

CBCA as a Tool for Climate Change Ambition Under UNFCCC

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Executive Summary

The paper will describe how consumption-based models could inform the evolving UNFCCC regime and its actors, not only in terms of collective and individual emissions limitation goals, but also in terms of domestic opportunities emanating from resilience actions. Given that the emerging ADP regime, to be signed in Paris at the end of 2015 and to be effective as from 2020, will require assessments of effort, compliance, equity and collective emissions, there's evident utility in consumption-based carbon accounting for comparison, tracking and planning; however, moving beyond this, identifying the co-benefits of climate action policies from the point of view of consumption-based measurements may unlock important incentives alongside the mitigation and adaptation aims of the regime, particularly in terms of cooperative action between consuming countries and producing countries, while incentivizing low-carbon production. These initiatives can have important implications for the UNFCCC process and its consideration of nationally determined commitments and support, both in developed countries and in developing countries, particularly progressive developing countries actively interested in moving forward with low-carbon development.

Background

At the time of this writing, we are just over 400 days away from the close of the 21st Conference of the Parties ("COP") of the UN Framework Convention on Climate Change ("UNFCCC"), scheduled to occur in Paris at the end of 2015; the outcome of that meeting will claim a watershed in multilateral climate action negotiations harking back to the original establishment of the UNFCCC's Ad-Hoc Working Group on Long-Term Cooperative Action in Bali, in December 2007 (Decision 1/CP.13, the "Bali Action Plan"), which sought to develop a new regime for climate action, considering the end of then original commitment periods under the Kyoto Protocol.

The original "Bali Road Map" sought to develop the framework for a regime to be approved at COP 15 in Copenhagen, but it was not until COP 17 in Durban, in 2011, that agreement was reached over the tenets of a new regime for international climate action.

As discussion of the "Durban Platform" has evolved over the past few years, a rough outline has emerged, forged firstly from the experience of the Copenhagen/Cancún self-determined pledge-and-review mechanism, and from an understanding of the limits of top-down enforcement provisions possible under a consensually agreed multilateral system with the coverage and complexity of climate change action.

Discussion on the nature of the future regime has found resonance with the concept of self-determined ambition as being the key to an inclusive, lasting regime, yet many questions still remain on insuring sufficient collective action so as to achieve the required emissions reductions, given that even a rigorous top-down system including the threat of sanctions has not ensured sufficient climate action so as to keep to the UNFCCC's principal objectives of stabilisation of greenhouse gas concentrations.

The Negotiations

Under the UNFCCC's Ad-Hoc Working Group on the Durban Platform (the "ADP"), the discussion calendar is moving from concepts to elements of text for the post-2020 regime, which elements are to be agreed at COP 20 in Lima in December 2014, before negotiations move to discussions on actual text; at the same time, as part of the same decision in Durban, the ADP is also discussing mechanisms to advance climate change action in the period pre-2020, which many Parties see as lined to ambition in the post-2020 regime.

Discussion of the new regime already includes issues which were not so clearly drawn out under the Kyoto Protocol ("KP") regime, stemming principally from 1/CP.17's innovation that the negotiations would produce an arrangement "... under the Convention applicable to all parties"¹ This language, crucial to the launching of the post-Copenhagen ADP process, follows the understanding that the global climate change threat could not be dealt with in time through the existing KP arrangements, which principally allocated action amongst the OECD countries of 1992 — which were projected to cover less than 20% of global emissions. The ADP would continue under the principles of the Convention, including common-but-differentiated-responsibilities and respective capabilities, but would seek a formulation that could evolve beyond the static nature of KP, as economies and capabilities move forward.

Indeed, under ADP, there's no question on the primacy of leadership in climate change action by developed countries, but there's an understanding that action will not be exclusive to developed countries, to the extent that emissions from the developing world, and the emissions lock-in associated from mid-term infrastructure to be built in the developing world, would easily outstrip emissions-limitation measures by developed countries. Many developing countries have shown leadership in their own right, following thinking that low-carbon development and climate resilient societies are in their best interests in every case², which approach is not contradictory to the general concept of "leadership" in climate action by developed countries. This follows a logic that the

¹ UNFCCC 1/CP.17, paragraph 2.

² See Garibaldi, José, 2009. *The Economics of Boldness*, London/Lima, Energeia. available in Spanish at http://http://libelula.com.pe/IMG/pdf/La_Economia_de_la_Audacia.pdf, las accessed 6 October 2014

principle of common-but-differentiated-responsibilities is not a construct to limit action, but to encourage each country to act in accordance with its own intrinsic capabilities, and to seek support for action over and above this threshold.³

The ADP regime, regarding arrangements to be signed in Paris at the end of 2015 and to come into force as of 2020, places self-determined actions as at the core of international response, within a framework of agreed, top-down dispositions on monitoring, reporting and verification (“MRV”) of action and support, and robust carbon accounting so as to preserve environmental integrity for the regime and provide relevant inputs to scientific analysis of emissions. Being a self-determined action regime, much discussion pursues clarification on the nature of the commitments or contributions that Parties will put forward, how an assessment of these will occur over time, and, crucially, how the diversity of self-determined action can be herded in a lasting and inclusive regime towards the internationally agreed goal of limiting anthropogenic global warming to less than 2°C above pre-industrial averages.

The range of issues and the caution with which Parties are approaching these elements of contributions pays tribute to the complexity of the challenge and the interests to be balanced. Given the caution in the advancement of the discussions, it’s viewed that the agreements to be signed in Paris will be part of a larger suite of agreements and COP decisions which will create the constructs to the new post-2020 regime; for example, elements of land-use carbon accounting will probably not be finalised by December 2015, as well as progress on understanding adaptation pathways and planning, or the accounting for carbon sinks attributed to reforestation and afforestation. These elements will all be included in the constructs of the Paris agreement, however, a better understanding of particulars on these issues will need to be developed in the pre-2020 period.

What's in the Agreement?

The Paris agreement—independently of further elaboration as may happen subsequently—must deliver at the very least the Durban Platform’s mandate to a satisfactory consensus on mitigation, adaptation, finance, technology development and transfer, transparency of action and support, and capacity-building, which are the core essential elements of the Durban decision.

Contextually, these core elements must be supported by broader implementing issues which have emerged from the international negotiations of the ADP. For example, in order to promote inclusiveness, the ADP discussions have preferred an approach which is

³ See Abeyasinghe, Achala C., and Gilberto Arias. "CBDR as a Principle of Inspiring Actions Rather than Justifying Inaction in the Global Climate Change Regime." Rpt. in *Climate Change: International Law and Global Governance*. Ed. Oliver C. Ruppel, Christian Roschmann, and Katharina Ruppel-Schlichting. Vol. II. Baden-Baden: Nomos, 2013. 235-57. Print.

not prescriptive with respect to the actions that countries will undertake as of 2020, within certain bounds; so, the negotiations have echoed a sentiment of “no backsliding” to illustrate that, although Parties will have flexibility in developing their low-carbon development pathways into the future, contributions should not be less than those undertaken previously. By way of example, a country that has pledged say a 20% reduction in CO₂ emissions by 2020 should not put forward a contribution of 15% reductions in CO₂ by 2025 from the same baseline year.

It’s also clear that the Paris agreement must deliver clear long-term signals on the direction of the regime, which signalling may have been confused during previous climate change discussions—recall the uncertainties with respect to carbon markets during the negotiations of subsequent commitment periods under KP. These long-term signals must have an engagement with science—suggesting that assessments to the adequacy of the regime will also have a reference to science; this was expressly included in the enabling decision for the Durban Platform, which noted that the negotiation process should be “informed, inter alia, by the Fifth Assessment Report of the Intergovernmental Panel on Climate Change,”⁴ among other sources.

Moreover, apart from scientific inputs, it’s also become clear that some sort of assessment or review with reference considerations of equity (in the context of common-but-differentiated-responsibilities and respective capabilities) and fairness. Therefore, alongside nationally determined contributions of their policies and targets towards collective climate change action and the collective maximum 2°C target. Parties will include criteria to back their assessment of adequacy in the said contribution against considerations of equity and fairness.

Discussions are still under way about a structure for assessment of these contributions, and indeed, it’s understood that at the very least civil society and intergovernmental organisations will be able to use these contributions and documentation for their own review.

Current discussion also does not suggest that contributions will be completely unguided to most countries. Whilst concessions are understood to apply to countries in particular circumstances, such as Least Developed Countries (“LDCs”) and Small Island Developing States (“SIDS”), many Parties consider that all contributions should contain mitigation elements, and that countries should not put forth contributions that are exclusively with respect to adaptation to climate change—as was proposed by some developing countries in the past. Moreover, during 2014, the idea that much climate change action can be categorised as including both adaptation and mitigation elements concurrently has suggested that contributions, from an adaptation-centric viewpoint, could be seen as adaptation action with mitigation co-benefits, thereby proposing not only a

⁴ UNFCCC 1/CP.17 paragraph 6.

middle ground for all Parties in terms of the contents of contributions, but also that adaptation could be considered clearly within a high mitigation ambition policy program.⁵

Importantly, this interplay between mitigation and adaptation, which is innovative to the UNFCCC climate action policy discussions, suggests the formal inclusion of co-benefit considerations within nationally determined contributions to the climate change regime, especially within a high-ambition mitigation framework. This concept is especially useful for discussions of consumption-based carbon accounting and the identification of opportunities for action and low-carbon development in the regime.

Long-term Signals

The emissions trajectory transformation which numerous international sources⁶ have identified as urgently necessary in order to keep us within a 2°C maximum requires taking advantage of every opportunity and every innovation that can be mustered, as the failure to hold to that trajectory risks catastrophic climate circumstances for the planet as from the latter half of this century. It is also clear that governments of their own accord have limited direct impact on emissions, but much greater impact through indirect means— incentives, regulations—by interaction with their respective societies.

Likewise, the UNFCCC's instruments have imperfect effectiveness to the extent that they must be implemented through national regulations, which may run into delays or institutional barriers at domestic levels. However, the UNFCCC instruments, coupled with voiced political direction, can describe long-term signals to commerce and societies which would lead to early preparation for the long-term positions which the emerging regime will propose; the natural tendency is for interests to prepare for the mid- to long-term, especially in built infrastructure, so as to secure competitive advantages as early as possible, provided always that there's political credibility to those long-term signals.

Long-term signalling will also work towards the mainstreaming of climate change action in current development plans generally, inasmuch as climate change action must move in all countries beyond environment ministries to broader planning at national finance and municipal planning levels. This incorporation of long-term signals within mid-term national development planning is crucial in order to degrade lock-in of high-carbon infrastructure beyond 2040 and develop more pragmatic long-term investments consonant within the below-2°C goal—recall that even gas power generation will be over the 2°C emissions curve beyond the 2020s.

⁵ See Garibaldi, José A., Omar Ramirez, Gilberto Arias, and Chris Dodwell. "The Quisqueya Platform: Catalysing Action and Finance through Mitigation and Adaptation Synergies." Rpt. in *The Way Forward in Internatinoal Climate Policy: Key Issues and New Ideas 2014*. Ed. Heleen de Coninck, Richard Lorch, and Ambuj Sagar. London: CDKN/Climate Strategies, September 2014. 31-36. Print.

In short, the strength of signalling is imperative in a regime that doesn't espouse top-down regulations and embraces self-determined contribution paths. Given that the starting points for all countries will vary widely — particularly in terms of immediate development priorities (which explains why the international community has had so much difficulty in agreeing a top-down approach) — the new regime will see a starting point of diverse, but not divergent, policies, all ultimately converging, in accordance with increasing capabilities, on global emissions controls. Naturally the regime will need to provide for the support in terms of technology, capacity-building and financial supports needed for this evolution, but the very heart of “all parties” and a more active interpretation of common-but-differentiated-responsibilities in engagement with the climate change problem implies differentiated and evolving action towards a global collective effort to the 2°C emissions trajectory, which is ultimately a target of absolute emissions limitations.

Long-term signalling is an important element to come from the ADP to the extent that it will identify a path of least resistance in international development, so is essential if the regime is to move from being one of review and sanctions to one of incentives and international collaboration — the best new direction for the regime. Enforcement under KP espousing top-down targets and reviews has not proven effective enough in the UNFCCC space, as global emissions-limitation targets — known for years — have not been met.⁷

This space for incentives and international collaboration in line with long-term signalling must engage actors not only at national levels, but also regionally and sub-nationally. This has already been discussed in ADP under its work-stream 2 discussions⁸ regarding pre-2020 climate change action ambition, and in those discussions, many examples have been put forward, including the C40 initiative regarding resilience and energy efficiency for cities; it's clear that relevant long-term signalling from the international agreement can leverage and augment these sub-national initiatives and furthermore deliver innovation which may otherwise not happen in a purely top-down arrangement.

"Fast-sliding"

There have been innovative constructs coming through in discussions at the ADP. As a corollary to the “no backsliding” maxim, a number of parties⁹ have similarly suggested that the new regime should incentivise and enable Parties which wish to move faster than their declared trajectories, to do so — this has received the moniker “fast-sliding”.

⁶ See, for example, International Energy Agency's World Energy Outlook 2014, and IPCC AR 5 reports.

⁷ See various UNEP “Gap Reports” for 2010 to present

⁸ See UNFCCC 1/CP.17 paragraph 7

⁹ Note in particular the ADP Co-Chair's “Landscape” document ADP.2014.6.NonPaper at line 42.

“Fast-sliding” would be a powerful concept for the new regime to support explicitly to the extent that it would motivate countries to pick low-carbon development pathways with the particular requirements of their existing industries and social development needs. This selective approach to ambitious action can be coupled to opportunities that may arise from international, regional or sub-national “club” or opt-in arrangements as may arise between groups of countries, which “clubs” or opt-in arrangements could include support for capacity-building, technology facilitation, financial support or access to carbon markets. In these cases, a given country may decide to overstep its initial trajectory in particular sectors in order to take advantage of such an opt-in arrangement for its own development benefits, thereby “fast-sliding” beyond its initially determined contributions.

Whilst this is indeed a powerful concept, it’s important that any opt-in arrangement a) be firmly anchored to advancing under the internationally agreed rules for MRV and carbon accounting, to ensure environmental integrity across the whole system, and b) is committed to assisting in advancing participants in consonance to a below-2°C emissions trajectory under those MRV and carbon accounting rules. Given the inherent benefits that such opt-in arrangements provide to its participants, and the fact that more stringent rules can be agreed between like-minded, small groups, these sorts of “clubs” can have lower incidence of free-riding, while naturally creating the conditions for more advanced action and innovation not only among its participants, but among all nations, as eventually, practices devised and developed in smaller, more ambitious groups, will disseminate to broader circles.

In these fast-sliding club arrangements, its possible to envision a variety of clubs, with countries participating in one or more of each. Bearing in mind that these “clubs” would start from the initially described nationally determined contributions, their effect would be to “fast-slide” along chosen development priorities and would multiply initiatives for climate action, injecting cooperation and collaboration among participants and the regime, all along defined lines.¹⁰ As we will see, the concepts embodied in consumption-based carbon accounting promise a useful mechanism to identify new and appropriate avenues for the generation of win-win scenarios for such clubs.

Trade-offs in Development Paths

In moving forward with policies for low-carbon development, care must be taken in the introduction of distortions both to domestic and international patterns of trade; the transformation which international agencies describe for a collective below-2°C emissions trajectory is not something which our societies have practised before, and it will indeed

¹⁰ For a greater development on these opt-in arrangements, see Garibaldi, José A., and Gilberto Arias. "Enhancing Bold Collective Action: A Variable Geometry and Incentives Regime." Rpt. in *ACT 2015 Publication*. London and Washington: World Resources Institute and Energeia, 2014. Print.

require great enablement in areas of finance, technology, capacity-building, and regulation. Yet environmental integrity requires monitoring of where emissions move to as our societies progress in response to the enabling policies, so that this diversity of action that we're embarked on does not develop into the selective transfer of emissions from one region to another, without real net benefits for the planet.

International regulations themselves will have checks, or added costs and disincentives, to the bare transfer of emissions between actors through carbon trading or other market mechanisms, but the physical displacement, replacement or installation of high-carbon industrial processes seeking short-term loopholes in the international climate change regime will need disincentives—or, alternatively, positive incentives to the development of low-carbon industrial processes.

Naturally, as countries move within the climate action regime, each will face many different developmental and social scenarios over the coming years—the transformation to global low-carbon development is not something that will happen within any one political period, but will encompass global development over the coming half century and beyond. Countries and their societies will face plural options regarding short term or immediate policy aims—some dictated by adaptation to climate change—which may displace other longer term policies on low-carbon development; the importance of an enduring climate change regime is in the capacity for alignment between short term policies with the long-term multilateral climate change goals. While there will always be the tension of relegating the important in favour of the urgent, a successful regime will include provisions to align both sets of aims concurrently, and to support countries' own efforts in this alignment.

The evolving regime will need tools in monitoring the climate change effects of the different development paths that countries will adopt, and care must be had in terms of environmental integrity of the various development paths, so as to avoid double-counting of reductions within accounting periods. These tools could help in identifying policies which deliver win-win propositions vis-à-vis national or sub-national low-carbon development, within the context of the long-term aims of the regime and the particular country's advancement within its own contribution to that long term goal.

Tensions and opportunities

In this advancement to resilient low-carbon development, certain constructs of the built environment—high carbon, assets, for example—may lose value faster than their natural depreciation. These anxieties will support resistance by entrenched interests in moving to the new development paradigms, or the realignment of development pathways with the long-term climate change goals emanating from the multilateral regime.

Domestic politics cannot simply shut the door on entrenched interests, nor must they be cornered into a zero-sum proposition where they either win or lose. Existing industries

are an integral part of all economies, and there can be no question of their inclusion in the evolving matrix of low-carbon development; the aim of financial, technological and capacity-building support is for a broad movement of all sectors of an economy, not the selective advancement of particular niches. Whilst there may be new niches that open, and the realignment of existing production paths, this cannot be understood as an immediate closing of the prosperity door for current economic activities.

Part of the challenge in the localisation of low-carbon development will be in understanding the implications of economic activities that will need to evolve with their alignment to the long term aims of the regime.

It is in this space that tools developed by consumption-based carbon accounting metrics can make a great contribution in developing reforms to align production and consumption with the long term aims of national low-carbon development, as they can highlight areas that require support, in order to move low-carbon development from a regulatory, target and sanction environment to one of cooperation and collaboration towards resilient prosperity.

As has been noted above, it's perfectly feasible to combine multiple co-benefits to climate change action policies, including benefits in resilience and adaptation to climate change—at domestic or international levels. In this sense, engagement with entrenched domestic interests could include illustrations of commercial resilience to supply chain or delivery chain risks attributable to climate change; the low-carbon development paradigm seeks to protect against these risks by its engagement in adaptation and resilience to climate change, while consumption-based carbon accounting illustrates where these risks may lie and the degree of exposure a society or industry may have.

Review of consumption-based carbon accounting metrics may also highlight opportunities in new niches for production, or new markets to approach—always bearing in mind the requirements of avoiding carbon leakage and double-counting of emissions reductions. The regime's long-term signals, which should be echoed by domestic measures, will signal the fallacy of short-term, high-carbon development, while support for the evolution to low-carbon commercial and manufacturing activities, as well as urban planning and general resilient development, will create natural incentives of investment and progress in the direction of travel of the multilateral regime.

Evaluating Options and Effects

As economies mature in their low-carbon development pathways, internal changes such as demographic growth and domestic climate change effects will colour immediate policies, which can shape longer term stances on consumption and production. Moreover, natural domestic characteristics inherent in middle-income countries (“MICs”) imply fast-growing economies with fast-growing populations—contrasting with a reverse situation in

many developed countries—so indicative tools which can help point out opportunities for alignment, and report the tracking of achievements and outcomes in this alignment can greatly reinforce the opportunities inherent in low-carbon development.

With access to territorial based carbon accounting alongside consumption-based carbon accounting metrics, mid-term goals in low-carbon development can be visualised and progress needs can be identified in a participative form, and indeed, these fast-growing MICs would could reap the greatest benefits by leapfrogging traditional development pathways which may cause stranded assets to develop in high-carbon economies. Indeed, fast-growing MICs may have the greatest opportunity to gain in a low-carbon regime if they can marshal indicators and collaborative arrangements for opportunities—but for this a vision of options and effects must be available not only for policy makers, but also for stakeholders in businesses and civil society in order for collaboration to flourish both through international arrangements, and at sub-national and regional levels, where collaboration may have the greatest impact of all.

Assessment

Civil society, NGOs and the international community will all play a part in the assessment process of action towards the below-2°C emissions curve—in the end we are all stakeholders and climate change action cannot be held to be the sole demesne of one group or another, as the priorities of one particular set of actors may not take into account the repercussions of particular policies for other actors. As has been reiterated, the primacy of environmental integrity for the regime implies that what may seem to be opportune short-term policy considerations—arising perhaps from burden-distribution, zero-sum considerations of climate action—would not align with the long-term aim of collective action.

Within the ADP's tenets of self-determined actions, the Paris Agreement will need to develop assessment criteria—to be defined either in the document to be signed in Paris at the end of 2015, or developed prior to 2020—for the tracking and evaluation of collective effort, yet this will not dissuade civil society and business from developing their own analogous assessment of low-carbon development policies. In this assessment, consumption-based carbon accounting can have a complementary role with territorial-based approaches in international commercial considerations. Moreover, consumption-based carbon accounting approaches may present tools for domestic policies and initiatives to the extent that substitutions for domestic goods or services may come to light—engendering resilience to external shocks—which may further advance incentives to resilient low-carbon development considerations.

Indeed, there's no reason why considerations of consumption-based carbon accounting not be included as a way of reference in the assessment of contributions, and even deviation targets for consumption-based carbon accounting from projected near- or mid-

term BAU scenarios could be included for contribution, assessment and tracking, with important information resulting from this analysis. There's no reason why tracking data for multiple metrics cannot be presented in national contributions or in national communications, purely as an aid to assessment as the regime develops.

New Opportunities

A lasting and effective climate change action regime will have need to develop increasing ambition in collective action, and increasing effective decarbonisation, to the extent that the 2°C emissions curve is not a static target, but an emissions curve with continued declining emissions through the 2050s. Coupled with this is the adaptation challenge, which will likewise not be static, but increasing as the climate effect lags of past emissions will continue to create adaptation challenges for a similar period.

Remaining with the emissions limitation side, it has been noted that many approaches to emissions limitations have viewed climate action as a zero-sum proposition, where what one party gains, another loses. However, a lasting and effective climate change regime will need to be perceived in a cooperative and collaborative light, to overcome entrenched interests, the draw of delayed action and free riding. The importance of the mandate of the Durban Platform and its language of action by all Parties, always under the principles of the Convention, is indeed in recognising that the effectiveness of a regime where only some Parties engage in action risks too much in the way of environmental integrity of the whole.

The new opportunities which will begin to be perceived from the regime's long-term signalling will allow for a multitude of different development paths to emerge, yet no country will be able to fulfil its potential independently. The new regime is a perfect opportunity to develop a cooperative and collaborative environment which delivers support for moving to resilient and sustainable societies. So, although the progressively more extensive emissions limitation measures and their associated carbon accounting and MRV schemes could be viewed as a burden transfer arrangement, far better results, both domestically and internationally, flow from policies which seek to leverage these changes – which will be happening across the world – into opportunities for development.

Consumption-based carbon accounting is a ready tool to help identify the areas of action and relevant collaboration, as a review of the embodied carbon in existing trading patterns will allow for the exploitation of win-win opportunities to actors in trade. The consuming country can work with the producing country so as to put in place the conditions where products brought in from the given producing country can bear lower embodied carbon. Domestically, a country could equally review its populations habits, and the possibility of substituting the foreign product with a product bearing lower embodied carbon. To the extent that climate action will require new flows of capital, information, know-how and technology – for both mitigation and adaptation needs – embracing the

opportunity and using consumption-based carbon accounting in a collaborative approach at national, regional and sub-national level can succeed in highlighting many opportunities.

Benefits of Environmental Integrity

It's important to bear in mind that the sorts of opportunities that can be identified are not just in the ambit of mitigation and adaptation in discrete silos, but in mixed projects where mitigation and adaptation action can happen concurrently, or in areas of sustainable development such as in urban planning and development. Moreover, collaboration can also target production centres, regarding the management of inputs and the processing of raw materials.

By way of example, many developing countries are moving to structure domestic institutions to a footing where rapid leapfrogging of traditional development paths can occur. Mexico, the largest fossil-fuel consuming country in Latin America¹¹ has found itself to be extremely vulnerable to climate change, and has designed its Special Climate Change Program as a coordinated body of thirteen ministries plus additional semi-autonomous agencies from the central government, covering areas as diverse as health, housing, energy and farming. After passing its comprehensive climate change law, Mexico is presently engaging in discussion with its regional governments on the articulation of low-carbon development action, and it's evident that it will follow this not only with local academia, but in collaboration with foreign capacity as well—in essence, Mexico is developing a platform for international collaboration aimed at leapfrogging traditional development paradigms and positioning itself beyond its historical stance as an oil-producing country, while simultaneously delivering resiliency and new employment opportunities to its population.

It will be natural, as it already is, for Mexico to seek collaboration with countries that have already managed this transition and are in a decreasing emissions trajectory, and also to pair with other developing countries similarly adopting a progressive stance, so as to acquire experience in the services and products appropriate for the climate resilient economic model it's projecting.

Utility of Consumption-based Accounting

Consumption-based carbon accounting is not simply a metric for emissions reduction tracking—advising on carbon leakage when used comparatively in a time sequence—but, as has been noted, can also be a useful indicator of where cooperation and collaboration can achieve the first wins in collective emissions reduction. So, the consuming country can,

¹¹ See Briefing Note 003/10, Energy Sector Management Assistance Program (ESMAP), International Bank for Reconstruction and Development/THE WORLD BANK GROUP, 2010

within its capabilities, join in collaborative arrangements with the producing country to support the producing country's capacities in lowering the embodied carbon in the products the former imports; within the ADP discussions, this is perfectly acceptable as a national contribution by the consuming country to the extent that emissions reductions does not necessarily have to happen domestically to have a net positive effect.

Conversely, comparing consumption-based carbon accounting figures could become an attractor for similarly-priced inputs to consumption or production countries, creating an incentive for lowering the embodied carbon in goods for processing or consumption. Thus, the effect of a producing country's embodied carbon could distinguish it favourably from other countries producing similar goods—provided these metrics are backed by robust MRV and domestic carbon accounting—and this criteria would become attractive to consuming countries, to the extent that special arrangements on capacity-building and technologies, or even labelling, to operate collaboratively.

Consumption-based carbon accounting does not need to be a call for border-adjustment-measures, or for zero-sum negotiations regarding the consuming country's carbon footprint, but can be a tremendous tool to assist in the development of collaborative initiatives and to plan industrial policies, including academia and civil society, as part of a collective, global effort to the below-2°C emissions target. Used domestically, consumption-based carbon accounting can also help identify particular factors which need attention in their embodied carbon components, which could be elements of behaviour or domestic manufacturing practices which need attention by academia and new technology. In this sense, consumption-based carbon accounting can be a tool for assisting in identifying least-cost sustainable development pathways which may also deliver resilience.