tax-could-jolt-world-trade>.

16 See <https://www.euractiv.com/section/climate-environment/news/eus-anti-climate-dumping-tool-worries-russia/1428225/>.

17 See <https://www.cna.org/news/InDepth/article?ID=25>.

3.2 Neighbouring countries: Algeria

Algeria will be something of a test case for the foreign policy aspect of the Green Deal. As the third largest supplier of natural gas to Europe, most of the country's energy infrastructure is oriented toward the European market and the country is highly reliant on Europe for its hydrocarbon revenues. And this is relevant, as hydrocarbon revenues account for 95 percent of its exports by value and pay for 60 percent of its national budget (Africaoilandpower.com, 2020).

Algeria clearly needs to rethink its economy and be prepared for when – possibly well after 2030 – European demand for its natural gas supplies will progressively disappear. Diversifying the Algerian economy away from hydrocarbons while developing a strong renewable energy sector would soften the blow of a green Europe. There are reasons to be optimistic that this will happen. There have, for starters, been some signs of international cooperation. A 2017 agreement setting out Algeria's and the EU's common priorities emphasised the “*considerable potential of Algeria*¹⁸” in the renewable sector and included proposals to transfer green energy technology across the Mediterranean. This was not the only attempt to engage with European partners. In 2015, the German-Algerian Energy Partnership was created, aiming to “*develop and implement a national energy policy for an environmentally sustainable energy supply*¹⁹”.

Despite this, Algeria also presents formidable challenges. The country remains ruled by an insular gerontocracy, the so-called ‘pouvoir’, which prioritises the regime's precarious survival well above any economic consideration. With the price of hydrocarbons falling, the country urgently needs a more diversified economy and foreign investment to keep up with its growing population and infrastructure requirements.

But the powers behind the scenes also understand that it is the government's tight control over hydrocarbon resources that sustains the regime. The government remains extremely wary of foreign financial assistance. It refused to approach the IMF²⁰ for loans in 2020 despite a financial crisis caused by the collapse in oil prices and the coronavirus lockdown, fearing for its “*financial sovereignty*”²¹.

Adding to this problem, Algeria and other hydrocarbon exporters suffer from what economists call the Dutch disease: as their currency appreciates with the large amounts of exports of hydrocarbons, other economic sectors cannot develop and industrialisation is held back. This is certainly not the only reason why agriculture, manufacturing and services have remained underdeveloped in Algeria, but oil exports have not helped.

When it comes to its energy transition, wind and solar energy capacity in Algeria only rose from 1.1 MW in 2014 to 354.3 MW by June 2018, about 1.6 percent of its 2030 target of 22,000 MW (Bouraiou, 2019). But so far, the country has few viable alternative markets for its energy or other potential exports. It joined China's Belt and Road Initiative in 2018 but its potential to sell energy into the Chinese market is very limited. In any case, even the Algerian government recognises the benefit of developing a renewables sector and more diversified economy in the current global environment. Rather than confrontation or resistance, the Algerian government will likely seek to channel Green Deal inspired reforms so that they do not affect, or even so they reinforce, the government's ability to maintain the rentier state.

In this sense, the Green Deal represents yet another variant of the enduring EU effort to use financial levers to achieve political and economic liberalisation in its neighbourhood. This effort has had mixed results at best and practically no success in Algeria. But the Green Deal effort strikes right at the heart of the government's control over society – the rentier economy based on hydrocarbons that, as elsewhere in the world, facilitates centralised control, enables corruption among regime cronies, and fund subsidies that grants the regime some degree of popular acceptance. Chances are therefore high that the current leadership

18 See <https://www.consilium.europa.eu/media/24089/st03101-ad01fr17.pdf>.

19 See <https://www.energypartnership-algeria.org/home/>.

20 See <https://www.barrons.com/news/algeria-rules-out-imf-borrowing-to-ease-financial-woes-01588419903>.

21 See <https://theArabweekly.com/algeria-borrow-abroad-first-time-15-years>.

The Green Deal may increase short-term demand for Saudi oil which has a lower carbon footprint than oil from Russia or the United States

will delay diversification and aim to continue maintaining strong control over rents.

In the long term, this could present the EU with a dilemma. If the Algerian government, fearing loss of control, fails to make a transition away from hydrocarbons, the Algerian economy could lapse into nearly terminal decline. The possibility of such instability on Europe's periphery would create incentives for Europeans to relax conditionality and foster an energy transition in Algeria that sustains the current regime.

3.3 Global players: Saudi Arabia

Saudi Arabia is the world's biggest oil exporter. Oil and gas revenues amounted to 80 percent of Saudi Arabia's total exports in 2018 and accounted for 67 percent of its government revenues in 2017 (Tagliapietra, 2019). More fundamentally, Saudi Arabia's long dependence on the rent from hydrocarbons has created an economy that relies on public sector employment (30 percent of the workforce) and expensive and economically inefficient subsidy schemes (costing \$37 billion in 2017), particularly in the energy market (Tagliapietra, 2019).

Unlike in Algeria, however, the European Green Deal does not directly threaten this model. Saudi Arabia exports less than 10 percent of its oil to Europe. Its main markets, now and likely even more in the future, are in Asia to which it already exports over 70 percent²² of its oil. A European transition to renewables is not *per se* a major problem for Saudi Arabia. Indeed, the European Green Deal may even increase short-term demand for Saudi oil which has a lower carbon footprint than oil from Russia or the United States. Saudi Arabia could face 30 percent to 50 percent less in EU carbon tariffs than most competitors²³.

Overall, the Saudi approach so far has been to say little about the Green Deal, privately encourage the Europeans to develop new renewable technology, and focusing their energies on making fossil fuels cleaner. Saudi Arabia used, for example, its 2020 chairmanship of the G20 to promote the idea of a circular carbon economy, an effort to make the use of oil and gas more climate-friendly.

However, the broader transition away from fossil fuels, of which the Green Deal is a part, presents a serious long-term threat to the Saudi model of a rentier state. As demand and prices for hydrocarbons fall, Saudi Arabia's ability to afford its large public-sector wage bill and domestic energy subsidies will erode, perhaps even threatening Saudi domestic stability. Already Saudi foreign exchange reserves are in decline²⁴, in line with oil revenue declines since 2014.

The Saudi regime, led by the crown prince, Mohammed Bin Salman, appears very aware of this threat and has adopted a strategy to deal with it. Most publicly, it launched in 2016 the Vision 2030 programme, a broad-ranging development plan to diversify the economy away from hydrocarbons, develop private small- and medium-enterprises, and create a non-oil export sector.

The idea of global peak demand for oil being reached soon has inspired Saudi Arabia to increase its export capacity in order to produce as much oil as possible and seize market share before demand fades away²⁵. Saudi Arabia's relatively low-cost production means that it can sustain low prices that might drive competitors such as Russia, Venezuela and Iran out of the market. This low-cost strategy threatens the entire climate change effort embodied in the Paris Agreement, as it makes it more difficult for renewable energy resources to compete with hydrocarbons. The outcome will depend on the evolution of green technology and the ability of the European Green Deal and other efforts to get global energy consumers to internalise the cost of carbon emissions.

In the context of a long-term fall in demand, increased market share, even at lower prices,

22 See <https://www.washingtonpost.com/world/2019/09/16/who-buys-saudi-arabias-oil/?arc404=true>.

23 See <https://www.bcg.com/en-gb/publications/2020/how-an-eu-carbon-border-tax-could-jolt-world-trade>.

24 See <https://www.ft.com/content/6825366f-92db-4473-b5b2-cacda032d8ee>.

25 This strategy is referred to as Green Paradox by economists. This is one reason why carbon prices should increase sharply early on, as otherwise oil extraction will be as much as possible anticipated to prevent stranded oil assets.

offers Saudi Arabia the prospect of greater total revenues from its vast oil reserves. This logic inspired the Saudi oil price war with Russia in the middle of the COVID-19-caused price collapse in April 2020, which briefly drove US oil prices below zero²⁶ (indicating that the cost of storage was more than the oil was worth).

None of this is inherently at odds with the EU's ability to implement the Green Deal. The EU has every incentive to encourage Saudi Arabia's economic diversification effort, and some Saudi displacement of higher-carbon oil for other sources will ease Europe's transition. Through its massive sovereign wealth fund, Saudi Arabia will be an eager investor and customer for renewable-energy technology that might come from European sources.

However, Saudi Arabia's Vision 2030 plan has had little success thus far in diversifying the country's economy (Grand and Wolff, 2020). Four years in, the regime's erratic governance and the deep rentier state give foreign investors little confidence that it will have the capacity to make the often-painful choices inherent in an economic diversification strategy. A Saudi failure to make this transition could, as the world slowly moves away from fossil fuels, threaten stability in the Persian Gulf. Europeans have an interest in assisting this transition, but Saudi Arabia's human rights record makes cooperating with its regime difficult. Saudi Arabia's substantial reserves and tight relationship with the United States mean that the EU lacks the leverage to force difficult changes. An effective strategy to encourage both better governance and economic diversification in Saudi Arabia will thus clearly require close cooperation with the United States, which may be possible now with a new US administration that also has greater awareness of the demands of energy transition.

3.4 Global players: the United States

The US has at times rivalled the EU for global climate change leadership. The Trump administration, however, pulled back from global negotiations and broadly refused to accept any responsibility for combatting climate change. Trump withdrew from the United Nations Paris Agreement, rolled back many Obama administration regulations that limited carbon emissions and called climate change a Chinese hoax devised to secure unfair trade advantage. However, roughly two-thirds of Americans believe in climate change²⁷. They think the federal government is not doing enough to reduce its impacts and see environmental protection as a top policy priority. Many of US states are pushing forward with regulations that are as tough or tougher as those in Europe²⁸. Fires and floods across the United States in 2020 increased concerns about climate change.

Part of the reason for this disconnect is that climate change has become a highly partisan issue in the United States – perhaps the single starkest policy divide between the two parties. This means that the Democrats have become the party aiming to do something about climate change. US policy on this issue will thus change dramatically under a Biden presidency. During the election campaign, Biden proposed²⁹ policies similar to the European Green Deal, including net-zero emissions by 2050, an electricity sector fully powered by renewables by 2035, carbon pricing and border adjustment mechanisms.

It remains unclear though if more similar US and European climate policies under Biden will necessarily be more harmonious. Even for the incoming Biden administration, the European Green Deal presents some geopolitical challenges. For example, the European Green Deal implies stricter emissions standards³⁰ for US automobiles than the US will have in place.

26 See <https://www.ft.com/content/a5292644-958d-4065-92e8-ace55d766654>.

27 See <https://www.pewresearch.org/fact-tank/2020/04/21/how-americans-see-climate-change-and-the-environment-in-7-charts/>.

28 See for example <https://www.gov.ca.gov/2020/09/23/governor-newsom-announces-california-will-phase-out-gasoline-powered-cars-drastically-reduce-demand-for-fossil-fuel-in-californias-fight-against-climate-change/>.

29 See <https://joebiden.com/climate-plan/>.

30 See <https://thehill.com/opinion/energy-environment/511367-biden-has-an-ambitious-climate-plan-but-it-needs-to-do-much-more>.

Upto 2030, when the EU may be more aggressive in its climate targets, a carbon tariff could introduce trade tensions with the United States

As the US exports more than €5.5 billion (2018)³¹ worth of passenger cars to Europe, this could have a large impact on a politically sensitive industry. Similarly, the Green Deal may include stricter agricultural policy based around sustainable practices, which could negatively affect the 13 percent of US agricultural exports that go to the EU (CRS, 2020).

It is, however, the carbon border adjustment mechanism (CBAM) proposal that generates the most concern in the United States. A carbon tariff could dramatically impact US exports of coal, natural gas and many manufactured products. The US exported³² over 1.5 million barrels of day of petroleum products to Europe in 2019, about 19 percent of its export market³³. The Trump administration viewed the Green Deal threat to this important industry as an unacceptable infringement on US sovereignty and pure protectionism. Wilbur Ross, the US Secretary of Commerce promised retaliation, noting that *“depending on what form the carbon tax takes, we will react to it – but if it is in its essence protectionist, like the digital taxes, we will react”*³⁴.

A Biden administration will want to pursue its own version of a green deal and seek climate neutrality by 2050 as the US re-joins the Paris Agreement. But opposition in the US Congress means that, compared to the EU, the US effort will likely adopt less-ambitious targets and rely more on promised developments in technology than foreseen by the European Green Deal. This means that, particularly upto 2030, when the EU may be more aggressive in its climate targets, measures such as the CBAM could introduce trade tensions with the United States. Managing those tensions could prove very complex, particularly under a future Republican administration.

For the next few years, however, the Biden administration will likely seek a cooperative approach to dealing those tensions. Meanwhile, the Democrats’ desire to take a global lead in climate negotiations may, as Obama occasionally did³⁵, create conflict with the EU’s similar aspiration. As during the 2009 climate negotiations in Copenhagen, the US might decide that it can more easily reach agreement with China than with the EU, and that Europeans will simply accept whatever the US and China decide. The increased tensions in the US-China relationship make this less likely, but Biden³⁶ sees scope for cooperation with China on climate change.

The Green Deal also contains more than a hint of a new environmental justification for industrial policy. A Council of the EU paper³⁷ on the Green Deal asserts that the EU needs *“climate and resources frontrunners to develop commercial applications of breakthrough technologies”* and advocates *“new forms of collaboration with industry and investments in strategic value chains”* in areas including battery technology and digital technologies. Any US administration will likely see such government subsidies as a protectionist European effort to use state aid to capture the green technology industries of the future.

Despite these challenges, a cooperative US response to the Green Deal is possible depending on the EU’s willingness to compromise and negotiate a package deal with the US. The EU and the US will likely see that they face similar challenges in implementing their climate ambitions.

3.5 Global players: China

At a time when it has become increasingly difficult to define the positive, constructive elements in the Europe-China relationship, climate change has become the single most important topic for the cooperative agenda with Beijing. Almost like a mantra, when European policymakers debate the market-distorting practices of Chinese state capitalism, forced

31 See https://www.acea.be/uploads/publications/EU-US_automobile_trade-facts_figures.pdf.

32 See <https://www.eia.gov/energyexplained/oil-and-petroleum-products/imports-and-exports.php>.

33 See https://www.eia.gov/dnav/pet/pet_move_expc_a_EP00_EEX_mbbldpd_a.htm.

34 See <https://www.ft.com/content/f7ee830c-3ee6-11ea-a01a-bae547046735>.

35 See <http://news.bbc.co.uk/2/hi/europe/8421935.stm>.

36 See <https://joebiden.com/climate-plan/>.

37 See <https://data.consilium.europa.eu/doc/document/ST-5430-2020-INIT/en/pdf>.

Responsibly greening the European economy necessarily implies greening the supply chains of which China is an essential part

technology transfers, intellectual property theft or large-scale human rights violations in Xinjiang or Hong Kong, the conversation ends on the relatively obvious declaration “*but we need China for global challenges, such as climate change*” (See for example Oertel *et al.*, 2020).

And it is true. For the European Green Deal and the Paris Agreement to work, China must be part of the equation. China is the world’s second largest economy and its largest emitter of CO₂, as well as a major production hub for European products. Responsibly greening the European economy thus necessarily also implies greening the supply chains of which China is an essential part.

Notwithstanding the green narrative of its leaders, China continues to operate 3000 coal plants³⁸ – more than in the US, the EU, Japan, Russia and India combined – and has more than 2000 in construction. Chinese emissions have not yet peaked (China is still a developing country, by climate standards) and in fact the US has massively curbed emissions despite the federal government’s unwillingness to be held accountable by global agreements. These stark facts and a new, more climate-friendly US administration starting in 2021, mean that the informal China-EU climate alliance may not last very long.

Nevertheless, China also has an interest in pursuing a more sustainable and efficient path to prosperity. The effects of climate change on Chinese agriculture, water and food security are considerable and will grow. Coupled with air and soil pollution China’s environmental situation has the potential to unsettle the careful balance of acceptance of Communist Party rule. Beijing’s general willingness to serve as a constructive force in global climate negotiations and its support for the Paris Agreement were indispensable, but adherence to an agreement that does not force Beijing to reduce emissions at all is no longer enough given China’s role in global emissions.

More ambitious European targets on climate change, biodiversity and sustainability are not intrinsically problematic from Beijing’s perspective. China itself claims global environmental and climate leadership. Xi Jinping has further advanced the use of the environmental catchphrase of the “ecological civilization”, environmental sustainability with Chinese characteristics. The Chinese government, in part to show the Europeans that it is working on the broad climate agenda, said in September 2020 that it “*aim[s] to have CO₂ emissions peak before 2030 and achieve carbon neutrality before 2060.*” China undoubtedly has a national strategy to move the economy gradually towards greater sustainability. It will however do so at its own pace and always with the caveat of stability with a strong focus on retaining high levels of economic growth and curbing any rise in unemployment.

A more energy-independent Europe has no major repercussions for relations with Beijing: China does not export energy to Europe. A reduction in European energy needs could in fact reduce global energy prices, which would be beneficial for China, still a net importer of energy (mainly oil and gas), and would allow China to reduce the costs of running its economy.

China, however, is a major supplier of minerals such as rare earths that are of essential importance for the European Green Deal, though China’s ability to use this dependence for strategic leverage is limited. China’s previous effort to use its market dominance against Japan in 2010 inspired other nations to create stockpiles³⁹. In the longer-term, rare earths, oddly, are not extremely rare. China had dominated this market largely because of subsidies to producers that kept prices too low for potential competitors to enter the market. This was a costly policy that caused unpopular environmental damage in those parts of China that processed these minerals. The Chinese government already seems intent on reversing it, which is encouraging the development of foreign competitors in the US and Malaysia⁴⁰.

The idea of a carbon border adjustment mechanism for carbon-intensive products

38 See <https://www.ft.com/content/9656e36c-ba59-43e9-bf1c-c0f105813436>.

39 See <https://www.scmp.com/comment/opinion/article/3012994/chinas-ban-rare-earth-didnt-work-japan-and-wont-work-trade-war-us>.

40 See <https://www.ft.com/content/b13a3c4e-e80b-4a5c-aa6f-0c6cc87df638>.

entering the European Union poses a more fundamental challenge to Beijing. Especially at the lower end of the value chain where margins are not particularly high, Chinese manufactured products could lose their comparative price advantage (and thus their appeal), making it more attractive for European industry to source from other 'greener' partners. This could exert significant pressure on Beijing to adapt its own policies and serve at least temporarily as leverage in getting China to commit to an overall more ambitious climate change and sustainability agenda. Otherwise current trends towards the greater diversification of global supply chains away from China, which started because of the US-China trade war and were accelerated by the COVID-19 crisis, could be further exacerbated. Adding this extra price tag for importers of Chinese goods could help level the playing field. European companies are already considering greater localisation of their value chains and production processes, which could entail production specifically for the Chinese market within China. This would effectively decouple Europe's China business from other parts of the global economy.

With the Green Deal, the EU will push for an ambitious global climate agenda within the UN Framework Convention on Climate Change framework. At the COP26 (Conference of the Parties) in Glasgow in 2021, China will be in the spotlight in terms of specifying how it will peak its carbon emissions before 2030 and then reduce emissions. To achieve carbon neutrality by 2060, the measures will have to be significant and start immediately. China seems to be moving closer to the European approach in terms of its commitments, while trying to buy as much time as possible to invest in its own green transition and in green or clean technology. China already leads on electric vehicles and is a major force in solar and wind energy. Clean tech is a growth market with huge potential for China-Europe cooperation, but also for crowding out of European industry and achieving Chinese tech dominance.

COVID-19 meant that China experienced negative growth in the first quarter of 2020 for the first time since the end of the Cultural Revolution in the late 1970s. Emissions are down and Beijing is clearly determined to use its economic stimulus packages to jump start the Chinese economy with a specific focus on boosting its digital economy and continuing its effort to lead on renewable energy technology. But despite the green-tech push, the stimulus packages feature heavy investment in coal-fired power plants, in part for purposes of job creation.

Climate change is one of the areas in which China still adheres to the developing country logic. It retains significant negotiating power through strong alliances with Brazil and Saudi Arabia (both needed to make an international agenda work) and with the G77 more broadly, which includes the majority of states most gravely affected by the effects of global warming and rising sea levels. Europe can make a sustainable development policy offer to these countries within the Green Deal framework and compete with China's Belt and Road Initiative, which has already generated degrees of cynicism and opposition in recipient countries. Whether developing countries are receptive to the European offer will to a great extent depend on the conditions attached to loans and investments. But in the countries in Europe's vicinity, greater European conditionality on accession financing in line with the Green Deal could effectively hamper Chinese investments in coal power plants and environmentally harmful resource extraction.

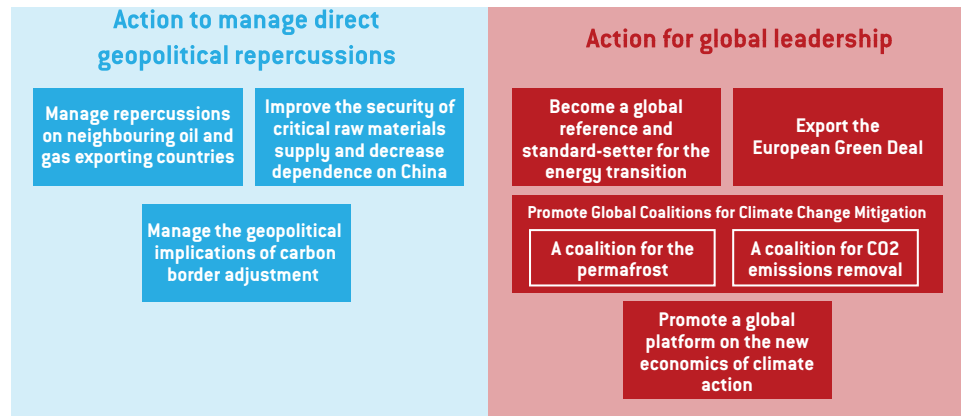
4 A foreign policy action plan for the European Green Deal

How should the EU manage the geopolitical repercussions of the European Green Deal, and the possible reactions of countries including Algeria, China, Russia, Saudi Arabia and the US? From a conceptual perspective, answering this requires looking beyond traditional geopolitics and security considerations, while considering soft power issues. That is, the EU can strengthen its position as a norm- and standard-setter for the global energy transition,

promoting transparent cooperation on technical and regulatory matters in different fields. This should also be considered as part of a foreign policy action plan for the European Green Deal.

From a policy perspective, a clear strategy and a foreign policy action plan are needed. We suggest dual approach: i) actions to manage the direct geopolitical repercussions of the European Green Deal; ii) actions to foster EU global leadership in the field (Figure 9).

Figure 9: A foreign policy action plan for the European Green Deal



Source: Bruegel/ECFR.

4.1 Action to manage the direct geopolitical repercussions of the European Green Deal

#1 Help neighbouring oil and gas-exporting countries manage the repercussions of the Green Deal

The EU has a strategic interest in contributing to the stability of its neighbourhood, for a number of reasons, from migration to trade. In this context, helping oil and gas-exporting countries in the neighbourhood to manage the repercussions of the European Green Deal will be a crucial item in the foreign policy agenda.

The EU should not adopt a one-size-fits-all approach here. It should rather adopt an approach that fits the specific context of each partner country and focuses on the most promising local competitive advantages. Europe's past experiences of promoting abstract regional energy cooperation projects should not be repeated.

The EU and its oil and gas-exporting neighbours have time to properly plan this transition. Up to 2030, the EU will continue to import oil and gas from neighbours, and significant declines will only start after 2030. The decade to 2030 should be used to prepare for what will come afterwards. Revenues from oil and gas exports should be increasingly utilised by oil and gas-exporting countries to diversify their economies, also including into renewable energy and green hydrogen that could in the future also be exported to Europe. The EU should support such initiatives, including through a stronger and more coherent approach to climate finance (see #5).

#2 Improve the security of critical raw materials supply and decrease dependence on China

Securing access to the critical raw materials that underpin green technologies is essential to safeguard the implementation of the European Green Deal and to ensure reliable industrial development in Europe. This will ensure *"Europe's strategic autonomy"* (European Commission, 2020).

This can be done through supply diversification, increased recycling volumes and

substitution of critical materials. Where possible, increasing the domestic supply of critical raw materials could alleviate Europe's reliance on imports. Likewise, diversifying the import portfolio represents a sensible strategy to avoid risks of over-dependency on a single supplier. Trade agreements or contracts with different supplier countries could help reduce the threat of supply shortages. Alongside diversification, Europe should pursue recycling and substitution strategies. While several critical raw materials have a high technical recycling potential, their recycling rate remains generally low. Increasing the cost competitiveness and efficiency of sorting and recycling technologies is thus a priority. In this field, the EU can provide support for research and innovation (through Horizon Europe) and for technology demonstration (for example, via the Innovation Fund).

#3 Work with the United States to establish a common carbon border adjustment mechanism

As noted in section 2, even if the introduction of a carbon border adjustment mechanism is done in a way that prevents formal objections at the WTO, trade partners might still perceive it a protectionist measure and threaten or adopt retaliatory measures. The challenge for the EU will be to design a carbon border tax *"in such a way that it minimises the potential costs to the international system, while maximising the chances that it reduces global carbon emissions"* (Horn and Sapir, 2020).

President-elect Biden's climate plan pledges similar carbon border adjustment measures, opening an avenue for the formation of a joint EU-US approach. The EU should take the initiative and propose to the incoming US president the creation of a climate club whose members would apply similar common carbon border adjustment measures. The club would function as an open partnership, and membership would be subject to criteria on the level and implementation of emissions reductions. All countries, including China, would be welcome to join if they commit to abide by the club's objectives and rules.

To succeed, a climate club should be initiated by a group of countries that are (a) committed to emission reduction targets compatible with the goals of the Paris Agreement, and (b) significant enough economically to create a strong incentive for third countries to join. This is why a joint EU-US initiative, possibly in partnership with developing countries, would be a major boost to climate action.

Together, the two economies still account for over 40 percent of global GDP and nearly 30 percent of global imports⁴¹. The size of the transatlantic economy means that, if the carbon border adjustment is constructed to comply with WTO rules, trade retaliation from third countries would not be possible. In this way, a climate club would put the enormous transatlantic economy at the core of global efforts to reduce greenhouse gas emissions, effectively complementing the UNFCCC process.

During the Trump presidency, cooperation between the EU and China was instrumental in avoiding the collapse of the Paris Agreement. If only for this reason, the EU should in parallel intensify its dialogue with China on climate action with the aim of letting China join the climate club as soon as possible.

4.2 Action to foster EU global leadership in the field

#4 Become the energy transition's global standard-setter

The EU can become the global standard-setter for the energy transition. One of the EU's biggest strengths is its internal market of 450 million people. Requiring compliance with strict environmental regulations as a condition to access the EU market is a strong incentive for exporting countries to green their production processes.

Furthermore, the EU can become a standard-setter for the nascent hydrogen market. By quickly developing a benchmark for euro-denominated hydrogen trades, the EU could create

⁴¹ See https://ec.europa.eu/eurostat/statistics-explained/index.php/International_trade_in_goods

the basis for an international hydrogen market based on EU standards. Moreover, it could try to consolidate the role of the euro the sustainable energy trade.

Finally, the EU can become a standard-setter for green bonds. The global green, social and sustainability-related bond market reached €270 billion in 2019. The segment currently remains a niche, representing about 5 percent of the total bond market. However, it is rapidly expanding. Between 2018 and 2019, it expanded by 50 percent, and it is expected to have reached €338 billion in 2020. The EU is not only the biggest player in the market with 45 percent of global issuance in 2019, but is also the market experiencing the strongest increase, with a 74 percent jump between 2018 and 2019. In a survey, 67 percent of respondents indicated a lack of adequate supply of green bonds (TEG, 2019). Moreover, respondents specified that regulation is the most effective way to scale-up the green bond market, with the development of a clear taxonomy being a priority. Considering, the current relatively small size of the green bond market, its expected rapid growth, the EU's substantial share and investors' needs for standardisation, the EU could well become a global standard-setter.

#5 Internationalise the European Green Deal

The EU produces less than 10 percent of global greenhouse-gas emissions. This implies that to have an impact on global warming, the EU needs to push the green transition beyond its borders. It has two main instruments for this: i) the EU budget and Next Generation EU, and ii) EU development policy.

The EU budget and Next Generation EU

The EU adopted in 2020 its budget – in jargon, the Multiannual Financial Framework (MFF) – for the period 2021-2027, the overall size of which is €1074.3 billion. On top of this, the EU established in 2020 its post-COVID-19 recovery fund – named Next Generation EU (NGEU) – for 2021-2023, with an additional €750 billion of resources. The whole package thus amounts to around €1.8 trillion. The EU has pledged to devote 30 percent of MFF spending and 37 percent of NGEU spending to climate action⁴². This means that between 2021 and 2027 around €600 billion of 'fresh' EU resources will be made available for the green transition. There are of course many demands on this money, but the EU could agree to devote 10 percent of the resources earmarked for climate action – €60 billion – to internationalise the European Green Deal to neighbouring countries and beyond.

Such an approach, entailing the provision of grants, loans and guarantees for sustainable energy projects in partner countries, would help meet global climate objectives more efficiently, as countries in the EU neighbourhood and in the developing world have lower marginal emissions abatement costs than European countries. Second, it would help EU industry enter new, rapidly growing, markets – turning into a formidable EU green industrial policy tool. Third, it would help economic development and diversification in the EU's partner countries (and most notably in oil and gas-producing countries), providing an invaluable foreign policy dividend for the EU.

EU development policy

The EU and its members are the world's leading Official Development Assistance donors, with €75.2 billion⁴³ disbursed in 2019, or 55 percent of global assistance. In the 2021-2027 budget, the EU has a new tool designed to bring together EU funds for external policies: the Neighbourhood, Development and International Cooperation Instrument (NDICI). The introduction of NDICI – the budget of which is set at €79.5 billion for 2021-2027 – will help increase the EU's visibility and leverage in developing countries. One problem related to EU development policy has been the fragmentation of its instruments, which leads to overlaps, gaps and inefficiencies. A further step towards the consolidation of Europe's development policy would be to

⁴² See https://ec.europa.eu/commission/presscorner/detail/en/ip_20_1657.

⁴³ See https://ec.europa.eu/commission/presscorner/detail/en/IP_20_674.

create a single entity, such as a European Climate and Sustainable Development Bank (Council of the European Union, 2019). NDICI and a new climate bank could become the primary tools for exporting the European Green Deal to the developing world, starting with Africa.

#6 Promote global coalitions for climate change mitigation: a coalition for the permafrost

Around a quarter of the Northern hemisphere is covered in permanently frozen ground (permafrost). As a result of rising global temperature, the Arctic permafrost is not thawing gradually, as scientists once predicted, but at an unprecedented speed. This is a major problem for climate change, because the permafrost is a massive reservoir of greenhouse gases. As these soils thaw they release ancient organic materials – and masses of greenhouse gases – that have been frozen underground for millennia. The potential magnitude of the problem is shown by the up to 1,600 gigatonnes of carbon dioxide held in permafrost globally: nearly twice what is currently in the atmosphere. Scientists have pointed to the urgent need to avoid a tipping point that would see global warming release the gases from the permafrost, making global warming much worse. The EU should initiate and lead a global coalition for the permafrost, aimed at funding research to better assess the current status of the problem and at funding measures to urgently contain the permafrost thaw, such as restoring grassland by reducing forests and increasing grazing by large animal herds (Macias-Fauria *et al*, 2020). This is a global common good, and as such it requires international cooperation.

#7 Promote global coalitions for climate change mitigation: a coalition for CO2 emissions removal

Another global common good requiring international cooperation is carbon sequestration. Removing CO2 from the atmosphere will be necessary to reach climate neutrality by the middle of the century and subsequently to achieve net negative emissions.

CO2 can be removed from the atmosphere through both nature-based and technological solutions. Nature-based solutions include afforestation and reforestation. Technology-based solutions include carbon capture and storage and geoengineering solutions such as direct air capture.

The EU should establish a global coalition for CO2 emissions removal aimed at promoting international cooperation in the field. The coalition should include countries, companies and international organisations willing to invest jointly in afforestation and reforestation activities across the world, and to invest jointly in research, innovation and demonstration projects for technology-based solutions. The preservation of rainforests as major sinks of CO2 is essential. With carbon pricing currently far from delivering the necessary investment signals, there is an absence of incentives to pursue both solutions. This makes international cooperation of paramount importance.

The EU should use trade, development and financial policy to pursue this agenda.

#8 Promote a global platform on the new economics of climate action

The EU should become a global reference on the socio-economic implications of decarbonisation. Being at the forefront of global decarbonisation efforts, the EU is among the first to deal with its socio-economic impacts. The aim of the European Green Deal is to intelligently promote decarbonisation by tackling the distributional effects of the economic and industrial transformation it necessarily implies, and by ensuring the social inclusiveness of the overall process. Issues such as just transition and addressing the distributional effects of climate policies are key for the successful unfolding of the decarbonisation process. Likewise, green industrial policy and green investments are key to seize the industrial opportunities of decarbonisation, promoting jobs and economic growth. The EU could establish multilateral forums to share with international partners lessons learned and good practices. This could replicate the approach of EU carbon market cooperation with international partners, which has, for instance, provided a significant contribution to the launch of China's nationwide emissions trading system.

Together, these actions would provide foreign policy support for the European Green Deal. They respond to the geopolitical challenges that other countries are likely to face from the Green Deal and from increasing global warming more generally, and offer ways to leverage European efforts and expand the decarbonisation push beyond the EU – which will be a necessary to the Green Deal's success.

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