

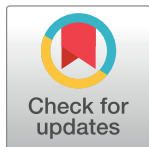
## OPINION

## Leveraging the Global Stocktake for effective sectoral climate governance

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At the next United Nations (UN) climate conference in the United Arab Emirates at the end of 2023, the first Global Stocktake (GST) of the Paris Agreement is due to conclude. The main goal of this process is to feed into a new round of Nationally Determined Contributions (NDCs) by Parties to the Agreement for 2035. In addition, the GST is aimed at identifying opportunities for strengthening international cooperation to achieve the Paris goals [1]. The GST represents the first opportunity for Parties and other stakeholders to collectively highlight opportunities for international climate cooperation. Specifically, outcomes should plant the seeds for the development of concrete sectoral decarbonization roadmaps that could guide international cooperation in years to come.

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## The rationale for a sectoral perspective

Our economies are underpinned by a patchwork of interrelated sectoral systems, each supplying distinct goods and services such as energy, transport and mobility, agricultural products and food, residential and commercial buildings, or industrial products. Achieving the objectives of the Paris Agreement requires a fundamental transformation of these sectoral systems, which will involve changes in institutions, infrastructure, markets, business models, and social practices. Promoting these systemic transformations will require tailored approaches, as each sectoral system is distinct in its political economy, technologies, financing structures, industrial composition, and international interdependence. Since the barriers to and opportunities for transformation vary strongly, each sectoral system requires its own transformation, even though sectoral linkages and potential co-benefits and trade-offs should be considered. Taking these differences into account will help tailor international cooperation to make it more effective [2–4]. In the following, we outline how the Global Stocktake could help advance sectoral international cooperation. We distinguish between the intergovernmental process under the UN Framework Convention on Climate Change (UNFCCC) and action that can be taken beyond the UNFCCC process.

## Strengthening sectoral international cooperation through the UNFCCC process

The UNFCCC process has so far strongly focused on economy-wide emissions. A sectoral breakdown of NDCs would help to connect the NDCs to national policymakers and implementers in specific sectors, and to identify sector-specific areas for international cooperation [5]. Although various NDCs contain sectoral information—such as sectoral targets or policies

[6]—there is no clear guidance for Parties to include such information. To address this gap, the Conference of the Parties serving as the Meeting of the Parties to the Paris Agreement (CMA) could, as part of the GST outcome, request Parties to include such information in their NDCs and in their mid-century long-term climate strategies.

The intergovernmental process could also be used by Parties to strengthen transparency and accountability around sectoral systems. Although the Paris Agreement's Enhanced Transparency Framework offers detailed guidance to Parties on the reporting of sectoral emissions and removals, Parties do not have to report on the implementation and achievement of NDCs in individual sectors [7]. While the first review and potential update of the modalities, procedures, and guidelines for the Enhanced Transparency Framework is due only in 2028 [7], the CMA could use the GST outcome to call for an earlier revision or intensified efforts to provide guidance to and build capacities of Parties to strengthen transparency on the contribution of sectoral systems by the CMA. Doing so is appropriate since Parties' NDCs and their implementation remain misaligned with the objectives of the Paris Agreement [6, 8]. Related to this, the CMA could also resolve to make better use of the annual high-level ministerial roundtable on pre-2030 ambition as an "accountability checkpoint" for sectoral commitments, making clear that Parties will be expected to demonstrate each year how they are improving ambition and implementation of their climate policies [9, 10].

Moreover, the outcome of the GST could define sector-specific international decarbonization roadmaps, including indications of when each sector should achieve zero or net-zero emissions globally, as well as appropriately differentiated interim emission reduction milestones. Alternatively, the GST outcome could mandate another process under the UNFCCC, such as the new Mitigation Work Programme, to develop such roadmaps [9, 10]. Existing roadmaps to sectoral decarbonization, such as the Climate Action Pathways developed under the Marrakech Partnership for Global Climate Action and roadmaps developed by other institutions including the International Energy Agency or the Global Alliance for Buildings and Construction, could be used as input.

## Strengthening international cooperation outside the UNFCCC process

The consensus-based nature of the intergovernmental decision-making process limits its potential for promoting sectoral international cooperation, but sectoral international cooperation can also be driven by initiatives outside of the intergovernmental process, some of which involve a more limited set of countries as well as non-state actors [11, 12]. The UN climate meetings are traditionally used as convening platforms to launch new initiatives, such as the sectoral "breakthroughs" that were launched in 2021 at the Glasgow conference. Other initiatives include the Leadership Group for Industry Transition (LeadIT), Mission Innovation or the recently proposed G7 Climate Club, which is aimed at "unlocking potential for the decarbonisation of hard-to-abate industrial sectors" [13].

However, many of these initiatives have only vague aspirations, limited membership, and unclear follow-up and accountability mechanisms. The GST outcome should therefore call on Parties to broaden and deepen these initiatives, in particular by creating clear follow-up and review processes to show they are on track. The GST outcome should also call on Parties to include all such international activities in their NDCs and thereby submit them to the Paris Agreement's transparency arrangements.

Other multilateral processes should also be leveraged to drive sectoral cooperation. These include the sectoral organizations dealing with emissions from international transport, the International Maritime Organization and the International Civil Aviation Organization. Their

policies to address emissions from international transport have been found especially lacking in ambition and effective implementation [14]. In addition, new treaties may also have implications for sectoral decarbonization. For instance, ongoing negotiations on a plastics treaty can help overcome carbon lock-ins in the plastics value chain [15]. The GST outcome should issue a call for these other organizations and processes to take further action to strengthen sectoral mitigation ambition to achieve the Paris goals.

## Capturing the political moment

The Global Stocktake is not only a process to take stock of progress made, but it also offers an important opportunity to correct course where necessary. We already know from existing studies that our collective climate change ambition is insufficient and we are not even on track to implementing the insufficient pledges. We therefore do not need the GST to result in another unspecific call for urgency. If we want to change mitigation outcomes, we need to change the way that we approach the transformational changes required across key sectoral systems. Therefore, Parties to the Paris Agreement should use the political outcome of the stocktake to plant the seeds for the development of concrete sectoral decarbonization roadmaps that could guide international cooperation in the years to come. The Global Climate Action Agenda, and in particular the Climate Action Pathways that have been developed, present a clear vantage point for such cooperation. In addition, Parties should build on and further institutionalize the various “breakthroughs” and other cooperative initiatives.

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