

# Driving Transformational Pathways

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An alliance is like a club: you pay a fee in return for enjoying the benefits of membership. However, unlike a traditional climate club, the Global Climate Alliance (GCA) does not stress on an ‘international target carbon price’ or ‘penalties for non-participants.’<sup>i</sup> Instead, under the GCA, Global South members get guaranteed access to financial and technology flows. Meanwhile, it also needs a commitment to economy-wide greenhouse gas (GHG) emission reduction targets. Relevant sectoral mandates – industrial standards, for example – act as the membership ‘fee’.

The Global Climate Alliance is based on a model of positive incentives and cooperation. It builds on the proposal by (Stern and Lankes 2022) on building an inclusive climate club, commissioned under the German G7 presidency.

### Box 1: International policy coordination to tackle climate change

(Frenkel, Goldstein and Masson 1988) summarising the scope, methods, and effects of international coordination of economic policies, justify coordination of economic policies on two grounds: externalities/spill overs of actions of countries, especially large economies, and the existence of public goods.

Climate change necessitates international policy coordination on two grounds:

1. Climate science has established that irrespective of the source of emissions, the impact of the greenhouse effect is global.<sup>ii</sup> The carbon budget, or the level of carbon emissions that is compatible with a moderate rise in global temperatures, is the public good.

As (Nordhaus 2015) analyses, “While free riding is pervasive, it is particularly difficult to overcome for global public goods. Global public goods differ from national market failures because no mechanisms – either market or governmental – can deal with them effectively.”

2. More recently, climate action has been integrated into economic policy, particularly trade policy. The EU Carbon Border Adjustment Mechanism (CBAM) and the US-EU decision to negotiate a joint agreement on steel and aluminium are two big proposals in this direction. These actions underscore the intention of developed countries to undertake strict climate action.

Consequently, the integration of economic and climate policies will affect macroeconomic variables of other countries, such as exports and industrial competitiveness. “Seen in this light, the role of coordination is to prevent – or to minimize – such intentional as well as unintentional ‘beggar-thy-neighbour’ practices” (Frenkel, Goldstein and Masson 1988).

(T. C. Schelling 2009) highlights three elements that would be integral to a proposal for international coordination to tackle change. The central elements of Schelling’s proposal form the bedrock of the elements of the Global Climate Alliance:

1. **“Rich countries will need to negotiate how they will share the cost of contributing resources to the developing world.”** The paper on climate finance extensively discusses the sources, the mechanisms, and the instruments that can catalyse climate finance.
2. **“The recipients should also declare what they will commit themselves to do in return for the kind of help they may get.”** The current paper focuses on this reciprocity element. It is instructive to note that Schelling does not propose to employ any specific instrument to reduce emissions.
3. **“A third institution would channel funds to the developing world, acting as an intermediary between the donor countries and the receiving countries, which does not rely on bilateral relations.”** The chapter on the institutional architecture deals with the functions of the GCA Secretariat.

## Principles of Policy Arrangement

Operationalising an alliance is guided by principles, and the common but differentiated responsibilities (CBDR) serves as the core principle for this Alliance. To achieve the Paris Agreement targets, the Alliance needs to ‘accelerate action,’ balancing the act of ‘fostering sectoral alignment’ while ‘managing policy diversity’ (Stern and Lankes 2022). These three principles guide the design of the Alliance to improve upon the Paris Agreement. As the transformation pathways will vary among countries, flexibility in achieving the commitments underpin the recommendations here.

The statutory decadal commitments underpinning the Alliance reflect the common agenda of accelerating climate action. To provide room for flexibility, policy arrangements do not specify what instruments a country should deploy to meet its commitments, be it command-and-control regulations or pricing. The arrangements also do not recommend policies for potential Alliance members. They are free to choose the policy mix that works best under their domestic conditions. Instead, the Alliance identifies transformational, sectoral pathways that provide the requisite space and flexibility for aligning policies and standards.

## Commitments under the GCA

Countries will need to commit to:<sup>iii</sup>

- a. Statutory/legally binding, Paris Agreement-aligned, economy-wide, greenhouse gas (GHG) emissions reduction targets. The targets should be absolute GHG emission reduction, for example, “X” MtCO<sub>2</sub>e.  
*Illustration:* The European Union currently has legislation that commits to reduction of GHG emissions by 40% by 2030. The Fit-for-55 package seeks to raise this target to 55%.
- b. Long term net-zero targets, consistent with the 1.5°C goal, coupled with intermediate targets.  
*Illustration:* Australia passed a law in September 2022 that commits itself to Net Zero by 2050. In addition, its decadal commitment is to cut carbon emissions by 43% by 2030. China provides an alternative model for developing countries – it has a nationally determined contributions (NDC) commitment of carbon neutrality by 2060 with a CO<sub>2</sub> emissions peak by 2030.
- c. Submitting detailed and evidence-backed sectoral transformation plans, in line with their decadal commitments, with the GCA Secretariat to assist in analytical work.



### Box 2: An Alternative model of climate policy coordination

As laid out in the paper on 'Historical Climate Agreements and the Need for a Global Climate Alliance,' the impact of international agreements has been minimal; there is a trade-off between equity – more countries onboard to take strict climate action – and efficiency, i.e., achieving substantial emissions reduction. On this equity-efficiency quadrant, the Paris Agreement achieved high degree of equity, but limited outcome and enforcement. Post-Paris, several proposals on coordinating climate action have been put forth.

Most notably, (Nordhaus 2015) revived the theory of economic clubs to propose a framework for policy coordination. Two salient features of the proposal were: an agreement on an international carbon price floor (ICPF), and employment of international tariffs to penalise free riders. Extending this conceptual framework to a policy proposal, (Parry, Black and Roaf 2021) propose an ICPF among:

- a small number of key large-emitting countries, i.e., the G-20; where
- b the minimum carbon price each country commits to implement would be the only item to be negotiated.

The ICPF proposal runs into certain roadblocks as highlighted in (Frenkel, Goldstein and Masson 1988):

- a. "Firstly, international policy bargains that involve shared objectives can be frustrated if some policy instruments are treated as objectives in themselves." The ICPF proposal seeks to negotiate the policy instrument, carbon price, rather than the objective, emissions reduction. Under the Global Climate Alliance, the emphasis is on emissions reduction targets without resorting to any specification of instruments/methods.
- b. Further, "in some other countries, the constraints on policy instruments may lie in different areas—including structural policies—but the implications are the same [difficulty in agreement]." A country might instead choose standards over carbon pricing to address the relevant structural problem.

Consider India and renewable energy adoption. (Rajadhyaksha 2022) notes that energy security is still a structural constraint to India's growth. India's domestic policies to address climate change have largely centred around addressing the structural constraint of energy security. It has coalesced countries around solar adoption, drafted a plan to promote extensive usage of green hydrogen, and centred its NDCs on achieving 50% installed capacity of renewables.

Recognising these structural and political economy constraints, the GCA proposes a sector-by-sector decarbonisation approach. Existing methods/instruments of cooperation are highlighted in the examples.

- c. Lastly, as (Eichengreen 2014) notes, "Conflict over other issues, whether economic or not, complicates efforts to reach agreement on even technical economic and financial policies." Article 6 of the Paris Agreement, which was only finalised on the morning of the signing of the Agreement,<sup>iv</sup> reflects the compromise reached over employing market mechanisms to tackle climate change.

The major clauses of the Agreement emphasise voluntary coordination of market mechanisms while Article 6.8 strictly endorses "the importance of integrated, holistic and balanced non-market approaches being available to Parties to assist in the implementation of their nationally determined contributions." Moreover, as (Finon 2019) argues, carbon pricing "might not be appropriate as the main element of the carbon policy package in emerging and developing countries (DCs), because the political economy constraints are greater than in developed countries."

## Illustrative Sectoral Transformation Pathways

While countries chart their own transformation pathways, under the Alliance, the focus will be on identifying sectoral transformational targets and then, working sector-by-sector to achieve GHG neutrality. These transformation pathways for key Intergovernmental Panel on Climate Change (IPCC) sectors will be aligned through deep collaboration via sectoral working groups under the Alliance. In line with CBDR, sectoral targets will be consistent with the country's decadal / net-zero commitments. Countries will work on their sectors of choice – those where they can maximise emissions reductions given their capabilities and commitments. The rationale for having a set of policy options is the provision of flexibility.

In the following section, we outline some sectoral targets that could comprise a country's policy mix. In the accompanying examples, we identify methods/ pathways for international policy coordination:

1. **Industrial Emissions Policy:** Committing to industrial standards and emissions reduction targets in line with their net-zero/decadal targets. These could cover the share of climate-neutral, i.e., near-zero emission technologies – such as carbon capture, utilisation, and storage (CCUS) and hydrogen-based – in the primary production process as well as other material efficiency and recycling targets. Ideally, this would first cover five major industry sectors: iron and steel; cement; chemicals and petrochemicals; aluminium; and pulp and paper. The deadline for adopting the standards may be extended, based on the net-zero target of a country. Collaboration will be on an industry-by-industry basis.

### Box 3: Cooperation on pricing mechanisms to address industrial emissions

Pricing carbon has gained a lot of traction in the recent years. As of 2021, 46 national jurisdictions were covered by a pricing initiative, covering about 23.1% of global GHG emissions.<sup>v</sup> Many jurisdictions also have a mix of carbon taxes and emissions trading systems (ETS).<sup>vi</sup> All the G7 nations have one form of pricing or the other, at least covering sub-national jurisdictions. All the G20 countries, except Saudi Arabia have an implicit price on carbon in the form of fuel excise duties.

(M. Mehling 2018) provides an overview of the legal and institutional issues in linking carbon markets.<sup>vii</sup> The World Bank in its flagship periodical, 'State and Trends of Carbon Pricing' in 2016 estimated that linking carbon markets would reduce the overall cost of achieving 2030 NDCs by approximately 30%. The sectors and jurisdictions covered by carbon pricing have been different across countries. Most national markets, notably the EU-ETS and the UK ETS cover industrial and power sector emissions. The Chinese national carbon market covers the power sector but is poised to cover industrial emissions next.

While the theoretical prospect of linking carbon markets seems promising, few markets have been linked in practice. This excludes excluding international credit mechanisms such as the Clean Development Mechanism (CDM) and Joint Implementation under the Kyoto Protocol. Even in the jurisdictions that have been linked, geographical proximity has been a prominent factor – California and Quebec in North America, EU-ETS and the Swiss ETS, in Europe, and Tokyo and Saitama in Japan.

Nonetheless, several national and sub-national jurisdictions are increasingly adopting carbon pricing as a means for emissions abatement.<sup>viii</sup> As (Mehling, Metcalf and Stavins 2017) demonstrate, different instruments such as taxes

and ETS markets, and even different climate policies can be linked. Finally, the World Bank and other multilateral institutions have been providing technical assistance to small and developing economies through programs such as Partnership for Market Readiness.

2. **Low-carbon Energy Mix:** Group B member-countries under the GCA could commit to a target of a total consumption energy mix made up of x% of low-carbon sources by 2030. Such a measure, primarily aimed at the power sector, would be transformational in removing dependency on fossil fuels. Alternatively, a member belonging to Group A may commit to this renewable energy target mix by 2040, or to having renewable energy sources comprise y% of the mix by 2030.

#### Box 4: Different modes of cooperation in low-carbon sources of energy

Data from the Grantham Institute shows that there are around 1500 different climate targets across the world<sup>ix</sup>. As of 2021, 182 parties had included renewable energy components in their NDCs (IRENA 2022). Renewables currently comprise around 25% of global electricity generation, underscoring the scope for further adoption. However, analysis in (IRENA 2022) also highlights that “in 178 out of the 196 countries (91%), a mismatch exists between renewable energy targets in NDCs and those featuring in national laws and official strategies and plans.”

International cooperation could potentially scale the adoption of low carbon sources. Multilaterally, the International Renewable Energy Agency (IRENA) and the International Solar Alliance (ISA) are two agencies that have been created to catalyse policy action in renewables adoption. These organisations could serve as anchors for future cooperation under the Alliance.

In the early 90s, around 50 countries ratified the Energy Charter Treaty (ECT), a multilateral treaty that sought to promote free and competitive energy markets by offering, *inter alia*, investment protection. While the treaty has been a hindrance to aggressively adopting renewables,<sup>x</sup> the model serves as a template for coordinating renewable energy investment. In fact, 53 parties reached a tentative in-principle agreement to modernise the Treaty to facilitate sustainable investments in the energy sector.<sup>xi</sup> Bilaterally, the Just Energy Transition Partnership (JETP) in South Africa stands out as model of cooperation in decommissioning and repurposing coal-powered plants. Cooperation has also been extended into research and development of technology. Around 35 nations have been collaborating on developing nuclear fusion as a potential source of energy under the aegis of the International Thermonuclear Experimental Reactor (ITER) project. The project aims to operationalise with a 500 GW plant in France by 2035. Conditional upon its success, South Korea has announced the commissioning of national projects after 2035.<sup>xii</sup>

3. **Energy Efficiency Measures:** Members could commit to improving the energy intensity of GDP by x% annually or to reducing energy consumption by y% annually. This could either be through energy efficiency measures or by reducing consumption. This sectoral target would translate, on-the-ground, to energy efficient buildings and appliances.



### Box 5: Co-benefits of aligning targets – energy-efficiency standards

A co-benefit of working sector-by-sector to align sectoral policies would be the alignment of standards in areas where it is mutually beneficial to do so and doing so at minimal additional cost. “The justification for harmonisation is that eliminating regulatory differences among nations reduces the transaction costs associated with doing business across borders” (Rodrik 2018). Further, as (Eichengreen 2014) notes, “cooperation is most likely when it centers on technical issues.”

Aligning standards provides ‘policy certainty’ to markets, allowing them to eliminate that risk from their cost calculations. The benefits will spill over to trade and investments in GCA member countries, particularly in the tradables sector. Likewise, mutual recognition of tests could be a co-benefit for both trade and the environment and could also be extended to battery standards for electric vehicles (EVs). Coordination on energy-related standards for appliances have been adopted in the past. “Labelling programmes introduced in developing countries are based on the experience of OECD countries and use models that have already been proven: the European label has been used as a model in Brazil, Tunisia, China, and Iran.”<sup>xiii</sup>

(Janssen 2010) studies the impact of energy efficiency standards on developing country exports. He observes that energy efficiency standards have not been barriers in large developing nations, owing to their own adoption of energy efficiency standards. The report, however, cautions that smaller developing nations have been impacted and, thus, require technical assistance from OECD countries and international organisations.<sup>xiv</sup>

- 4. Share of Public Transport:** Members could increase the share of public transport and rail-/water-based freight transport, in order to limit the carbon emissions from investing in, and operating, individual mobility and road-based freight transport. Cooperation here might be more relevant at the level of local governments with financing support from either provincial or federal governments.

The Delhi Metro Rail project provides a case study for employing a project-based coordination strategy. The dominant financier was the Japanese International Cooperation Agency (JICA) whose loans financed an average of 49.5% of the project cost across different phases of the project. An average of 7.6% of the entire metro project was financed through grants.<sup>xv</sup> Environmentally, the metro project has been able to earn 4.4 million credits under CDM. Operationally, it has also garnered ridership to earn more than required revenue to achieve break-even (SC-MoHUA 2022). This partnership highlights the potential of projects which can be made operationally, financially, and environmentally viable.

- 5. Zero-emission Vehicles and Alternative Fuel Infrastructure:** In line with their net-zero targets, all new vehicles entering the market in GCA member-countries could be zero-emission, and emissions from old vehicles measured as “gCO<sub>2</sub>/km” could be progressively reduced to meet this goal. The availability of reliable clean infrastructure is another lever that determines a consumer’s switch to cleaner vehicles.<sup>xvi</sup> A possible policy target, here, could be the installation of charging stations on the main roads of the country and, sequentially, cooperation on charging standards could facilitate trade. The newly-developed infrastructure must allow ad-hoc charging, must accept electronic payments, and clearly inform users about charging options.

For sectors where a transformational sector target is not viable, countries may work on an emissions reduction target instead, aligning their targets on the basis of their decadal commitments. These could include:

- 6. Non-industrial Emissions Policy:** Small, non-industrial sectors such as agriculture, small industries and waste, taken as a whole, could commit to reducing GHG emissions by x%, in line with their net-zero targets.
- 7. No-debit Rule for LULUCF Sector:** Similarly, in the Land Use, Land Use Change and Forestry (LULUCF) sector - a net absorber of emissions - GCA member-countries could adhere to the 'no-debit' rule instead. GHG emissions from the sector will have to be compensated for with an equal amount of emissions removal. Any additional removal would then count toward the relaxation of other policies in the mix.

In conclusion, cooperation on sectoral transformation pathways, anchored in strict emissions reduction commitments, provides a better alternative for countries to cooperate and still accelerate climate action. The approach is fundamentally different from the idea of 'climate clubs' and provides a 'win-win-win' solution for the climate, countries, and markets instead.

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## Endnotes

- i Contrary to theory, simulations in (Devarajan, et al. 2022) show that a climate club committed to a carbon tax of US\$75/tCO<sub>2</sub>e, without punitive tariffs and even with a holdout from the USA and China, will be more effective than a similar club with a CBAM. A climate club with punitive tariffs will be more effective than one without such tariffs but will need tedious re-engineering of WTO laws.
- ii See (Schelling, 1992), (Nordhaus, 1993), and (Hsiang & Kopp, 2018) for a more accessible discussion in the context of the social sciences.
- iii See Box 2 on how the Alliance addresses the issues of international policy coordination.
- iv See Kelley Kizzier, Kelly Levin and Mandy Rambharos, *'What You Need to Know About Article 6 of the Paris Agreement'*, World Resources Institute, 2 December, 2019, <https://www.wri.org/insights/what-you-need-know-about-article-6-paris-agreement>
- v The Carbon Pricing Dashboard, is the dashboard maintained by the World Bank at <https://carbonpricingdashboard.worldbank.org/>
- vi The theoretical trade-offs between prices and quantities to correct externalities initially appeared in (Weitzman 1974). For a discussion on the merits of tax over an ETS, refer to (Mankiw 2009). For an overview of the choice between ETS and taxes, (Stavins 2022), while providing an overview, attempts a synthesis and (Frank 2014) gives an overview of practical choice considerations. A carbon price or a band of carbon prices must be targeted in case countries choose to coordinate pricing schemes.
- vii (ADB 2016) provides a more detailed survey of linking pricing mechanisms, particularly those relevant for developing countries. The fundamental notion of linkage is the recognition of climate action in one jurisdiction in another.
- viii See Thomas Kansy, *'Making the links between carbon markets in a post-Paris world'*, World Bank blog, 02 December 2016, for a brief summary of trends in carbon market linking. <https://blogs.worldbank.org/climatechange/making-links-between-carbon-markets-post-paris-world>
- ix See [https://climate-laws.org/climate\\_targets?law\\_sector%5B%5D=5](https://climate-laws.org/climate_targets?law_sector%5B%5D=5). The targets span intensity targets, fixed level targets and trajectory targets, among others. It covers legislative actions, executive decisions, and international targets).
- x Eight major EU Member states, including Germany, France, Italy, Spain, and the Netherlands, had decided to walk out of the Treaty [The Energy Charter Treaty, IISD, June 2017 (Ongoing project), <https://www.iisd.org/projects/energy-charter-treaty>]. (Mehranvar and Sasmal 2022) documents the investment disputes that have been wrought by the ECT.
- xi Directorate-General for Trade, European Commission, *'Agreement in principle reached on Modernised Energy Charter Treaty'*, Brussels, 24 June 2022, [https://policy.trade.ec.europa.eu/news/agreement-principle-reached-modernised-energy-charter-treaty-2022-06-24\\_en](https://policy.trade.ec.europa.eu/news/agreement-principle-reached-modernised-energy-charter-treaty-2022-06-24_en)
- xii See 'South Korea plans to build fusion reactor after 2035', Nuclear Engineering International, 1 March 2023, <https://www.neimagazine.com/news/newssouth-korea-plans-to-build-fusion-reactor-after-2035-10638362>
- xiii World Energy Council, *Energy Efficiency Policies around the World: Review and Evaluation*, (London: World Energy Council, 2008), pp. 6
- xiv See (Timmis 2017) for an extensive survey of the impact of standards on developing country exports.
- xv Calculated based on [https://backend.delhimetrail.com/documents/2535/Funding\\_Plan\\_3\\_6\\_22.pdf](https://backend.delhimetrail.com/documents/2535/Funding_Plan_3_6_22.pdf)
- xvi With counterfactual analysis, (Springel 2021) concludes, 'that between 2010 and 2015, every dollar spent on station subsidies resulted in more than twice as many additional electric vehicle purchases than the same amount spent on price subsidies.' The rationale for expansion of charging and alternative fuel infrastructure is simple: as more infrastructure develops, charging becomes a more viable option because costs of charging reduce. The effect subsidies have is the same as expanding charging and alternative fuel infrastructure.







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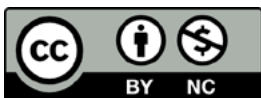
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