

# What Role for a Climate Club under the German G7 Presidency?

## Options and Recommendations for a Climate Club

Policy Brief

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### Recommendations

- 1 Both the EU and the G7 will re-evaluate their energy policy priorities in light of Russia's invasion of Ukraine. A climate club can help to ensure that the transformation to climate neutrality remains central to this endeavour: independence from imported fossil fuels is not only compatible with climate neutrality but must be seen as tantamount.
- 2 A climate club based on minimum or uniform carbon prices remains politically elusive, technically challenging, and its benefits doubtful. The German Presidency should not waste precious political capital on such high-risk, low reward initiatives.
- 3 Sectoral, industrial decarbonisation alliances that focus on catalysing the transformation of industry have large potential and prospects for political success.
- 4 A green hydrogen alliance, based on a common market with uniform standards for green and sustainable hydrogen may prevent fragmentation and correct market failures that dampen the scale up of green hydrogen supply.
- 5 A climate club should come with increasing support for developing countries through enhanced technical and technological cooperation and additional climate finance.

## Introduction

The German government has made the formation of an “ambitious, bold, and cooperative” climate club a priority of its G7 Presidency.<sup>1</sup> This push for a forum of ambitious states that agree on accelerating climate action with a range of measures including “uniform standards for the emission and pricing of CO<sub>2</sub>” follows earlier proposals by then finance minister Olaf Scholz in Summer 2021.<sup>2</sup> It is moreover part of the coalition agreement of the German government which lists an “initiative open to all states to establish an international climate club with a common minimum carbon price and uniform carbon adjustment mechanism” as one of its key priorities for international climate action.<sup>3</sup>

Climate clubs have repeatedly been floated by academics, think-tankers and policy-makers as a mechanism to accelerate international climate action.<sup>4</sup> While the exact concept of a climate club is a matter of debate, it can be broadly described as a forum that brings together a limited number of like-minded jurisdictions that focus on a small number of (linked) issues. Climate clubs are thus not as comprehensive and universal as existing multilateral frameworks like the UNFCCC. They are sometimes described as alternatives to comprehensive multilateral frameworks,<sup>5</sup> but in fact can be important complements, improving the existing multilateral climate regime, rather than supplanting it.<sup>6</sup> Actually, the UNFCCC and especially the Paris Agreement, with its bottom-up logic, is premised on inter-governmental climate action outside its formal framework that strengthen the multilateral climate regime.<sup>7</sup>

Since the German government drew up its agenda for this year’s G7 summits, the world has changed in profound ways.

Russia’s war of aggression against Ukraine has resulted in a fundamental geopolitical shift with far-reaching implications for energy and climate policies in particular. Policy priorities and agendas among the G7 and beyond have legitimately shifted to respond to the international security threat and the humanitarian crisis unfolding in Ukraine. Likewise, energy security is a major concern, and quicker independence from fossil fuel imports as a key objective of energy policy. Finally, the act of aggression itself is also an attack on the rule-based international order and the structures of multilateral cooperation. But while the G7 will rightly need to focus on the immediate fallout of the war, its response must be aligned with the longer-term goal of transforming the G7 economies to climate neutrality.

For numerous reasons, Europe needs to reduce its dependence on Russian fossil fuels, especially gas. Accelerating climate action, especially the rapid deployment of renewable energy sources, energy efficiency in heating and industry and the electrification of heating will reduce Europe’s dependence on Russian fossil fuels, improve energy security, *and* contribute to mitigating climate change. Doubling down on climate protection therefore must be part of the response to the current situation and will improve Europe’s security – energy and otherwise – in the medium to long-term. By contrast, Europe must avoid measures that risk further lock-in into fossil-based value chains.

Given all this, Germany would be ill-advised to ditch its climate club efforts at the outset, since it can help accelerating international climate action with all its strategic co-benefits. This policy brief discusses different options for a climate club or similar intergovernmental initiatives. In the first part, we define a climate club and describe some key characteristics by which one can differentiate

<sup>1</sup> German Presidency, 2022

<sup>2</sup> BMF, 2021

<sup>3</sup> SPD et al., 2021, p. 26

<sup>4</sup> E.g., Bierbrauer et al., 2021; Nordhaus, 2018, 2020; Tagliapietra & Wolff, 2021

<sup>5</sup> e.g., Nordhaus, 2020

<sup>6</sup> Brandi & Jakob, 2022

<sup>7</sup> Hale, 2020

intergovernmental initiatives. In the second part, we propose possible forms of cooperative action that can advance global climate action and that go beyond carbon pricing. In the last part, we consider how a climate club can be made ‘open’ and ‘cooperative’ and spell out some general recommendations in light of the current political situation.

## What is a Climate Club?

The idea of a climate club is commonly associated with the economist William Nordhaus<sup>8</sup> in the academic literature but goes back to at least the 1990s.<sup>9</sup> A club is meant to address a problem that cannot be solved by individual countries alone, but that requires some form of collective action. Nordhaus proposed it as a mechanism to enhance collective action on climate change, as an alternative to the UNFCCC process. There are three features that define Nordhaus’ climate club, which can help us understand what a climate club is. First, there are formalised rules of membership. In Nordhaus’ proposal they are structured around an “international target carbon price”, i.e., all member nations must have comparable carbon pricing mechanisms that impose an agreed-upon minimum carbon price. Second, non-members can be sanctioned. In the original proposal, this is achieved through a common external border tariff against non-members. Third, as a result of the first two aspects, there is a tangible benefit, a so called ‘club good’, and thus incentive for members to join. In this case, the absence of the border tariff among club members.

While some argue that the defining feature of a climate club must be a “club good” from which non-members can be excluded, there are broader definitions of climate clubs. Hovi et al., for instance, describe any actor group with fewer members than the UNFCCC and that aim to cooperate on climate a ‘club’. It should be noted that this

expansive definition would fit almost every intergovernmental climate initiative other than the UNFCCC. Calling initiatives ‘alliances’ or ‘coalitions’ may be conceptually clearer and politically more appropriate in some cases as these terms do not come with the baggage of being perceived as ‘exclusive’ arrangements.<sup>10</sup> In this policy brief, however, we take a more pragmatic approach and use the terms ‘clubs’, ‘coalitions’, or ‘alliances’ interchangeably to describe any intergovernmental initiative with a clearly identifiable purpose and rules of membership. This may not be as conceptually coherent but seems to be politically appropriate given the German government’s expansive definition of a ‘climate club’.

Intergovernmental initiatives can be differentiated along two core dimensions:

- 1 First, the degree to which there are formalised, binding rules of membership: what are the criteria that prospective members must fulfil to join the club? These can range from explicit and legally binding requirements, e.g., on a minimum carbon price at one end of the spectrum, to the voluntary commitment to some objectives, e.g., a pledge, on the other. Generally, the more formalised and binding the rules are, the more difficult it will be to find political agreement, the more integration with domestic legislation is required, and the higher are the barriers to entry.<sup>11</sup> A climate club based on a minimum carbon price, for instance, would likely require a treaty among members and procedures for the case of non-compliance. Other initiatives have less demanding requirements and thus lower barriers to entry.
- 2 The second dimension is the extent to which the club generates a tangible benefit to members – and thus an incentive to join. Benefits from which non-members can be excluded are

<sup>8</sup> Nordhaus, 2015

<sup>9</sup> Aldy et al., 2003

<sup>10</sup> Vangenechten & Lehne, 2022

<sup>11</sup> Falkner et al., 2021

called ‘club goods’. Such club goods may be the preferential access to markets for club members or the absence of sanctions. By contrast, benefits from which non-members cannot be excluded are referred to as ‘public goods’.<sup>12</sup> Most initiatives may generate a mix of both.

The mix of benefits and membership requirements determines the incentive for countries to join an initiative. Large benefits, in the form of club goods, may come with large costs that potentially stem from fulfilling the requirements of membership. Some countries will find it easier to fulfil aspects of membership than others (e.g., those countries that already have a carbon price in place). While a price-based climate club has tangible benefits, fulfilling the membership requirements can imply a loss of sovereignty, investing considerable political capital domestically, passing domestic reforms, etc. Moreover, the more formalised and binding the rules are, the harder it becomes to find agreement among actors with heterogeneous interests. Rising costs will reduce the potential membership of the club or may prevent it from being established in the first place. Initiatives that have less stringent and formal membership requirements may also have fewer tangible benefits, but the barriers to entry are also much lower.

Intergovernmental initiatives can take many different shapes and forms.<sup>13</sup> Various different initiatives already exist. For example, at COP 26 in Glasgow last year, a normative coalition was initiated with the launch of the Methane Pledge,<sup>14</sup> where participants agree to take voluntary action to reduce methane emissions by at least 30% globally by 2030. Another example is the Carbon Neutrality Coalition, whose members pledged to develop climate-neutral

development strategies.<sup>15</sup> There are also bargaining coalitions that agree on common negotiating positions in the UNFCCC process.

It is one of the greatest advantages of alliances or clubs to concentrate on a small number of (connected) issues. This allows negotiations to focus on specific areas, where finding common ground is possible among actors with heterogeneous interests. It potentially also makes joining the club or alliance for prospective members easier, since the requirements for membership will span fewer issues. The German proposal, while stressing the centrality of carbon pricing, lists a diverse array of different issues to be tackled by its climate club, including green hydrogen, public procurement, and standards. Considering that agreeing on a number of very diverse issues reduces the prospects of success, **the German Presidency should identify areas of priority and try to advance alliances on each of them in relative isolation from another.**

The following section will discuss different alliances or clubs and juxtapose them to the classic Nordhaus climate club proposal. It will weight their advantages and disadvantages against the backdrop of the current political context and provide some guidance for potential initiatives at this year’s G7.

## Club Options

### A Climate Club based around a Common (Minimum) Carbon Price

The initial idea of a climate club, as formulated by William Nordhaus, is built around a minimum carbon price established by its members, and border tariffs levied against non-members.<sup>16</sup> Such a climate club could be an important steppingstone towards a uniform carbon price across major emitters,

<sup>12</sup> Additionally, there are plenty of local benefits associated with fulfilling one’s international obligations. Phasing out coal, for example, results in cleaner air, potentially more affordable electricity, new jobs in clean industries, etc.

<sup>13</sup> See Falkner et al., 2021, for a typology

<sup>14</sup> <https://www.globalmethanepledge.org/>

<sup>15</sup> <https://carbon-neutrality.global/>

<sup>16</sup> Nordhaus, 2015

and ultimately a joint carbon market, which has long been advocated as the economists' ideal solution for efficient and effective climate protection.

A price-based climate club has formalised, binding rules and some form of contractual arrangement among its members, including sanctions for non-compliance. Decidedly, **it is an exclusive arrangement**, one chief function being the sanctioning of non-members. Nordhaus proposed it explicitly as an alternative to the UNFCCC and a solution to free riding. Yet it is unclear if a climate club in this narrow sense can induce more climate action and strengthen the international climate regime for several reasons.

Firstly, a climate club built around carbon pricing could remain limited in size, and thus also in impact. Members of such a climate club would have to have implemented a domestic carbon price first. Within the G7, the EU countries and the UK have national carbon prices. Canada and the US have partial carbon pricing systems. At state level, Japan only at the level of two municipalities. Beyond the G7, while the number of carbon pricing systems is growing, it remains limited (China, South Korea, Mexico, Chile, New Zealand).<sup>17</sup> Some countries have notoriously struggled to reach political agreement on carbon pricing at the national level, most notably in the US and Australia. A climate club built around a common carbon price could alleviate some concerns – e.g., around the loss of competitiveness. However, domestic distributive politics remain one major barrier to the introduction of carbon prices or their reform, that a climate club is unlikely to overcome.<sup>18</sup>

Secondly, even when countries decide to implement a carbon price, agreeing on comparable standards, including a common minimum carbon price, presents another practical challenge. There is large diversity

in carbon pricing among the G7 and beyond (see Table 1 in the appendix for an overview). Whether carbon prices in two countries present a comparable constraint on emissions is not only a function of the level of the price itself – there are several other parameters that need to be considered. This includes the scope of the system (which industries and emitters are covered), in the case of emissions trading system the rules for free allocation (or other exemptions and support measures), transparency and the stringency of compliance, etc. Reaching consensus on these issues will require time and substantial political will. It might also imply domestic reform of carbon pricing systems, which usually are delicate political compromises that should be handled with care.

Thirdly, a flat-rate tariff against non-members will likely violate WTO principles. If non-members put retaliatory measures in place, there would no longer be a club good, and the approach fails. Consequently, the WTO would have to give consent for the club and forbid any retaliatory action – an unrealistic scenario at present. The alternative, a more targeted border adjustment, would have to be closely aligned with the respective carbon pricing system of each club member to ensure WTO compliance, which will make agreeing on a common system that fits all club members technically and politically very difficult. In the end, enacting unilateral border adjustments will be much easier.

Others do not argue for climate clubs primarily as a vehicle for more climate action but propose it as an alternative to the EU's CBAM.<sup>19</sup> However, as is argued in Box 1, a climate club is not a credible substitute for the EU's CBAM.

<sup>17</sup> To complicate matters further: if a climate club is to provide effective protection against carbon leakage, it matters to which economic sectors the carbon price is applied – and in particular whether it covers energy-intensive and trade-

exposed industries. If this criterion is applied, the list of countries shrinks even further.

<sup>18</sup> Aklin & Mildenberger, 2020

<sup>19</sup> e.g., Bierbrauer et al., 2021; Okonjo-Iweala, 2021

## Box 1. Climate Clubs and the EU CBAM

Climate clubs and carbon border adjustments are sometimes discussed in the same breath. What is the relationship between climate clubs and border adjustments? And what does the German Presidency's push for a climate club mean for the EU's CBAM proposal?

As argued above, the original climate club proposed by Nordhaus includes a sanctioning mechanism against non-members. A CBA could fulfil this function: club members would agree to exempt each other from the application of a CBA and agree to apply a CBA to trade with non-members. Nordhaus proposed a moderate flat-rate tariff. More targeted CBA's may be possible but are technically complicated as they would need to be tailored to the respective carbon pricing system of each member country. In any way, border adjustments are an integral part of climate clubs that are based on carbon pricing – they generate the club good.

Critics see a risk for the global rules-based trading system as a consequence of unilateral CBAs (e.g., Bierbrauer et al., 2021; Okonjo-Iweala, 2021; Parry et al., 2021). Trade partners may enact retaliatory action against the introduction of CBAs and file complaints at the WTO. Therefore, critics of unilateral border adjustments propose climate clubs, through which the participating jurisdictions agree on minimum carbon prices and enact CBAs in a coordinated way. There are indications from the German government that these considerations partially motivate their proposal for a climate club. So, could a climate club be an alternative to the Commission's CBAM proposal?

In the long run – perhaps, in the short run – no. As argued above, there are high political hurdles for an ambitious climate club to emerge. Currently, only the EU, the UK, South Korea, New Zealand, some US states and some Canadian Provinces apply a carbon price on industry emissions. Getting enough major emitters to implement a domestic carbon price that applies to industry, and demonstrated their ability to enforce compliance, will take years if not decades. Even then, the challenge remains that the resulting carbon prices are likely to diverge strongly, as they have been in the past (Sartor et al., 2022). For these reasons, a climate club with a unified (minimum) carbon price would be a long-run aspiration rather than a short-term alternative to the CBAM proposal.

Can a climate club be a complement to the EU's CBAM? This depends on what one understands a climate 'club' to be. A forum that cooperates on carbon pricing and border adjustments in informal ways can surely be complementary to the EU CBAM. Likewise, industrial decarbonisation alliances can be complementary to CBAM, although they may require greater coordination to align different border measures. When it comes to a climate club in the narrow sense, however, i.e., one based on uniform minimum carbon prices, the EU's CBAM will likely need to be amended in order to align it with the specific requirements of the climate club so to generate the club good to all members.

However, there is a risk that arises from tying up the German Presidency's effort to establish a climate club with the EU's efforts to establish a CBAM. Giving concessions on CBAM to partners in the G7 to find compromise on a climate club would risk politicising the Commission's efforts. Agreeing to, for instance, not applying CBAM to the US or taking into account non-price measures without extending these to all other trade partners would imply discriminating on grounds other than the carbon intensity of the imports – a likely violation of WTO principles. **Consequently, the German Presidency should not tie up the EU's CBAM proposal in its effort to initiate a climate club.**

## Informal Cooperation Around Carbon Pricing and Border Adjustments

Short of a formal Climate Club, with a mandatory domestic carbon price as a precondition for membership, **there is ample scope for enhanced cooperation around carbon pricing and energy taxation among G7 and G20 nations.** Carbon pricing remains a necessary but not sufficient tool for decarbonisation and last year, in the Carbis Bay Declaration, G7 leaders underlined the importance “of a fair and efficient carbon pricing trajectory to accelerate the decarbonisation” of their economies.

While a global carbon price remains elusive for the time being, there is increasing interest in domestic carbon pricing in numerous countries. Voluntary cooperation over carbon pricing has long been supported by initiatives such as the International Carbon Action Partnership (ICAP),<sup>20</sup> the World Bank Partnership for Market Implementation (PMI),<sup>21</sup> or the Carbon Pricing Leadership Coalition (CPLC).<sup>22</sup> But scope for greater cooperation, coherence, and ambition remains.

Possible areas of technical coordination includes continued monitoring of carbon pricing, energy taxation, and fossil fuel subsidies, common standards with regards to metrics and indicators to measure carbon footprints, dialogue about necessary carbon pricing levels and the distributional impacts of carbon prices, and the risks of continued divergences in carbon pricing levels.<sup>23</sup> This cooperation could be formalised into an OECD initiative, which may be modelled on the OECD inclusive framework on Base Erosion and Profit Shifting, which contributed to reaching a global tax deal last year.<sup>24</sup>

Additionally, two key aspects merit particular attention by the G7. First, unilateral carbon border adjustments (CBAs) will create and already are creating diplomatic

tensions. The risks of retaliatory action or WTO complaints in response to the EU’s proposed CBAM are very real and would also apply to climate clubs. At the same time, there is risk of fragmentation, as different countries devise individual border adjustment mechanisms.<sup>25</sup> The Biden administration, for instance, has contemplated introducing border adjustments, and a legislative bill introducing border tariffs was introduced into Congress. Likewise, Canada is considering introducing a border adjustment. To contain trade tensions, the G7 must find ways to cooperate about border adjustments. **This includes discussing the role of border adjustments, their pros and cons, and principles for designing permissible carbon border adjustments, and commitments to non-retaliation.**

Second, and connected to the need to cooperate on CBAs, G7 members should discuss how to make different levels of climate ambition comparable. All climate action creates compliance costs, whether through explicit carbon pricing or through other instruments. Comparing different levels of ambition, in the form of a ‘shadow carbon price’ remains methodologically very difficult to do. However, for future cooperation, having more clarity and transparency of countries’ ambition is important, not just for coordinating border measures.

‘Discussing’ carbon pricing and border adjustments among the G7 would not amount to an ‘alliance’ or a ‘coalition’, not to speak of a ‘club’. Rather than forming a formalised climate club around a common (minimum) carbon price, voluntary pledges by governments to reach minimum carbon prices may be a lot more feasible. It would be an open process, geared towards finding common ground, enhance understanding, and to create momentum and peer-pressure. It may also involve ‘peer reviews’ as is

<sup>20</sup> <https://icapcarbonaction.com/en/partnership/about>

<sup>21</sup> <https://pmiclimate.org/>

<sup>22</sup> <https://www.carbonpricingleadership.org/>

<sup>23</sup> IMF & OECD, 2021

<sup>24</sup> [https://www.oecd.org/tax/beps/?mod=article\\_inline](https://www.oecd.org/tax/beps/?mod=article_inline)

<sup>25</sup> Parry et al., 2021

already done with regards to fossil fuel subsidies at the G20. Such discussions can moreover lead to a shared understanding and convergence with regard to carbon price levels, coverage, enforcement and permissible forms of border adjustments down the line.

### Industrial Decarbonisation Alliances

There are many opportunities for G7 countries to cooperate on industrial decarbonisation that the German presidency should seize. In fact, the German climate club white paper already considers many of these options. As sectoral alliances, these may focus on public procurement, joint lead markets, or standards for green hydrogen.

### Product Requirements and Labelling

G7 members could focus on setting common standards in industry as part of industrial decarbonisation alliances. An alternative approach to a price-based climate club would be setting common limits on the life-cycle emissions of key industrial products, like steel and cement. Such limits are called **product carbon requirements (PCRs)**.<sup>26</sup> Product carbon requirements are a domestic policy choice, but to contain possible tensions with trade partners and to avoid fragmentation of different methodologies and labelling systems, there is a need for cooperation.<sup>27</sup> There are also large benefits from cooperating over PCRs as they can pave the way to common lead markets among G7 countries.<sup>28</sup>

Product requirements do not require deep legislative integration. Rather, countries only have to agree on common methodologies and labelling systems to declare the life-cycle emission of industrial products. They can then set limits on the carbon footprint of products, either unilaterally or in a coordinated fashion, at a later stage. ISO standards already exist for calculating and declaring the carbon footprint of products,

which means a key technical (and political) hurdle has been taken. Common product requirements also do not amount to an exclusive club, since third countries can continue to export to alliance countries as long as they meet the standard. Moreover, all countries are free to adopt the same labelling systems (and limits). Similar standards already exist for operational and energy efficiency requirements under the EU's Ecodesign framework, for instance, for light bulbs. Extending these to the production process would be a logical extension of the current regulatory framework.

More exclusive sectoral arrangements on industrial decarbonisation are possible, as is currently envisioned under the EU-US Carbon-Based Sectoral Arrangement on Steel and Aluminum Trade.<sup>29</sup> The deal, where details are to be formally negotiated in the coming two years, foresees external barriers to carbon-intensive steel and aluminium to enter US or EU markets and an inward-looking industrial strategy to build green industries. It also aims to reduce excess capacity. As part of the deal, the US has immediately removed Trump-era tariffs on EU steel and aluminium, the EU in turn removed retaliatory tariffs on US goods such as bourbon whiskey or motorcycles, and both suspended WTO disputes. Considering the intention to “restrict market access for non-participants that do not meet standards for low-carbon intensity” it is much closer to an exclusive ‘club’ than other arrangements.

While there is great potential in such arrangements, there are also some pitfalls. First, the US frames the agreement in decidedly geopolitical terms as a way to “prevent leakage of Chinese steel and aluminium into the U.S. market”.<sup>30</sup> While the arrangement is meant to be open to other countries that meet the conditions, there is a risk that it will stir further escalation with China over trade.

<sup>26</sup> See Gerres et al., 2021

<sup>27</sup> Kamin et al., 2021

<sup>28</sup> CISL & Agora Energiewende, 2021

<sup>29</sup> U.S. Department of Commerce, 2021

<sup>30</sup> White House, 2021



Secondly, using tariffs to sanction ‘dirty’ steel, while waving certain partner countries will likely violate WTO principles of non-discrimination. It may be justified under the exemptions of Article XX or XXI GATT,<sup>31</sup> but the risk of violating the most favoured nation principle will remain. So instead of using an arrangement with border tariffs, the arrangement can be based on common PCRs for steel and aluminium products. These would fulfil a similar function in restricting carbon-intensive products to enter EU and US markets but be a lot more transparent and based on environmental criteria. Complementary policies to push technologies and create demand can be devised irrespective of existing tariffs or PCRs.

### Public Procurement and Green Industrial Policy

Alternatively, or additionally, G7 countries could cooperate on green public procurement and joint lead markets. Green public procurement coalitions are voluntary initiatives that define common targets and principles. Public procurement is an important source of demand for low-carbon industrial products and therefore for scaling up low-carbon technologies.<sup>32</sup>

There already exist several multilateral initiatives geared towards green public procurement and industrial decarbonisation that the German presidency can build on. The Leadership Group for Industry Transition (LeadIT) was launched by Sweden and India and gathers governments and private actors for knowledge and technical exchange as well as to foster public-private collaboration.<sup>33</sup> The Clean Energy Ministerial’s Industrial Deep Decarbonisation Initiative (IDDI) is a coalition particularly focused on stimulating demand for low-carbon products. It develops common standards for environmental reporting mechanism and formulates best-practices for

green public procurement, also in cooperation with LeadIT and Mission Innovation. At COP 26 in Glasgow, members of IDDI announced the Global Pledge to Procure Green Steel and Cement.<sup>34</sup> Its goal is to adopt green procurement principles and public procurement targets for 2030 to be launched by mid-2022.

**Given the existence of a number of promising initiatives, the German presidency should build on them and encourage its G7 partners to join.** The IDDI’s Green Public Procurement Pledge, for example, has a goal to extend participation to a minimum of 10 countries by 2023. Germany, Canada, and the UK are already participants. Considering the recent US announcement to establish a ‘Buy Clean Task Force’ and to align public procurement with climate neutrality and existing green procurement schemes in Japan this may be an open door to push.

Besides stimulating demand for low-carbon products, **G7 initiatives should try to ease tensions among trade partners around green industrial policy.** Industrial policies are a common source of trade disputes and state support to green industries is sometimes confronted with allegations of ‘green protectionism’. The EU is negotiating its CBAM, while the US is considering “carbon-based trade policies to reward American manufacturers”.<sup>35</sup> Accelerating the decarbonisation of industry requires strong cooperation among key trade partners to preempt conflicts and ease tensions. This might take the form of initiatives like IDDI that tries to define guidelines and best practices for public procurement among governments. Such discussions should be expanded to more areas.

Another area in need of attention are ‘green’ subsidies. What form and volumes are permissible, and how they can avoid

<sup>31</sup> Meyer & Tucker, 2022

<sup>32</sup> Martini et al., 2022

<sup>33</sup> From the G7, Germany, France, the UK, and US are members.

<sup>34</sup> <https://www.cleanenergyministerial.org/index.php/news-clean-energy-ministerial/iddi-drives-global-green-procurement-global-pledge-procure-green>

<sup>35</sup> White House, 2022

tilting the playing field in unfair ways. Agreement among the G7 on these topics is important for developing WTO law along climate-friendly terms as part of the Trade and Environmental Sustainability Structured Discussions (TESSD). Likewise, **avoiding major trade disputes among G7 countries over trade-related climate measure is essential for not holding back the climate agenda more generally.**

An industrial decarbonisation alliance may also involve **enhanced technology transfers or technical cooperation.** While this may not be as important among G7 nations given similar levels of technological development, it may be an incentive for middle-income countries to join the alliance – access to enhanced technological cooperation may in this respect serve as a club good that is conditional on green public procurement standards, PCRs, or the like.

### A Green Hydrogen Alliance

Finally, international coordination and cooperation on green hydrogen lends itself to be addressed in a future alliance or club. Green hydrogen and derived products are of undisputed relevance for the transformation to climate neutrality – particularly for transforming industry (e.g., in steel production), but also for certain parts of long-distance transport (aviation, shipping) where direct electrification is not a feasible alternative.

Since green-hydrogen-based solutions typically compete with incumbent fossil-based technologies, they will only work if the supply of green hydrogen is reliable and cheap – or regulation strengthens its position despite the cost. At the same time, they will only make sense as part of a climate neutrality strategy if the hydrogen is green (produced with renewable electricity) and environmentally sustainable. This entails numerous coordination needs:

- ▶ Standardisation and certification for hydrogen and derived products: Since the traded atoms are identical for green, blue, pink or grey hydrogen, robust

standardisation and certification is needed to ascertain the green nature of the traded hydrogen and its derivatives.

- ▶ Developing markets and infrastructure: suppliers will only invest into production facilities and transport infrastructure if there is sufficient demand, but demand will only arise if there is sufficient supply at reasonable costs.

In this process, there are clear benefits from multilateral coordinated action. The market for green hydrogen and derived products is emerging rapidly. In its current form, based around bilateral agreements and Memoranda of Understanding, this entails numerous risks: a proliferation of standards could bog down the global market; uncertainties could stifle the necessary investments (uncertainty for suppliers about which volumes they can expect to sell to whom at what price, and uncertainty for consumers whether they will be able to meet their demand).

A club or alliance could help to address these risks in different ways:

- ▶ By combining sufficient market power, it could establish a **global standard** (and associated certification and tracking systems) for green and sustainable hydrogen, and thus avoid the global market for green hydrogen being bogged down by a multitude of competing standards. Common standards for green hydrogen could serve as the basis for a **common market** for green hydrogen, greatly reducing transaction costs and overcoming the risk of competing standards: in this model, club members would commit to accept hydrogen and derivative products that were recognised as green by another club member.
- ▶ By bringing together the suppliers and the consumers, it could help to reduce the uncertainty around investments into green hydrogen infrastructure. This could include **long-term purchase and cooperation agreements**, but also agreements to jointly develop the infrastructure for green hydrogen. In a

rapidly emerging market, such agreements could help to give greater certainty to investors – both on the side of suppliers and consumers.

## Making alliances ‘open and cooperative’

The German G7 Presidency has stressed their desire to make any climate club ‘open’ and ‘cooperative’. This warrants some considerations. First, being open and cooperative does not preclude members from enjoying privileges that are not available for non-members. Rather, it means that the alliance or club is in principle open to all jurisdictions, provided they meet the membership requirements. Requirements, therefore, must be transparent and membership accession procedures clearly spelled out.

Secondly, the G7 is by definition an exclusive club. For this reason, launching an intergovernmental initiative at the G7 runs the risk of being perceived – as a ‘G7 thing’. For the initiatives laid out above, especially on industrial decarbonisation and hydrogen, the G7 is a good testing ground and forum to find initial agreement. However, there may be benefits from launching an initiative in the context of the G20, the Clean Energy Ministerial, or the Major Economies Forum on Energy and Climate (MEF) rather than at the G7. In addition to generating a larger membership base, the risk of being perceived as a ‘rich countries club’ may be lower.

Lastly, being ‘open’ and ‘cooperative’ may require increasing support for low and middle-income countries on climate action. Some low- and middle-income countries may struggle to meet membership requirements for technical or administrative reasons. Implementing carbon pricing or product labelling systems, for instance, requires extensive administrative capacity. Any G7 initiative should therefore come with mechanisms for helping developing countries

meet the requirements. These may take the form of enhanced technical cooperation or technology transfers as part of an accession process. They may also involve increased climate finance, to help developing countries decarbonise their economies.<sup>36</sup> Likewise, an alliance or club may also be linked to facilitating more ‘climate partnerships’, whereby joining the club or alliance is part of the deal between G7 and developing countries.

## Recommendations

With the invasion of Ukraine, the geopolitical landscape has shifted in ways that cannot be foreseen. Yet this has not changed the urgency of tackling the climate crisis, and the need for advancing multilateral climate action. The German G7 Presidency’s push to establish some kind of climate club or alliance can be part of an effective response to the fallout of the Russian war, and a signal that multilateral cooperation is still alive. The question is therefore what issues should be at the focus of this initiative, and how it should function?

- 1 Initiatives need to address the common ground between the geopolitical crisis and the transformation to climate neutrality: drastic improvements of energy efficiency, electrification of transport and heat, and massive acceleration in renewables deployment both help to reduce dependency on fossil fuels imports – and are inevitable for decarbonisation.
- 2 Initiatives should have a clear focus on a small number of issues where additional action is required, and where there is a clear benefit from intergovernmental action. Keeping the focus limited makes it easier to find agreement among partners and improves the likelihood for success of individual initiatives.

<sup>36</sup> Vangenechten & Lehne, 2022

- 3** Initiatives should be aligned with the UNFCCC process, prepare the ground for COP 27, and strengthen the multi-lateral climate regime. Making alliances cooperative and open entails supporting low- and middle-income countries meeting membership requirements and offering additional benefits, such as climate finance or technological cooperation.
- 4** The original concept of a price-based climate club remains politically elusive, or risks limiting itself to very few countries. The German Presidency should not waste precious political capital on such high-risk, low reward initiatives, especially in the current situation. Enhanced technical cooperation on carbon pricing – in the realm of the G20 and OECD – is less transformative but can pave the way for more formal cooperation in the long-run and should therefore be supported by the G7. This, however, may not be an immediate priority for the German G7 presidency.
- 5** Sectoral, industrial decarbonisation alliances that focus on catalysing the transformation of industry have large potential and prospects of political success. They also align with the strategy to reduce Europe's dependency on Russian gas: next to buildings, industry is one of the major users of gas as a feedstock and for process heat. Replacing fossil-based value chains is therefore needed both for a competitive, climate-neutral industry, but also to make industry more resilient towards supply disruptions. Alliances in this field could focus on common standards, labelling, and product requirements for carbon-intensive products. Equally, coordinated action on green public procurement and lead markets is an avenue for cooperation that has few political barriers but large transformative potential. A common lead market for low-carbon products or common access to the green procurement schemes of all club members would present a strong incentive for joining a club.
- 6** Lastly, green hydrogen is a field that lends itself for greater formalised cooperation in the form of an alliance. It also adds to the diversification of energy supply options – yet only at a timescale that will not provide effective relief in the current geopolitical situation. By creating a common market based on common standards for green and sustainable hydrogen, an alliance could address two main risks: first, the risk of a proliferation of competing standards for green hydrogen, with associated transaction costs, and second, the risks that uncertainties on the supply and demand side stifle the needed investments, and slow down the emergence of a global market for green hydrogen.

## Appendix

**Table 1: Carbon pricing and position on CBAs across the G7 and selected G20 countries**

	Country	Carbon Pricing	Position on Carbon Border Adjustment Mechanism
G7	Germany	<ul style="list-style-type: none"> <li>• <b>EU ETS</b> for power and industry</li> <li>• <b>German ETS</b> for heating and transport</li> </ul>	<ul style="list-style-type: none"> <li>• <b>EU CBAM</b> proposal – generally supportive</li> </ul>
	Italy	<ul style="list-style-type: none"> <li>• <b>EU ETS</b> for power and industry</li> </ul>	<ul style="list-style-type: none"> <li>• <b>EU CBAM</b> proposal – generally supportive</li> </ul>
	France	<ul style="list-style-type: none"> <li>• <b>EU ETS</b> for power and industry</li> <li>• <b>Carbon tax</b> on heating, transport, and industry not covered by EU ETS</li> </ul>	<ul style="list-style-type: none"> <li>• <b>EU CBAM</b> proposal – highly supportive</li> </ul>
	Japan	<ul style="list-style-type: none"> <li>• <b>Carbon Tax</b> but level very low (US\$3/tCO<sub>2e</sub>)</li> <li>• New carbon pricing system under consideration</li> <li>• Additional regional and voluntary systems</li> </ul>	<ul style="list-style-type: none"> <li>• No BCA under consideration</li> <li>• Not affected much by EU CBAM, but steel industry oppositional</li> <li>• Wants EU CBAM to consider implicit carbon prices</li> </ul>
	UK	<ul style="list-style-type: none"> <li>• <b>UK ETS</b> for power and industry (mirrors EU ETS in Phase IV)</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Considering UK CBAM</b>, but no proposal or political consensus in UK government, prefer multilateral solution</li> <li>• EU CBAM would only apply in limited way due to UK ETS</li> </ul>
	USA	<ul style="list-style-type: none"> <li>• <b>No federal carbon pricing system</b></li> <li>• Sub-national systems in 12 states in place</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Considering US CBA</b>, but legislative challenges (domestic, WTO)</li> <li>• CBA would be based on ‘implicit carbon price’ and adjust for regulatory compliance cost</li> <li>• Demands EU CBAM to consider ‘implicit carbon prices’</li> </ul>
	Canada	<ul style="list-style-type: none"> <li>• <b>Federal carbon pricing standard</b> mandates all provinces to have carbon pricing system in place.</li> <li>• 14 different sub-national carbon pricing systems (ETS, carbon tax, and baseline and credit).</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Canadian CBA under consideration</b></li> <li>• Not affected substantially by EU CBAM</li> </ul>
G20	China	<ul style="list-style-type: none"> <li>• <b>China ETS</b> for power sector (38% of emissions), considering expansion to more sectors, price signal still weak</li> </ul>	<ul style="list-style-type: none"> <li>• Cautious towards EU CBAM, expects WTO compliance</li> <li>• May perceive CBAM as geopolitical instrument if it includes concessions to US</li> <li>• Major exporter of iron, steel, and aluminium to EU</li> </ul>
	Russia	<ul style="list-style-type: none"> <li>• No carbon pricing in place</li> </ul>	<ul style="list-style-type: none"> <li>• Critical of EU CBAM</li> <li>• Russia would be majorly affected by EU CBAM (iron and steel, aluminium, fertilizer)</li> </ul>
	India	<ul style="list-style-type: none"> <li>• No carbon pricing in place</li> </ul>	<ul style="list-style-type: none"> <li>• Critical of CBAM, esp. if designed discriminatory</li> <li>• Argue that CBAM is not congruent with CBDR-RC</li> <li>• Exports (iron and steel) substantially affected by EU CBAM</li> </ul>
	Brazil	<ul style="list-style-type: none"> <li>• Carbon pricing under consideration</li> </ul>	<ul style="list-style-type: none"> <li>• Not substantially affected by CBAM</li> </ul>
	Indonesia	<ul style="list-style-type: none"> <li>• Carbon pricing (tax and ETS for power sector) under consideration</li> </ul>	<ul style="list-style-type: none"> <li>• Not majorly affected by EU CBAM, but perception influenced by ongoing conflict with EU over Palm Oil</li> </ul>

South  
Africa

- **SA Carbon Tax**, covering 80% of emissions, low price level (<10 US\$)
- Moderately affected by CBAM (aluminium)

*Note:* Own compilation, based on inter alia World Bank (2022), Konrad Adenauer Stiftung (2021), and Hufbauer et al. (2021)

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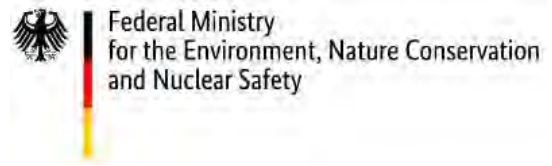
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