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# Strengthening International Climate Governance: The Case for a Sectoral Approach

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## Sectoral Decarbonisation Challenges Vary Significantly

The economic, technical and political transformation challenges vary significantly across sectoral systems. **Economic barriers** such as higher marginal costs of climate-friendly technologies and practices are key in many sectors, including agriculture, forestry, energy-intensive industries, and fluorinated GHGs (F-gases). In some of these sectors, high intensity of international trade fuels concerns about international competitiveness (agriculture, energy-intensive industries, F-gases). In others, mitigation options have high upfront investment requirements, while costs over their lifetime are low or even negative (for example, renewable electricity, efficient buildings and appliances). In some sectors like transport and buildings, very high infrastructure expenditure is required to transition to a low or zero-carbon paradigm. Many developing countries in particular lack access to such long-term capital investments and financial support in general. In energy-intensive industries, decarbonisation will require major changes to capital-intensive business models engrained in long-term investments and an approach that covers supply and value chains across different sectors.

**Political and institutional barriers** are particularly pronounced in sectors dominated by large incumbent corporations. For example, just 10 companies produce almost half the world's aluminium. In sectors like power, energy-intensive industries, extractive industries, national and international transport and F-gases, policy-makers are frequently confronted with large powerful businesses fiercely defending established business models. Unclear division of labour among relevant national agencies and/or lack of enforcement of regulations constitute barriers in sectors such as forestry, waste, urban systems and buildings, particularly in less capacitated countries.

**Technological barriers** to decarbonisation are a key concern especially where full decarbonisation will require substantial further technological research and development. These sectors include agriculture, power, energy-intensive industries, international and

national transport and buildings. It is worth noting that technological barriers do not necessarily block or hinder progress in these sectors as a whole, but concern key components such as electricity storage and grid management or new breeds and varieties in agriculture.

Significant potential exists to accelerate the climate transition by advancing sectoral approaches and institutions in international climate governance. To achieve the Paris Agreement objectives and quicken the urgently needed decarbonisation of our societies and economies, the simultaneous transformation of a wide range of interdependent sectoral systems is required. Each of these systems faces very specific transformation challenges and potentials for international governance. This calls for advancing tailor-made sectoral approaches to reinforce global climate governance, in the context of the further development of both the Paris Agreement and the system of intergovernmental institutions and transnational arrangements, including the increasing number of multistakeholder initiatives. More encompassing sectoral governance can enable a much-needed strengthening of countries' "nationally determined contributions" (NDCs) on the way to a speedy decarbonisation.

**Lack of awareness, information and capacity** is a key barrier in most sectors. With somewhat varying prominence of these elements across sectoral systems, they are again particularly pronounced in developing countries. They become particularly distinct where other economic and technical barriers are of less or declining significance (e.g. products and appliances, buildings and waste, among others). In several sectors, specific information that could help advance decarbonisation efforts is lacking (e.g. information on climate risks across the financial sector).

These barriers vary across sectors as well as within them, and are also evolving. Hence, information requirements may focus on particular subsectors and sub-problems (e.g. climate risks of investments in the financial sector). Technological barriers may vary across sectors and again be focused on specific issues (such as near-zero energy buildings) without necessarily blocking progress on other segments. This is similar for economic barriers and political/institutional barriers. All of these barriers are also subject to specific dynamics, not least due to technological and social progress. As a result, individual sectors possess unique dynamics and profiles of specific transformation challenges.

### Five Functions of International Governance Institutions

We distinguish five principal functions that international governance institutions, depending on their design, can fulfil. First, international organisations, international treaty regimes and transnational arrangements can **signal** the resolve of governments and other actors to pursue a certain policy trajectory. If the signal is sufficiently credible, this could alter long-term expectations of businesses, investors and other actors operating at all levels of governance and, as a corollary, shape short-term interests. Moreover, inter- and transnational arrangements can provide important **guidance** that helps stimulate, synchronise and align developments across levels of governance and countries.

Second, they can enable collective action by **setting rules** that establish obligations and standards of behaviour. Such rules may span the whole range of (environmental) policy instruments from mandatory regulation over market instruments to informational instruments.<sup>1</sup>

Third, international governance institutions can enhance **transparency and accountability** about the implementation of agreed rules, thereby enhancing trust, providing certainty to actors that others will reciprocate and promoting learning and common understanding.

Fourth, international governance can advance implementation by providing capacity building, technology (transfer), and financial resources. Such **means of implementation** are frequently lacking especially in developing countries.

Finally, international governance institutions can create scientific, economic, technical and policy **knowledge** and provide platforms for individual and social **learning** (emanating from information and its exchange at the international level, for example on best practices). Including awareness-raising, this function may contribute to a needed change of values and cultural predispositions.

### Sector-Specific Governance Demands

Just as the challenges to decarbonisation in each sector vary, so does the potential contribution of and demand for international governance. Table 1 provides an overview of the relevance of the governance functions for different sectoral systems.

Sectoral systems	Guidance & Signal	Setting Rules	T & A	Mol	Knowledge & Learning
<b>Agriculture</b>	Medium	Medium	Low	High	High
<b>LULUCF</b>	High	High	High	High	Medium
<b>Waste</b>	High	Low-Medium	Low	High	Medium
<b>Circular Economy</b>	(-)	High	Low	High	High
<b>Power</b>	High	Medium-High	Medium	High	Low-Medium
<b>Energy-intensive industry</b>	High	High	Medium-High	High	High
<b>Extractive Industries</b>	High	High	Medium (FFS: High)	Medium-High	Medium
<b>Transport</b>	High	Medium-High	Low	High	Medium
<b>International transport</b>	High	High	High	Medium	Medium
<b>Urban Systems</b>	High	Low	Medium	High	High
<b>Buildings</b>	High	Medium-High	Medium	Medium-High	Medium
<b>Appliances</b>	High	Medium	Low	Medium	Medium
<b>Financial sector</b>	High	High	Medium (FFS: High)	Medium	High
<b>Fluorinated GHGs</b>	High	High	Medium	High	Low

Table 1: Significance of Governance Functions (with separate entry for fossil-fuel subsidy (FFS) reform).

Demand for international **guidance and signal** is generally high in the different sectoral systems. Internationally agreed sectoral targets and visions can align actors globally. While overarching targets like those enshrined in Articles 2 and 4 of the Paris Agreement may serve to provide general guidance,

specific sectoral decarbonisation targets and visions (at times complemented by national or regional roadmaps) can provide more concrete guidance to sectoral actors and help avoid shirking of responsibilities among different sectors. For example, actors in the forestry sector could receive more concrete guidance through establishing the objective of halting deforestation and turning the sector from a net source to a net sink of GHGs. Guidance might even be made more tangible by establishing targets and visions for sub-sectors and key activities. For example, the climate transition in the building sector could be facilitated by a complementary vision of a full decarbonisation related to its components (heating, cooling, cooking, heating water).

**International rules** can help advance decarbonisation efforts by addressing competitiveness concerns, developing a common international approach for transboundary activities, facilitating cooperative approaches or pushing governments into action (together with appropriate support). Relevant regulation can range from labelling over technical standards and market instruments like carbon pricing to phase-out obligations. Importantly, different components of sectoral systems frequently vary as to the potential of international regulation. International regulation may, for example, help reduce fertilizer use since it affects the competitiveness on international markets, whereas many other causes of agricultural GHG emissions may be much less conducive to it (e.g. CH<sub>4</sub> emissions from rice paddies). Similarly, removing fossil fuel subsidies may be one particular area for which international agreement/regulation may be required.

The demand for ensuring **transparency and accountability** is particularly pronounced where international competition and interdependence provide a strong motivation for free-riding and, consequently, for checks on the implementation of international rules. This is particularly true for international transport and energy-intensive industries. Addressing emissions from forestry also requires high levels of transparency to ensure trust in international rules governing the exchange relationship implied in “results-based payments”. In contrast, related demand is lower if: (1) demand for international regulation that would require implementation is low in the first place (e.g. waste, urban systems, appliances); (2) international regulation does not primarily rest on a competitiveness rationale but aims to enable climate action (e.g. technical standards for electric vehicles); or (3) the regulated activities are intrinsically relatively transparent (extractive industries, F-gases, transport).

The demand for the provision of adequate **means of implementation** (finance, technology and capacity building) is relatively high overall, but varies considerably in the details. In some sectors like buildings, appliances and finance, the intrinsic incentives and the economic rationale for action are strong even without additional means of implementation. However,

some measure of support for advancing the transformation, including access to capital, may still be required. Overall, there is significant variation as to the type and specific form of support needed. Technology diffusion may be a prominent challenge in some sectors (e.g. agriculture, waste), technology development or transfer in others (e.g. shipping, power, energy-intensive industries, transport, fluorinated GHGs). In several sectors, capacity building (of various kinds) is much needed (forestry, waste, power, transport, and buildings). In most sectoral systems, direct financing or access to finance and investment are much needed. In some cases, spreading and sharing investment risks through international cooperation are particularly needed.

There is also some level of demand for internationally coordinated **knowledge and learning** across sectoral systems. The need is lesser for sectors in which technological alternatives and effective policies are relatively well established (e.g. F-gases and renewable energy). In the other sectoral systems, international cooperation can significantly advance technology development, the design of effective policies and awareness raising. Knowledge and learning can even constitute a central challenge with respect to decarbonisation (including agriculture, energy-intensive industries, urban systems, and the financial sector). In some sectors, there is a particular need for awareness raising supported by international institutions (agriculture, buildings, waste). For some, technology development and research coordination seem crucial (agriculture, international transport, energy-intensive industries). There is a more or less specific potential for promoting technical and/or policy learning across countries and jurisdictions in several areas (forestry, waste, power, buildings, transport).

### Tracks to Strengthening Sectoral Approaches for Global Climate Governance

There is a strong rationale for developing and strengthening sector-specific approaches in international climate governance in order to advance the climate transition. Sectoral systems face unique challenges and vary as to the promise and potential of international climate governance. Consequently, the specific demand for and potential added value of international governance vary widely across sectors and even within sectors. Yet, sectoral approaches have not been comprehensively developed in international climate governance. While discussions on international climate governance have broadened beyond the multilateral UN Framework Convention on Climate Change (UNFCCC) in the 2000s, the Paris Agreement pursues an overarching approach and lacks sector-specific elements. Other international institutions have come under increased attention, including sector-specific institutions such as the International Civil Aviation Organization (ICAO), the International Maritime Organization (IMO) and the Montreal Protocol (for F-gases).

Transnational arrangements/initiatives involving public sub-national actors (regions, provinces, cities, etc.) and private actors also frequently have a sectoral focus.<sup>2</sup> Nevertheless, sectoral international climate governance remains sketchy to date (lagging behind domestic policy development<sup>3</sup>).

There is hence a significant potential for the European Union and other interested actors to promote meaningful sectoral international climate governance more systematically, both within the existing legal architecture of the Paris Agreement and through sectoral governance institutions beyond the UNFCCC. More specifically, we see the following promising avenues that might be pursued to this end:

- **Sectoral perspectives could be strengthened in the 2018 Facilitative Dialogue and the subsequent five-yearly Global Stocktake.** Building on a comprehensive assessment of sectoral transformation challenges and associated potential for synergy, Parties could further concretise the Agreement’s ‘guidance and signal’ by specifying sectoral and even sub-sectoral visions toward decarbonisation. This could also provide an important impetus for Parties to raise the level of ambition of their respective NDCs.
- **Parties should be encouraged to explicitly address specific sectoral transformation challenges.** Three elements of the Paris Agreement seem particularly relevant in this respect, namely: (1) the emerging transparency system of national reporting and international review regarding progress in implementing and achieving NDCs under Article 13 of the Paris Agreement; (2) the elaboration of new or revised NDCs by Parties; and (3) the development of long-term low GHG development strategies in accordance with Article 4.19 of the Paris Agreement. In each of these cases, Parties should strengthen sectoral perspectives.

- **Inter- and transnational governance initiatives should be more strongly sectorally orchestrated.** The plethora of sectoral inter- and transnational climate governance initiatives that have emerged as part of the broader “institutional complex” can help concretise the long-term vision of the Paris Agreement and develop consistent sectoral visions. Efforts may best focus on systematically developing new and existing sector-specific international institutions (inter-governmental as well as transnational) to meet the identified sectoral governance demands (as displayed in Table 1). Formal acknowledgement of effective sectoral governance initiatives under the UNFCCC/ Paris Agreement can contribute to further strengthening their efficacy, which may in turn reinforce the multilateral process.

As a result, the capacity of international climate governance to address the specific challenges and potentials of different sectoral systems should be considerably enhanced. Advancing the sectoral dimension of international climate governance in this way can be a crucial key to accelerating the world’s transformation towards full decarbonisation.

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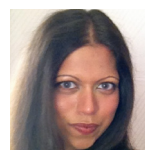
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