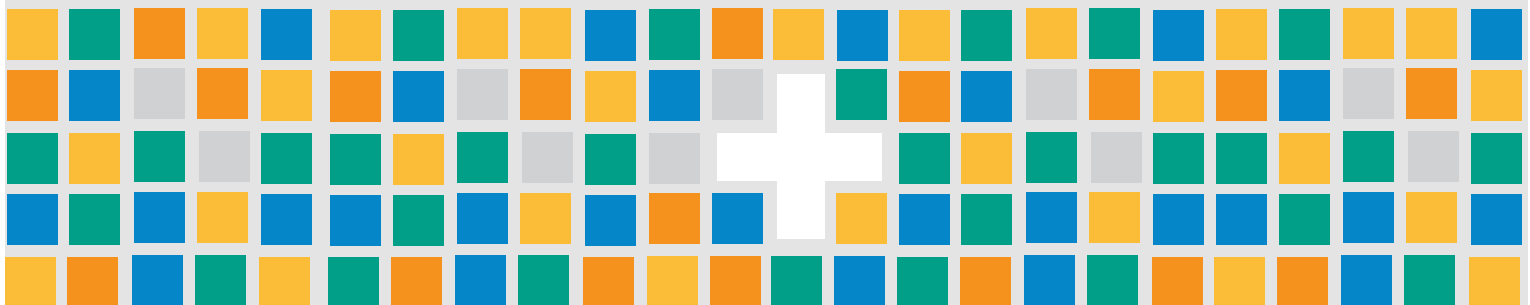


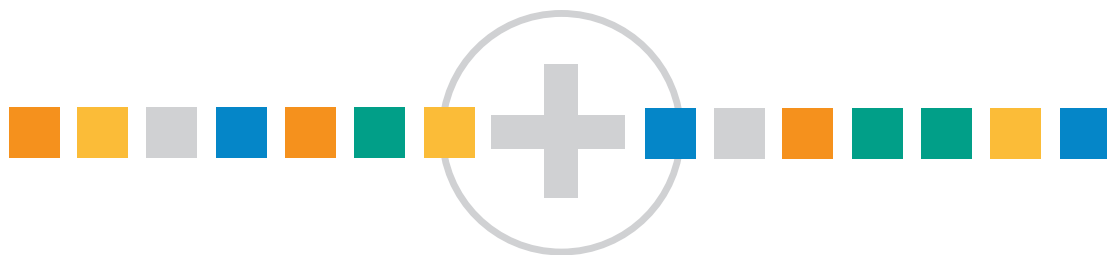


Success Factors for the Global Stocktake under the Paris Agreement

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About the iGST initiative and this report series

The Independent Global Stocktake (iGST) is an umbrella data and advocacy initiative that brings together climate modelers, analysts, campaigners and advocates to support the Paris Agreement. <https://www.climateworks.org/independentglobalstocktake/>

The Designing a Robust Stocktake Discussion Series envisions the contours of an ideal Global Stocktake and suggests ways in which the independent community can help to achieve that vision. These papers were produced by iGST partner organizations in consultation with the broader community, but the views expressed are the authors' own and don't necessarily reflect those of the iGST initiative or associated partner organizations.



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+ Executive Summary



While the Paris Agreement (PA) has enshrined ambitious long-term objectives, the current level of action of the Parties to the Agreement falls far short of this ambition, as is recognised in the very COP decision adopting the Agreement. The Global Stocktake (GST) established in Art. 14 of the PA is a key element to address this problem. Its purpose is to review the implementation of the PA and to assess the progress made towards the collectively agreed goals.

The aim of this report is to develop recommendations on how to maximise the potential impact of the GST. The report starts from a perspective of what the GST could ideally do, irrespective of decisions already taken under the UNFCCC and other political constraints. In the second step, the report takes these limitations into account and suggests ways for how to nonetheless work towards the desired outcome.

The discussion is mostly structured according to the three thematic areas which the official GST is mandated to address: mitigation, adaptation and means of implementation and support. According to the modalities adopted in Katowice, the GST may also take into account efforts to address the social and economic consequences and impacts of response measures and efforts to avert, minimize and address loss and damage associated with the adverse effects of climate change. In addition, the GST has been opened to include information on all financial flows, not just means of implementation and support. In this paper, the issue of financial flows has been aggregated with the issue of means of implementation and support, while questions of impacts of response measures are integrated in the mitigation sections. More research will be needed to also address questions of loss and damage. In addition, the Katowice decision characterized equity as “cross-cutting” and decided to consider it “throughout the GST”. Equity will hence be reflected for all issues addressed in this report.

The report first discusses in general terms how the UNFCCC regime may catalyse enhanced efforts on climate protection. As decisions are ultimately taken nationally, the role the international climate process can play is to serve as a key catalyst for these national discussions by keeping the issue on the agenda and forcing national policy makers to continuously revisit it.

Building on previous work (Hermwille et al., 2019; Jeffery et al., 2019), the report subsequently proposes three specific functions by which the GST in particular may foster enhanced action:

- The GST may provide **guidance and signal** by further specifying the objectives laid down in the Paris Agreement. On mitigation, the long-term emission target could be broken down to the sector level and the GST could discuss roadmaps for sectoral decarbonisation. On adaptation, the GST could

highlight that substantial climate impacts are already happening, that they are going to get far worse, and that the current adaptation response is inadequate. Such a signal could also help underscore the need to step up on mitigation. On finance, the GST could develop guidance on what making all finance flows consistent with the Paris Objectives could mean and how to achieve a balance between adaptation and mitigation finance. If agreeing guidance is not possible politically, the GST could at least foster a convergence of views by promoting discussions on the issue.

- The GST may contribute to providing **transparency and accountability**. This function could be performed best if the GST were able to assess the performance of individual Parties. However, the mandate of the GST is to assess only collective progress. This limitation may be overcome to some extent by assessing groups of countries. For example, Parties could be grouped into tiers according to indicators of responsibility and capability such as current and historic per capita emissions or GDP. In addition, the overall GST process may serve as 'echo chamber' for broader discussions on the efforts of individual Parties.
- The GST may foster **knowledge and learning** on how to effectively achieve the objectives of the Paris Agreement.

S.M.A.R.T. Guidance in Climate Governance

The principles and objectives of an agreement may provide orientation to Parties to the agreement and other relevant actors as to the course of action that is desired. The Paris Agreement and the UNFCCC in general contain a number of objectives for mitigation, adaptation and finance. However, these objectives are arguably too broad and general to provide clear guidance. Management studies have developed the concept of defining objectives in a S.M.A.R.T. way. According to this concept, objectives should be

- Specific - Target a specific area for improvement;
- Measurable - Quantify or suggest an indicator of progress;
- Assignable - Specify who will do it;
- Realistic - State what results can realistically be achieved, given available resources;
- Time-bound - Specify when the result(s) can be achieved (Doran, 1981).

The report discusses what guidance and signal the Paris Agreement is currently providing for mitigation, adaptation and finance, and how they could be further developed in a more "S.M.A.R.T." way.

On the basis of the discussion which functions the GST could perform, the report discusses which process- and information-related conditions need to be put in place to implement these functions and assesses how these conditions are reflected in



the modalities of the GST as adopted in Katowice. Essentially, to be effective, the GST needs to be conceived as a process, not an isolated event, and this process needs to meet certain conditions:

- The **process** needs to be **inclusive**, facilitating participation by a broad range of stakeholders, in particular from developing countries. Facilitating participation should include not only participation at GST events, but also support for active engagement, such as providing written inputs to the GST.
- **Information** provided by Parties and complemented with other inputs needs **to enable benchmark setting** for climate action, **to allow for transparent assessments of the state of progress**, and to be **politically relevant** and concrete enough to trigger enhancement of action.
- The **process** needs to be **scheduled in a timely manner**, so that the informational input is ready when needed and the political output comes in time to be most effective.
- The process needs to **give stakeholders opportunities to comment on and complement the information provided by Parties** as this information may be incomplete or biased.
- Complementarily, the GST requires a **facilitative format** in which good practice can be shared, highlighted and processed into relevant recommendations. Ideally, this would take the form of structured dialogues of experts focusing on concrete challenges for adaptation, mitigation and finance and how to overcome them.
- Outputs should include **high-level political messages** on the need to enhance efforts as well as a **detailed technical summary** of available options, best practice, and recommendations. The final output should be a CMA decision fully endorsing the results of the GST and urging Parties to take them fully into account in the revision of their NDCs.
- Finally, the GST needs **to feature a high-level political event** in order to amplify the messages towards influencing national policy agendas and as a renewed political commitment that Parties still honour the PA and its goals.

+ 1. Introduction



While the Paris Agreement (PA) has enshrined ambitious long-term objectives, the current level of action of the Parties to the Agreement falls far short of this ambition, as is recognised in the very COP decision adopting the Agreement.

The Global Stocktake (GST) established in Art. 14 of the PA is a key element to address this problem. Its purpose is to review the implementation of the PA and to “assess the collective progress” towards the collectively agreed goals (UNFCCC, 2016b, Art. 14.1). Parties are to take the outcomes of the GST into account when updating and revising their nationally determined contributions (NDCs). The GST thereby establishes a feedback mechanism connecting the short-term climate action contained in the NDCs with the overall long-term targets of the PA (Northrop et al., 2018).

The GST is thereby the primary explicit institutional feature of the PA that is supposed to catalyse dynamic increases in the level of ambition over time (Müller & Ngwadla, 2016; van Asselt, 2016). While other drivers of ambition exist, e.g. the ever increasing engagement of non-state and subnational actors (Chan et al., 2019) and rapid cost decline of some key mitigation technologies, in particular wind and solar energy and battery technology, the GST is supposed to take up this momentum and galvanize national governments into more ambitious climate action.

With the adoption of the modalities of the GST as part of the Paris Agreement “Rulebook” at the 24th Conference of the Parties (COP24) to the United Nations Framework Convention on Climate Change (UNFCCC) in Katowice in 2018, the foundations for the first GST in 2023 have been laid. However, the provisions are not very detailed and allow for ample flexibility for the negotiation Chairs and Facilitators, as well as the UNFCCC Secretariat, to set it up in a way that maximizes the catalytic effect of the GST (Oberghassel et al., 2019).

The aim of this report is to develop recommendations on how to maximise the potential impact of the GST. The report starts from a perspective of what the GST could ideally do, irrespective of decisions already taken under the UNFCCC and other political constraints. In the second step, the report takes these limitations into account and suggests ways for how to nonetheless work towards the desired outcome.

The report builds on previous work (Hermwille et al., 2019; Jeffery et al., 2019). Section 2 first discusses in general terms how the UNFCCC regime may catalyse enhanced efforts on climate protection. Section 3 proposes three specific functions by which the GST in particular may foster enhanced action. This discussion is mostly structured according to the three thematic areas which the official GST is mandated to address: mitigation, adaptation and means of implementation and support. According to the modalities adopted in Katowice, the GST may also take into account efforts to address the social and economic consequences and impacts of response measures and efforts to avert, minimize and address loss and damage associated with the adverse effects of climate change. In addition, the GST has been opened to include information on all financial flows, not just means of implementation and support. In this paper, the issue of financial flows has been aggregated with the issue of means of implementation and support, while questions of impacts of response measures are integrated in the mitigation sections. More research will be needed to also address questions of loss and damage. In addition, the Katowice decision characterized equity as “cross-cutting” and decided to consider it “throughout the GST”. Equity will hence be reflected for all issues addressed in this report.



On this basis, section 4 discusses which information- and process-related conditions need to be put in place to implement the functions of the GST and assesses how these conditions are reflected in the modalities of the GST as adopted in Katowice. Section 5 concludes.

+ 2. The Climate Regime as Pacemaker of National Discussions



The UNFCCC process is frequently criticised for failing to deliver on what is needed to prevent dangerous climate change. However, it bears noting that at the end of the day the United Nations are a negotiating platform of sovereign states, not a centralized world government. Negotiators always have to refer back to their national capitals before making any concessions on their positions. International conferences can therefore only rarely take decisions that have not previously been prepared nationally.

And the current situation is that most key countries are still locked into high-emission pathways, economically and institutionally. For example, energy provision and transport are dominated by strong incumbent industries whose business models rely on using fossil fuels, and combating climate change basically requires to end these business models (Rayner et al., 2018).

Changes in national politics and policies will therefore to a large extent be a prerequisite for, rather than a consequence of, the development of effective international climate policy. The role the international climate process can in the meantime play is to serve as a key catalyst for these national discussions by keeping the issue on the agenda and forcing national policy makers to continuously revisit it.

And there is evidence that the UNFCCC process does indeed fulfil this catalytic function. While Copenhagen failed to deliver the anticipated climate treaty, the summit was not without successes if seen in a broader context. The deadline imposed by the Copenhagen conference injected a significant momentum into national discussions as all countries were forced to make up their minds what their contribution to the agreement was going to be. Up till rather shortly before the conference there was little reason to expect that countries like China and India would submit emission targets, but ultimately they did (Sterk, Arens, Kreibich, Mersmann, & Wehnert, 2012). Subsequently, the momentum generated by the Copenhagen process resulted in a substantial increase in national climate legislation (Dubash, Hagemann, Höhne, & Upadhyaya, 2013). And there is evidence that the Paris process is having the same result. The preparation of NDCs has resulted in impacts such as initiating long term planning processes, advancing climate change on political agendas, and developing in-country technical capacities (Day, Röser, Tewari, Kurdziel, & Höhne, 2015).

The 'ambition cycle' established by the Paris Agreement institutionalises this catalytic function. The 5-yearly cycle of NDC updates, assessment and review of national action and support, as well as the aggregate assessment of implementation in the form of periodic GSTs create a "pacemaker" that helps to stimulate and synchronize climate national policy processes. National policy makers will now have to regularly account for how they are contributing to combating climate change and what they could do to strengthen their contributions (Obergassel et al., 2016).

Essentially, the NDC cycle resembles a prototypical policy cycle (see Figure 1). In this cycle, the GST bridges the evaluation stage and the agenda setting stage for subsequent NDC cycles. It aggregates the individual Party-level evaluations in order to derive conclusions at the global level. These conclusions are then supposed to inform the respective national climate policy agendas for the next round of NDCs (Hermwille et al., 2019).

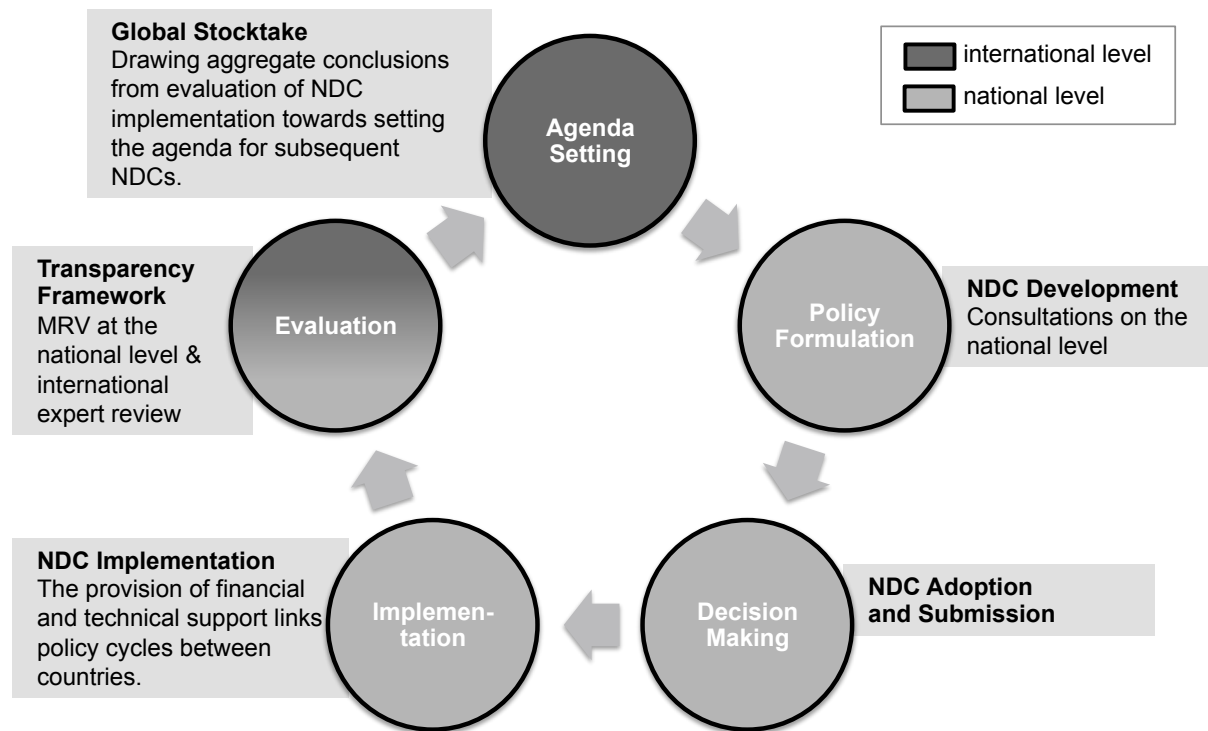


Figure 1: The NDC Cycle as a policy cycle. Source: Hermwille et al., 2019.

+ 3. Potential Functions of the Global Stocktake



3.1. Functions of International Governance

How may the design of the GST best maximise its potential for catalysing national discussions? International relations studies have conceptualised the potential contribution international governance can make to solving problems such as climate change in the form of governance functions. Oberthür et al. (2017) identify five functions international governance institutions may perform in general to promote climate transition:

- **Guidance & Signal:** International institutions can signal the resolve of members to pursue a certain course of action such as decarbonisation. These signals derive from the principles and objectives on which inter- and transnational institutions are based and can provide direction beyond the respective international institution. For example, the objectives laid down in the Paris Agreement have been found to entail strong guidance as they signal the resolve of governments across the world to take far-reaching action on climate change.
- **Rules & Standards:** In addition to signalling the desired direction of travel, international institutions can also require certain actions from countries in order to achieve the objectives commonly agreed on. Rules may include common/reciprocal obligations of result, such as emission targets, and standards of behaviour (obligations of conduct) such as prohibition or prescription of certain behaviour, harmonisation of (technical) standards or provision of incentives.
- **Transparency & Accountability:** International institutions may enhance the transparency of the actions taken by their members by collecting and analysing relevant data, and identifying and addressing problems in implementation of agreed rules/standards.
- **Means of Implementation:** International institutions may organise the provision of capacity building, technology transfer, and financial resources among members, including coordination efforts for effective allocation.
- **Knowledge & Learning:** International institutions may create knowledge as well as platforms for individual and social learning. The aim is creation and diffusion of scientific, economic, technical and policy-related knowledge on the understanding of and/or possible solutions to the problem at hand.

Setting rules and providing means of implementation is addressed by other elements of the Paris Agreement and the UNFCCC more broadly. What the GST may do is to contribute to the guidance, transparency and learning functions (for a somewhat different approach to potential functions of the GST, see Hermwille et al., 2019). In effect, these three functions were essentially captured by the three questions that were at the core of the Talanoa Dialogue:

- “Where are we now” relates to the status quo, which can be captured by the transparency provisions of the regime.



- “Where do we need to go” relates to the guidance and signal function.
- “How do we get there” is a question of knowledge and learning about how to achieve the desired end.

The following will discuss each of these functions in turn. As per the three thematic streams of the GST, for each function mitigation, adaptation and finance will be discussed separately.

3.2. Guidance and Signal – Where Do We Need to Go?

3.2.1. General Considerations

The principles and objectives of an agreement may provide orientation to Parties to the agreement and other relevant actors as to the course of action that is desired. The Paris Agreement and the UNFCCC in general contain a number of objectives for mitigation, adaptation and finance. However, these objectives are arguably too broad and general to provide clear guidance. Management studies have developed the concept of defining objectives in a S.M.A.R.T. way. According to this concept, objectives should be

- Specific - Target a specific area for improvement;
- Measurable - Quantify or suggest an indicator of progress;
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- Realistic - State what results can realistically be achieved, given available resources;
- Time-bound - Specify when the result(s) can be achieved (Doran, 1981).

The following sections discuss what guidance and signal the Paris Agreement is currently providing for mitigation, adaptation and finance, and how they could be improved.

3.2.2. Guidance and Signal for Mitigation

Current high-emission practices are often deeply embedded in societal paradigms. Transformational change therefore requires a fundamental ‘mindshift’ (Göpel, 2016; also see Milkoreit, 2017). Change occurs when new collective ideas emerge associated with shifting cultural values and world views that guide everyday decision making (see Geels & Schot, 2010).

For example, in traditional transport paradigms, extending transport infrastructure has been seen critical as a foundation for economic development. Moreover, increasing mobility by means of individual vehicles has been associated with increasing wealth and hence increases of transport volumes have been viewed positively – notwithstanding the associated GHG emissions and other social costs (Sims et al., 2014). Another practice is priority provision of urban space for automobile-friendly infrastructure, such as parking spaces and road capacities, while more sustainable transport modes are often given low priority in urban planning (United Nations Human Settlements Programme, 2013).

The GST can foster change by institutionalizing a global vision of a decarbonized and sustainable future. Through periodic goal setting and benchmarking, the GST may contribute to normalization of ambitious climate action and shift expectations of stakeholders across all governance levels (Hale, 2018).

The guidance and signal provided by the PA for mitigation so far mainly derives from its purpose as laid down in Art. 2 and in particular the long-term temperature goal established in

Art. 2.1(a). This temperature goal is further operationalized by the goal to achieve greenhouse gas neutrality in the second half of the century (Art. 4.1). Together they provide a top-level, collectively agreed vision for the global transformation.

Based on the 'S.M.A.R.T. objectives' concept, the mitigation objectives of the Paris Agreement are a substantial improvement compared to the ultimate objective of the Convention, which "is to achieve, in accordance with the relevant provisions of the Convention, stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system." While this objective is on the one hand very ambitious, it did not specify what would be a "dangerous anthropogenic interference", nor at what level GHG concentrations should be stabilised. The objectives of the Paris Agreement are more specific, measurable and time-bound. They have thereby contributed to the emergence of a view that a large share of available fossil fuel reserves should not be exploited (Rayner et al., 2018).

However, all five dimensions of the S.M.A.R.T. metric could still be further improved. With the net-zero objective, it is not clear which sectors will be required to reduce emissions to zero (or below zero) and which sectors may be allowed to continue having a certain amount of emissions. In addition, for many sectors, a great deal of ambiguity remains on what reducing to zero would mean. While the challenges are largely known for the electricity sector and the electrification of passenger transport, decarbonisation pathways are not yet clear, for example, on emission intensive industries, agriculture and land-use including forestry (IPCC, 2018; Kuramochi et al., 2018).

Against this background, what could be the role of the GST? First of all, the GST is an opportunity to reiterate and reinforce the signal already provided in Paris. Based on assessment of the current status and trajectories (see section on transparency and accountability below), the GST should highlight that the global mitigation response is still far from what would be needed to achieve the Paris objectives.

However, quantifying the 'emissions gap' and exhorting a sense of urgency would not be a novel contribution. A main added value of the GST could be to further develop and refine the existing signal. In particular, the GST could break the answers to the Talanoa Dialogue's question of "where do we want to go?" down to the level of the individual sectors. For example, the GST could collate and institutionalize sectoral decarbonisation visions that spell out what each sector would need to look like to be compatible with the Paris temperature limit. It could assess and/or endorse sectoral visions (e.g. developed by sectoral transnational governance initiatives) and assess barriers and drivers towards the realization of these visions (Rayner et al., 2018).

In line with the mandate to address social and economic consequences and impacts of response measures, such a development of sectoral decarbonisation visions should ensure consistency with other international Agendas like the SDGs and the New Urban Agenda. On the one hand, climate policy needs to avoid pursuing activities that have negative impacts on other sustainability aspects. The 'yellow vest crisis' in France illustrated how ill-conceived climate policies that impose costs on disadvantaged parts of society may engender strong political resistance (Ganglebin, Graichen, & Lenck, 2019). On the other hand, many mitigation options also have positive impacts on other sustainability concerns such as air pollution. Highlighting such potential synergies would be helpful to ensure that the GST's outputs resonate with the national discourse of as many countries as possible. Climate protection is at best one factor in national political discussions, the main concern is usually economic and societal well-being. While non-climate benefits of climate actions, such as job creation



of reduced local air pollution, are often classified as ‘co-benefits’ in climate policy circles, in national policy discussions they are usually seen as the main benefits and emission reductions as a co-benefit. Parties may therefore be motivated much more by positive development potentials and synergetic opportunities than by yet another call for urgency (also see Hale, 2018). The issue of the impacts of response measures was initially introduced to highlight socio-economic costs of mitigation actions. However, if a full accounting of all costs and benefits is undertaken, the impacts agenda may actually serve as a driver of a ambition, highlighting how mitigation actions may yield multiple benefits and how costs can be avoided or at least minimised.

To comply with the mandate of addressing impacts of response measures, sectoral decarbonisation visions could therefore aim to maximise benefits for other aspects of sustainability and avoid trade-offs as much as possible. The GST could elaborate on and highlight which mitigation opportunities yield socio-economic benefits and which ones entail socio-economic costs and should therefore be avoided. In this context the GST could also assess and highlight how technological, financial, and policy innovations have reduced the costs of mitigation options and thereby expanded socially beneficial opportunities since Parties adopted their last NDCs (Constantino, Wubet, & Herz, 2018).

Again, the signal value could probably be maximised if the sectoral decarbonisation visions contained ‘S.M.A.R.T’ objectives and indicators. These could for example include targets for when the individual sectors should achieve (net) zero emissions as well as sustainability in the broad sense, such as targets for reducing air pollution or traffic deaths.

Refining the signal provided from the PA would not only help guide the next round of NDCs, but could also serve as an updated reference point for all kinds of initiatives (including non-state and subnational actors). It would provide legitimation and orientation for transnational governance initiatives and thus help ‘orchestrate’ the groundswell of climate action (Hale & Roger, 2014). The PA was able to raise global recognition and awareness of climate change throughout all layers of society. By further specifying what achieving the PA’s objectives would mean, the ideal GST could channel this attention to the challenges that need to be overcome on the ground (Hermwille et al., 2019).

From an equity perspective, an ideal GST would also provide guidance on what level of effort individual countries should make. However, this runs counter to the GST’s mandate to address only collective efforts. Also more generally, efforts to calculate ‘fair shares’ have so far gained little traction politically. The first GST will therefore probably need to start with the bottom-up approach that underpins the Paris Agreement. Parties were requested to explain why they considered their NDCs to be a fair contribution to the global effort. The GST could summarise these explanations and try to work towards a commonly applicable approach to justifying the fairness of contributions. To be in a better position for future stocktakes, Parties could also mandate the SBSTA to develop a consistent framework or set of indicators that could be used to assess the adequacy of efforts and equity. The limitation of the mandate to address only collective progress may be overcome by assessing groups of countries (Northrop et al., 2018). For example, Parties could be grouped into tiers according to indicators of responsibility and capability such as current and historic per capita emissions or GDP.

3.2.3. Guidance and Signal for Adaptation

The signal sent by the PA on adaptation is very generic. The related objective in Article 2.1 (b) is “Increasing the ability to adapt to the adverse impacts of climate change and foster climate resilience and low greenhouse gas emissions development, in a manner that does

not threaten food production". In addition, Article 7.1 establishes "the global goal on adaptation of enhancing adaptive capacity, strengthening resilience and reducing vulnerability to climate change, with a view to contributing to sustainable development and ensuring an adequate adaptation response in the context of the temperature goal referred to in Article 2". Hence, essentially, the adaptation goal of the PA is to adapt to climate change. This objective is neither very specific, nor measurable, nor assignable, nor time-bound.

The GST could therefore endeavour to develop more specific guidance on what an adequate adaptation response would look like. This guidance could potentially be differentiated according to what impacts could be expected in a 3-4°C and 1.5°/2 world. On this basis, the GST could determine the 'adaptation gap', i.e. to what extent current adaptation plans, policies and support (financial and technical) provided are 'adequate' and 'effective' to respond to needs. However, setting "S.M.A.R.T" global goals for adaptation is difficult as needs and related progress are very context-specific, depending on what the impacts and vulnerabilities are at local level.

The main signal on adaptation could therefore be to highlight that substantial climate impacts are already happening, that they are going to get far worse, and that the current adaptation response is inadequate (IPCC, 2014a, 2018; UNEP, 2014, 2017). The lack of action on adaptation is still not as much on the public radar as the lack of action on mitigation. In this way, the GST could help to force governments to keep climate change impacts and adaptation on their national agendas as well as encouraging (developed country) governments to increase financial support for adaptation to the developing world.

Signalling the severity of prospective climate impacts would also help reinforce the signal on the urgency of mitigation action. As the PA recognises in Article 7.4, greater levels of mitigation can reduce the need for additional adaptation efforts, and greater adaptation needs can involve greater adaptation costs.

From an equity perspective, it is highly unjust that those who are least responsible for causing climate change are the most vulnerable to its impacts. The Convention in Article 4 therefore requires developed countries to provide support for adaptation efforts by developing countries, effectively calling for an equitable sharing of the adaptation burden. The GST could undertake to develop a shared understanding of what an equitable response to the inequitably distributed impacts could look like. If such a shared understanding was developed, this could lead to adaptation being treated as a global challenge (Winkler, 2019). Such a shared understanding should also take into account intranational equity, focussing support on groups that are most vulnerable.

3.2.4. Guidance and Signal for Finance

On finance, the guidance and signal provided by the PA so far relate to financial flows in general and to the provision of financial resources for mitigation and adaptation in particular.

- Article 2.1(c) establishes the objective to make all finance flows "consistent with a pathway towards low-greenhouse gas emissions and climate resilient development".
- Article 9.1 reiterates the obligation of developed countries to provide financial resources to developing countries. In addition, Article 9.2 encourages other Parties to provide such support voluntarily. Article 9.4 reiterates earlier calls that provision of financial resources "should aim to achieve a balance between adaptation and mitigation".



There is some evidence that Article 2.1(c) has already contributed to initiating a paradigm shift in the financial industry (Chenet, Zamarioli, Kretschmer, & Narvaez, 2019). Nonetheless, as with mitigation, the Paris objectives for finance are arguably too broad and general to provide clear guidance. In particular, there is so far no definition of what being “consistent with a pathway towards low-greenhouse gas emissions and climate resilient development” would mean. The objective is therefore fairly unspecific, not measurable, not assignable and not time-bound and hence hardly actionable in its current form. Ideally, the GST process would elaborate guidance on what ‘consistency’ means. For mitigation, such guidance could build on the sectoral decarbonisation visions discussed above. If there was a shared vision that decarbonising sector A would mean promoting x, y, z and phasing out a, b, c, this would provide guidance to governments and financial actors on where to direct investments. Similarly for adaptation, if there was a shared understanding on what an adequate and equitable adaptation response to climate change should look like, this could serve as guidance for finance.

Based on such guidance, the GST could signal the urgency of the need to redirect financial flows by highlighting to what extent they are currently not consistent with the objectives of the Agreement. It can further signal what consistency might entail, without being prescriptive, for example, highlighting progressive countries with respect to broad areas such as financial policy and regulation (e.g. climate stress testing and disclosure), fiscal policies (e.g. fossil fuel subsidy reform and resilience levies) and public finance (e.g. public procurement and finance spent through development finance institutions) (Watson & Roberts, 2019). This aspect will be further pursued in the section on transparency.

In addition, part of the challenge in redirecting financial flows is a lack of information about climate-related financial risks. If markets were informed better about climate-related risks, this would contribute to shifting investments. The GST could contribute to this process by signalling the impacts climate change itself is going to have on investments, as well as the potential impacts of mitigation policies, such as the potential need for early retirement of assets such as unabated coal power plants (Chenet et al., 2019).

On the provision of financial resources, a ‘S.M.A.R.T’ benchmark was established at COP15 in Copenhagen. There, developed countries pledged to jointly mobilise USD 100 billion a year by 2020 to address the needs of developing countries. In addition, the decision adopting the Paris Agreement establishes that developed countries intend to continue this mobilisation goal through 2025, and that “prior to 2025 the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement shall set a new collective quantified goal from a floor of USD 100 billion per year, taking into account the needs and priorities of developing countries” (UNFCCC, 2016a, p. para 53).

The GST could signal at what level the next collective goal should be set in terms of effectiveness and equity. The Convention in Article 4.3 explicitly recognizes “the need for adequacy and predictability in the flow of funds”. The GST could provide guidance on what adequate provision of finance should mean by taking stock of priorities and support needs of developing countries. On this basis, the GST could quantify the ‘finance gap’ between climate finance that is being mobilized and the finance that would need to be mobilized to achieve the PA’s objectives in an equitable manner. Again, such a needs assessment could build on guidance for sectoral decarbonisation pathways and adequacy of adaptation as discussed above. It would potentially be useful to differentiate the ‘finance gap’ for adaptation and mitigation.

On this basis, the GST could develop guidance for achieving a balance between adaptation and mitigation finance. Similar to the goal of achieving overall consistency of financial flows with the Paris objectives, the 'balance' goal remains to be defined. Through the transparency function, the GST could further develop and refine the existing signals by going into more detail on finance received by those particularly vulnerable to climate change including the least developed countries and small island states. It could further detail the sectors receiving much of this finance and by process, the sectors that are receiving less, thereby signalling where provision of finance should be increased.

From the equity perspective, the GST could also develop guidance on what equitable effort sharing in the provision of finance should look like. Article 4.3 of the UNFCCC commits developed countries to providing finance and explicitly recognizes "the importance of appropriate burden sharing among the developed country Parties" with regards to the provision of climate finance (UNFCCC, 1992).

Finally, the GST could develop guidance for the mobilisation aspect of the collective finance goal. The goal refers not only to public finance but also to private finance mobilized by public interventions. The question is, for example, whether private finance that is mobilized in developing countries by interventions of developed countries should be counted towards developed countries' fulfilment of the collective finance goal or towards the host countries' efforts to implement its NDC, or both. Another example is whether it is appropriate for developed country private enterprises, enabled by their governments' intervention, to invest in adaptation efforts in developing countries, charge user fees, and count this arrangement, which is ultimately funded by the fee-payers of the developing country, toward the collective finance goal (Holz, Athanasiou, & Kartha, 2019).

3.3. Transparency and Accountability – Where Are We Now?

3.3.1. General Considerations

Climate change has been characterised as a collective action problem (IPCC, 2014b). In this context, a rationalist theory of (transformative) change is often assumed, according to which change is typically understood to be incremental and market-driven. Prices (whether they are monetary, political, or any other kind) are the drivers of change. In this regard, one of the key criticisms of the PA is its lack of legal compulsion (Depledge, 2016; Rajamani, 2016) which limits the ability to impose costs on non-compliant governments. To some extent, legal obligation has been substituted by a focus on transparency in the hope that a threat of 'naming and shaming' can discipline policy makers to adequately implement their NDCs (Oberghassel et al., 2015, 2016; Oberthür & Bodle, 2016; Bodansky, 2016). But what is required in order to make naming and shaming effective and what can the GST contribute to this end?

For the 'naming' part a key requirement is transparency. Without accurate and sufficiently granular data it remains impossible to determine whether, and to what extent, countries have achieved their pledges. For the 'shaming' part, a high level of public attention is required. The transparency framework will most likely not be sufficient in this regard. It is unlikely that the technical expert reviews, i.e. independent reviews of a Party's reporting by a team of international experts, will receive a lot of public attention unless they are somehow



highlighted at an international event.¹ Also, the review reports may not be written in a format easily accessible to the media and wider public (Hermwille et al., 2019).

This is where the ideal GST could make a contribution: by publicly receiving, reviewing and appraising individual country reports in a format amenable for a wider public. However, the GST has a very narrow mandate (if at all) in this regard: Art. 14.1 postulates that the GST is supposed to assess *collective* progress only. Hence, Milkoreit and Haapala (2017) argue that there is no scope for ‘naming and shaming’ within the GST. However, while individual countries will not be put into the spotlight in the official process, the GST could still create an echo chamber for the transparency framework that helps to attract the necessary public attention. If collective progress is on the political agenda at the global level, the natural next question at the national level would be to ask what each country contributed to the status quo (for a detailed discussion of pathways towards accountability see Karlsson-Vinkhuyzen et al., 2018). While the official GST does not have the mandate to assess the performance of individual countries, it could help create framework conditions that could allow other actors to do so. For example, pro-compliance actors at national level could use the data from the transparency framework and the public attention generated by the GST process to challenge their governments for their lack of action.

Taking another approach, Milkoreit and Haapala (2017, p. 9) highlight that enhancing ambition may be achieved by creating a mechanism that relies on ‘pride and fame’ rather than ‘fear and shame’. They suggest inviting Parties to voluntarily subject themselves to international review, replicating the approach of the voluntary national reviews under the UN High-Level Political Forum for Sustainable Development for evaluating progress towards the Sustainable Development Goals.

However, a generic reporting and review process would duplicate the processes taking place under the Enhanced Transparency Framework. More targeted added value could be generated by inviting countries to provide case studies on success stories, which could then be highlighted in the GST and used to draw generally applicable lessons. This could include highlighting socio-economic costs and benefits of actions that have been taken and whether these costs and benefits were smaller or larger than initially expected (Constantino et al., 2018).

3.3.2. Transparency and Accountability for Mitigation Actions

For mitigation, the first question is to what extent global emissions are on a pathway that is compatible with the Paris objectives, or not. What are the aggregated projected GHG emissions that result from all actions and when will emissions peak? And what is the projected increase in global average temperatures above pre-industrial levels based on current progress? Going down to the implementation level, the GST could also assess to what extent NDCs reflect the “highest possible ambition” as called for in the PA, given potential, costs and benefits (Höhne, Jeffery, Nilsson, & Fekete, 2019).

Furthermore, if sectoral decarbonisation visions as suggested in the previous section were developed by the GST (or another process feeding into GST), these could be used to maximise the transparency function. That is, the GST could take stock not only of current and projected emission levels at global level, but it could also provide a disaggregated

¹ In the past, for example the Multilateral Assessment Process under the Assessment and Review procedure for Annex I countries under the SBI (review process for Biennial Reports submitted by Annex I countries) has received rather little public engagement or attention and no higher-level event or measures to enhance publicity have been undertaken.

picture of the state and trends of decarbonisation at sector level, e.g. on the state and trends of zero-emission electricity sources or of energy efficiency.

An ideal GST would also interrogate whether the NDCs are in line with equity and the principle of common but differentiated responsibilities and respective capabilities, whether countries are implementing domestic policies to meet their NDCs and whether these policies can be considered a major deviation from past activities (Höhne et al., 2019). However, such an assessment is not covered by the mandate to assess only collective progress. Nonetheless, as discussed above the GST process could provide an echo chamber for discussions in other arenas. If collective progress is on the political agenda at the global level, the natural next question at the national level would be to ask whether the respective country and the individual sectors within the country are doing enough. Such national questioning might be all the stronger if the GST signalled not only the lack of mitigation action but also the falling costs and non-climate benefits of mitigation options, as suggested in the preceding section. If the GST provided data and information on such points, this could aid national pro-compliance actors in the national discussions.

From the equity perspective the assessment needs to bear in mind that contributions by developing countries are conditional on adequate provision of means of implementation by developed countries. The assessment of whether mitigation actions are adequate to achieve the PA objectives therefore also needs to take into account whether adequate levels of support are being provided (Holz et al., 2019).

3.3.3. Transparency and Accountability for Adaptation Actions

According to Article 7.14(c) of the PA, the GST shall 'review the adequacy and effectiveness of adaptation and support provided for adaptation'. However, as discussed in the previous section, such a review is difficult as long as there is no guidance on what an adequate adaptation response would look like.

Adaptation is different from mitigation in the sense that to a large extent costs and impacts are local and similarly the benefits of adaptation are local. Thus in terms of national adaptation actions governments are primarily responsible to their own populations - and thus the need for international transparency is decidedly different than for mitigation. The GST in turn is about taking stock of collective progress.

However, as for mitigation the GST could take stock not only of collective, global level progress, it could also provide a disaggregated picture of the state and trends of adaptation and adaptation approaches at national and sector level and the approaches and methodologies used by countries to assess needs and progress. Enhanced transparency can play an important role in terms of furthering clarity of assumptions, approaches and metrics adopted at national level as well as the status and trends of efforts and results.

From an equity perspective, an ideal GST would in this context also interrogate whether adaptation efforts are indeed focused on the most vulnerable (Holz et al., 2019).

This would facilitate assessments at collective level under the GST, including whether the global needs for adaptation (governance/policy/legislation as well as finance and knowledge/capacity) are being met and if not, why? This stocktaking could include:

- A qualitative assessment of the state of adaptation globally. What impacts are expected globally and regionally (by sector) and what has been done to adapt to such impacts? Seen over time such qualitative assessments could indicate a direction of change in the global situation.



- An economic (quantitative) assessment of adaptation costs, which can then be compared to financing provided to adaptation.

In addition, the GST could provide an opportunity for Parties and stakeholders to share lessons learned and good practice. This aspect will be discussed in more detail in the subsequent section on knowledge and learning.

3.3.4. Transparency and Accountability for Finance Actions

The use of this function for finance is somewhat similar to that for mitigation in that it may be used as a lever to amplify the information from the transparency framework. In particular, the GST will speak to how much Parties are delivering (or not) with respect to the USD 100 billion commitment – and to progress towards the subsequently agreed 2025 goal – and in what form it is being delivered. Such achievement (or lack thereof) of this commitment that the GST will formally reveal would be a key contribution to transparency and accountability that would in turn contribute towards building trust and faith in the UNFCCC around provision of climate finance. While the GST may formally only assess collective achievement of the finance goal, as discussed above the process may provide an echo chamber for discussions on whether individual countries are contributing their fair shares.

Ideally, the GST should not only take stock of what finance is being delivered, but also take stock of the extent to which these flows correspond to the needs of finance for adaptation and mitigation. This is a question of overall effectiveness as well as a question of whether support is fairly distributed among recipient countries and sub-groups within these countries. However, currently data on needs is not consistent nor complete particularly at the collective level. A first attempt to articulate needs will be made in 2020 by the UNFCCC Secretariat – and mandated every two years after, which will inform the degree to which some assessment of needs and how they are being fulfilled can be made. Nonetheless, the GST could make a key contribution to improving the data situation by synthesising national assessments and independent assessments (Watson & Roberts, 2019).

Taking stock of the consistency of global financial flows with the objectives of the Paris Agreement is even more difficult as there is no agreed definition on what consistency would entail. The transparency framework does not at present directly seek information on what Parties are doing to make financial flows consistent. Nonetheless, the GST could provide a first attempt at assessing collective progress building on efforts and related reporting by progressive countries. In this way, the GST could collectively report on flows that are not consistent, such as continued support of coal exploration, without shaming particular nation states (Watson & Roberts, 2019).

3.4. Knowledge and Learning – How Do We Get Where We Need to Go?

3.4.1. General Considerations

The creation and diffusion of scientific, economic, technical and policy-related knowledge on the understanding of and/or possible solutions to the problem at hand is at the core of the GST's mandate. The provision of transparency as discussed in the previous section in itself generates substantial knowledge and learning. This section discusses additional steps that could be taken to build on and further extend the knowledge generated by the transparency function.

3.4.2. Knowledge and Learning for Mitigation

On mitigation, a key item of knowledge is what kind of level of ambition is required in the upcoming NDC period, taking into account the achievements and shortfalls of the current

NDC period. Modelling studies have already explored the necessary increase in global ambition levels for 2030 and 2035 given the current NDCs and, along with further analyses, should inform the first GST (see for example Luderer et al., 2018; Rogelj et al., 2016; Vandyck, Keramidis, Saveyn, Kitous, & Vrontisi, 2016). So while this information is not new, the GST could amplify its strength and officially make it the yardstick against which to assess the newly proposed NDCs. It is not within the mandate of the GST to assess individual NDCs, but as discussed in the previous section, it could provide the means for others – including national policymakers and civil society organizations – to carry out such work.

As argued above, an ideal GST should also broaden its focus beyond consideration of emissions. Milkoreit and Haapala (2017, p. 2) have proposed to ‘use the GST as a peer-learning platform for “how to do transformational change”’. This could be achieved if the GST were to identify synergies and transformative potentials to facilitate sustainable development in broader terms than just focussing on mitigation potentials. A process to develop sectoral decarbonisation visions as discussed for the guidance and signal function and tracking their implementation as discussed for the transparency function could be a key knowledge-building exercise towards this end. The GST could provide specific information addressing sectoral transformation challenges and providing information targeted to specific actors. The GST could for instance identify and showcase particularly ambitious NDCs or policies and measures taken to date drawing on the information collected as part of the transparency function. Ideally this should focus on those areas where common transformation challenges have been identified in previous work. While there are numerous studies on best practice policies and measures, within the UNFCCC process how to actually achieve emission reductions has so far not been discussed much. Showcasing and discussing ambitious policies and measures within the official GST process would therefore fill a gap in the current UNFCCC process and could help to raise the bar of what is commonly perceived as ‘the highest level of ambition’. Covering a diverse portfolio of countries at different stages of development and a wide range of specific national circumstances would help to account for the latter part of Art. 4.3, to take into account equity and national circumstances (Hermwille et al., 2019). The information drawn from Party reports could be complemented by other sources such as the IPCC special report on the 1.5°C goal, which outlines pathways to 1.5°C in the context of sustainable development in some detail.

3.4.3. Knowledge and Learning for Adaptation

On adaptation, the GST could foster learning on what climate-resilient development means and how it can be fostered. However, as discussed in the previous sections, the GST faces many unresolved methodological issues, including in particular:

- Lack of agreed standardized metrics for measuring, aggregating and comparing adaptation results;
- Lack of a standardized framework and methodology for how data should be collected and processed in national reporting;
- Lacking definitions of key concepts such as ‘adequacy’ and ‘effectiveness’.

These issues are to some extent hindering learning (e.g. it is difficult to directly compare results or even if adaptation activities actually succeeded in achieving the intended impacts). On the other hand, the GST process can to some extent also inform those issues building on practical examples from countries or other entities. GST is thus an opportunity for compiling global lessons on:



- Which types of adaptation actions are being pursued in different sectors and different national contexts (environmental, socioeconomic etc.). This could essentially be a mapping exercise of what is actually being done on the ground (i.e. by definition considered potentially worthwhile adaptation activities).
- Which adaptation actions are more effective in increasing resilience, reducing vulnerability and enhancing adaptive capacity. A true quantification of this would depend on agreed standardized metrics for comparison across sectors and national contexts. At this stage, qualitative assessment is possible to some extent.
- What metrics have been applied to measure outcomes and impacts of adaptation in different sectors and national contexts, and what frameworks and methodologies have been applied to compile and aggregate data at the national level. Again, this would be an exercise to map examples and suggestions that can inform the global discourse and help to develop standardized approaches.

3.4.4. Knowledge and Learning for Finance

On finance, major parts of the contribution the GST could make to knowledge and learning have already been discussed in the previous section as generation of new knowledge and learning is a precondition for implementing the transparency function: tracking the extent to which financial flows are being shifted and whether there is an appropriate balance between adaptation and mitigation in climate finance requires developing a sense of what 'consistency with Paris' and 'balance between adaptation and mitigation' should mean.

In addition, the GST could amplify the shared understanding and learning on climate finance that has been achieved since 2014 through the UNFCCC Standing Committee on Finance's Biennial Assessment and Overview of Climate Finance Flows (BA). Decision 19/CMA.1 (Matters relating to Article 14 of the Paris Agreement and paragraphs 99–101 of decision 1/CP.21), paragraph 36(d) states that the GST will "include information from the latest biennial assessment and overview of climate finance flows of the Standing Committee on Finance." The BA, while focussed on reviewing methods to track climate finance and estimating both global climate finance as well as the provision from developed to developing countries, has worked to normalise climate finance concepts and most recently (in 2018) included discussion of Article 2.1(c) through discussion of methods, data and matters relevant to establishing consistency of financial flows with the PA (Watson & Roberts, 2019).

The BA is unlikely to be, however, an explicit guide to what is consistent and what is not consistent with the PA. This is both due to the nature of the political process that produces the BA as well as the its historical more backward looking nature. The GST could take a more forward-looking perspective and host discussions on what consistency could mean and by which policies and institutions it could be achieved. The objective for an ideal GST would be to develop specific guidance. However, this is unlikely to be achieved given the strong political ramifications of this issue (Watson & Roberts, 2019). Nonetheless, even just hosting discussions and digging into details of different approaches used by Parties and financial actors would contribute to policy learning.

Given the contentious nature of the issue, it can be assumed that implementation of Article 2.1 (c) will mostly take place outside the UNFCCC. To make sure to capture the breadth of discussions and activities that are taking place globally, the GST could specifically invite input from relevant actors, such as the Task Force on Climate-related Financial Disclosures.

+ 4. Operationalizing the Functions



Whether or not the GST will be able to fulfil its functions will depend on how it is designed. This section discusses which process- and information-related conditions are needed to achieve the potential impacts discussed in the previous chapter. It also considers the extent to which the adopted modalities of the GST meet those conditions. This chapter is strongly derived from Hermwille et al. (2019).

4.1. Information-related Conditions for an Ideal Global Stocktake

The GST process first of all needs to be provided with the information that is needed to answer the questions of 'Where are we now?', 'Where do we need to go?', and 'How do we get there?'. In the following we discuss what kind of information inputs would be necessary to answer these questions.

4.1.1. Setting Benchmarks

As discussed in chapter 3, the answer to the question 'Where do we need to go?' needs to be spelled out much more specifically than has been done so far for each of the topics mitigation, adaptation and finance. Chapter 3 suggested that 'S.M.A.R.T' objectives should be developed for each of the topics mitigation, adaptation and finance. These objectives could then be used as benchmarks to measure to what extent the global community is making progress.

The GST process would therefore need inputs on how to define and operationalize measurable benchmarks for the various objectives of the Paris Agreement. Chapter 3 discussed in particular the following items:

- Benchmarks for the global mitigation progress required to meet the well below 2°C or 1.5°C target – what kind and level of action is required in what timeframe? To elaborate on this point the GST needs to take into account the best available climate science, in particular the IPCC.
- Sectoral emission pathways and other indicators of decarbonisation such as the rate of energy efficiency improvements or the relative shares of high-emission and low-emission energy sources, as well as other dimensions of sustainability. The IPCC plays a crucial role in this regard as well as it is the globally most prominent and legitimate institution synthesising and providing such information. Target values for such benchmarks would need to be differentiated at regional or national level to reflect national circumstances so that they are both relevant and take into account equity considerations as different countries will require different timeframes to implement the transition.
- On finance, the USD 100 billion mobilization objective and the subsequent objective that is to be agreed by 2025 constitute a collective benchmark. The GST could contribute to the development of the 2025 objective by analysing what levels of support developing countries actually require.
- An ideal GST could also set benchmarks for equity in the sense of fair country shares in the global mitigation effort and in the effort to achieve the USD 100 billion mobilization goal and future finance goals. However, as the mandate of the GST is to consider collective progress, such a suggestion would probably not be accepted politically.



- Benchmarks on how to establish a balance between adaptation and mitigation finance in international provision, considering the pros and cons of definitions and approaches that are currently being used.
- Benchmark for key areas of consistency of all financial flows, such as financial policy and regulation, fiscal policy and public finance. Similar to mitigation benchmarks, this would have to take into account country circumstances affecting the speed at which countries could implement the finance transition.
- For adaptation, as discussed it is difficult to define globally applicable benchmarks of success. However, benchmarks for reporting on adaptation would facilitate assessments of collective progress. This could be in the form of minimum standards for e.g. coverage of sectors, timelines, transparency of reporting methods, approaches for cost assessments, etc.
- Benchmarks for adaptation could also relate to provision of information on the existence of governance structures, legislation and policies.

4.1.2. Transparent, High-Quality Reporting on Current Efforts and Lessons Learned

The GST will require comprehensive and high-quality information to be able to answer the question “Where are we now?”. This information should ideally be organised according to progress benchmarks as suggested in the previous section.

On mitigation, information sources need to be able to clearly quantify the emission levels that will result from Parties’ NDCs. Parties’ GHG inventories are the main information source for this question. The information needs to be transparent, accurate, complete, consistent, and comparable (TACCC principles, see IPCC, 2006). The PA explicitly refers to this standard by requiring Parties to “promote environmental integrity, transparency, accuracy, completeness, comparability and consistency, and ensure the avoidance of double counting...” (UNFCCC, 2016b, Art. 14.3). However, the diversity of the NDCs is a challenge and creates the need for differentiated information requirements for different types of NDCs (for a discussion of information requirements for NDCs see Briner & Moarif, 2016; Schneider et al., 2017; Herold, Siemons, & Herrmann, 2018).

On finance, stringency and transparency of reporting would need to be significantly improved. Currently, there is not even a clear agreement on what counts as climate finance. For example, while some Parties account only the grant equivalent of loans towards their finance pledges, other Parties account the full loan volume. Nor is there agreement on what consistency of financial flows should mean, as discussed in chapter 3.

On adaptation, there similarly is no agreement on what metrics to apply to measure outcomes and impacts of adaptation in different sectors and national contexts, and what frameworks and methodologies to apply to compile and aggregate data at the national level.

The GST or other processes under the UNFCCC could contribute to the development of standardised metrics by mapping examples and suggestions that can inform the global discourse and help to develop standardized approaches.

In addition to figures on emissions, finance and possibly other quantifiable indicators of progress, Parties should also share information on the actions they have taken and lessons they have learned in order to facilitate policy learning. What are priorities and visions towards a low-carbon and climate-resilient economy? What are the perceived key

challenges/barriers for progress and what strategies are in place to address them? And how could progress be assessed (Hermwille et al., 2019)?

4.1.3. Political relevance

Lastly, an ideal GST requires information that is able to inform national policy-making and to trigger national enhancement of ambition. The GST needs to provide guidance and orientation to countries. This can best be achieved by showcasing solution-oriented outcomes, opportunities and best practices, instead of focusing on gaps in action alone. The following conditions can help to strengthen the political relevance of the GST and its outcome at the national level (Hermwille et al., 2019):

- Information used stems from a source with credibility/legitimacy;
- Sector-specific information regarding challenges and opportunities is shared from country's own perspective and synthesised in global/aggregate reports;
- Good practice examples can be identified (e.g. in a format similar to the TEPs – see further below);
- Multiple benefits between mitigation and adaptation actions, as well as with respect to other dimensions of sustainable development are identified;
- All of the above information is reflective of the differences in national contexts and circumstances for which recommendations are being developed. That is, the GST should not promote a 'one size fits all' solution but a portfolio of options that are suitable for different circumstances and are provided from multiple sources (and voices).

4.2. Process-related Preconditions

4.2.1. Overall Considerations

The GST needs to be understood as a process rather than an event or a specific outcome (also see Milkoreit & Haapala, 2018). One key point of the GST is to help create a political moment where policy makers are put under scrutiny regarding their level of ambition (or lack thereof). Sending signals and contributing to accountability and policy learning will take time to be effective.

The modalities of the GST agreed in Katowice do provide for an in-depth process. They foresee three phases: information collection and preparation, technical assessment and a political phase of the "consideration of outputs" (UNFCCC, 2018a). The GST will commence 1.5 – 2 years (depending on the timing of the publication of the 6th Assessment Report of the IPCC) before the final consideration of outputs that will take place during COP29 in 2023. In this section we will derive key process-related preconditions for the three phases.

A fundamental precondition for all components of the GST is procedural equity. Parties already agreed in Katowice that the three thematic areas of the GST should be addressed in a balanced manner, including via by balanced time allocations. The GST process should provide equitable access for different groups of stakeholders, as well as the equitable treatment of their respective inputs and perspectives. This should include not only facilitating participation of developing country government delegations, but also participation of non-governmental stakeholders. Stakeholders from developing countries will also require support to effectively engage by producing inputs. Otherwise, the GST will



repeat the experience of the Talanoa Dialogue, where inputs were heavily dominated by developed country research and civil society organisations (Holz et al., 2019).

4.2.2. Information Collection and Technical Assessment


The first step of the GST as a process is to gather and process relevant data and information, particularly information provided from the transparency framework. This step is particularly relevant for the transparency and accountability function as well as for the knowledge and learning function. A challenge here is that the information provided by Parties through the transparency framework may be incomplete or biased. To maximise the transparency and accountability function, there should therefore ideally be an opportunity for stakeholders to comment on and complement these inputs, particularly the transparency reports and communications from parties.

The modalities adopted in Katowice are somewhat worrying in this respect: the decision specifies that the inputs will be made “fully accessible *by Parties*” (UNFCCC, 2018a, para. 10 and 21, emphasis added). While this does not explicitly exclude that the inputs will be publicly available, the phrase caused some concern among observers that the GST could end up being a rather secretive endeavour. To help maximise the quality of the inputs from Parties, they should be available to stakeholders and the GST should be open to inputs from stakeholders with at least two rounds, a first round for initial input in parallel to the reception of input from the transparency framework, and a second round to provide the opportunity to comment on and complement the inputs received in the first round.

The process could further be facilitated by a technical synthesis report by the Secretariat that systematically collates the results of the technical expert reviews that are undertaken under the Enhanced Transparency Framework. It may also include the deficits and proposed “areas of improvement” identified in the expert review process as well as insights from the facilitative, multilateral consideration of progress which is supposed to conclude the review process (UNFCCC, 2016b, Art. 13.11-12). The modalities of the GST as adopted in Katowice provide such a mandate. In fact, they request the Secretariat to prepare four synthesis reports on the state of emissions, the progress of NDC implementation, the state of adaptation efforts, and the state of financial flows.

As discussed above, singling out individual countries will not be possible under the GST. One option to overcome this limitation could be to derive assessments for anonymised groups of Parties in the synthesis reports. For example, the reports could include statements like ‘X countries representing Y per cent of global emissions show significant implementation deficits and are unlikely to meet their targets unless implementation is improved.’ The report could be the basis of discussions and serve as a means to hold countries accountable. It would be accessible to various stakeholders and could be leveraged to create political pressure on the national level. How these reports will be considered in the technical assessment is however not currently specified in the modalities for the GST (Hermwille et al., 2019).

Complementary to this suggested public appraisal of inputs, a more facilitative and issue specific workstream would be required to enable information sharing and ‘transformational learning’ (Milkoreit & Haapala, 2017). The GST modalities structure its work according to three “thematic areas” – mitigation, adaptation, and means of implementation and support. Notably and after substantial controversy, Parties agreed to open the process to also consider loss and damage associated with the adverse effects of climate change. On each of these themes, technical dialogues will be held by means of “in-session round tables, workshops or other activities” (UNFCCC, 2018a, para. 6).



This creates ample leeway for the Chairs and co-facilitators to provide a meaningful structure for the technical assessment. Ideally, this would take the form of structured dialogues of experts, which should focus on concrete transformation challenges for adaptation, mitigation and finance in order to fully exploit the potential of these dialogues. Input from non-state and subnational initiatives could be particularly valuable here and the modalities of the GST enable this stakeholder engagement. Non-party stakeholder participation was one of the more contentious issues in Katowice. But, ultimately, Parties decided that the GST will be “conducted in a transparent manner and with the participation of non-Party stakeholders” (UNFCCC, 2018a, para. 6). Opportunities for participation include provision of written submissions as input to the GST and engagement in the technical dialogues outlined above.

How could these technical dialogues be structured? Milkoreit & Haapala (2018) suggest that the first periodic review (2013-2015) of the adequacy of, and overall progress toward, achieving the long-term global goal could serve as a valuable precedent, in particular the Structured Expert Dialogue that was conducted under this review. Alternatively, the dialogues could be modelled, for example, after the existing Technical Examination Processes (TEPs) held under the joint auspices of the UNFCCC’s Subsidiary Bodies for the topics of mitigation and adaptation, or the Technical and Economic Assessment Panel (TEAP) under the Montreal Protocol on Substances that Deplete the Ozone Layer (Hermwille, 2018). The latter has been particularly successful in translating technical work at the expert level into a gradual increase of ambition at the political level (Andersen and Sarma 2002; Gonzalez et al. 2015). Finally, the Talanoa Dialogue that concluded at COP24 in Katowice was seen as a precedent for the GST. It solicited a large amount of input from all kinds of stakeholders. The process produced a synthesis report of all the inputs received and discussions held over the course of the year (UNFCCC, 2018c) and resulted in the ‘Talanoa Call for Action’ (UNFCCC, 2018b). However, that call did not trigger immediate political response in terms of more ambitious targets. Within the negotiations it lacked a high profile and given these limitations it seems doubtful whether it can effectively stimulate further action (Obergassel et al., 2019).

To ensure engagement and support of all Parties, the technical dialogues will need to consider equity issues, both in their design and in the content considered. In terms of process, the dialogues should be scheduled in a manner that is inclusive, accessible, and manageable to all Parties, and broad in the scope of issues considered. At the same time, the technical assessment should also more directly address equity and the extent to which Parties, or groups of Parties, are falling short on their equitable contributions. A key challenge here is that equity issues are inherently differentiated, relating to the adequacy of individual efforts, which clashes with the mandate of the GST to assess collective progress. The aforementioned approach of deriving assessments for anonymised groups of countries could be used with a focus on metrics of a more equitable world, such as access to energy, shifts in per capita emissions, or the ability of Parties and non-Party actors to access finance. Alternatively, one could explore assessing equity by grouping countries according to NDC type or socioeconomic circumstances and developing benchmarks for what level of effort each group should make from an equity perspective (Hermwille et al., 2019).

As discussed in the preceding chapter, the GST should also take into account, and relate itself to, other relevant international agendas endorsing sectoral transformation pathways, particularly the Agenda 2030 for Sustainable Development with its Sustainable Development Goals (SDGs) as well as UN Habitat’s New Urban Agenda. The goals of any single Agenda can only be achieved in accordance with the other Agendas (Wolfgang Obergassel,



Mersmann, & Wang-Helmreich, 2017; von Stechow et al., 2016). The modalities of the GST provide at least one inroad to do so: “Relevant reports from United Nations agencies and other international organizations, that should be supportive of the UNFCCC process” are explicitly listed as one of the information sources to be considered (UNFCCC, 2018a, para. 37f)

Finally, a key procedural requirement for the technical phase of the GST is adequate timing. The inputs from the Enhanced Transparency Framework, such as the data and information from the technical reviews, need to be prepared and published at an appropriate time. Likewise, the results of the technical phase need to duly feed into the political phase of the GST and the political phase must be concluded in a timely manner to have an effect on national political agendas regarding the development of subsequent NDCs. At least for the first GST, this requirement will not be met. The provisions of the Enhanced Transparency Framework will only be applied as of 2024 (Obergassel et al., 2019). The first GST, therefore, will have to rely on the more limited information provided in the more limited previous transparency framework, namely National Communications, Biennial Reports and Biennial Update Reports, as well as other inputs, such as the NDCs themselves, adaptation communications, national adaptation plans, reports from the bodies under the UNFCCC, IPCC reports, and others. For subsequent GSTs the inputs from the Enhanced Transparency Framework will be available sufficiently in advance to be used in the GST (Hermwille et al., 2019).

4.2.3. Political phase: Consideration of Outputs

The GST concludes with the political phase of the final consideration of outputs that will take place during COP29 in 2023. The political phase is relevant for all three functions discussed in this paper. The messages emanating from the GST process must be strong enough to effectively stimulate national and subnational governance levels. The political weight of the suggested “public appraisal of inputs” could be maximised if Parties formally ‘acknowledged’ or ‘took note of’ corresponding reports and stakeholder comments through a high-level endorsement as part of the political phase. This could help generate the level of public attention required to impact on national political agendas. The modalities adopted in Katowice foresee high-level events for the conclusion of the GST, which would identify good practices and opportunities for enhancing action. The modalities also state that the events could provide a summary of key political messages and recommendations. However, they leave open the question of whether these events would result in a formal CMA decision or a political declaration with a lesser legal footing (UNFCCC, 2018a, para. 34).

Finally, the political phase of the GST needs to include a renewed political signal. Parties need to reaffirm that they still honour the PA and its goals and demonstrate their continued resolve to act upon them. Doing so will not only raise the stakes in terms of the reputational repercussions of non-compliance at the international level (Simmons, 1998). It will also enable stakeholders to hold their respective governments accountable at the national level, in the event that they do not fully implement or achieve their NDC. Periodically expressing collective commitment to the Paris Agreement may help to maintain support for it, and make it more costly for policymakers to (silently²) abandon climate ambition (Hermwille et al., 2019).

To achieve these outcomes, the final outputs of the GST process should include:

² Since achieving NDC targets is not legally binding, Parties do not need to formally withdraw if they no longer wish to implement those targets. Instead, they may simply disregard the Paris Agreement, at least until the next NDC cycle.

- High-level political messages on the need to enhance efforts contained in a summary report by the GST co-chairs;
- A detailed technical summary of available options, best practice, and recommendations (Northrop et al., 2018).

To give the most possible legal and political weight to the outcome, the final output of the process should be a CMA decision

- re-affirming Parties commitment to achieving the objectives of the Paris Agreement;
- urging Parties to urgently strengthen their efforts in all areas of adaptation, mitigation and finance;
- fully endorsing the high-level political messages and detailed recommendations emanating from the GST;
- urging Parties to fully take the results of the GST into account in the revision of their NDCs.

The decision could also request the IPCC and the subsidiary bodies to undertake further work to help inform the next GST, in particular on knowledge gaps that have been identified (Northrop et al., 2018).



+ 5. Conclusion



What makes an ideal GST? An ideal GST is one that facilitates transformational change. In this report we have outlined three distinct functions of the GST addressing different mechanisms of driving change. We believe that all three of these functions need to be exploited to maximise the catalytic effect of the GST.

For each of the functions, we have identified a number of key conditions for the GST to fully exploit its potential as a motor of transformation. Table 1, below, summarizes the findings.

Function of the Global Stocktake	Objective	Preconditions for an ideal Global Stocktake	
		Process	Information
Guidance and signal	Reinforcement of the collective goals agreed in Paris	Political endorsement of IPCC reports, restatement of commitment (“creed”) to collective targets Emphasis that current action on mitigation, adaptation and finance is insufficient	Best available science defining and adapting collective goals and pathways to reach them
	Further development and refinement of existing signal, definition of benchmarks for ambition	Processing and endorsement of sectoral transformation pathways and benchmarks Consistency with other international Agendas (SDGs, New Urban Agenda) Processing and endorsement of suggestions what ‘Paris-consistent financial flows’ and ‘balance between adaptation and mitigation’ could mean. Providing a forum for exchange including stakeholders such as transnational governance initiatives (e.g. GCA)	Information on sector-specific transformation challenges and benchmarks (input through best available science, TEPs...) Best available science on current and projected climate impacts Input on definitions of consistency of financial flows and balance of finance between adaptation and mitigation and data to operationalise these definitions
	Outputs useful to serve national discourses/planning purposes	Timing of Global Stocktake: needs to happen with sufficient time ahead of setting the next NDCs	Outputs need to align with national discourses contain concrete recommendations be public be differentiated/detailed
	Authority/legitimacy of outputs	Need high-level endorsement as well as public attention during the political phase of the Global Stocktake	Outputs should contain a concise summary by/for/of policymakers
Transparency and accountability	Tracking progress accurately	Availability of accurate and sufficiently granular data Adequate timing of transparency reports Public appraisal of (national) inputs e.g. in form of synthesis report of national technical reports under Art. 13 by Secretariat	Transparency of NDCs Meaningful information needs to be included in transparency reports TACCC principles: transparency, accuracy, completeness, consistency, comparability of data and information submitted by countries
	Public attention on	Public consultation round on inputs	Summary of national inputs, e.g. in

	progress towards meeting NDCs	to Global Stocktake	form of synthesis report including: summary of reaching progress for each country in context of available means of implementation recommendations for closing potential gaps towards reaching NDCs
Knowledge and learning	Promotion of peer-learning among Parties and other actors, as well as highlighting positive developments and synergetic opportunities as well as trade-offs to be avoided	“Workstream” that enables information sharing at sectoral level Decision on thematic focus areas for sharing lessons learnt Showcasing of best practice examples	Best available science on decarbonisation pathways, transformation strategies, consistency of financial flows... Information on best practice regarding implementation Solution-oriented outcomes instead of focus on insufficiency of action

Table 1: Synthesis of preconditions for an ideal Global Stocktake (adapted from Hermwille et al., 2019).

Essentially, to be effective, the GST needs to be designed as a process, not an isolated event, and this process needs to meet certain conditions :

- The **process** needs to be **inclusive**, facilitating participation by a broad range of stakeholders, in particular from developing countries. Facilitating participation should include not only participation at GST events, but also support for active engagement, such as providing written inputs to the GST.
- **Information** provided by Parties and complemented with other inputs needs to **enable benchmark setting** for climate action, **to allow for transparent assessments of the state of progress**, and to be **politically relevant** and concrete enough to trigger enhancement of action.
- The **process** needs to be **scheduled in a timely manner**, so that the informational input is ready when needed and the political output comes in time to be most effective.
- The process needs to **give stakeholders opportunities to comment on and complement the information provided by Parties** as this information may be incomplete or biased.
- Complementarily, the GST requires a **facilitative format** in which good practice can be shared, highlighted and processed into relevant recommendations. Ideally, this would take the form of structured dialogues of experts focusing on concrete challenges for adaptation, mitigation and finance and how to overcome them.
- Outputs should include **high-level political messages** on the need to enhance efforts as well as a **detailed technical summary** of available options, best practice, and recommendations. The final output should be a CMA decision fully endorsing the results of the GST and urging Parties to take them fully into account in the revision of their NDCs.
- Finally, the GST needs to **feature a high-level political event** in order to amplify the messages towards influencing national policy agendas and as a renewed political commitment that Parties still honour the PA and its goals.



An ideal GST could arguably best fulfil its functions if it was able to address not only the collective level of effort but also the efforts of individual Parties. However, the mandate of the GST is to assess only collective progress. This limitation may be overcome to some extent by assessing groups of countries. For example, Parties could be grouped into tiers according to indicators of responsibility and capability such as current and historic per capita emissions or GDP. In addition, the overall GST process may serve as ‘echo chamber’ for broader discussions on the efforts of individual Parties.

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