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REVISITING THE FIRST PRINCIPLE OF A DEEP AND LIQUID MARKET: WIDEST POSSIBLE COVERAGE

Tackling climate change requires urgent cuts to greenhouse gas emissions. The Fifth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC) quantified the maximum amount of emissions humanity can produce and still have a break-even chance of staying below 2 degrees. Out of a total planetary “carbon budget” of about 3.5 trillion tonnes of carbon dioxide¹, we’ve already burned through more than half.

UNDERSTANDING THE TASK AT HAND:

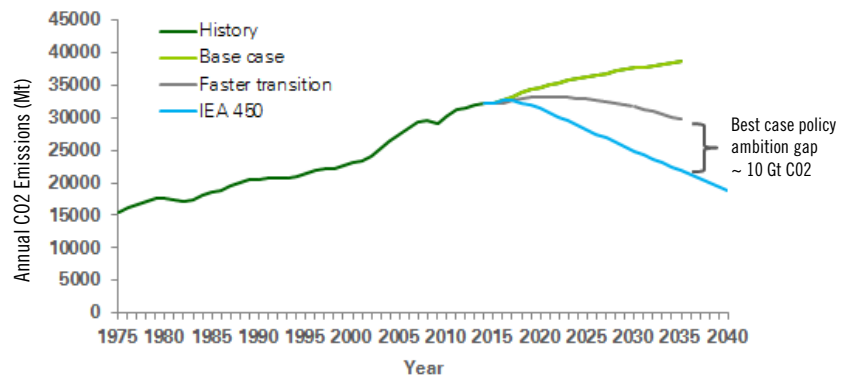
The Paris Agreement may create a new wave of global momentum towards achieving its stated aim of “holding the increase in the global average temperature to well below 2 °C above pre-industrial levels and to pursue efforts to limit the temperature increase to 1.5 °C above pre-industrial levels, recognizing that this would significantly reduce the risks and impacts of climate change.”

Despite this ambition, analysis by the UNFCCC and others suggests, a gap of nearly one gigatonne exists between the reductions implicit in the nationally determined contributions that were submitted prior to the Paris Agreement and the IPCC’s estimated required ambition. The effort, speed and cost of achieving reductions to meet the trajectory set out in the International Energy Agency’s 450 parts per million scenario (see Figure 1) may be significantly reduced if carbon pricing regulation and offsetting mechanisms were implemented to provide for wide-scale sectoral and gas coverage and enabling a robust price signal that reflects the lowest marginal abatement cost possible.

CARBON PRICING MECHANISMS

While some academics, carbon market enthusiasts and policy makers may assert that global carbon pricing is needed to assist in bridging the gap, the reality is that achieving a global price remains, at least for the near future, a distant prospect.

FIGURE 1: THE GLOBAL AMBITION GAP



Source: BP Energy Outlook 2015 & IEA World Energy Outlook 2015.

(Note: the IEA 450 scenario sets out an energy pathway consistent with the goal of limiting the global increase in temperature to 2°C by limiting concentration of greenhouse gases in the atmosphere to around 450 parts per million of CO₂.)

Efforts to set a price through the “top-down” structure of the Kyoto Protocol stalled, and instead a “bottom-up” series of national or regional efforts has gained impetus.

To date the World Bank’s 2015 State and Trends of Carbon Pricing highlights that about 40 national jurisdictions and over 20 cities, states and regions – representing almost a quarter of global greenhouse gas emissions - are placing a price on carbon. This patchwork of national and provincially led carbon pricing instruments looks set to grow; more than 90 governments indicated in their INDCs an interest in using international and domestic markets to fulfil their pledges.

While welcoming this growing interest in carbon pricing, its patchwork nature and the speed at which carbon pricing

mechanisms are evolving, morphing and developing hybrids, needs careful monitoring. This is because a fragmented approach has the potential to provide a fertile ground for game theory and arbitrage, with potential risk for governments, industries, sectors and polluters alike exploiting this fragmentation to “free ride” on the mitigation efforts of others, taking advantage of a lack of knowledge, political appetite, or societal mandate to ensure programs are well and consistently regulated.

ENGAGING THE FULL POTENTIAL OF ABATEMENT

In such an environment, and acknowledging the near gigaton gap ambition, it is necessary to go back to the first principles, often overlooked, of a well-designed emissions trading programme. In a bottom-up climate world, bringing

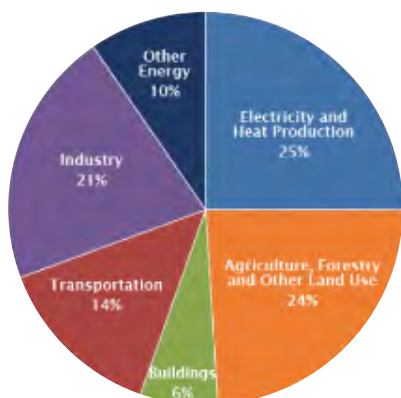
in and keeping countries in “coalitions of the willing” is more important than ever. Demonstrating that the required reductions can be achieved through a robust price signal that reflects the real cost of abatement, at lowest cost, will be key to cementing these coalitions.

The nature of the task ahead necessitates partnership not only by governments, but also by industries, sectors and emitters. Carbon pricing programmes need to recognize and harness a collective effort in order to promote both the widest possible coverage and deep and liquid markets.

THE AGRICULTURE, FORESTRY AND OTHER LAND USE (AFOLU) SECTOR:

AFOLU is estimated by the IPCC to contribute around 24% of global greenhouse gas emissions. However, this estimate is a net figure and may underestimate the sector’s total contribution. For example, it does not include the CO₂ that ecosystems remove from the atmosphere by sequestering carbon in biomass, dead organic matter, and soils. The UN Food and Agriculture Organisation estimates this sequestration may offset approximately 20% of the sector’s gross emissions.

GLOBAL GREENHOUSE GAS EMISSIONS BY ECONOMIC SECTOR



Source: IPCC (2014); Based on Global emissions from 2010.

Assessment of gross emissions is of more relevance when considering mitigation potential from this sector because it offers information on the full range of sources and sinks that policies may act upon. This potential is formally recognized in the Paris Agreement which states that all Parties should take action to conserve and enhance GHG sinks and reservoirs.

The IPCC estimates that as much as 24-30% of total mitigation potential could be provided by halting and reversing tropical deforestation.²

While many countries have referenced forests and land-use change in their Intended Nationally Determined Contributions (INDCs), the majority of INDCs fail to acknowledge the role that companies and financial institutions could play in helping to scale up mitigation contributions in this sector.

Harnessing an Emissions Mitigation Mechanism (EMM) that takes account of Article 5 of the Paris agreement to make performance-based payments that reward conservation and sequestration of forest carbon could potentially help governments make the difficult policy changes necessary to reverse deforestation and unlock a significant wedge of mitigation potential to meet the Paris objectives.

SHORT LIVED CLIMATE POLLUTANTS:

A wider view of the gases contributing to climate change could also be beneficial. Some short-lived climate pollutants not covered under the Kyoto Protocol (such as black carbon and hydrofluorocarbons, or HFCs) offer potentially the largest and fastest mitigation lever and are available today using current technologies.

Despite the success of the Montreal Protocol, it is estimated that increasing the recycling of HFCs from current levels of

around 10% to 30% by 2040 could abate a further 10-18 gigatonnes of CO₂e³.

CONCLUSION

Understanding the reality of the substantial gap between global emissions growth and the trajectory required to prevent global temperature rises to less than 2°C is essential if governments, companies and society are to mobilize together to achieve the Paris objective.

The effort, speed and cost of bridging the gap to IEA450 scenario targets may be significantly reduced if carbon pricing regulation and offsetting mechanisms were implemented to provide for wider-scale sectoral and gas coverage, enabling a strong price signal to form, reflecting the lowest marginal abatement cost possible. Achieving this will be key to growing bottom-up carbon pricing coalitions and facilitating achievement of the enhanced ambition needed to limit global temperature rise.

Unlocking the mitigation potential of short-lived climate pollutants and the agriculture, forestry and land use sector is not without challenge. Sensitivity around agriculture, land use rights and “hot air” are all factors that explain why these mitigation opportunities, while achievable at relatively low cost, have not yet been exploited. However, the clear ambition gap necessitates that we revisit these sectors and incentivize their contributions.

A well-designed Emissions Mitigation Mechanism, providing widest possible coverage to engage these sectors and allowing a price signal to form, could help catalyze private sector investment to scale investment and achieve the required mitigation needed to bridge the gap.

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(1) “Sharing a quota on cumulative carbon emissions”; Nature Climate Change, Sep 21, 2014; <http://www.nature.com/nclimate/journal/v4/n10/full/nclimate2384.html>
 (2) Halting tropical rainforest deforestation by 2050 ~ 5-10 Gt of CO₂e by 2050 (Carbon Mitigation Initiative, 2015). (3) (Velders et al, 2014; EOS; 2014).