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REPORT December 2020

ENERGY DIPLOMACY BEYOND PIPELINES: NAVIGATING RISKS AND OPPORTUNITIES

PIETER DE POUS, LISA FISCHER & FELIX HEILMANN

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Acknowledgements

This project has received funding from the European Commission through a LIFE grant. The content of this report reflects only the authors' views. The Commission is not responsible for any use that may be made of the information it contains.

A special thanks to Nick Mabey, Jennifer Tollmann, Brick Medak, Luca Bergamaschi, Ronan Palmer, Jonathan Gaventa, Tom Burke, Alexander Reitzenstein and Manon Dufour at E3G for providing their valuable time to share their insights, comments and challenges throughout the process of drafting this paper as well as to Julian Popov (ECF), Professor Andreas Goldthau (University of Erfurt), and Raffaele Piria (adelphi).

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Executive Summary

EU Commission President Ursula von der Leyen's ambition to be a more "geopolitical" Commission has raised expectations for the EU to up its game on the international stage. In particular when this was followed by calls from Member States to increase the EU's "open strategic autonomy" in response to the COVID-19 pandemic and broader geopolitical developments[1]. Despite differing views among Member States on what this means, it reflects a common desire to protect strategic supply chains and develop a more assertive and united foreign policy. This will require the EU to become better at allocating its diplomatic capital in support of its core strategic interests including its European Green Deal.

Energy diplomacy is a core element of the EU's foreign relations, manifesting itself in High Level Energy Dialogues, public finance spending on infrastructure projects and engagement in the EU neighbourhood. But it is also an area that will need to fundamentally transform if it is to continue to serve the EU's core strategic interests. The EU's Green Deal includes plans for reaching climate neutrality by 2050 and reducing emissions by at least 55% below 1990 levels by 2030. This will have far reaching implications for the EU's consumption of fossil fuels, notably gas. The Green Deal will also influence how the EU relates to the rest of the world on matters of energy and diplomacy.

Germany is important to the low carbon transition. The country is largest consumer of gas, a key EU transit hub, and an engine of low carbon deployment and export. Germany also has significant diplomatic and financial means to support a smooth global transition.

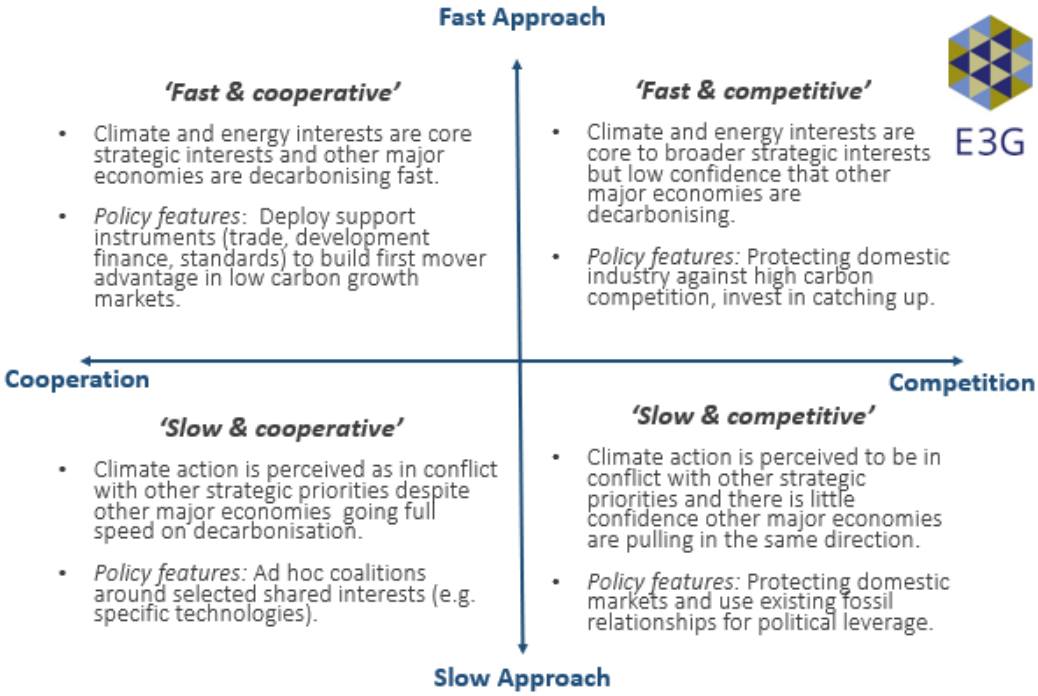
For better or worse, Germany is also key for unity inside the EU. Germany acts as a bridge between the EU's East and West on many matters of the energy transition. But with energy infrastructure projects like Nord Stream 2 it has deepened the internal divide and exposed differences between Brussels, Berlin, and other capitals.

Germany now needs to develop an approach to energy diplomacy that can adapt to changing geopolitical winds. There needs to be better coordination between Germany and its EU partners if it is to fully align with the EU's Green Deal. Germany's new approach to the global transition will be shaped by the speed at

[1] Speech by Commissioner Phil Hogan at Launch of Public Consultation for EU Trade Policy Review on 16 June 2020, available **here**

which alignment with Green Deal objectives happens and the level of cooperation in the geopolitical environment. Different transition factors come with different risks and opportunities for the world's multilateral system, international stability and Germany's position in the global clean energy economy. These risks and opportunities must be managed if Europe is to reach its climate goals.

This paper presents scenarios for future Green Deal aligned energy diplomacy and the opportunities and risks associated with each.



We chose two contrasting scenarios out of four to discuss in detail. In a scenario of fast change in a cooperative world, opportunity arises from rapidly growing clean energy markets while risk comes from managing a changing relationship with fossil exporters early in the process.

In a scenario of slow change in a world with competitive geopolitics the opportunity lies in using leverage as a buyer of fossil fuels for political aims. The scenario comes with a requirement to use the time to prepare for the risk that comes from a later and even faster transition. This risk will be aggravated by climate impacts resulting from a slower reduction of emissions and loss of credibility as a climate leader.

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To build resilient and adaptive energy diplomacy that can navigate across scenarios and support the Green Deal the following three steps will be critical for Germany, in close coordination with the EU, to take:

1. **Recognise energy diplomacy as a central pillar to the European Green Deal and build up clean energy diplomacy capacities.** These should be built at the national as well as EU level so they can do comprehensive and integrated climate and energy security assessments of the EU's neighbourhood and existing and prospective partners. This should help to identify strategic low carbon supply chains and be supported by a climate and energy diplomacy network embedded in the relevant embassies.

2. **Develop resilient energy partnerships to close the low carbon divide.** Germany's cooperation with current fossil energy partners, both exporters and transit countries, needs to be made compatible with climate neutrality. It should make careful use of 'carrots' and 'sticks'. For example, an introduction of a Carbon Border Adjustment instrument or better alternatives like product standards will need to be accompanied by a broader policy package. The policy should support trade partners in meeting cleaner production standards, target infrastructure investment and eliminate tariffs on low carbon technologies.

   A new policy will also require a full revision of all planned fossil infrastructure projects. Equally important will be the development of new energy alliances with countries that have high renewables potential or other key resources that will help it to secure a diversified set of strategic clean economy supply chains and markets.

3. **Strategic use of public finance for a managed transition and opening clean energy markets.** Germany in close coordination with its EU partners should adopt a clear timeline for phasing out all fossil fuel support by multilateral and bilateral development banks and export credit agencies with EU shareholdership. This should happen while developing a plan to ramp up clean energy finance.

Introduction

Climate action challenges existing energy diplomacy paradigms

At the end of 2019, the EU heads of states and governments jointly agreed a climate neutrality target for 2050[2]. To achieve this, European leaders have agreed in June 2020 to increase the EU's 2030 climate targets by the end of 2020, with a majority supporting a cut of at least -55% of greenhouse gas emissions. These climate targets, which will be accompanied by a further regulatory overhaul of the EU's energy policies in 2021, will have significant consequences for the EU's energy system over the next decade.

One of the most significant EU decisions will be about managing the transition away from fossil gas. The European Commission's scenarios underpinning the 2050 climate neutrality target project a fossil gas share in final energy consumption of around 4% by 2050[3], down from today's 24% (see figure 1). And, as a consumer of almost a quarter of the EU's gas[4], Germany will be instrumental to navigating these changes.

Currently, fossil energy imports cover over 58% of the EU's energy demand[5] and amount to an annual bill of €330bn in 2018[6].The fast pace of change and the high import ratio means the transition will have significant consequences for bilateral relationships with energy suppliers and transit countries, financial flows and geopolitical positioning.

[2] European Commission moved to regulate this target into the draft EU Climate Law proposed in March 2020 and scheduled for adoption by the end of 2020 under the German Presidency

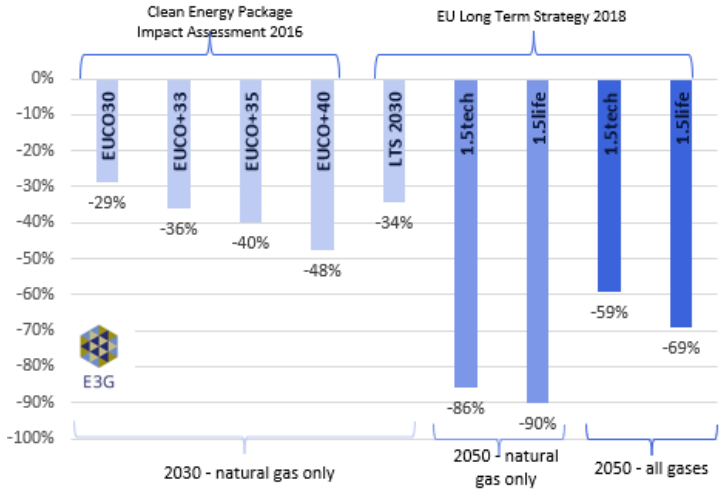
[3] European Commission (2018), **In-depth analysis in support of the Commission Communication {COM (2018) 773**}

[4] Eurostat (2020), **Natural Gas Supply Statistics**

[5] European Commission (2020), **Report on progress of clean energy competitiveness** {SWD(2020)953final}

[6] European Commission (2020), **Report on the State of the Energy Union {COM(2020) 950 final}**

Figure 1 EU scenarios for future gas consumption compared to 2019[7]



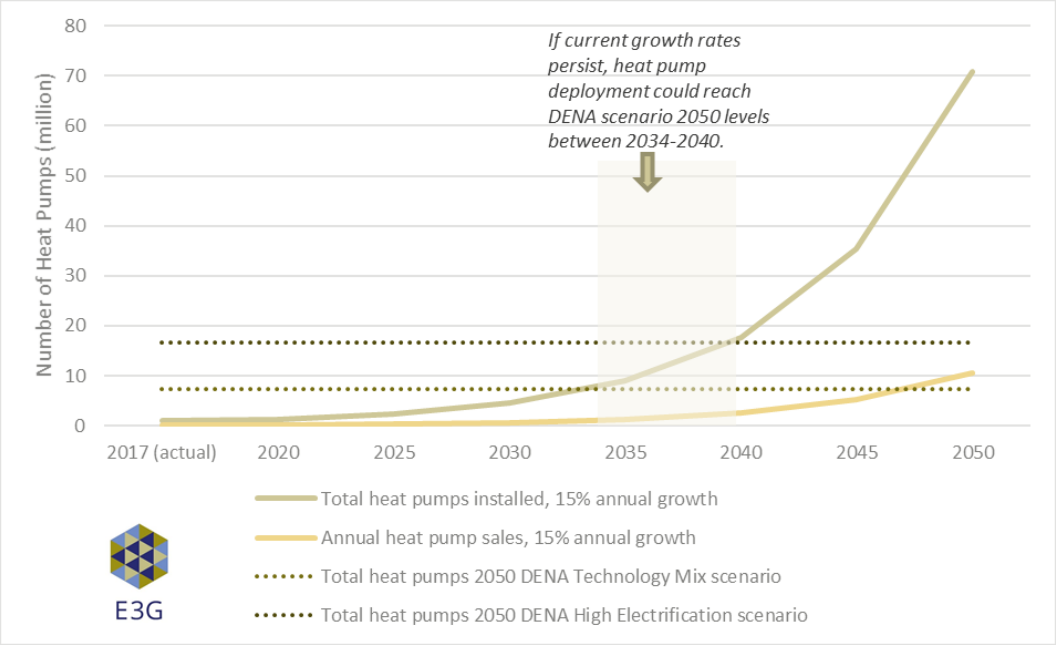
In addition to more stringent climate targets and a pending reform of EU energy infrastructure regulation, market developments are already playing a significant role in gradually replacing gas in key sectors. For example, albeit starting as a laggard, sales of heat pumps in Germany have been on a steady upwards trend since 2015, with market growth rates of 14% and 15% in 2016 and 2017 respectively[8]. A study by German energy agency DENA estimates that residential gas use would fall from today 396 TWh to between 141 TWh and 18TWh in 2050 depending on the scenario. Heat pump installations would reach 7.4m to 16.7m respectively, compared to just under 1m today.[9] If current market growth rates of 15% are maintained, then this DENA scenario could materialise much earlier than 2050, between early 2030s and 2040.

[7] Based on data from the EU's impact assessment on the "Clean Energy Package" and the EU's 2050 long term strategy "A Clean Planet for All".

[8] **http://www.stats.ehpa.org/hp_sales/story_sales/**, accessed on 24 October 2020

[9] Dena (2018), **Leitstudie Integrierte Energiewende**

Figure 2 Hypothetical German heat pump market evolution if growth rates from 2016 and 2017 persist[10]



Even though this may be an optimistic scenario, this could be supported by a pickup in renovation rates, set to receive a boost under the EU's Renovation Wave[11], a political priority under the EU Green Deal. This can be particularly relevant to Germany where a recently adopted act on improving energy efficiency remains weak, leaving much potential untapped.

All this will have a significant impact on Germany's energy relationships. Fossil imports will reduce, future energy imports may come from electricity or in the shape of green hydrogen; exports may come in form of technologies and services for the low carbon economy, if the EU manages to keep its technological leadership alongside US and China.

Significantly, the political and economic stability of many of the EU's neighbours is dependent on revenues from fossil fuel or fossil fuel-based exports to the EU (e.g. Russia and Algeria). A transition that fails to offer these countries an economically viable role in a new clean energy diplomacy could create more instability.[12]

[10] EHPA data, DENA, see footnote 8 and 9

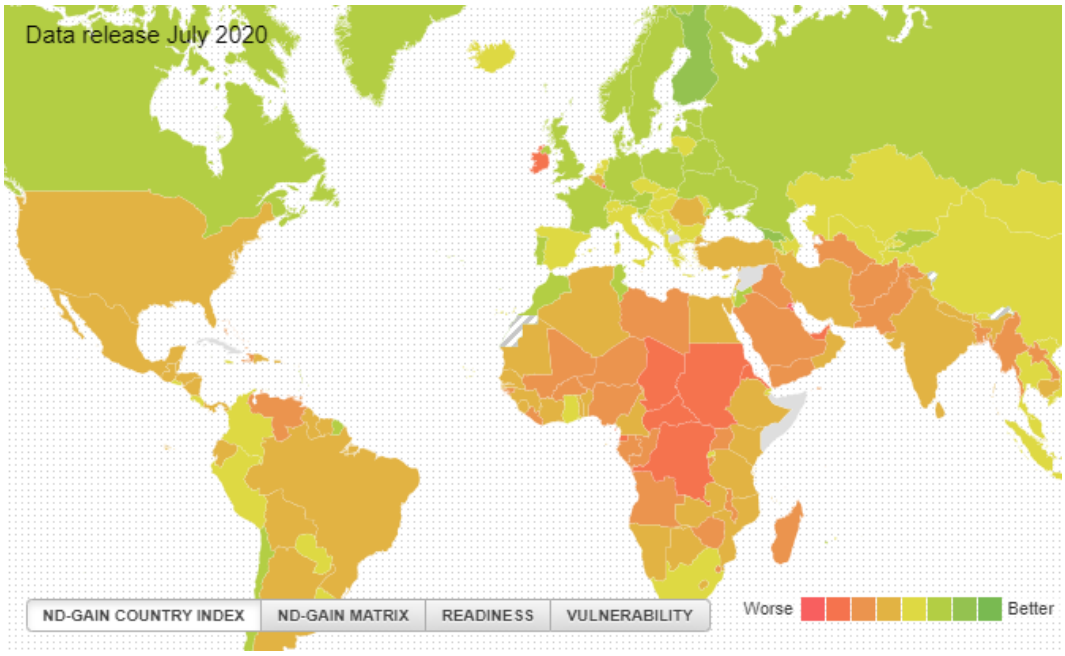
[11] European Commission (2020), **A Renovation Wave for Europe - greening our buildings, creating jobs, improving lives {SWD(2020) 550 final}**

[12] Adelphi (2020), **The Geopolitics of Decarbonisation – Reshaping European Foreign Politics**

Climate change as a maker of geopolitics and security

It is not only import markets shifting towards climate action that may destabilize fossil exporters. Two of the top four EU gas suppliers (Algeria, Qatar) are at elevated risk of instability from the impacts of climate change due to high exposure to the risks of climate change combined with low capacity to respond (*Figure 4*).

Figure 3 Vulnerability of countries to Climate Change (ND GAIN Country Index, adjusted for GDP, 2020)[13]



Many of the countries that are currently economically reliant on fossil fuel exports continue to invest heavily in fossil fuels, which increases their exposure to a reduction in global demand. Lastly, the impacts of climate change could restrict these countries' capacity to act on fossil fuel dependency given the need to spend more on reacting to and mitigating climate impacts.[14] And to make things worse still, cost of lending will increase dramatically as a result of climate change further restricting these countries options[15].

[13] **https://gain.nd.edu/our-work/country-index/,** accessed on 15 October 2020.
[14] Adelphi (2020), **The Geopolitics of Decarbonisation – Reshaping European Foreign Politics**
[15] UNEP, Imperial College Business School, SOAS (2020), **Climate Change and the Cost of Capital in Developing Countries**

Furthermore, the role of climate in international politics has changed fundamentally in the last decade. Recently, climate issues have shifted from being a taker of the prevailing geopolitical winds, driven by other issues such as security and trade, to be a force that is shaping geopolitics. China's decision to announce its commitment to carbon neutrality by 2060 immediately after a key EU-China high level engagement where the EU had asked China to consider such a commitment and ahead of the US elections, quickly followed by similar commitments from Japan, South Africa and South Korea, is testimony to this. And the commitment of US President-elect Joe Biden to re-join the Paris Agreement on day 1 of his Presidency and climate featuring in every single call he made to word leaders after winning the election are further confirmation. Already, the consequences of climate change, both climate impacts and climate policies, are at the heart of the national interest of countries across the world.

Choices for and impacts of a new energy diplomacy

Choice parameters: Speed and level of cooperation

Germany's, but also the wider EU's, current approach to Energy Diplomacy, as formulated for example in the European Energy Diplomacy Action Plan adopted in 2015[16] has centred around oil and gas interests, mainly to secure cheap supply**.** Some examples include:

- Oil and gas interests have been contributors to EU engagement in the Middle East and the EU's brokering of the Iran deal.
- Gas infrastructure provides a central link into Central Asian countries like Georgia and Azerbaijan, supported by German export finance[17].
- The EU supports the development of the East Mediterranean gas exploration and import infrastructure through its PCI process, muddled in geopolitical tension[18].
- Development of gas reserves and infrastructure are central to EU-Algeria and EU-Egypt relations[19].

[16] EU Foreign Affairs Council (20 July 2015), **Council conclusions on Energy Diplomacy**

[17] Euractiv (6 March 2018), **Germany provides €1.2 billion loan for Southern Gas Corridor**

[18] Euronews (13 August 2020), **Greece to request EU foreign affairs council emergency meeting amid tensions over Turkish drilling**

[19] European Commission (19 November 2018), **The European Union and Algeria strengthen their energy partnership**

- The $15 billion[20] gas deal oil major Total secured in Mozambique for the development of offshore fields is supported by the Italian export credit agency, and financial institutions with major European shareholdings, such as World Bank and IMF.

German and EU interests however have also diverged over the years. Germany's support for a second Nordstream pipeline, if completed, would lead to a significant increase in EU dependencies on Russian gas, undermining the EU's strategic interest.

Germany now faces the task to design an energy diplomacy that moves it from this ongoing focus on fossil resources to one that seizes the opportunities provided by the Green Deal, catches up with the rapidly declining costs and growing markets in new energy solutions and strengthens geopolitical stability. Developing scenarios helps to manage the geopolitical risks from this transition as for example done in 2018 under the German Foreign Office's Geopolitics of Energy Transformation 2030 project.[21] This assessed how global geopolitics will dictate the pace of the clean energy transition against 4 scenarios.

With climate diplomacy and clean energy becoming a geopolitical factor in its own right, we look at two variables that will determine what the impact of the transition to climate neutrality will be on multilateralism, Germany's standing in the global economy and stability in the EU neighbourhood:

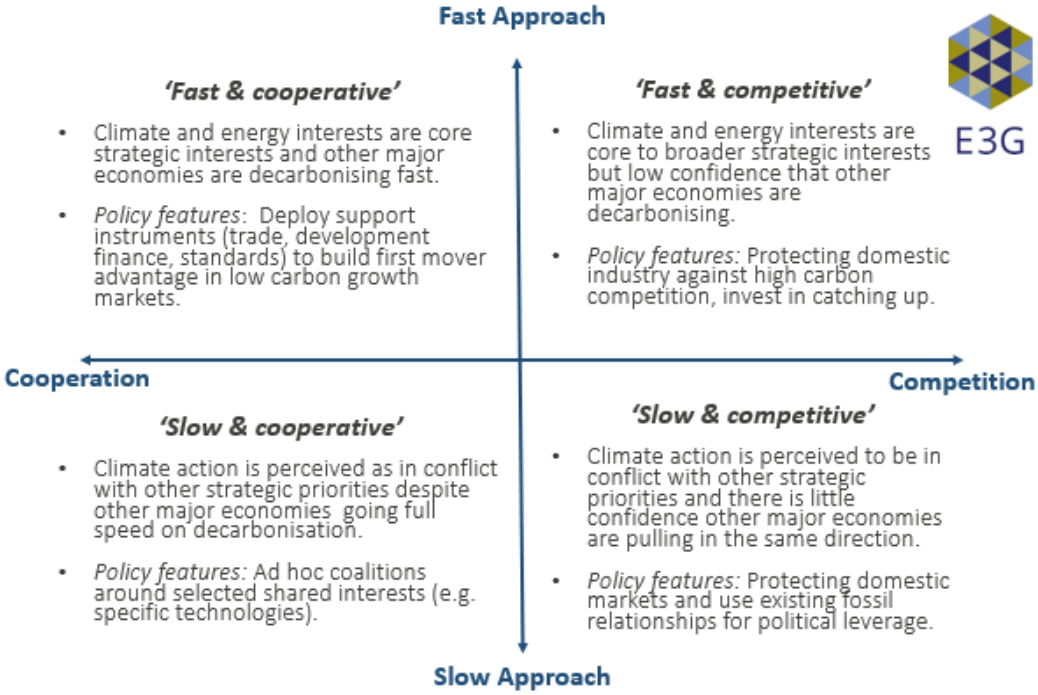
- The **speed** at which the alignment with European Green Deal objectives takes place. This is determined by political support in the EU for delivering on climate action and the extent to which existing energy relationships are considered central to other – aligned or conflicting – strategic priorities.
- The **extent of global cooperation** as an option available for alignment. This will be determined by broader geopolitical events and is manifested by the extent to which approaches based on increasing, globally shared rules are used versus trade barriers and more protectionist regimes.

This suggests four possible scenarios for alignment of EU energy diplomacy with Green Deal objectives.

[20] Reuters (17 July 2020), **Total signs $14.9 billion debt financing for huge Mozambique LNG project**

[21] How the Energy Transition will reshape global politics, Kerstin Westphal, Andreas Goldthau, May 2019, Vol569, Nature, 31

Figure 4 Four scenarios for EU energy diplomacy



In this paper we review two of those possible choices ('Fast & cooperative' & 'slow & competitive') as those with the starkest contrast. Each of these choices come with their own risks and opportunities which we analyse against the following three geopolitical priorities:

1) Impacts on the global multilateral system
2) Impacts on Germany's position in the global clean energy economy
3) Impacts on regional stability and security

Impacts on a transformed multilateral system

State of play

The continuous threat of an escalation of conflicts over gas is symptomatic of the world's multilateral rule-based system going through a process of change. During Donald Trump's time in power in the USA from 2016 till 2020, the EU had lost its core ally in the world's main multilateral institutions. And a new US administration may still be more competitive than pre-Trump in response to bolder plays from Russia and China. The latter two are increasingly asserting their role as global and regional power brokers. This has led a longer running conflict over power between the USA and China to escalate, for now, to a trade standoff between the two. At

the same time, competition between Russia and the US over the key gas import markets EU and China has intensified. This was triggered by a shale oil and gas production boom which transformed the US into a net fossil energy exporter and significantly increased the price pressure on Russia.

Against this backdrop, energy diplomacy can become a tool to shape cooperation or a tool for intensifying competition between major powers and other EU partners. Towards China, climate has emerged as a potential avenue of cooperation[22], with the EU successfully putting climate and coal on the agenda of the EU-China high level climate dialogue.[23] Meanwhile with Russia, trade in gas remains as an avenue of cooperation, having been excluded, in contrast to oil, from EU sanctions in response to its war against Ukraine[24]. But this cooperation is increasingly coming under pressure:

- Achieving domestic decarbonization requires a dramatic reduction in gas consumption. A shrinking EU market makes a highly diversified distribution of import sources while at the same time ensuring significant trade flows with Russia to maintain this as a political tool almost impossible. The prospect of fossil-based hydrogen imports is used to suggest this can be solved.

- European gas prices have decreased as a result of increasing US gas exports But as a second order impact, the EU is caught up between two major powers, using sanctions to interfere with infrastructure projects such as Nord Stream 2 (a doubling of pipeline capacity from Russia straight to Germany, circumventing Poland and Ukraine), and direct funding for gas infrastructure[25] in the EU that stands in contradiction to its climate targets. While the EU should theoretically have higher political leverage in a buyers' market, exporters US and Russia are investing heavily to lock the EU into additional demand. Whether the US under a Biden administration will now take a different approach remains to be seen.

[22] ECFR and E3G '**Climate Superpowers, how the EU and China can compete and cooperate for a green future'**

[23] E.g. recent cooperation on sustainable finance and EU Statement following EU-China Meeting. Responsible Investor (19 October 2020), **EU and China to co-chair international taskforce on sustainable finance taxonomies**

[24] European Commission, **EU restrictive measures in response to the crisis in Ukraine**, accessed on 2 November 2020

[25] US congress **resolution** of support for "Three Seas Initiative", an initiative aimed at boosting connectivity in Eastern Europe.

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Fast & cooperative: Risks and opportunities

In the scenario 'fast & cooperative', **the opportunity** lies in EU leverage gained through using energy diplomacy to underline the goals of the Paris Agreement**.** The Paris Agreement has emerged as a cornerstone of multilateralism. It continues to prompt conversations between major powers on setting goals, establishing joint rules and on mobilising climate finance. By setting the rules of the game for the world's transition to a low carbon economy, the EU can play a role in the multilateral system that will emerge from the current transition. China's announcement of carbon neutrality in response to the EU's outreach, quickly followed by similar announcements from Japan[26], South Africa and South Korea[27], has shown that this can work.[28] The EU's leverage within that system is high but relies on trust from other parties in the agreement – major powers and other partners. Unless energy diplomacy action is brought radically in line with climate action, this trust risks being gradually eroded.

A way to send this signal of alignment and build partnerships could be to follow up on the Finance Ministers conclusions from November 2019, which *"encourage the MDBs to adopt responsible investment policies and to phase out financing of fossil fuel projects"*[29],thus signalling the EU stands ready to reward high climate ambition with financial support that will improve capabilities of fossil dependent countries to share in the benefits of clean technology. Offering political cooperation and supportive low carbon finance may for example make a difference in the EU neighbourhood (such as the Western Balkans), offering an alternative to China's Belt and Road Initiative that more strongly aligns with EU values and objectives[30]. The EU's proposal for an Economic and Investment Plan of up to 9 billion EUR to support the economic recovery and convergence of the Western Balkan together with a set of guidelines to implementing the European Green Deal is a useful step in that direction[31].

A key risk to manage in this scenario is that accelerated climate mitigation objectives and the increasingly solid economics of renewables and efficiency could

[26] Climate Change News (26 October 2020), **Japan net zero emissions pledge puts coal in the spotlight**

[27] Climate Change News (28 October 2020), **South Korea formally commits to cutting emissions to net zero by 2050**

[28] Climate Change News (22 September 2020), **Xi Jinping: China will aim for carbon neutrality by 2060**

[29] EU Economic and Financial Affairs Council, **Council Conclusions on Climate Finance (8 November 2019**)

[30] The Diplomat (2019), **How China Challenges the EU in the Western Balkans**

[31] **EC Press Release**, 6 October 2020

erode German and EU gas demand even faster[32]. This means the existing diplomatic relationships with Russia and other fossil exporters will need to radically transform in a short space of time which could be perceived as a confrontative move. Irrespective of the perception of fossil exporters, it can increase the risk of a global low carbon divide between OECD countries and China leading the way in securing patents and ringfencing their clean tech industry[33].

This means that Germany's and the EU's approach needs to lie in reaching out with a broad offer of cooperation around low carbon development including low carbon technology transfer, financial support towards countries that would otherwise be at risk of remaining stuck in a fossil pathway. This would require identifying strategic areas of cooperation in the context of a low carbon economy and in support of a rule based international order.

Slow and competitive

In the scenario "slow and competitive", the **opportunity** lies in maintaining the political leverage that comes through existing energy interdependence. This would allow focussing on domestic decarbonisation first and instead use the EU's role as a major buyer of gas for other geopolitical matters. This opportunity will however be critically dependent on an EU willingness to deploy this leverage in the face of deteriorating geopolitical conditions. The fact that a termination of Nordstream2 in response to the poisoning of Russian opposition politician Nawalny did not make it into EU sanctions suggest this may not always be the case. Another way to use this leverage while also delivering climate action, would be for the EU and Germany to cooperate with other major gas buyers (China, Japan, South Korea) towards joint standards on imported gas to reduce methane leakage.[34] In this case, it would be important to reach out to those exporters with lower technical capabilities to quickly meet these new standards to avoid generating unnecessary political opposition and economic hardship.

The **risk** lies with the fact that this scenario would require a more abrupt transition later to still meet net zero emissions by 2050 at the latest. This could undermine trust in diplomatic alliances or, in some cases, make a conflict-free transition even more challenging then today as the capacity of fossil exporters to respond has

[32] "More than half of the renewable capacity added in 2019 achieved lower electricity costs than new coal, while new solar and wind projects are also undercutting the cheapest and least sustainable of existing coal-fired plants.", IRENA (2019), **RENEWABLE POWER GENERATION COSTS IN 2019**

[33] **The geopolitics of renewables, a new but messy world**, 22 January 2019, IASS

shrunk even further. As market forces accelerate the transition, the pace of the transformation may be harder for the EU to control. For example, for some countries, the gas transit infrastructure is currently a guarantor of EU support and protection (e.g. Georgia, Ukraine). To reduce the risk of their political realignment, the EU needs to build up new areas of political cooperation, e.g. in the area of low carbon technology. The new German-Ukraine energy partnership signed in August 2020[35] and focusing on building out renewable capacities, grid interconnections and phasing out coal is an important step in this direction. The EU will need to be equally careful in the way it will deploy carbon border adjustments (CBAs) as it could impact most of the current trade which is still in coal, oil and gas by ensuring it comes with a strong offer of support for Ukraine's low carbon transition and efforts to meet EU standards.

Another risk under this scenario lies with continued and increasing EU internal divisions over gas import projects. This undermined the EU's ability to speak with one voice, particularly important in a world of competitive geopolitics.

Figure 5: Summary of risks and opportunities for the multilateral system

	Slow & Competitive	Fast & Cooperative
Opportunities	Retains theoretical option of using political leverage over fossil exporters in current "buyers' market"	Strengthens EU partners trust in the EU's commitment to the multilateral climate regime.
Risks	EU divisions over gas projects (e.g. Nord Stream 2) risks EU unity; unexpected unravelling of energy costs may limit the EU's influence over an orderly transition.	A fast decline in gas imports could be perceived as a confrontational move by exporters.

Impacts on the position in a growing global low carbon economy

State of play

Germany's current energy foreign policy is driven by the need to provide cheap energy inputs to its energy intensive economy. 37% of energy use in industry (239

[35] Germanwatch Press Release (26 August 2020), **Energiewendepartnerschaft mit Ukraine ist wichtiger Schritt zur Umsetzung des Pariser Klimaabkommens**

TWh) was supplied by gas in 2018[36]. This makes an important contribution to the import bill of €24.3bn (2019) for all gas imports. [37] Yet, as electricity becomes cheaper and better circular economy chains increase resource efficiency, demand could reduce by between 20% and 80% till 2050 depending on the level of penetration of alternative gases such as green hydrogen[38].

Where "molecule" input is still required for high temperature heat processes, competitive pressure on Germany industry could be coming from low carbon front runners. High renewables potential in Southern Europe that could produce hydrogen at low cost may improve their attractiveness as industry locations.

Meanwhile, export markets in the low carbon economy are growing. Germany, and the EU, have strong industries in renewables, efficient cooling, insulation, and grids. These industries are set to grow globally. The Global Wind Energy Council for example expects that over 205 GW of new offshore wind capacity will be installed globally in the next decade[39]. A first estimate of the consequences of China's announcement of carbon neutrality by 2060 suggests this would require a massive ramp-up of renewable electricity generation over the next 40 years, including a 16-fold increase in solar and a 9-fold increase in wind[40]. Yet in 2019, more than 50% of German export finance still supported fossil fuels and over €7bn alone have gone to gas since the adoption of the Paris Agreement.[41]

To take advantage of the growing markets Germany - as well as other EU Member States - will therefore need to pivot its export and development finance to ensure its domestic clean energy industry can benefit from these developments. The question is whether it pursues the strategy of a first mover or of a follower. The approach chosen in turn has wide ranging impacts including on the EU's approach to patent rights, innovation spending and how to shape global trade standards.

Fast & cooperative: Risks and opportunities

In a fast and cooperative scenario, moving early opens the **opportunity** to leverage regulatory, diplomatic and financial powers to set global standards for the clean

[36] Umweltbundesamt, **Energieverbrauch nach Energieträgern und Sektoren**

[37] Budesamt fuer Wirtschaft und Ausfuhrkontrolle, **Erdgasstatistik**

[38] Umweltbundesamt, **Roadmap Gas für die Energiewende – Nachhaltiger Klimabeitrag des Gassektors**

[39] Global Wind Energy Council (2020), **GLOBAL OFFSHORE WIND REPORT 2020**

[40] Nature (19 Oct 2020), **How China could be carbon neutral by mid century**

[41] **https://www.agaportal.de/en/exportkreditgarantien/grundlagen/energiesektor,** accessed on 2 November 2020

energy revolution which in turn open export markets for the EU.

Influence through trade cooperation can be channelled through product standards; in manufacturing (e.g. on efficiency) and on services (e.g. sustainable finance) which has already been successfully deployed in the past. The sustainable finance agenda has shown how the EU turned moving first into global soft power.[42] Germany could support opening up export markets using high level energy and or trade dialogues with China, India, and African partners to establish these standards and by providing support to partners to help meet those standards through the European Investment Bank or technical assistance facilities such as GIZ. At the same time it will be critical to ensure that EU efforts to introduce a CBA or a similar instrument like product standards will be part of a broader set of approaches, including coordination on ambition, technology, standards, policy learnings and sustainable finance to help develop zero carbon industrial sectors in partner countries[43].

The EU could also use innovative approaches on post-COVID recovery as an accelerator for the global energy transition. Global cooperation on post-COVID recovery will involve a redefined role for the International Monetary Fund and European development aid. To this end, it could work towards redefining debt sustainability indicators in the context of the switch to clean energy, ensuring the long-term risk-reducing profile of green investments vis a vis fossil fuels is reflected.[44]

There is also an opening window of opportunity – 60% of the EU's long-term gas contracts are up for renegotiation in the next five to ten years[45]. Adapting these to the new economic realities with a shorter term and lower volumes would enable the EU to increasingly take advantage of low-cost renewables power instead.

Risks under this scenario could arise from a slower than expected growth in low carbon growth markets, in particular if other major economies would fail to follow the EU or China's next 5-year plan, as finally adopted, and would continue to focus on fossil fuels.

[42] E.g. it turned into cooperation with China and Canada.

[43] **The EU can't 'go it alone' on Border Carbon Adjustments,** Johanna Lehne, E3G, 2020

[44] South Africa's debt issues following overinvestment in fossil fuels by its energy company Eskom could provide insight into how environmental sustainability and economic sustainability are increasingly linked.

[45] ACER, **ACER Gas Market Monitoring Report**, presented at the 34th Madrid Forum, October 2020

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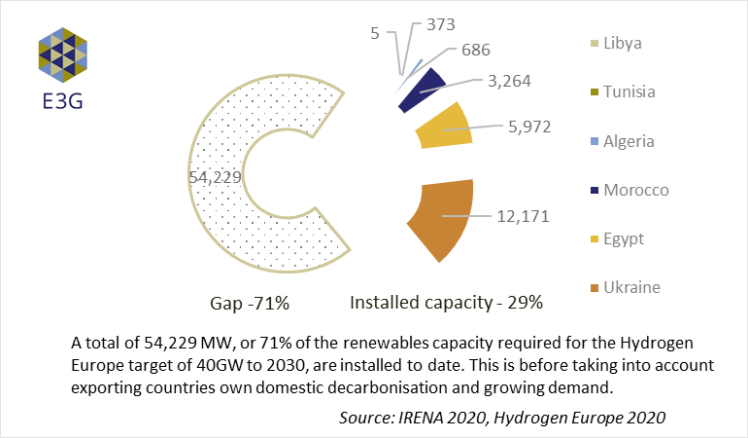
Another risk that could arise is geopolitical. In a recently published Foresight Study accompanying an Action Plan on Critical Raw Materials, the Commission expected to see consumption of materials like Lithium, Cobalt and Graphite to grow up to almost 60 times current levels in case of Lithium[46] with China currently dominated the market for rare earths. This may seem like a risk of replacing one dependency with another except that the EU has several options to significantly reduce and manage that risk. It can scale-up recycling infrastructure to minimise imports of critical raw materials (an option typically not available to reduce fossil fuel dependencies), build op strategic reserves and cooperate with other countries planning to develop their reserves of rare earths to mitigate against China using its market dominance against competitors.

Under this scenario, Germany will need to ensure its own fast transition does not undermine decarbonization efforts elsewhere. This could happen if demand for green hydrogen grows quickly, encouraged by demand led instruments, but growth in renewable electricity production globally does not keep pace. Green hydrogen imports in that case would just displace decarbonization efforts in the exporting country. For example, the German government expects that the country will only be able to cover 13% of its hydrogen needs in 2030 through domestically produced green hydrogen. For imports to be sustainable, exporting states must have domestic renewable energy generation capacities, or plans to develop these, that exceed their domestic energy consumption. That is currently far from being a reality: only one subnational entity, Tasmania, is currently aiming for a target of 200% renewables by 2040.

Closer to Europe, Algeria's recent announcement to install 4GW of renewables means a quadrupling of its existing capacity but leaves the country still far removed from being an export market for hydrogen (see *figure 6*).

[46] European Commission (2020), **Critical Raw Materials for Strategic Technologies and Sectors in the EU - A Foresight Study**

Figure 6 Renewables capacity (MW) installed compared to needs for 2030 Hydrogen Europe Plan



To address this risk hydrogen resources should thus be prioritized in Germany for sectors with little other options, as sustainably produced hydrogen at scale may not be delivered fast enough globally. And Germany should ensure that projects in which it is involved to export hydrogen back to Germany will not undermine efforts to decarbonise domestic power markets.

Slow & competitive: Risks and opportunities

Opportunities under a slow and competitive scenario would provide carbon intensive industries who have been slow to modernize with more time to catch up in the transition process and to benefit for longer from the export of existing fossil energy equipment. Carbon border adjustment mechanisms, provided that technical, political and legal hurdles to its introduction could be overcome, would be used to protect front runners within EU industry and revenues could be used to invest in more low carbon innovation. It would give the EU, at least initially, more control over onshoring certain industries. It may give the EU time to manage other key geopolitical interdependencies with the clean energy transition, in particular around currently highly contested digital technologies such as 5G which is critical to managing a more active role of consumers in a more decentralised energy system.

A second mover approach to clean energy deployment can, under specific circumstances, reduce costs in particular for R&D, as it allows you to learn from others. The EU is currently lagging on clean energy R&D[47], which may be aggravated by the crisis impacting firm cashflows. It may also allow the EU to focus on product quality, a technique for capturing market shares later on.

[47] European Commission (2020), **Report on progress of clean energy competitiveness** {SWD(2020)953final}

Given the vast, and still expanding gas import infrastructure into the EU[48], this approach could help to maximize the value of these assets, possibly until hydrogen becomes available at scale for imports and allowing for the necessary time for infrastructure modifications. Yet, the complexity of the hydrogen transition, the suitability of existing infrastructure to open sources of green hydrogen and the required adaptation of infrastructure is still poorly understood.

Risks under this scenario include the competitive disadvantage of others moving faster. For example, some countries may choose to use their competitive advantage as a producer of renewable hydrogen to develop industrial strategies and start exporting green steel and related value-added products. To mitigate this risk, it is key that the delay in action is indeed used to develop highly efficient green solutions. In addition, the EU may turn into a rules and standards follower, rather than a rules setter. If the transition of German industry and trade flows is instead done cautiously, with an accelerated curve later, the EU may end up in a weaker position in global trade negotiations having to meet standards set by other, most probably China.

The introduction and use of CBAs comes with another set of risks in itself. Apart from having to overcome major technical, legal and political hurdles, it comes with a risk of creating an international backlash and trade conflicts if it's not part of a broader package where cooperation is prioritised and partners are given an opportunity to implement the necessary measures to avoid paying.

While in theory gas infrastructure use can be "maximized", this may mean continuing to use gas where clean alternatives are already cheaper, ultimately having a higher transition cost. Renewable hydrogen at scale will only materialise if there is a visibility over demand for imports and engagement by the EU to support the build out of renewables. For example, the European Hydrogen Strategy references a target of 40 GW of electrolysers by 2030 in the Ukraine and North Africa - a plan set out by
Hydrogen Europe.[49]

This will require around 77 GW of renewable energy capacity by 2030, compared to around 22GW of renewable capacity installed currently[50]. To cater for the

[48] See for example CAN Europe (2020), **EU gas infrastructure does not need more subsidies**

[49] European Commission (2020), **A hydrogen strategy for a climate-neutral Europe**, COM(2020) 301 final

[50] Hydrogen Europe (2020), **Green Hydrogen Investment and Support Report**, Table 4

export capacity alone would require a tripling of renewables capacities in the next ten years in those countries. This is unlikely to happen without significant financial support by development banks for the expansion of renewables in those countries.

Figure 7: Summary of risks and opportunities for the position in a global low carbon economy

	Slow & Competitive	Fast & Cooperative
Opportunities	Preserving export value of domestic fossil technology for longer. Keep carbon cost low for energy intensive industries, giving them time to adopt "green technologies" when this is competitive.	Leverages EU standard setting power on clean energy solutions. Benefit from technological leadership and early market capture in multiple areas.
Risks	Potentially losing low carbon competitiveness and becoming a rules taker in global trade negotiations.	Major economies don't follow and China 5-year plan disappoints leading to slower growth in clean energy markets than expected.

Impacts on stability in the EU and its neighbourhood

State of play

Energy policy has increasingly become intertwined with both the EU's internal policy and as an instrument for foreign policy. Energy projects are used or threatened to be used as part of sanctions regime for human rights breaches (e.g. Nord Stream 2[51]) or as a proxy for territorial disputes (Eastern Mediterranean gas reserves[52]).

EU Member States struggle to find a unified approach around gas which acts as a barrier to a more competitive and united EU foreign policy. The politics of gas are becoming increasingly complex and caught up with geopolitical competition between the US and Russia. Revenues from gas deals are concentrated largely in authoritarian regimes, some of which use them to finance disinformation

[51] Euronews (25 September 2020), **Navalny poisoning leaves Nord Stream 2 pipeline's fate in the balance**

[52] Financial Times (8 September 2020), **What is at stake in the eastern Mediterranean crisis?**

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campaigns[53] or actual military interventions in the Middle East such as Russia and Iran in Syria and Iran and Saudi Arabia in Yemen.

Energy is also used as a foreign policy tool by China to exert increasing influence over the EU neighbourhood – for example the Western Balkans - through its Belt and Road Initiative. Its funding of strategically important energy projects means it is often deepening fossil fuel dependence right at Europe's doorstep.

Joint infrastructure projects and energy cooperation can bring stability benefits, but recent evidence suggests investing economic and diplomatic assets into gas projects can quickly unravel and needs to be carefully considered. This comes as the energy transition offers new options for cooperation, for example around High Voltage Direct Current Cables[54], which can bring more sustainable solutions from both an environmental and a stability point of view.

Fast & cooperative: Risks and opportunities

The **opportunities** of taking a fast and cooperative approach include that climate impacts, which are already getting more significant inside the EU and its neighbourhood can be reduced and better managed. To do that successfully, the EU will need to strengthen its global analysis of strategic climate related risks. Germany has championed climate security as a topic at the UN and should now turn to building up and integrating climate security risk analysis when engaging with its neighbours – be it on risks to food supply, spreading of diseases or health risks through heatwaves. This would need to be supported by a network of climate and energy diplomacy officials embedded in its embassies that can leverage the synergies from climate and energy diplomacy.

Resources can be concentrated on building new partnerships that are central to low carbon supply chains and developing markets. This could for example be achieved through technical cooperation and dedicated, competitive funds that would accompany the EU's connectivity strategy[55] and be either conditional on net-zero or high renewables plans or offering more attractive finance conditions for higher ambition.

[53] Carnegie Europe (2020), **Russia's Long-Term Campaign of Disinformation in Europe**

[54] **What does the future hold, pipelines or cables?** Mehmet Öğütçü and Julian Popov, July 6, 2015

[55] European Commission (2018), **Connecting Europe and Asia – Building Blocks for an EU Strategy**, JOIN(2018) 31 final

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This would not only export German expertise but also create jobs and increase welfare in the target regions acting as an investment into more stability. Decoupling population and economic growth from energy use by supporting energy efficiency and efficiency in cooling can make energy more affordable in neighbouring regions, where energy is often a significant share of the public budget and individual household bills. Efficient cooling is key to agricultural exports and medical supplies – and thus of interest to many EU neighbours (e.g. Turkey and Morocco as significant agricultural exporters) – but also to help EU neighbours adapt to climate change itself. Experience in MENA countries with large district cooling can make for an important partner in knowledge exchange and trade. EU countries like Denmark, France and Italy have already been quick to identify the importance of sustainable cooling for the world's energy transition with Denmark, France, Spain, Hungary, Belgium and Poland being a member of the UNEP hosted Cool Coalition[56].

Lighthouse projects such as the North Seas Offshore Grid could offer learnings for similar projects in the Black and the Adriatic Sea – involving countries in the Western Balkans but also Georgia, Turkey or Ukraine. Germany's GIZ and KfW could both be instrumental in initiating a project pipeline through technical cooperation and early stage concept funding. Cooperation with initiatives like India's One Sun, One World, One Grid Initiative, which seeks to establish a single, globally connected electricity grid, provide opportunity to expand European technological leadership in High Voltage Direct Current Cabling[57].

The impact on regional stability with regards to fossil exporters and transit countries is more complex. The opportunity in relation to this is that the currently ongoing interference with EU internal affairs by the US and Russia, among other things as a result of competition over a declining EU gas market, may dwindle in favour of orientation towards other export markets. This loss of income from gas imports will also, in the long term, reduce Russia's ability to finance the military interventions in the EU's neighbourhood, a major source of instability.

The related **risk** primarily lies in the possibility that a fast transition away from fossil imports could destabilise these economies in the short term – public budgets of e.g. Algeria and Russia are heavily dependent on fossil fuel revenues. Both countries social contract depends on those revenues, manifesting itself in subsidies for housing, public sector employment and energy costs.

[56] https://coolcoalition.org/about/history/

[57] IEEFA India (12 June 2020), **Prime Minister Narendra Modi's new 'One Sun One World One Grid' vision positive**

In addition, some countries may try to put even more of their last resources into avoiding these outcomes, sowing disunity in the EU and trying to slow ambition. It is key that to mitigate the risks of this scenario the EU would need to strengthen its internal unity around energy diplomatic decisions and to build the necessary new global partnerships to present a strong counterbalance to an increasingly volatile relationship with existing fossil exporters.

Slow & competitive: Risks and opportunities

The main **opportunity** of taking a slow and competitive approach lies in possibly avoiding a short-term escalation of confrontation caused by existing gas suppliers. This time can be used to build up the currently lacking strategies for the cooperation with fossil exporters in the transition.

These are required to manage the **risk** of a disorderly transition later on when steeper emission cuts will be needed in order to still achieve zero emissions by 2050 at the latest. This will be an escalation likely happening at a time when climate impacts will have significantly worsened because of a slower decarbonization pathway limiting countries' resilience further.

It is also important to highlight that this approach so far has been rather ineffective. The EU has been struggling to develop a comprehensive approach to Turkey's defiance of international rules in the East-Med gas field[58]. Although the conflict between Greece and Cyprus on the one hand and Turkey on the other long predates the current tensions, it was the discovery and development of gas fields in Cyprus waters that escalated the situation. And the EU's current involvement in the conflict, having included the proposed East-Med pipeline foreseen to transport new discoveries to the European market in its list of Projects of Common Interest under its energy infrastructure planning, has made it a party to a conflict where it is struggling to advance its interests.

Another example is Germany's response to the pressure from the US and Russia to build more import infrastructure such as Nord Stream 2 and Liquefied Natural Gas Terminals.[59] Nord Stream 2 is facing unprecedented US sanctions and protests from European partners and has cost Germany a lot of diplomatic capital. Germany's offer to the US of up to €1 billion of support towards construction of

[58] https://carnegieeurope.eu/2020/07/30/new-power-struggles-in-mediterranean-pub-82403

[59] Wilhelmshaven, Brunsbüttel, Rostock, Stade

two LNG terminals in return for lifting sanctions on Nord Stream 2[60] suggests that Germany is running out of good options under its current approach.

Figure 8: Summary of risks and opportunities for stability in the EU neighbourhood

	Slow & Competitive	Fast & Cooperative
Opportunities	Avoids short term destabilization in partnerships with fossil exporters.	A more diversified set of global cooperation. Stability through investments that are job-intense and improve welfare and resilience.
Risks	Faster acceleration of climate related security risks compounding with the need for even faster reduction in fossil fuel imports later.	Potentially short term increased external interference given US and Russian interests in EU market.

Three steps towards an adaptive and mission-oriented energy diplomacy

A revised energy foreign policy will need to equip Germany with the capacities, partnerships and alliances that can adapt to the geopolitical winds of cooperation or competition and can manage the associated risks and opportunities. Crucially, it will require Germany to better coordinate its policy with its EU partners in order to make use of the EU's global weight as a regulatory power. It will also need to build a catalogue of energy diplomatic tools that can be deployed to support the Green Deal transformation.

The following three steps will be essential for both Germany and the EU for an adaptive energy diplomacy that can manage different geopolitical scenarios while driving the European Green Deal forward. Depending on the expected pace, they may come in different prioritization/chronological order, but all of them are critical to success:

Development of institutional capacities

Institutional capacities of both German and European energy diplomacy need to

[60] Financial Times, **Germany offered €1bn for gas terminals in exchange for US lifting NS2 sanctions**, 16 September 2020

be strengthened and realigned towards European Green Deal objectives.

- A renewed energy diplomacy should be consistent with a pathway to climate neutrality by 2050 at the latest and actively promote it. A set of general principles over what this involves, to enable a consistent, transparent and confident EU country-by-country diplomatic approach will need to be developed. Establish regular reviews of this alignment, including all Member State efforts, as part of the EU State of the Energy Union or Foresight reports, feeding into the broader State of the Union assessment.
- Anchor energy diplomacy as part of a Green Deal Diplomacy team that can connect to the wide range of skills required. This new team needs to be developed and embedded in embassies and missions. They should act off the basis of integrated climate and energy security assessments of EU's neighbourhood and identify options of energy policy to contribute to reducing risks for example through investments in efficient cooling.
- Identify strategic low carbon supply chains as a basis for deepened global cooperation. This could take the form of formal clean energy partnerships covering technology transfer, support for compliance with EU standards, and development of new resources.

Build new energy alliances

In order to create resilient partnerships and close the global low carbon divide new energy partnerships need to be developed and existing ones revised.

- Assess external EU energy infrastructure developments in light of climate neutrality. Avoid limiting future options by deepening fossil fuel projects/relationships further. Instead, review existing fossil infrastructure expansion plans such as Nordstream2 and Eastern Mediterranean explorations and focus on creating new choices and alternatives that will strengthen the EU's bargaining power in the long term through clean energy cooperation.
- Engagement with initiatives that are aligned with EU Green Deal objectives and offer the opportunity for EU technology leadership such as India's One Sun, One World, One Grid Initiative (OSOWOG).[61]

[61] https://reneweconomy.com.au/the-one-sun-one-world-one-grid-vision-from-indias-narendra-modi-80390/

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- Use the EU-China high level climate dialogue and planned summit to address China's continued investment in new fossil energy infrastructure and develop a joint 'fossil-disarmament' plan to include a timely retirement of coal plants and cooperation, eliminating all export finance to fossil infrastructure and on curbing methane emissions of gas imports.
- Start strategic dialogues with fossil exporting countries on a transition that builds stability (e.g. Algeria) in a world of reducing fossil demand, looking at different scenarios of speed of transformation in line with the Paris Agreement. This should build on EU leadership at home, by drawing up plans for a phase out of the EU's own fossil fuel production and come with an EU offer for support (e.g. similar to the expansion of the domestic Coal Regions in Transition Platform for the Ukraine and Western Balkans) for working towards this. This could include bilateral dialogues to share lessons learned on removing barriers to the transition in fossil fuel dependent regions, engagement on projecting and restructuring government income in a 1.5°C degree world and identifying opportunities for future trade and cooperation. EBRD could become a strategic partner with its strong expertise in economic transition processes.
- Diplomatic outreach towards fossil exporting countries could build on and complement the work done by the Powering Past Coal Alliance, led by the UK and Canada and where Germany is also a member, to more strongly promote the coal to renewables transition to avoid coal to gas switching.

Strategic use of public finance and other instruments

Public finance and other instruments need to be mobilised for a managed transition and in support of global economic cooperation in clean technologies.

- Develop instruments that instil a "race to the top" in decarbonization by other nations. For example, develop a competitive fund for projects that support the EU's connectivity strategy, the higher the climate performance the higher the share of concessional financing.
- Build resilience to the climate transition into economies across the globe by prioritizing smart and sustainable energy systems in the context of developing recovery packages and mechanisms for debt restructuring.
- The EU could work with public finance institutions (development banks, export credit agencies) and the Network for Greening Financial Systems to develop instruments towards restructuring public finances to reduce fiscal exposure to fossil fuel price swings (e.g. for fossil producers).

- A clear, Paris-aligned timeline for phasing out fossil fuel subsidies of Export Credit Agencies and Development Finance Institutions with EU shareholdership. Germany, often the EU's largest shareholder can ensure this money is instead directed at increasing clean energy exports and supporting a managed transition for fossil fuel producers towards new, Paris aligned public revenues. Within this, Germany's KfW should update its approach to ensure European DFIs send an aligned signal on EU priorities.
- In a scenario of competition, the importance of using Carbon Border Adjustments or an alternative instrument such as product standards increases. In order to avoid feeding into more competition, efforts to reach out and cooperate matter even more. Extending the coverage to include methane would turn this into a tool that can also support the phaseout of unabated fossil gas.[62]

[62] E3G (2020), **Navigating the politics of Border Carbon Adjustments**