Chapter 8

Key Recommendations and Way Forward

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The Paris climate agreement to be concluded at COP21 is expected to establish a solid foundation of global climate actions to achieve the 2°C target. However, an ambition gap between expected emissions based upon a nationally determined contribution (NDC) approach and global emissions pathways consistent with 2°C goal is likely to remain even until 2025/2030. The emissions gap between the full implementation of the intended nationally determined contributions (INDCs) submitted by 1 October 2015 and the least-cost emission level for a pathway to achieve the 2°C target is estimated to be 12 gigatonnes of carbon dioxide equivalent (Gt CO_2eq) in 2030 and 5 Gt CO_2eq in 2025 (UNEP 2015).

This report discusses possible ways to bridge this gap between the 2°C target and the NDC approach, and presents concrete proposals to address this issue, looking not only at the Paris climate agreement but also at the follow-up to the agreement. In this concluding chapter we summarise our key recommendations under four headings. Following these recommendations would be an important step forward to change the current reality to ensure success in achieving the 2°C target and in realising a sustainable world.

1. Key recommendations

1.1 Recommendations for mitigation and finance

To strengthen mitigation beyond 2015, a process for reviewing and submitting subsequent nationally-determined mitigation contributions after the initial submission should be established in the 2015 Agreement. For such a cycle to be effective, it is proposed that the 2015 Agreement should contain legal obligations for all Parties to submit, implement and regularly update NDCs, while they should be kept in a non-legal instrument (like the registry for Copenhagen/Cancun pledges) so as to strike a balance between legal stringency and flexibility. It is also proposed to have a review process every five years for both ten- and five-year period cycle countries by conducting interim reviews for ten-year period cycle countries.

The three key elements of the post-2020 international finance component are the predictability of the scale of future funding, the transparency of financial inputs and resulting impacts, and developing countries' strategies to enhance enabling environments and to scale-up domestic climate finance. The existing assistance cycles including those

for funding replenishment, finance reporting and finance review, are crucial vehicles for mobilising climate finance and enhancing finance transparency for pre-2020 and should be enhanced post-2020. To ensure funding predictability, quantitative, aggregate financial targets should be communicated on a five-year cycle (for 2025 and 2030). These targets should be reviewed and assessed subsequently in the context of the 2°C target, along with domestic factors in developing countries such as capacity and enabling environments. To increase transparency, the Common Tabular Format for reporting finance provided by developed countries should be improved. The Standing Committee on Finance should also develop a common reporting format for developing countries to report financial support received, their use of finance, and their efforts and strategies to scale up domestic finance and improve enabling environments.

1.2 Recommendations for the scientific community

There is increasing scientific knowledge on the extent to which each Party needs to reduce its greenhouse gases (GHG) emissions to achieve the 2°C target corresponding to various equity and other indicators, but this knowledge is not necessarily effectively communicated to policymakers at the national and international levels. The research community is expected to play a vital role to fill this gap by providing the following scientific inputs to the proposed cycle for strengthening mitigation contributions:

- Basic comparison and assumption checks: A framework to provide a common basis for comparing the NDCs and check their underlying assumptions and economic drivers;

- Equity-based assessment: A top-down, equity-based assessment (i.e. allocating emission allowances across countries based on a specific formula of equity such as responsibility, capability, equality in per capita emissions, and so on) could provide benchmarks guiding the assessment of each Party's relative contribution to the global 2°C target in terms of equity and sufficiency;

- Mitigation potential: Technology-based energy modelling can identify mitigation potential by providing different technology deployment portfolios to follow the long-term mitigation pathways and provide corresponding "narratives" (underlying macroeconomic drivers, mitigation potentials, other national circumstances), which are essential to a fair understanding, review and comparison of NDCs;

- Opportunities and benefits: An assessment of opportunities and benefits that mitigation actions can bring is another vital piece of information for the proposed cycle. It is important to specify concrete benefits that fit with each Party's national interests and priorities, and that can move beyond the traditional burden/effort-sharing discussion, as well as motivate the increase in the mitigation efforts; and,

- Aggregate ambition or adequacy of NDCs: An assessment of the collective effect of individual NDCs is essential to understand the status of implementation.

There are various approaches to evaluate NDCs which are complementary to each other. Synthesis analysis covering multiple evaluation approaches can take account of various uncertainties regarding GHG emissions modelling, so that the evaluation results are more likely to be acceptable to all countries.

It is proposed to establish a consortium of research institutes with good regional representation which can gather a range of studies and scenarios from international,

regional and local research institutes. This consortium can be organised on an ad hoc basis, using the existing institutes. Involvement of local researchers is crucial to ensure that any assessment corresponds better with national and regional conditions through their provision of additional data as well as their feedback on the collected data. The research consortium could also encourage the research community to conduct national assessments for developing countries, where GHG mitigation pathway analyses are not readily available.

1.3 Recommendations for an accounting framework for the Framework for Various Approaches (FVA)

Market-based approaches have been recognised as one essential policy instrument to tackle climate change, and the Kyoto Protocol established a set of market mechanisms, such as the Clean Development Mechanism (CDM), with accounting rules to assess the use of these mechanisms. Since the 2007 Bali Action Plan there has been an on-going discussion on market-based approaches and the 'Framework for Various Approaches (FVA)'. FVA offers bottom-up options for a post-2020 climate regime as various mechanisms can be proposed by all Parties, regardless of their development stage. Parties can propose mechanisms either individually or jointly, thereby promoting mitigation actions in a cost-effective manner. To fulfil such expectations, an accounting framework for the FVA in a post-2020 climate regime should contain two key aspects: to ensure environmental integrity, and to incentivise mitigation efforts by both developed and developing countries.

It is crucial to design an accounting framework for the FVA under a post-2020 regime to enable the realisation of these aspects, taking into account different national capacities and needs of developing countries in particular.

To do so, we propose: (1) capacity building to be included as an essential element for various mechanisms under the FVA; (2) review/coordination by a team of experts on the FVA to avoid any risk to environmental integrity and to enhance a country's capacity; (3) simplified registry systems for countries without sufficient capacity; (4) synergies with other market mechanisms; and (5) enhanced reporting on the use of credits through Biennial Update Reports (BURs) in a gradual manner.

These aspects will help developing countries to develop their NDCs, including an option to use market-based mechanisms, because they will be able to get a clearer idea about the possibility of using market-based mechanisms, given their national conditions, and how this will affect other parts of their mitigation actions.

1.4 Recommendations for loss and damage (L&D)

The global community has recognised that there will be considerable loss and damage (L&D) due to deficits in development, adaptation and mitigation. The post-2020 climate regime should address the issue of L&D to cover the complete set of building blocks that will also help realise low-carbon, climate resilient development. There remain many challenges in addressing L&D such as limited technical capacity to design and implement adaptation, limited financing and limited adaptation options. Currently there is limited agreement on a common definition of L&D, making it more difficult for stakeholders to effectively tackle this issue. It was found that the principles that countries support in international negotiations related to L&D and the scope of L&D for the country are often influenced by their potential vulnerability to climate change and the predicted impact of climate change. This indicates that understanding and addressing vulnerabilities and impacts, both current and future, are crucial first steps to address L&D.

Non-economic loss and damage (NELD) needs greater attention at the both national and local levels in terms of measuring such losses and damages and using the related information in identifying appropriate risk reduction measures. Based on IGES research, it has been indicated that not all types of NELD, which could constitute a large proportion of the total L&D caused by climatic events, have been measured and reported in the aftermath of a disaster in most countries. Scientific studies to estimate and project L&D under different climate change and capacity scenarios with a focus on NELD are crucial for countries to make appropriate choices. Decision makers, especially those engaged in disaster risk reduction, are often not very familiar with NELD and they need to be provided with a set of simple tools/formats to help them identify major NELD so they can make appropriate decisions. Certainly, data collection formats at the local level and data archival systems at the national and sub-national levels need major revisions to accommodate important non-economic losses and damages. It is also going to be essential to revise the national level guidelines pertaining to insurance and other risk management tools.

In addition, there is a need for coordinated action and support to prevent L&D on a global scale. Risk-transfer of insurable L&D has emerged as one of the major candidate areas for international coordination. IGES research has indicated that the existing risk insurance has limited potential to address NELD. Instead, preparedness planning could have greater potential to address NELD which calls for a cautious approach in promoting risk insurance as a silver bullet to address L&D. The expected roles of international mechanisms include evaluation of the existing risk transfer approaches, including regional mechanisms, and monitoring their scope and ability against increasing severity and frequency of extreme events. The post-2020 climate regime is expected to promote the necessary internationally-coordinated action to address L&D.

2. Way forward

The key recommendations outlined above intend primarily to raise the ambition level of the short-term climate actions to be included in the Paris climate agreement given the current reality of international climate negotiations. Many decision makers still hold the outdated conventional view that there is a trade-off between the ambition level of climate efforts and economic growth, and emphasis is put on short-term tangible benefits generated by climate actions in order to improve acceptability and feasibility of the recommendations. Our recommendations are designed to leverage the dynamic nature of the climate regime to increase the level of ambition, not only in terms of following up the Paris climate agreement, but also to seek opportunities to change the rules of the game. This is one implication of "beyond" in the title of this report.

Firstly we need to overcome short-termism and change policy priority from economy-first to a more holistic and balanced approach, by looking wider and further ahead. To do so, the precautionary principle must be one of the key rules. For the long term there is wide consensus about the necessity to simultaneously achieve decent quality of life for all as well as substantial GHG emissions reduction, but in the short term no country has strongly committed to make serious efforts to realise such an economic system, or in other words to establish a model of sustainable development. This is because many economic and social systems are designed based on short-termism. Business executives are strongly motivated by institutions such as stock markets and banking systems to raise short term quarterly profits. The existence of environmental externalities under this motivation mechanism discourages strong climate actions. As a result, the current international climate negotiations are a sort of blame game without the genuine solution of a model of sustainable development.

The scientific community can play a crucial role in changing this situation by both identifying risks and threats caused by environmental externalities, and by providing innovative solutions to address them. Further, history tells us that our perception of the world and our preference system, such as short-termism, can be influenced by various factors including education and scientific knowledge. To ensure sustainability in the mid to long run, changing our mind set consistent with sustainability requirements is necessary.

In this regard it should be noted that there is a growing number of reports on the financial implications of climate change for investors, presenting significant portfolio risks as well as new market opportunities.[1] The Bank of England, for example, warned that insurance companies with investment portfolios of fossil fuel companies could suffer a "huge hit" if such investments are rendered worthless by climate actions.[2] This concern was triggered by scientific knowledge that the majority of fossil fuel reserves are unburnable if climate change is to be stabilised at the level of 2°C warming or even 3°C warming (McGlade and Ekins 2015). Indeed, there is an emerging and notable trend among institutional investors to divest from fossil fuels, especially coal, and invest in renewable energy. Examples include Norway's USD 900 billion sovereign wealth fund, Aviva which has USD 384 billion in assets, and California's two largest pension funds (with USD 292 billion and USD 191 billion in assets, respectively). Though it is still challenging to make this type of long-term, forward-looking portfolio management common across the world, robust commitment to climate action beyond COP21 could send a stronger signal to investors. In addition, internationally coordinated initiatives such as the information disclosure initiative proposed by the Governor of the Bank of England, which aims to "design and deliver a voluntary standard for disclosure by those companies that produce or emit carbon"[3], are necessary to effectively redirect private investment from carbon intensive assets to low-carbon/carbon-free ones. These kinds of initiatives can also be complemented by the announcement by governments of possible carbon price paths, which potentially sparked by COP21, as well as the development of stress-test technology to future implications of physical risk, liability risk and policy risk associated with climate change, which are embedded in a wide range of firms and investments.

Secondly, we need to facilitate actual actions by various actors toward the realisation of low-carbon and climate resilient societies. Achieving the 2°C target requires fundamental changes in infrastructure, institutions and individual behaviour. To make such substantial changes, of course, central governments can and should play key roles in providing long-term signals as well as policy frameworks to enhance short-term actions. At the same time, local communities must also play their part. The importance of these stakeholders has already been recognised by the UNFCCC process. Additionally, the Non-State Actor Zone for Climate Action (NAZCA), where companies, cities, subnational authorities and investors can register and showcase their commitments to address climate change, was launched at COP20 in Lima in 2014. Policy research is needed to see how this can be further promoted, what the barriers would be to further actions and commitments, and how such barriers could be removed or alleviated.

The importance of cities and local communities can also be highlighted in terms of interlinkage between climate change and Sustainable Development Goals (SDGs) that aim to end poverty, hunger, injustice and environmental destruction. Many actions will contribute simultaneously to SDGs and climate change mitigation/adaptation. Such actions include, for example, decentralised renewable energy systems and land use plans to alleviate traffic congestion, and they can generate synergies between SDGs and climate. It is the city and local community level at which such actions can be effectively designed and implemented. Policy research needs to identify locally appropriate actions to create mitigation and adaptation synergies, thereby assisting and promoting actual actions at the local level.

The Eye on Earth Summit is an important data collection initiative to monitor sustainable development. It collects and distributes data from civil society stakeholders, thereby supplementing official data collection and dissemination and thus ensuring that progress towards sustainable development is constantly being monitored. It is worth exploring possible lessons learnt from this initiative, in particular for adaptation as well as loss and damage issues. Further policy research is required to address how we can promote and strengthen data collection by stakeholders, so that it can also be used in the decision making process in the climate change area.

Finally, it is worth considering the establishment of a climate management system or one-stop platform where we can find comprehensive information on climate change. Currently, the Intergovernmental Panel on Climate Change (IPCC) reviews and compiles the latest scientific knowledge. UNEP's emission gap reports are also annually updating information on the gap between actions required to attain the 2°C target and actions actually taken. There are various initiatives by research institutes, such as the Climate Action Tracker, to evaluate individual countries' commitments. Under the UNFCCC process, the reporting system on actions was established, but there is room for improvement in terms of, for example, the adherence and the content. The abovementioned NAZCA provides information on climate commitments by non-state actors. This kind of information is rather scattered. Thus, a one-stop platform can be designed to collect relevant information and provide annual reports. This setting should be valuable to all, since we are now about to move from the negotiation stage to the implementation stage to realise low-carbon, climate resilient societies.

Notes

1. For example, the Economist Intelligence Unit (24 July 2015) "The cost of inaction: Recognising the value at risk from climate change" <http://www.economistinsights.com/financial-services/analysis/cost-inaction>; Citi GPS (August 2015) "Energy darwinism II: Why a low carbon future doesn't have to cost the earth" <https://ir.citi.com/5%2BD3LAj%2Ba5yhsTAE9%2FJU0FQGOiQPJvnrPrLhR%2BdUSVMRjVsSyhROJBwV0st2%2F1TE>
2. The Guardian (3 March 2015) http://www.theguardian.com/environment/2015/mar/03/bank-of-england-warns-of-financial-risk-from-fossil-fuel-investments
3. A speech by Mark Carney (Governor of the Bank of England) given at Lloyd's of London on 29 September 2015. Accessed 9 November 2015. http://www.bankofengland.co.uk/publications/Pages/speeches/2015/844.aspx

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