



## Table of Contents

REPORT INFORMATION	3
LIST OF ABBREVIATIONS	4
EXECUTIVE SUMMARY	5
APPROPRIATE, INCLUSIVE AND BENEFICIAL CARBON PRICING	6
BACKGROUND	7
THE DIALOGUE	11
<i>The Merits and Challenges of the Conventional Approaches</i>	11
<i>Challenges with the Conventional Approaches</i>	12
<i>Alternatives to the Conventional Approaches</i>	15
CONCLUSION	17
RECOMMENDATIONS	18

## REPORT INFORMATION

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## LIST OF ABBREVIATIONS

CBAM	Carbon Border Adjustment Mechanism
COP	Conference of the Parties
ETS	Emissions Trading Scheme
EU	European Union
GHG	Greenhouse Gases
ICAP	International Carbon Action Partnership
IETA	International Emissions Trading Association
LDC	Least Developed Country
MRV	Monitoring, Reporting and Verification
NDC	Nationally Determined Contribution under the Paris Agreement
PMI	Partnership for Market Implementation
RBCF	Results Based Climate Finance
UNFCCC	United Nations Framework Convention on Climate Change
VCM	Voluntary Carbon Market

This report uses the collective term “the Conventional Approaches” to denote ETS and carbon taxation

## EXECUTIVE SUMMARY

While carbon pricing takes many forms Emissions Trading Schemes (ETS) and carbon taxation tend to predominate in the literature and in practice. Whilst there is theoretical consensus on the positive benefits of these approaches in developed country scenarios, including their revenue-raising capability and ability to foster long-term low-carbon growth, their uptake in Low- and Least Developed Countries (LDCs) and some Emerging Economies has been less pronounced than in the more carbon-intensive developed country economies in which they were conceived and evolved. There are various factors for this situation including that ETS and carbon taxation may not always be fit-for-purpose in less carbon-intensive economies.

Appropriate, inclusive and beneficial domestic carbon pricing in Emerging Economies and LDC contexts must fully consider local circumstances and in-country dynamics, and its introduction warrants deeper examination of the conceptual bases and relative merits of alternative approaches.

This report captures the positions and ideas debated by policy makers and carbon pricing experts expressed during a two-day virtual Dialogue on the topic presented and hosted by the Konrad Adenauer Stiftung, and which canvassed topics such as:

- the differences between various carbon pricing approaches,
- their relative advantages and disadvantages for LDCs and Emerging Economies contexts, and
- potentially unique LDC/Emerging Economy considerations that might inform the approach to carbon pricing in such countries.

The Dialogue reached a consensus on the need for further deliberation, engagement, and research on the practical challenges for LDCs and Emerging Economies in selecting, designing, implementing and managing carbon pricing approaches and how such challenges might be overcome.

## APPROPRIATE, INCLUSIVE AND BENEFICIAL CARBON PRICING

The Paris Agreement aims to enhance the implementation of domestic mitigation action through the system of Nationally Determined Contributions (NDCs) and carbon pricing offers a potential means of contributing to the costs of NDC implementation. While carbon pricing takes many forms, Emissions Trading Schemes (ETS) and carbon taxation tend to predominate in the international literature and in domestic practice (jointly and for the convenience of this report, we use the collective term “the Conventional Approaches” to denote ETS and carbon taxation). Whilst there is theoretical consensus on the positive benefits of these carbon pricing instruments in developed country scenarios, including their revenue-raising capability and ability to foster long-term low-carbon growth, their uptake in LDCs and some Emerging Economies has been less pronounced than in the more carbon-intensive developed country economies in which they were conceived and evolved. There are various factors for this situation including that the Conventional Approaches may not always be fit-for-purpose carbon pricing mechanisms in less carbon-intensive economies.

Appropriate, inclusive and beneficial domestic carbon pricing approaches in Emerging Economies and LDC contexts must fully consider local circumstances and in-country dynamics, warranting a deeper examination of how the conceptual bases and relative merits of alternative forms of carbon pricing and how these could be implemented in Emerging Economies and LDC contexts to achieve their theoretical potential.

On 26 and 27 October 2021, the *Konrad Adenauer Stiftung* (KAS) in association with the International Carbon Action Partnership (ICAP) and Climate Legal, hosted a structured Dialogue entitled ‘Appropriate Carbon Pricing in Least Developing Countries and Emerging Economies’, the purpose of which was to canvas and capture the views of sector and regional carbon markets experts from LDCs, Emerging Economies and European Union climate change and carbon policy makers on the question of which carbon pricing approaches (if any) are appropriate for LDCs and Emerging Economies, and how these should be structured to be inclusive and beneficial. A key focus of the Dialogue was the conceptual and practical parameters of ‘appropriate’, ‘inclusive’ and ‘beneficial’ carbon pricing in developed economies and whether these are congruent with similar parameters in developing countries.

The Dialogue was undertaken immediately prior to the Twenty-Sixth Conference of the Parties to the United Nations Framework Convention on Climate Change (UNFCCC COP 26) as a two-part virtual workshop attended by 133 registered participants from 37 countries, with a view to canvassing perspectives on:

- the various forms of carbon pricing options available to LDCs and Emerging Economies,

- the assumptions that inform choices of carbon pricing instrument and the benefits and risks of the various approaches,
- the necessary preconditions to implement different carbon pricing options, and
- based on the above, how in-country indicators should inform the implementation of carbon pricing approaches in LDCs and Emerging Economies.

The Dialogue reached a consensus on the need for further deliberation on this topic and engagement on the practical challenges for LDCs and Emerging Economies in selecting, designing, implementing, and managing carbon pricing approaches, and a need to document in-country lived experiences in designing and implementing a variety of carbon pricing approaches. In this report we canvas the background to the Dialogue and the international momentum towards pricing carbon before engaging with the positions and views put forward during the Dialogue. The report concludes with recommendations for progressing the debates generated by the Dialogue.

## BACKGROUND

Carbon pricing has achieved growing prominence in recent years with emerging consensus on its critical role as one of a *suite* of mitigation mechanisms required for the successful transition to a low-carbon and climate resilient global economy. In particular, the Conventional Approaches (both of which evolved in developed country contexts) are generally regarded as default carbon pricing instruments with the Organisation for Economic Cooperation and Development (OECD) referring to them as the “building blocks” of any climate policy package.<sup>1</sup>

The Conventional Approaches explicitly price greenhouse gas (GHG) emissions and tend to predominate in the literature and in practice despite widespread recognition of alternative approaches. Carbon taxation places a regulated price typically on industrial carbon emissions, often in the form of a fossil fuel tax, with market forces being left to determine the level of emissions reductions achieved and as driven by the pricing signal. Under an ETS, government imposes a maximum cap on emissions and allocates allowances equivalent to the cap to participating entities which are entitled to trade surplus allowances based on total emissions achieved below the cap. Given their evolution in emissions intensive economies, using the Conventional Approaches to address the mitigation challenges of Emerging Economies and LDCs is unlikely to be the optimum approach in each-and-every circumstance, and attempts to do so beg the question: do the Conventional Approaches constitute appropriate, inclusive and beneficial means to price carbon in less emissions-intensive economies in all circumstances and, if not, are there other approaches that

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<sup>1</sup> OECD Improving Economic Efficiency and Climate Mitigation Outcomes through International Co-ordination on Carbon Pricing – Environment Working Paper No. 147 May 2019 at 8, available at: [www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=ENV/WKP\(2019\)6&docLanguage=En](http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=ENV/WKP(2019)6&docLanguage=En).

might need to be considered? This query is especially resonant because whereas the Conventional Approaches may be generally suitable for most developed country contexts it might be counter-productive to assume that this always be case for their less developed partners. Formulating a proper response to the abovementioned question requires more substantive consideration of Emerging Economy- and LDC-specific factors, including their emissions bases, their technical, administrative, and institutional capacities, and their macro-economic sensitivities (to energy sector costs, for example). Among the factors for consideration is the availability of alternatives to the Conventional Approaches in Emerging Economies and LDCs which might serve either as interim options during a transition to a (the) Conventional Approach(es), or as longer-term carbon pricing solutions.

### *Typologies of Carbon Pricing*

The literature tends to categorise carbon pricing into either implicit approaches, or explicit approaches implemented via a range of policies and measures.<sup>2</sup> Explicit approaches are usually enacted through government mandate and impose a price on GHG emissions that is based on carbon content, and typically take the form of one or other of the Conventional Approaches often operating within a broader incentive structure that includes other policies and measures from which a carbon price is derived.<sup>3</sup> The World Bank also includes crediting mechanisms as an explicit form because they expressly price carbon by creating tradable credits from voluntarily implemented GHG emissions reduction or removal activities.<sup>4</sup> Crediting mechanisms can have a wide range of uses. Markets which trade in carbon credits can be used either to achieve net emissions reductions, such as through the implementation of a Results Based Climate Finance (RBCF) project, or to offset the GHG emissions of a company or country with a voluntary or regulated compliance target.<sup>5</sup> More typically, carbon credits are used by companies seeking to offset their emissions on a voluntary basis, using the

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<sup>2</sup> *State and Trends of Carbon Pricing 2021* (May 2021), World Bank, Washington, DC, at 15.

<sup>3</sup> *Ibid.*

<sup>4</sup> *Carbon Pricing Leadership Report 2018/19*, World Bank, Washington, D.C.

<sup>5</sup> For example, a RBCF programme might use climate finance to support mitigation projects on a grant or investor basis with funds being provided to grant recipients/individual project owners contingent upon their achievement of a pre-agreed and independently verified set of results. A RBCF programme might agree to purchase a pre-agreed and independently verified amounts of carbon offsets generated by project activities registered under an international carbon standard. These offsets might be cancelled to provide a net climate benefit, or they might be used by a host country to achieve the mitigation component of an NDC. *Results Based Climate Finance in Practice: Delivering Climate Finance for Low Carbon Development* (May 2017), World Bank, Washington, DC, available at: [Results-Based Climate Finance in Practice: Delivering Climate Finance for Low-Carbon Development \(worldbank.org\)](https://www.worldbank.org/en/news/feature/2021/11/05/healthy-forests-are-fertile-ground-for-carbon-markets). For example, the World Bank's Forest Carbon Partnership Facility (FCPF), will provide results-based payments (as a form of climate finance) to several LDCs and Emerging Economies for carbon offsets from avoided deforestation and forest degradation activities in the period leading up to 2025. World Bank "Healthy Forests are Fertile Ground for Carbon Markets", at: <https://www.worldbank.org/en/news/feature/2021/11/05/healthy-forests-are-fertile-ground-for-carbon-markets>. The World Bank will provide funding in the form of results-based payments for approximately 145 million tonnes of verified emission reductions, achieved through 2025, in the following countries: Chile, Costa Rica, Côte d'Ivoire, Democratic Republic of Congo, Dominican Republic, Fiji, Ghana, Guatemala, Indonesia, Lao PDR, Madagascar, Mozambique, Republic of Congo and Vietnam.

Voluntary Carbon Market (VCM). The distinctions between carbon pricing approaches are becoming increasingly blurred, however, with some countries framing legal regimes allowing emitting installations within an ETS or carbon tax liable entities to use carbon credits as compliance instruments, including carbon credits generated from within the VCM.<sup>6</sup>

While the Conventional Approaches are most prominent with over 64 schemes in operation worldwide covering approximately 21.5% of emissions globally,<sup>7</sup> the carbon market is also seeing significant growth driven by the adoption of voluntary net zero targets,<sup>8</sup> and the finalisation of the Paris Agreement's Article 6 Rulebook as part of the Glasgow Climate Pact. The VCM saw more than \$1 billion in transactions for 2021,<sup>9</sup> and a 170% increase in corporate carbon offset deals.<sup>10</sup> By comparison, implicit carbon pricing policies are those that do not directly impose a cost on GHG emissions, but which usually seek to address other climate objectives and tackle non-price barriers. There is considerable debate on what constitutes implicit carbon pricing,<sup>11</sup> however, broadly understood approaches include fossil fuel taxes and subsidies, performance or efficiency standards (such as those developed for buildings or appliances), and regulations mandating certain low carbon technologies (such as renewable energy targets).<sup>12</sup>

Internal carbon pricing is also recognised as an increasingly important but separate pillar of carbon pricing,<sup>13</sup> with “shadow” carbon pricing assigning a hypothetical cost to each tonne of GHG emissions as a means of identifying and responding to climate risks and opportunities.<sup>14</sup> Shadow pricing highlights the carbon value of capital investments and illustrates how pricing emissions impacts a

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<sup>6</sup> *Results Based Climate Finance in Practice: Delivering Climate Finance for Low Carbon Development* (May 2017), at 16. In relation to the use of carbon credits as ETS or carbon taxation compliance instruments: the European Union Emissions Trading Scheme (EU ETS) permits this approach by installations covered by the EU ETS and the South African carbon taxation legal regime permits liable entities to use various species of carbon credits to offset their taxable emissions thereby reducing their carbon tax exposure (see: A Gilder O Rumble and M Parker *Concise Guide to Carbon Tax* (September 2020), LexisNexis, Durban, South Africa, chapter 4).

<sup>7</sup> *State and Trends of Carbon Pricing 2021* (May 2021), World Bank, Washington, DC.

<sup>8</sup> *State and Trends of Carbon Pricing 2021* (May 2021), World Bank, Washington, DC.

<sup>9</sup> S&P Global “Voluntary carbon markets poised for growth in 2022”, 4 January 2022, available at: <https://cleanenergynews.ihsmarkit.com/research-analysis/voluntary-carbon-markets-poised-for-growth-in-2022.html>.

<sup>10</sup> IISD “The Paris Agreement’s New Article 6 Rules”, December 2021, available at: <https://www.iisd.org/articles/paris-agreement-article-6-rules>.

<sup>11</sup> *State and Trends of Carbon Pricing 2021* (May 2021), World Bank, Washington, DC.

<sup>12</sup> *Ibid.*

<sup>13</sup> *Ibid.*

<sup>14</sup> Other forms of internal carbon pricing include: (i) an internal carbon fee where a company imposes a fee on every tonne of its own GHG emissions to create a dedicated revenue or investment stream to finance its own mitigation efforts; and (ii) an implicit internal price, which helps a company understand its expenditure on voluntary or regulated mitigation activities. Some companies use this as a benchmark before launching a formal internal carbon pricing programme.

potential business case,<sup>15</sup> and is used by financial institutions to guide capital allocation decisions and by company investment boards to understand adjusted revenue flows after carbon pricing is considered. Companies are voluntarily imposing an internal carbon price, mostly because of a desire to drive low carbon investment, triggered by a combination of regulatory factors and the growing uptake of corporate climate commitments.<sup>16</sup> Shadow carbon pricing has been implemented by more than half of the world's largest 500 companies by market cap, with corporate accounting for carbon pricing rising 80% over the past five years.<sup>17</sup>

### *The Conventional Approaches in LDCs and Emerging Economies*

While the Conventional Approaches have flourished in developed countries, *inter alia* driven by historic and country-specific dynamics such as the early adoption of regulatory measures to underpin Kyoto-era emission reduction targets, their uptake has been much more measured in LDCs and Emerging Economies. Factors contributing to this situation, certainly in LDCs and a select number of Emerging Economies, include a relative paucity of information and research on emissions sources (current and future), constrained monitoring capacities, large populations of low-income households primarily dependent on biomass or fossil fuels as sources of energy, and a lack of the competitive markets that are generally required to harness incentive-based approaches (the dampening effect of vertically integrated monopolies and/or price caps on fuels). This is especially true for economies without the sources of potential carbon value (industrial GHG emissions) that are typically priced under the Conventional Approaches.

Institutional and financial constraints on undertaking the necessary research and limited administrative, governance and implementation capacities can also pose immediate challenges for the uptake of Conventional Approaches which might simply be politically inexpedient in many countries, such as where (carbon) taxation may negatively impact the constituencies of governing elites and be subject to industry challenge. Certain inherent risks also accompany the Conventional Approaches regardless of location, for example inappropriate design and implementation may have regressive effects on low-income households,<sup>18</sup> may create risks of leakage, and could result in sector-specific or geographically concentrated effects.

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<sup>15</sup> *State and Trends of Carbon Pricing 2021* (May 2021), World Bank, Washington, DC.

<sup>16</sup> *Ibid.*

<sup>17</sup> Carbon Disclosure Project “Nearly Half of World’s Biggest Companies factoring Cost of Carbon into Business Plans” April 2021, available at: <https://www.cdp.net/en/articles/media/nearly-half-of-worlds-biggest-companies-factoring-cost-of-carbon-into-business-plans>.

<sup>18</sup> *State and Trends of Carbon Pricing 2021* (May 2021), World Bank, Washington, DC, at 41, which highlights that posing taxes on heating fuels is slightly regressive while taxing electricity is very clearly regressive. Taxes on transport fuels are not typically found to be regressive as poorer households are less likely to use transport fuels (see: Flues F and Thomas A [2015] “The Distributional Impacts of Energy Taxes” *OECD Taxation Working Papers 23*, OECD Publishing, Paris).

The World Bank and the International Monetary Fund (IMF) have both indicated that appropriately crafted, country-level carbon pricing instruments can generate substantial domestic co-benefits, including the mobilisation and leveraging of in-country and external revenues and finance (which could be used for NDC implementation), the application of state-to-state peer pressure, improvements in health, mobility, resilience and other environmental outcomes (better air quality).<sup>19</sup> Whilst such benefits and co-benefits certainly make carbon pricing attractive to national and sub-national governments, the questions of what constitutes appropriate, inclusive and beneficial carbon pricing design is still evolving and considerable *finesse* is required to accommodate Emerging Economy and LDC needs and contexts in the question of design. To date, these needs and contexts have enjoyed limited attention in comparison to the resources and energy doted to the design and implementation of the Conventional Approaches, and these concerns lie at the heart of this report and suggested the need to convene the Dialogue.

## THE DIALOGUE

In seeking to illuminate how carbon pricing might be appropriate, inclusive and beneficial to LDC and Emerging Economy contexts, the Dialogue first engaged with the evolving typologies and the opportunities and challenges presented by implementation of the Conventional Approaches in such contexts. Building from this foundation, expert speakers with a wide range of backgrounds and experiences unpacked the alternatives to the Conventional Approaches and advantages offered by the alternatives. The discussion culminated in a plenary on appropriate, inclusive, and beneficial carbon pricing design for LDCs and Emerging Economies. In this section we briefly outline some of the discussion and comments made by participants and speakers.<sup>20</sup>

### *The Merits and Challenges of the Conventional Approaches*

Speakers canvassed the different typologies of carbon pricing approaches before turning to their relative advantages and disadvantages. Speakers agreed that whilst carbon pricing has proliferated worldwide, approaches are neither designed nor implemented uniformly with each being adapted to specific needs and circumstances of the jurisdictions of their implementation. This is unsurprising because pricing design is of paramount importance and the context of the implementing jurisdiction is determinative of the nuances of the design and of implementation. For example, an ETS approach

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<sup>19</sup> World Bank Partnership for Market Readiness *Using Carbon Revenues* (Technical Note 16, August 2019, Washington, D.C., World Bank), 20, available at: <https://elibrary.worldbank.org/doi/pdf/10.1596/32247>. IMF *Fiscal Policies for Paris Climate Strategies – From Principle to Practice* (May 2019), 11, available at: [Fiscal Policies for Paris Climate Strategies—from Principle to Practice \(imf.org\)](https://www.imf.org/publications/ftpr/2019/01/01/fiscal-policies-for-paris-climate-strategies-from-principle-to-practice).

<sup>20</sup> This section of the report seeks simply to aggregate and reflect (but not attribute) a selection of the views expressed during the Dialogue, and the content of this section is not intended to present a comprehensive treatment of the issues discussed during the Dialogue.

can encompass multiple permutations, including features that are akin to carbon taxation making the boundaries between typologies relatively fluid. This fluidity is only one consideration, among many, that must inform bespoke design of carbon pricing approaches in specific jurisdictions.

Dialogue participants noted the Conventional Approaches could be designed to avoid some of the challenges encountered in LDCs and Emerging Economies. For instance, an ETS can be applied to only certain sectors or activities and can cover all GHG emissions in an economy or only specified emissions, e.g., Carbon Dioxide, depending on the national circumstances and requirements. Administrative challenges can be overcome by selecting an instrument that is less administratively burdensome, such as an upstream carbon tax introduced within an existing excise taxation regime, as is the case for the South African carbon tax. Design can also overcome competitiveness concerns to some degree, and revenue recycling measures can reduce or overcome any anticipated regressive impacts on low-income households.

Whilst alternatives to the Conventional Approaches can offer multiple benefits, Dialogue participants expressed concerns that these may also leave emerging Economies and LDCs at an export disadvantage when the European Union's (EU) Carbon Border Adjustment Mechanism (CBAM) comes into operation in 2026. There was a concern that such alternatives might not sufficiently rigorously price carbon embedded in manufactured goods for export from LDCs and Emerging Economies and may render such exports uncompetitive.<sup>21</sup> Some Dialogue participants noted that exporting countries will also need to verify the emissions embedded in their products to comply with CBAM requirements which will elevate technical and administrative difficulties for exporters in such countries.

### *Challenges with the Conventional Approaches*

Robust Monitoring, Reporting and Verification (MRV) is critical for implementation of the Conventional Approaches, arguably more onerous for ETS, and concern was frequently expressed by Dialogue participants over the lack of developing country capacity to implement sufficiently robust MRV systems to support the Conventional Approaches, e.g., proper tracing of allocations and retirements of allowances in an ETS. Such approaches require high levels of administrative and infrastructural capacity which can be costly to develop and implement, and it is for the reason of weak data collection systems that *Cote D'Ivoire* elected to proceed with carbon taxation instead of an ETS.

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<sup>21</sup> While a detailed consideration of the CBAM is outside of the purpose of this report, please see the detailed examination of the CBAM and of export competitiveness in the South African context see: Lerato Monaisa *TIPS Policy Brief: European Green Deal: The Carbon Border Adjustment Mechanism and implications for South African and European Union Trade* (Trade & Industrial Policy Strategies, 2022), available at: <https://www.tips.org.za/policy-briefs/item/4293-european-green-deal-the-carbon-border-adjustment-mechanism-and-implications-for-south-african-and-european-union-trade>.

This was coupled with a concern that many developing countries, particularly LDCs, simply lacked the emissions-base upon which to impose pricing, and specifically lacking the large-scale industrial process and energy sector GHG emissions that rendered the Conventional Approaches appropriate, effective, and efficient in developed country contexts. For example, it was noted that land-use sources are a key component of national emissions in Botswana, and that while Botswanan feasibility studies have concluded that the Conventional Approaches are better suited or easier to implement in relation to fossil fuel emissions sources it is far more challenging to use these in situations where fossil fuel emissions are absent although MRV became particularly complex for land-use emissions. It was suggested that these factors tended to make project-based approaches, particularly REDD+ projects or clean cookstove projects, more attractive to LDCs and Emerging Economies.

Some Dialogue participants noted that a lack of enforcement capacity to implement a regulated market in developing countries is an important consideration in pricing design which suggests the need for more cooperative approaches, absent reliable or capacitated enforcement mechanisms. This view on the administrative complexity of implementing Conventional Approaches was not universally shared, however, with some Dialogue participants considering carbon taxation as being relatively easy to implement and administer compared to alternative approaches. This notion was based on carbon taxation as a simple addition to existing excise taxation regimes. Dialogue participants considered the implementation of carbon pricing, even in situations where emissions bases are low, as a positive step towards fostering long-term low-carbon growth. Dialogue participants also highlighted the importance of understanding the receiving economic, social, political and legal environment in which the carbon price was applied, as well as the wider regional dynamics. For instance, the dominance of state-controlled industries and different forms of regulation, particularly in Emerging Economies, may result in them not operating to the same market level as other emitters.

Dialogue participants suggested that historic experience with the Clean Development Mechanism (CDM) is a further important consideration in conceptualising domestic carbon pricing approaches. Many participants indicated that CDM project experience provided governments with capacity tools, administrative experience and data that made it easier to implement in-country carbon pricing, particularly the Conventional Approaches. This was the case with Vietnam's good track-record of CDM project activity implementation which contributed to the national confidence for developing a domestic carbon market and pursuing implementation of an ETS. There is, however, the need to further understand the relationship between a planned ETS and the further development and expansion of domestic and international carbon markets under Article 6 of the Paris Agreement.

Equally, Dialogue participants underscored the importance of choosing an approach that worked with and was supported by the underlying legal system. For example, price controls on fossil fuels may potentially dampen the incentive effect that the carbon price is intended to deliver or may otherwise undermine the ability to implement carbon taxation. A concern highlighted by number of participants as particularly relevant in African jurisdictions is that the energy sectors of many Emerging Economies, where markets have not been liberalized and rely on state-run and regulated utilities, do not support the imposition of carbon pricing on any fossil fuel generation assets as these costs would simply be passed-on to the consumer.

Some Dialogue participants noted that there is a limited evidence-base for the introduction of carbon pricing in low-income countries which face different political-economy constraints, and that further research on the role of low-income political-economy dynamics and the choice of carbon pricing instruments is warranted. For example, understanding optimum alignment between carbon pricing and other economic instruments and the impact of such alignment on the consumer. It was argued that this necessitated both research and sufficient lead-in time to ensure proper systems and mechanism design which LDCs and Emerging Economies may find challenging due to capacity and/or financing constraints and the uniquely complicating factors that characterised such economies. Dialogue participants highlighted the need for the distributional effects of carbon pricing to be very well understood in such countries, particularly because of more pronounced levels of consumer vulnerability to increases in the cost of primary fuels and/or electricity. It was acknowledged, however, that this is not universally the case and circumstances vary from country-to-country. In some instances, the impact may be progressive whilst in others it could be regressive, again highlighting the need for detailed in-country understanding of the potential impact of various carbon pricing approaches to inform policy decision-making. There is also more complexity in assessing the distributional impacts horizontally between households in developing countries because spending at this societal level cannot easily be disaggregated from householders' spending on private employment. In either event, Dialogue participants noted that any redistribution mechanism must be carefully targeted and implementable, subject to local capacity constraints, noting that this may be more challenging in LDCs, as compared to Emerging Economies which tend to have more advanced social transfer schemes.

Dialogue participants shared the view that LDCs and Emerging Economies considered carbon pricing as going beyond simply driving emissions reductions but was a means to achieve multiple government objectives, e.g., development ambitions, and that these varied considerably between countries. It was felt that key to the success of carbon pricing is not just the necessary political will but also the expression of that will in the form of instructions, tasks and responsibilities delegated to public bodies. In fact, the latter was considered one of the most important factors in ensuring the success of carbon pricing approaches, irrespective of the levels of political will.

The views of the domestic constellation of political/societal interest groups, particularly civil society formations, and the extent to which they support and/or advocate a carbon pricing agenda was also identified as influential in choices of approach, with it being suggested that such groups are more likely to support the Conventional Approaches. Engendering public support for carbon pricing was identified as critical and this necessitated early and open engagements with the public on the design of any system. Certain Dialogue participants noted that Emerging Economies and LDCs tended to have larger informal economies which often leads to tax inefficiencies, and which might inhibit effective implementation of carbon taxation (if this was the approach of choice). Overall, it was agreed that there was a need for a better understanding of how carbon pricing would operate in the context of the informal sector, noting that some research suggested that the Conventional Approaches can reduce the size of this sector. Lastly, a few Dialogue participants raised concerns that it would be inequitable to expect LDCs (minimal contributors to global GHG emissions), to adopt the Conventional Approaches while these countries are still grappling with limited capacities to implement complex regimes, collect revenues, undertake the necessary design studies and ensure the requisite protections to avoid regressive impacts. There was little agreement on this point, with some observing that these very factors presented opportunities to enable or further support a long-term low carbon trajectory over the coming decades and to generate local revenues for least developed economies.

Overall Dialogue participants agreed that there were numerous challenges to implementing the Conventional Approaches in LDCs and Emerging Economies but noted that alternative approaches are not immune from challenges, leading to the conclusion that the design and implementation of carbon pricing in each jurisdiction needs to be considered on its own merits.

### *Alternatives to the Conventional Approaches*

Speakers acknowledged that alternatives to the Conventional Approaches are gaining traction and present different advantages to LDCs and Emerging Economies. Dialogue participants noted that national long-term goal setting was particularly prominent in the lead-up to COP26 and that this caused increased interest in the VCM, and further observed considerable private sector appetite for achieving company-level net-zero targets which has driven demand for voluntary offsets. This was identified as creating an immense opportunity for developing countries to finance mitigation actions through the VCM, although concerns were also expressed around the environmental integrity of certain aspects of the VCM.

Speakers noted the VCM's potential to achieve mitigation outcomes more expeditiously than the Conventional Approaches and, given the perceived co-benefits of market-centric approaches, the

VCM is regarded as being particularly advantageous in countries with very low aggregate GHG emissions. It was suggested that typical types of VCM projects are attractive to LDCs and Emerging Economies, including avoided deforestation, landscape restoration, community-level off-grid renewables and waste management. Dialogue participants did, however, note that considerable work was required to improve the integrity of some methodologies, particularly for REDD+, and to overcome concerns around leakage and additionality. Considerable effort is required to ensure that the VCM is practically accessible to LDCs and Emerging Economies, which requires further exploration of their unique challenges with financing and project implementation.

Dialogue participants underscored that effective carbon pricing in countries with low aggregate GHG emissions requires that greater attention be devoted to instruments that price emissions removals and avoided emissions, such as projects supporting afforestation, reforestation and revegetation. Given that adaptation tends to be a greater political and climatic priority in LDCs and Emerging Economies, for carbon pricing to have political traction and public support it should be accompanied by resilience co-benefits, e.g., by supporting the planting of coastal mangrove forests to build coastal resilience to rising sea levels coupled with sequestration of emissions. Dialogue participants noted that REDD+ and other nature-based solutions provide both resilience benefits and employment and growth-related opportunities and it was felt that these co-benefits are likely to make carbon pricing more politically palatable in LDCs and Emerging Economies. Whilst there was considerable support for REDD+ as an alternative to the Conventional Approaches (in appropriate circumstances), it was underscored that more robust measures to prevent leakage (such as the migration of deforestation outside the project boundary) are required to alleviate concerns over the environmental integrity of REDD+ credits.

There was discussion on what role, if any, could be played by the removal of fossil fuel subsidies. Some argued that it would be extremely complex to remove these subsidies in LDCs, as they are part of the fabric of the social contract, while others held the position that this should be a first option as it was less administratively and informationally burdensome than the Conventional Approaches. It was agreed however that further research was needed on the topic, particularly on the quantum of subsidies and the socio-economic impacts of subsidy removal on LDCs and Emerging Economies.

Lastly, there was considerable interest in the implementation of shadow carbon pricing by large corporates as a low cost and relatively easy means of readying a country for one-or-other of the Conventional Approaches. The idea is for shadow pricing to act as an interim carbon pricing measure, noting that large corporates tended to have operational presence within many LDCs and Emerging Economies. The perceived advantages include that the introduction of a shadow price could be achieved relatively rapidly and with a view to increasing the acceptability of carbon pricing within the private sector, before government acts to implement more economically fundamental measures.

Dialogue participants expressed the view that shadow pricing could assist LDCs and Emerging Economies in overcoming the MRV challenge by helping to build appropriately capacitated and sophisticated structures, and once successfully implemented could serve as a primer for the adoption of more complex systems over time.

## CONCLUSION

Carbon pricing has rapidly expanded across the developed world, but the uptake has been much slower in LDCs and Emerging Economies. While this is likely to be informed by unique in-country circumstances, Dialogue participants agreed that there is also likely to be a *suite* of shared concerns and considerations in these economies that are informing country choices and potential reticence, including LDC- and Emerging Economy-specific challenges and risks of implementation of the Conventional Approaches.

In-country administrative and logistical constraints of Conventional Approaches (thought to be especially relevant to LDCs), also include:

- The cost of, and the administrative and related capacity to generate the information required to assess the feasibility and design of the Conventional Approaches, and the extent and complexity of such preparatory studies which tend to result in long lead-times before their introduction.
- The complexity of implementation of the Conventional Approaches, including MRV capacity and requirements (such as tracking the allocation, utilisation and retirement of allowances in the case of an ETS), and the ability of a country to administer pricing, enforce any associated penalties and collect carbon pricing revenue.
- The size of the GHG emissions base and the feasibility of imposing a carbon price on that base, including the extent to which emissions sources are aggregated or disaggregated and the nature of the activities from which they arise. This impacts on the administrative difficulty of imposing a carbon price, particularly where emissions are primarily from agriculture and land degradation.
- The ability of governments to introduce interim support measures during the introduction phase of carbon pricing, to avoid negative effects such as biomass lock-in.

Factors relevant to national priorities, legal requirements, and political considerations, equally relevant to LDCs and Emerging Economies, encompass:

- the extent to which energy sectors are liberalized and the ability of industries and households to respond to pricing signals by choosing low carbon sources of energy or becoming more energy efficient,
- energy regulation, particularly electricity market regulation, that may distort the impact of a carbon price,
- the political appetite for carbon pricing,

- concerns by government regarding the potential negative impact that a national carbon price may have on the success of domestic VCM activities, and
- the extent to which the carbon pricing instrument can offer adaptation co-benefits (the latter being seen as a priority for LDCs and Emerging Economies).

In-country population circumstances shared by LDCs and Emerging Economies:

- The risk of redistribution impacts on low income and vulnerable households, and the extent to which these can be feasibly addressed with social transfer or similar schemes, including the existence and effectiveness of any existing social transfer schemes in place, this being a particularly relevant consideration for LDCs that often lack such schemes.
- Larger informal economies in LDCs and Emerging Economies with greater tax inefficiencies that need to be considered when introducing a carbon price (particularly carbon taxation).

The above suggests that whilst further research into the design of the Conventional Approaches in developing country contexts (including LDCs and Emerging Economies) would be useful, these may not always be an appropriate/optimal first choice for such economies and that a more expansive view of carbon pricing is warranted, i.e., one that genuinely considers options outside of the Conventional Approaches. This is particularly the case for LDCs, where most (if not all) of the above considerations might make the Conventional Approaches unfeasible or at least very undesirable.

In better understanding alternatives to the Conventional Approaches, it would be useful to explore (in greater depth and in a more nuanced fashion that is currently the case) the LDC and Emerging Economy carbon pricing potentials for carbon markets and carbon financing, domestic carbon pricing under Article 6, and the advantages, disadvantages and feasibilities of RBCF, fossil fuel subsidy removal and the role of shadow carbon pricing and its relationship to more regulated approaches.

## RECOMMENDATIONS

As the vibrant discussion during the Dialogue illustrates there are widely disparate views on whether the Conventional Approaches, in and of themselves, are sufficiently fit-for-purpose in LDCs and Emerging Economies (requiring minimal redesign to suit different contexts), or whether alternatives should be considered more seriously in lesser developed circumstances. Following from this, continued discussion is warranted on in-country experiences and how both implementing countries and those seeking to support them may want to frame the initial design phases and project outcomes of carbon pricing support programmes in LDCs and Emerging Economies.

There are various initiatives that support developing countries towards implementing carbon markets and Article 6., and considerable effort has already been applied to supporting LDCs and Emerging Economies in designing and implementing one-or-other of the Conventional Approaches, most prominently by the World Bank's Partnership for Market Readiness (PMR),<sup>22</sup> the successor to which is the Partnership for Market Implementation (PMI).<sup>23</sup> Simultaneously, various support programmes are assisting LDCs and Emerging Economies in navigating the rapidly evolving carbon market arena, helping countries to prepare to transition to a future carbon market under Article 6 of the Paris Agreement, and to explore domestic market opportunities.<sup>24</sup> These initiatives, can meaningfully engage with in-country approaches to carbon pricing and carbon markets, including facilitating and co-ordinating processes that enhance understanding of national experiences, designing support programmes that present LDCs and Emerging Economies with a fuller *suite* of carbon pricing options that properly take account of country-specific considerations.

It is also important to continue engaging in dialogue with relevant in-country experts and key policy decision makers to shape how notions of carbon pricing are conceived at a developed country level and experienced in developing country contexts. This would include ongoing engagement and further research to gain a better understanding the barriers that LDCs and Emerging Economies are facing when it comes to choosing, designing and implementing a carbon pricing approach, how countries have elected to navigate these choices, and their experiences in implementation. Such analysis becomes all the more relevant as countries consider the impact of Article 6 developments on their national carbon pricing approaches as well as the potential impacts of the CBAM on exports.

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<sup>22</sup> See <https://pmclimate.org/about>. The PMR assisted countries to design, pilot, and implement pricing instruments aligned with their development priorities, at present supporting 30 countries and jurisdictions in carbon pricing design and implementation, including through the development of best practice approaches.

<sup>23</sup> The PMI's role is to assist countries to design and deploy explicit carbon pricing policies, and to support the development of the next generation of international carbon markets. Their most recent research has included reviews of how emerging economies and other developing countries have designed and implemented an ETS or carbon tax and related recommendations for design and implementation in these contexts. Partnership for Market Readiness. 2021. From the Ground Up: A Decade of Lessons on Carbon Pricing. World Bank, Washington, DC, available at: <https://openknowledge.worldbank.org/bitstream/handle/10986/36021/The-Partnership-for-Market-Readiness-From-the-Ground-Up-A-Decade-of-Lessons-on-Carbon-Pricing.pdf?sequence=1&isAllowed=y>.

<sup>24</sup> These include multiple projects supported by the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU) (Implemented by Gesellschaft für Internationale Zusammenarbeit (GIZ)) the Swedish Energy Agency; Global Green Growth Institute; the West Africa and Eastern African Alliances on Carbon Markets and Climate Finance; the Reciclo Orgánicos Initiative; the Climate Cent Foundation; the Carbon Partnership Facility; the Nordic Initiative for Cooperative Approaches; the Transformative Carbon Asset Facility; the World Bank's PMI, Climate Market Club, Standardised Crediting Facility, as well as its Warehouse Facility, and various Multilateral Development Banks. For a detailed summary of these please see Table C.1 in State and Trends of Carbon Pricing 2021 (May 2021), World Bank, Washington, DC. See also Climate Focus "Article 6 Piloting: State of Play and Stakeholder Experiences", December 2020, Annex III, available at <https://www.climatefocus.com/sites/default/files/Climate-Finance-Innovators-Article-6-piloting-State-of-play-and-stakeholder-experiences-December-2020.pdf>. The relevant development banks include the Asian Development Bank, African Development Bank, European Bank for Reconstruction and Development, and European Investment Bank.

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