

Increasing Climate Data and Ambition in Indonesia through Enhanced Data Transparency and Incentive Schemes

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INTRODUCTION

Climate change has the potential to hinder Indonesia's progress toward zero poverty and food security. Temperature increases of approximately 0.8°C by 2030 are predicted for Indonesia¹, which is expected to negatively impact Indonesia's economic growth and performance. These changes expose Indonesia to a higher risk of drought, a reduction in food productivity, human health, and nutrition as well as a higher risk of malaria, dengue fever, and other infectious diseases, not to mention the sea level rise as an archipelago country. An International Food Policy Research Institute (IFPRI) report found that by 2030, climate change will have a significant and negative effect on the Indonesian agricultural and agri-business sector, which will subsequently affect both producers and consumers. On the other hand, the New Climate Economy suggests that smart policies designed to accelerate climate action could unlock more than US\$26 trillion in economic opportunities globally, while generating more than 65 million jobs and eliminating more than 700,000 premature deaths per year attributed to air pollution by 2030 (New Climate Economy 2018)².

Governments and private companies are now expected to collaborate to establish targets and policies that will enable considerable and widespread progress in order to outpace the most damaging and disruptive effects of climate change (Dickerson et al, 2018). The landmark Paris Agreement requires all parties to communicate their climate plans through nationally determined contributions (NDCs) with a view toward strengthening the global response to keep a temperature rise well below 2°C above pre-industrial levels during the 21st century, while striving to limit the temperature increase even further to 1.5°C and to increase countries' resilience in the face of a changing climate. The Intergovernmental Panel on Climate Change's special report, entitled "Global Warming of 1.5°C," mandated by countries as part of the Paris Agreement in December 2015, emphasizes the urgency of accelerating policy implementation and investment, while making it clear that reaching net-zero greenhouse gas (GHG) emissions by 2050 is both possible and necessary to achieve the 1.5°C goal (IPCC 2018)³. At the 2018 United Nations Climate Change Conference held in Katowice, countries adopted a rulebook that

¹ Oktaviani, Rina, Syarifah Amaliah, Claudia Ringler, Mark W. Rosegrant and Timothy B. Sulser. 2011. "The Impact of Global Climate Change on the Indonesian Economy." International Food Policy Research Institute (IFPRI) Discussion Paper. <http://www.ifpri.org/publication/impact-global-climate-change-indonesian-economy>.

² New Climate Economy. 2018. "Unlocking the Inclusive Growth Story of the 21st Century: Accelerating Climate Action in Urgent Times". New Climate Economy Report, Washington DC. <https://newclimateeconomy.report/2018/>

³ IPCC (Intergovernmental Panel on Climate Change). 2018. *Global Warming of 1.5°C*. Contribution of Working Group I to the Special Report of the Intergovernmental Panel on Climate Change. Geneva, Switzerland.

outlines how their climate actions will be planned, implemented, and reviewed to fulfill the promise of the Paris Agreement in a more transparent and rigorous manner.

Robust transparency and accountability rules under the Paris Agreement have implications for both governments and non-state actors (NSAs), particularly the corporate sector. The challenges for developing countries are exacerbated by the unavailability of high-quality climate data and difficulties in sustainably collecting, managing, and coordinating data (Dagnet et al. 2019)⁴. This often precludes governments from attaining various objectives, improving the accuracy of national GHG inventories, as well as supporting and building trust in carbon markets. Because the private sector holds many precious sectoral data and its effort to reduce its carbon footprint and drive sectoral and climate trends, it is critical for the government and its private sector to strengthen their collaboration in a more transparent and inclusive manner.

⁴ Dagnet, Yamide, Nathan Cogswell, Neil Bird, and Mathilde Bouyé. 2019. "PACT: Building Capacity to Implement the Paris Agreement's Enhanced Transparency Framework: What Can We Learn from Past Experience?". Working Paper, Washington DC, United States. <https://www.wri.org/publication/capacity-building-paris-transparency>

METHODOLOGY

This paper considers the concept of a “data loop” (figure 1), a relationship between governments and the private sector focused on strengthening collaborative effort to enhance climate ambition through data sharing, in the Indonesian context. In the data loop, the private sector shares climate and greenhouse gas emissions data with governments, while governments facilitate mandatory reporting systems to properly collect this data and incentivize voluntary reporting, further encouraging more robust data sharing. A data loop could generate the impetus for private sector to provide the data required, and governments could in turn provide greater clarity through more robust assessments of efforts and projections, which would be supported by strengthened domestic and international measurement, tracking, reporting, regulation, and verification systems. The concept of the data loop builds off previous research which suggested a similar relationship could lead to enhanced climate action: an ambition loop. An ambition loop is a virtuous feedback loop in which bold policy action is supported by bold company leadership, resulting in the acceleration of further business action, faster progress to meet national targets, and seizure of larger market opportunities. Government push the business by establishing bold targets and strong policies, while companies push the government by showing commercial demand and economic possibilities (Dickerson et al., 2018)⁵.

The concept of the “data loop” is used to illustrate the relationship between governments and the private sector. In this case, this relationship is described in the context of climate-related data—GHG emissions, mitigation activities, and other data—but the primary purpose of the loop is to highlight the importance of government-private sector cooperation on climate action. As Dickerson et al. 2018 illustrates, arguments for enhanced cooperation between governments and private sector on climate change also relate to enhancing climate ambition and spurring greater climate action. However, this paper specifically looks at government-private sector collaboration in the Indonesian climate-relevant data context.

The practices and experience showcased in this paper build from a more regional analysis (in the Asian context), undertaken under the Partnership to Strengthen Transparency for co-Innovation (PaSTI)⁶ that dives deeper into this topic. This paper however zooms in the experiences from Japan, in view of the bilateral engagement between Indonesia and Japan through PaSTI. This paper is also based on a literature review of other relevant studies and platforms, which include peer-reviewed journals, legal documents, reports from NGOs, as well as guides to relevant platforms. Focus group discussions and interviews with Indonesian government officials, representatives from the private sector, and experts from universities and organizations that have broad experience in the Indonesia’s climate transparency were also conducted to gather relevant information.

Figure 1. Illustrating the Data Loop

⁵ Dickerson, Austin, Deborah Drew, Neha Joseph, Eliot Metzger, Amy Meyer, Eliza Northrop, Abhilash Prasann, Elizabeth Reichart, and Geneviève Yehounme. 2018. *The Ambition Loop*. UN Global Compact, We Mean Business, and World Resources Institute. <https://static1.squarespace.com/static/5bbe243651f4d40801af46d5/t/5c00266c0e2e728a28cee091/1543513751309/The-Ambition-Loop.pdf>.

⁶ Dagnet, Yamide and Nathan Cogswell. 2018. “At COP24 in Poland, Negotiators Must Lay Down Ground Rules for the Paris Agreement.” Blog. <https://www.wri.org/blog/2018/11/cop24-poland-negotiators-must-lay-down-ground-rules-paris-agreement>



Source: Dagnet, Cogswell, Grinspan et al. 2019

RESULTS

Based on the experience and practices highlighted in this paper, the Indonesian government has the opportunity to engage its private sector more effectively to enhance its data, by developing a participatory and integrated reporting system. Currently, there are four ministries in Indonesia in charge of the MER system with five reporting system: PEP–PPRK Online (*Pemantauan Evaluasi dan Pelaporan Perencanaan Pembangunan Rendah Karbon Indonesia* - Monitoring, Evaluation and Reporting of Indonesia's Low Carbon Development Planning) from the Ministry of National Development Planning (BAPPENAS); POME (*Pelaporan Online Manajemen Energi* - Energy Management Online Reporting) and APPLE-Gatrik (*Aplikasi Penghitungan dan Pelaporan Emisi Ketenagalistrikan* - Calculation and Reporting Application for Electricity Emissions) from the Ministry of Energy and Mineral Resource (MoEMR); PROPER (*Program Penilaian Peringkat Kinerja Perusahaan* - Private Sectors Performance Rating Program) from the Ministry of Environment and Forestry (MoEF); and SIINAS (*Sistem Informasi Industri Nasional* - National Industry Information System) from the Ministry of Industry (Mol). The current datasets of the reporting systems in Indonesia are summarized in table 1. The multitude of reporting systems can make the reporting process ambiguous and confusing for the private sector. Different methodological and data requirements further complicate the reporting process. Therefore, Indonesia's data management system can be streamlined and made more effective. Integrating the current reporting systems, for example, could potentially alleviate some of these challenges.

Table 1. Summary of Datasets from the Reporting Systems in Indonesia

Data Type	PEP Online	POME	APPLE-Gatrik	PROPER	SIINAS
Number of emissions reduction calculations data	•	•			•
Number of national and regional mitigation actions data	•				
Mitigation Activities	•	•			•
Number of emissions intensity calculations data	•				
GHG emissions variable Data		•	•	•	•
Power Plant data		•	•		
Energy Use data		•	•	•	•
Energy Efficiency Activities and Investment	•	•	•		
Emissions Reduction	•	•		•	•
Water Saving				•	
Utilization of hazardous and toxic materials and non-hazardous and toxic materials waste that has been produced by the company				•	•
Biodiversity Protection				•	
Production process data				•	
Waste management data			•	•	•

Industrial supporting facilities and infrastructure data					•
Industrial technology data			•		•
Direct emissions from burning fuel in boilers, diesel, generator sets, gas engines, gas turbines			•		
GHG emissions directly from moving sources (operational vehicles)			•		•
Fugitive Emissions			•		

The Indonesia government can explore opportunities to facilitate mandatory reporting requirements and support voluntary and private data collection and reporting efforts. In terms of strengthening mandatory reporting requirements, peer-exchanges between Indonesian and Japanese government officials suggest that there are several lessons from Japan’s long history of experience that could be applied in Indonesia. Some of these lessons include the need to establish clear institutional and legislative arrangements, including any cross- or inter-ministerial committees to support coordination, recognize the value in supporting voluntary private-sector efforts, and to collaborate with private sector and business association actors in designing data and reporting systems to ensure efforts are effective. Based on these lessons, there are a number of different opportunities that the government could explore to incentive and assist private sector data collection and reporting. Several reporting systems in Indonesia already provide incentives and disincentives for reporting in their respecting reporting platform to companies at a sectoral level.

Improving the quality and quantity of climate and emissions data is incredibly important, but that data must also inform policy making and efforts to enhance climate action. Given the urgency of addressing climate change, it is important to consider how enhanced data can lead to enhanced climate action. Companies and the private sector are looking for and pursuing climate change actions and solutions. At the same time, countries are looking to develop more ambitious climate plans. Leveraging the interest and actions from both the private sector and governments can drive even greater climate action. Dickerson et al. (2018)⁷ introduced and defined the concept of an “ambition loop” as “a positive feedback loop in which bold business leadership supports bold policy action that in turn accelerates further business action.” Governments can provide confidence and clarity in order to provide the incentives and atmosphere to drive investments and action. Businesses, in turn, can set their own plans for emissions reductions and provide inspiration to governments.

Having data can also be a key component of development planning. In October 2017, the Government of Indonesia declared its goal of integrating climate action into the country’s

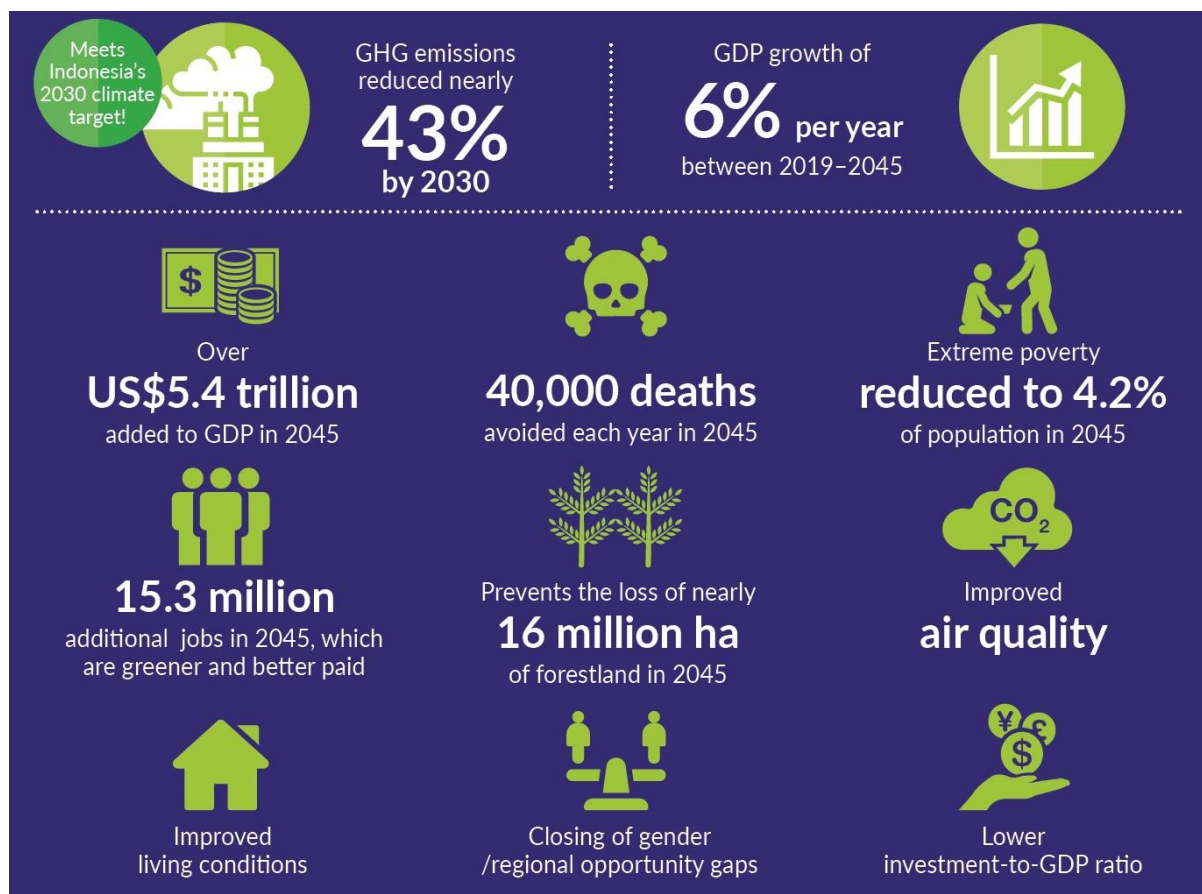
⁷ Dickerson, Austin, Deborah Drew, Neha Joseph, Eliot Metzger, Amy Meyer, Eliza Northrop, Abhilash Prasann, Elizabeth Reichart, and Geneviève Yehounme. 2018. *The Ambition Loop*. UN Global Compact, We Mean Business, and World Resources Institute. <https://static1.squarespace.com/static/5bbe243651f4d40801af46d5/t/5c00266c0e2e728a28cee091/1543513751309/The-Ambition-Loop.pdf>.

development agenda⁸. The Low Carbon Development Initiative (LCDI) was launched on October 25, 2017 at Indonesia's Ministry of National Development Planning (BAPPENAS), with a goal of explicitly incorporating carbon emissions reduction targets into the policy planning exercise. Over the long haul, Indonesia's development vision is guided by its National Long-Term Development Plan (RPJPN) 2005-2025, which broadly seeks to establish a country that is "developed and self-reliant, just and democratic, and peaceful and united." The long-term plan is being implemented through four medium-term plans (RPJMN) of five years each, the current one covering the period 2015-2019. Through LCDI, it is expected that BAPPENAS will streamline low-carbon development policies into the upcoming medium-term development plan (RPJMN 2020-2024).

A report by LCDI found that a sustainable, inclusive, long-term growth path is estimated to deliver an average global GDP growth rate of 6 percent per year until 2045. The report also found that a low-carbon development pathway can unlock an array of economic, social and environmental benefits (Figure 2). The results of this study will now be integrated into Indonesia's next five-year development plan.

⁸ Kementerian PPN/BAPPENAS. 2019. "Pembangunan Rendah Karbon: Pergeseran Paradigma Menuju Ekonomi Hijau di Indonesia." <https://www.bappenas.go.id/id/berita-dan-siaran-pers/pembangunan-rendah-karbon-pergeseranparadigma-menuju-ekonomi-hijau-di-indonesia>.

Figure 2. The estimated benefits of Indonesia's New Low Carbon Growth Path (LCDI High Scenario compared with Base Case)



Source: Kementerian PPN/BAPPENAS, 2019

Ultimately, by taking a low-carbon development pathway, Indonesia's greenhouse gas emissions are estimated to drop by almost 43% by 2030, exceeding Indonesia's current national climate target of 41% below baseline (Kementerian PPN/BAPPENAS, 2019)⁹. Further planning efforts can only be strengthened by building the proper "data loop" and ensuring active and healthy relationship with the private sector.

While LCDI will add momentum to the Indonesian government's efforts, the certainty it signals can also incentivize the private sector to take more responsibility for achieving the climate targets and contribute to governments' effort to meet sustainable development goals. In Indonesia, no companies have yet to set or even commit to set an SBT. Building from the lessons from Japan, Indonesia may examine how best to encourage and support companies to participate in the SBTi. As the private sector enhances their data in support of the LCDI, they may also be in a better position to participate in SBTi. Ultimately, having the right data, of strong quality and quantity, is the bedrock which informs enhanced climate action. Indonesia's ability to continue to explore opportunities to advance and enhance climate action, will significantly improve by strengthening, aligning, and ensuring

⁹ Kementerian PPN/BAPPENAS. 2019. "Pembangunan Rendah Karbon: Pergeseran Paradigma Menuju Ekonomi Hijau di Indonesia." <https://www.bappenas.go.id/id/berita-dan-siaran-pers/pembangunan-rendah-karbon-pergeseranparadigma-menuju-ekonomi-hijau-di-indonesia>.

fitness for purpose of its data and MRV systems.

Opportunities arise around the world to promote a more ambitious business in the climate change. Such international initiatives as Science Based Targets served as a tool for companies to align the business with the climate science across its supply chain. Furthermore, putting a price on carbon may be an opportunity for both public and private sector collaboration. This section will highlight the importance of data management to implement SBT and carbon pricing.

Science Based Targets Initiative

Some companies have responded to the call from citizens and governments for decarbonation by 2050 by increasing their own climate action and aligning their strategic growth plans with the goals of the Paris Agreement. About 500 companies have committed to set science-based emissions reduction targets to do their part to limit warming to below 2°C, and by 2020 the number of companies reach more than 900 (SBT, 2020)¹⁰. In the Asia Pacific region, Japan, followed by South Korea, and then Singapore are leading the way. ASEAN countries are behind, with Singapore counting only three companies being approved to science-based targets.

The Science Based Targets initiative promotes science-based target setting as an effective means of increasing companies' competitive advantage in the transition to a low-carbon and climate resilient economy. It is a collaborative effort between leading organizations, including CDP, the United Nations Global Compact (UNGC), World Resources Institute (WRI), and the Worldwide Fund for Nature (WWF), and is one of the We Mean Business Coalition commitments.

The Initiative has developed best practice in the setting of science-based targets, independently assesses companies' targets, provides technical assistance through workshops, targeted guidance, and other resources, and builds awareness of companies' efforts. The supply chain sector is on the frontline when it comes to ensuring long-term environment sustainability (in view of its impact in energy consumption, deforestation, and dispatching of trucks that emit much of the greenhouse gases causing global warming). This may be particularly relevant for Asian countries, including Indonesia, as many supply chain suppliers are located in the region. For example, as part of the company's indirect emissions reduction target, Levi's will expand its work with the Partnership for Cleaner Textiles to reduce emissions from suppliers in ASEAN countries, supporting the ambition loop in those countries. This could be a good "business benefit" selling point for ASEAN suppliers and foster green procurement. Other drivers for this uptake are customers, investors, and employees who expect companies to capture new market opportunities, realize the many economic and social benefits of keeping the world under a 1.5°C temperature increase, and develop greater resilience to climate change risks.

However, data is a key element of the success of the SBTi: in order to set targets, companies must have an understanding of their emissions data. All participating companies must publicly report their GHG emissions each year, though not necessarily to the government. Only with an understanding of their emissions are companies actually able to set targets that align with the goals of the Paris Agreement and the SBTi.

¹⁰ Science Based Target – Companies Taking Action <https://sciencebasedtargets.org/companies-taking-action/>

Carbon Pricing

Putting a price on carbon emissions can drive efficient emission reductions, spur innovation and allow businesses and households to make clearer decisions about how they reduce emissions. If designed and implemented effectively, carbon pricing can also achieve broader sustainable development benefits and reduce economic inequalities. Carbon taxes or emissions trading systems are either in place or planned in 74 jurisdictions worldwide, covering 20 percent of global emissions (World Bank and Ecofys, 2018)¹¹. The 2017 High-Level Commission on Carbon Prices suggested carbon prices should reach USD 40-80 per tonne of CO₂ by 2020 and US\$ 50-100 per tonne by 2030. But half of carbon emissions covered by carbon pricing initiatives were priced at less than USD 10 per tonne CO₂e. However, in 2017 and 2018, several jurisdictions - including China and various states and provinces in US and Canada – expanded their pricing systems while others, such as the EU, British Columbia and France, increased their prices. Other countries like Mexico, Chile, Colombia, South Africa, Kazakhstan and Singapore are also designing economy-wide carbon pricing systems to be launched in 2019. This is a remarkable increase from the less than 1 percent coverage in 2004. The programs generated around USD 33 billion in government revenues in 2017.

But there is an important condition to make it work: carbon pricing schemes rely on accurate data. If it is not counted, it cannot be taxed or traded. Without having an understanding for the emissions under the pricing scheme, the scheme could not function effectively. Thereby, carbon pricing schemes require the government, the private sector, and all other participating stakeholders to have an accurate assessment their data (Dagnet, Cogswell, Grinspan et al. 2019)¹².

¹¹ World Bank, and Ecofys. 2018. *State and Trends of Carbon Pricing 2018*.

<https://openknowledge.worldbank.org/bitstream/handle/10986/29687/9781464812927.pdf?sequence=5&isAllowed=y>.

¹² Dagnet, Y., N. Cogswell, D. Grinspan, E. Reichart, and D. Drew. 2019. "Data and Ambition Loops for Enhanced Climate Action: Potential Drivers and Opportunities in Asia." Working Paper. Washington, DC: World Resources Institute.

<https://www.wri.org/publication/data-and-ambition-loops>

CONCLUSION

Achieving the objectives of the Paris Agreement and Sustainable Development Goals will require governments to step up their ambition, and do that in an inclusive and participatory manner, with non-state actors, especially its private sector.

Indeed, countries will need strategies and policies to close the gap between existing plans and the pace and scale of investment needed to limit global warming to 1.5°C. But the Paris Agreement recognizes that governments alone will not succeed at the pace and scale required and it rather encourages enhanced collaboration with non-state actors. As part of the Partnership to Strengthen Transparency and co-Innovation (PaSTI), the authors of this paper explore how combined and mutually reinforcing government and corporate efforts can propel Indonesia on a sustainable path for decarbonizing its economy and make its society more climate-resilient.

First, the paper recognizes that enhancing transparency builds trust among countries. This is why countries committed under the Paris Agreement to track, report, and verify their progress in implementing their climate plans. As the momentum behind corporate climate action and transparency continues to build, there is a clear opportunity for countries to establish more systematic public-private collaborations through data-sharing, analysis, reporting and verification purposes. Enabling stronger measurement, reporting and verification (MRV) systems through more systematic data sharing would be mutually advantageous. Stronger MRV would not only help governments, including Indonesia, gather better information and data, it would also allow them to better integrate the contributions of non-state actors, including the private sector when making climate projections and designing better incentives mechanisms for non-state actors, ranging from award schemes to green procurement and carbon pricing. Similarly, enhanced reporting and disclosure can facilitate a better understanding and alignment of business decisions with emerging market trends and sustainability considerations, and therefore drive corporate and government action more effectively towards a low carbon economy.

This paper has highlighted a number of incentives and practices from around the world that can enable a country like Indonesia to both enhance their data and inform the design of more ambitious climate action. The engagement between the private sector and government is at the heart of what the lens suggesting greater engagement can support enhanced climate action. The incentives and practices fostering the implementation of such a transformative loop include voluntary and mandatory reporting and disclosure schemes underpinned by a robust data management system, supported by a strong legal and institutional framework, standards and harmonized methodologies to measure and track corporate and government efforts. These schemes are expected to incentivize the private sector to share critical sectoral data of better quality to the government and to use such data to set up processes, mechanisms to reduce their own carbon footprints. In return, the government gets empowered to report on its efforts and on plans accelerate or scale up its climate effort, based on more accurate, evidence-based decisions. Such empowerment can be illustrated through government policies such as carbon pricing and trading or initiatives leading private companies to set up science-based targets.

The paper particularly highlights Indonesia's opportunity to strengthen its data loop by integrating its climate reporting system and by enhancing private sectors engagement and participation. Currently, similar datasets are being submitted by private sectors to 5 reporting systems such as PEP Online, POME, Apple Gatrik, PROPER

and SIINAS with different methodologies. The paper suggests setting up one-gate reporting system, where standardized datasets are built and being submitted to a single reporting system, and with a strengthened institutional arrangement, roles and responsibility for the various Ministries. The design and implementation of this integrating system is already underway through the PaSTI project.

In this paper the authors acknowledge that initiatives such as Indonesia's Low Carbon Development Initiative (LCDI), once underpinned by more accurate data and supported by a more robust integrated and participatory reporting system, can unleash commercial demand for decarbonizing various sectors of the economy. Through LCDI, the government can provide clarity in terms of direction and pace and confidence in long-term market development, based on stronger evidence and more accurate data generated through a more sustainable integrated MRV system as described above. Ministers and other government officials responsible for national climate action would likely find support among leading companies that share interests in building and accelerating their climate action plans. With bolder policies and private sector leadership reinforcing each other, ambition loops will emerge, and Indonesia can move faster toward its climate and development goals. Furthermore, to increase more participation from non-state actors, clear incentive mechanisms could be established, as undertaken by other countries, including Japan.

Moving forward, further cost-benefit analysis is needed to identify which reporting schemes (e.g., mandatory versus voluntary), incentives and initiatives (e.g. Science Based Targets, carbon pricing) should be put in place and how to implement them effectively and sustainably. But this should not stop governments to embrace the data and ambition loop journey. That journey will not be perfect straight away—to pursue this loop what matters is to start that journey, building on lessons and experiences from other countries.

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