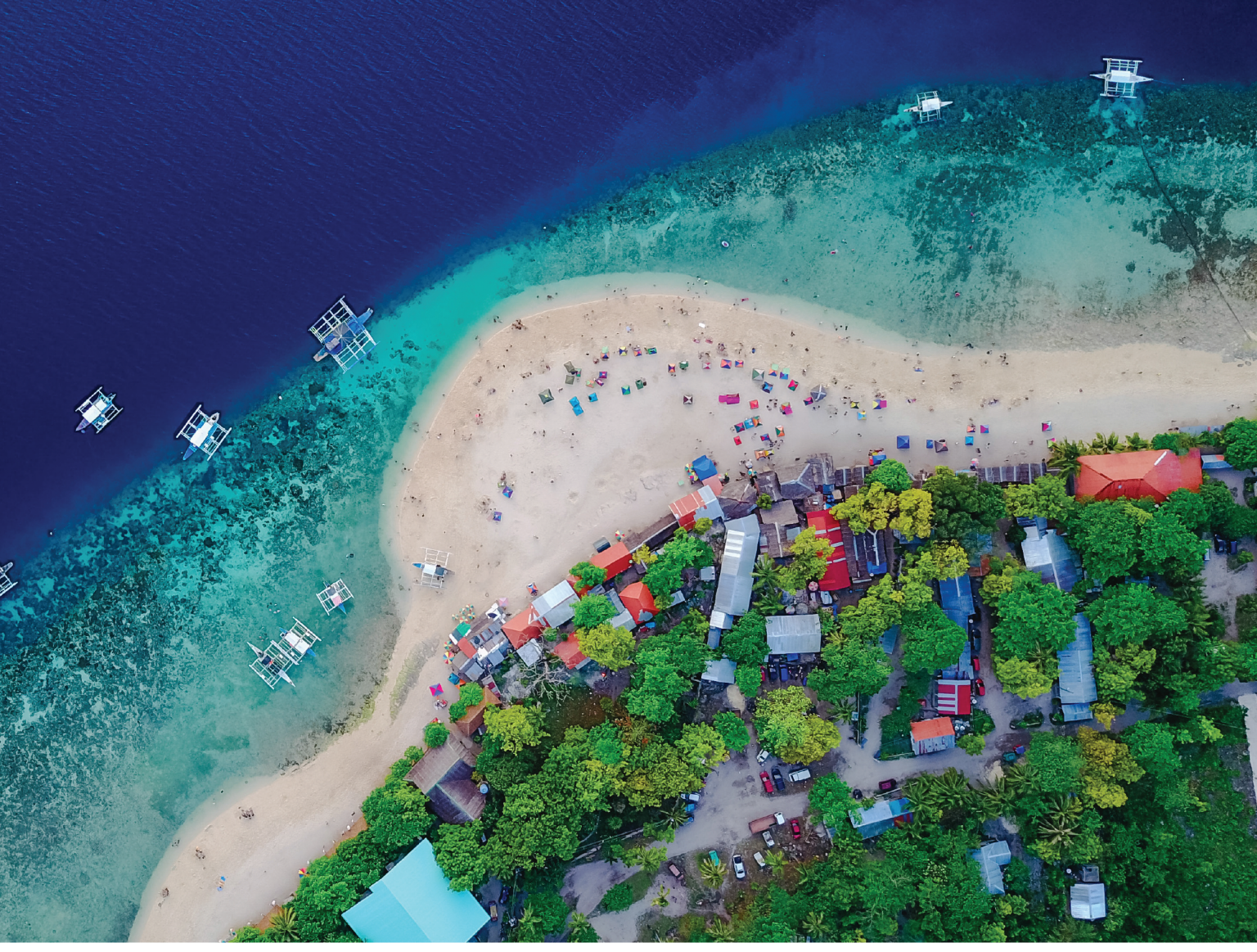
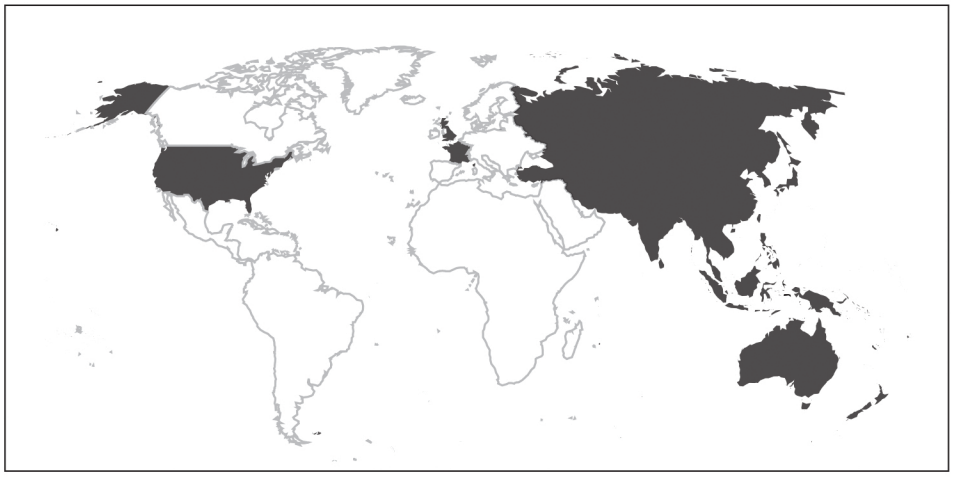


RESPONDING TO THE CLIMATE CHANGE CHALLENGE IN ASIA AND THE PACIFIC: Achieving the Nationally Determined Contributions (NDCs)

UNITED NATIONS
ESCAP
Economic and Social Commission for Asia and the Pacific



The darker area of the map represents the members and associate members of ESCAP.

The Economic and Social Commission for Asia and the Pacific (ESCAP) serves as the United Nations' regional hub promoting cooperation among countries to achieve inclusive and sustainable development. The largest regional intergovernmental platform with 53 member States and 9 associate members, ESCAP has emerged as a strong regional think-tank offering countries sound analytical products that shed insight into the evolving economic, social and environmental dynamics of the region. The Commission's strategic focus is to deliver on the 2030 Agenda for Sustainable Development, which it does by reinforcing and deepening regional cooperation and integration to advance connectivity, financial cooperation and market integration. ESCAP's research and analysis coupled with its policy advisory services, capacity building and technical assistance to governments aims to support countries' sustainable and inclusive development ambitions.

UNITED NATIONS ECONOMIC AND SOCIAL COMMISSION FOR ASIA AND THE PACIFIC

RESPONDING TO THE CLIMATE CHANGE CHALLENGE IN ASIA AND THE PACIFIC: ACHIEVING THE NATIONALLY DETERMINED CONTRIBUTIONS (NDCs)

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FOREWORD

The Asia-Pacific region is the worst impacted region, suffering the greatest losses from climate change and weather-related disasters. Coupled with its economic dynamism and growing emissions, it has a critical role to play in the global response to climate change and in implementing the Paris Agreement.

Reflecting their different levels of development and economic diversity, countries in the Asia-Pacific region face different challenges related to climate change. These are reflected in their Nationally Determined Contributions (NDCs), the main tool used to communicate countries' climate change priorities, policy responses, and ambitions. The NDCs take into account national circumstances and are a country-driven process, often building on existing national policy frameworks across different sectors to mitigate emissions or adapt to climate change.

Considering that countries in the Asia-Pacific region do not bear the main historical responsibility for climate change, the NDCs across the region, on average, reflect a reasonable degree of ambition. Most countries have managed to set explicit targets that they are aiming to reach in order to mitigate greenhouse emissions that lead to climate change. These take different forms, ranging from emissions reduction targets relative to base year, relative to business as usual, or emissions intensity targets. Many also signal the opportunity for achieving higher ambition, subject to receiving additional financial, technological and capacity-building support from developed countries.

Nevertheless, at current rates, the global carbon budget will be used up in two or three decades. Therefore, the global community must significantly step up its mitigation ambition in order for the world to have a realistic chance of achieving the objectives of the Paris Agreement. The vulnerable countries in our region have a critical stake in ensuring that global emissions trajectories are corrected downward, as they stand to bear the greatest future losses of climate impacts, which exacerbate their existing development challenges to reduce poverty and hunger, grow sustainable cities, and promote health, education and prosperity for all. In this regard, the global stocktake will be a central element to provide collective guidance on how to achieve the Paris Agreement goals in a fair and balanced manner.

As shown in this report, there are plenty of opportunities for the Asia-Pacific region to exploit cost-effective mitigation measures that can help them to achieve the co-benefits of the 2030 Agenda, especially through the increased take-up of energy efficiency measures and renewable energy solutions. In fact, the region is emerging as a global leader capable of serving as an example to show how people can be lifted out of poverty and achieve sustainable development outcomes without relying on fossil fuels.

Carbon pricing, and regional linking of carbon markets, also has a potentially significant role to play in the region to reduce the cost of achieving the NDCs and increasing climate ambition. This is becoming more relevant as carbon pricing initiatives multiply in the region. Notwithstanding these win-win opportunities, it is incumbent on the international community to do more to support the most vulnerable countries in the region, through finance, technology and capacity-building, to help them raise their ambition.

On building resilience, countries in the region have been making considerable effort to develop their National Adaptation Plans. These need to be adequately supported so that countries can better weather the impacts of climate change on their economies, infrastructure and societies.

EXECUTIVE SUMMARY

Emissions in the Asia-Pacific region reach 26,725 million metric tons of CO_2 equivalent gases to the atmosphere in 2012, accounting for more than 50 per cent of global emissions. Across sub-regions, the East and North-East Asia (ENEA) sub-region was the largest emitter in the region, with 55 per cent of the region's total emissions, followed by South and South-West Asia (SSWA), equivalent to 18 per cent. The Pacific countries were responsible for 3 per cent of emissions. In terms of sectors, the energy sector was the largest emitter sector, with 39 per cent of region's CO_2 equivalent emissions, followed by the industrial sector emitting 25 per cent of emissions. Agriculture emissions were also significant, and together with land-use change, emitted 19 per cent of total.

By October 2017, 43 countries in Asia-Pacific had signed and ratified the Paris Agreement, while 8 were still in the process of ratifying it through their national legislatures. One of the central elements of the Paris Agreement are the National Determined Contributions (NDCs), in which member states lay out their national priorities for climate action to mitigate greenhouse gas emissions, and to adapt to climate change. Overall, the existing mitigation commitments under the NDCs represent a serious effort to contribute to the long-term temperature goal limit of the Paris Agreement but studies show that ambition still falls well below efforts needed to close the ambition gap.

This report provides a first assessment by UNESCAP of the NDCs in the Asia-Pacific region, an overview of the region's priorities, progress and opportunities, and the efforts underway to use carbon pricing, and regional linking, as a means to achieve the NDCs in a cost-efficient manner.

Nationally Determined Contributions in the region

Fifty-one countries in the region submitted an NDC with a mitigation target. Countries in the region adopted different types of targets including absolute emission reductions targets, relative emission reductions targets, carbon intensity reductions, peak of carbon emissions, or policies and actions. Most countries included mitigation targets that were both unconditional (lower ambition), and conditional on international financing, technology transfers, or capacity building (higher ambition).

The mitigation targets show that countries are serious about lowering their emissions to contribute to achieving the collective goals. However, the level of diversity of targets adopted across the region make it difficult to assess and compare ambition and identify ambition gaps. Yet, since comparability is essential as countries prepare to adopt co-operative approaches through Article 6.2 on the internationally transferred mitigation outcomes (ITMOs), further efforts will be required to improve it. In addition, it is clear that many countries in the region are ready to increase ambition if they receive the support of the international community through finance, technology, and capacity-building.

Based on countries' sectoral and sub-sectoral mitigation targets contained in the NDCs, several priorities for countries can be identified. Energy emerges as a priority sector, highlighted by 40 countries of the 42 analysed. Many countries in the region declared their intention to increase their share of renewable energy, as well as improve energy efficiency. Agriculture, forestry and other land use was also a common theme of attention, in line with the region's large contribution to global emissions from this sector. Transport received attention from 32 out of 40 parties, including by many Pacific countries, which highlighted measures in the biofuels sub-sector as a way to address emissions coming largely from shipping. Countries with a larger contribution to global manufacturing also paid strong focus on industrial processes, with measures on its energy efficiency. Additionally, many also proposed complementary policy actions in areas such as cleaner coal mining or improved management of hydrocarbon fields.

Regarding building resilience, many NDCs set the path to better synergise disaster risk reduction and climate change adaptation actions to achieve a triple-win of lowering disaster risks, increase resilience to cope with climate change and achieving sustainable development. Agriculture and water were highlighted as major priorities, given their importance in the region and the impacts they have on people's livelihoods, and on communities' vulnerability in the face of climate change.

Measuring progress

Measuring regional progress towards the climate change priorities is challenging *inter alia* due to the diversity of the NDC targets different normative benchmarks against which progress can be measured, the lack of an agreed formula to split the required emissions reductions across regions, and the difficult of measuring progress on adaptation and strengthening resilience.

The global temperature goal contained in Article 2 of the Paris Agreement, to hold 'the increase in the global average temperature to well below 2°C', is a key normative benchmark against which efforts are being measured. Estimates show that, to achieve this goal with a 66 per cent likelihood, the remaining net global emissions from 2017 are around 800 to 1055 $GtCO_2$, which, at current rates, will be used up in around 20 to 30 years. The current global emission pledges contained in the NDCs taken together will give a likely temperature increase of about 3°C by 2100.

For the energy sector, the remaining carbon budget up to 2050 is around 650 $GtCO_2e$.[1] To achieve this, global energy emissions would need to peak before 2020, and decrease by 1 Gt per annum by 2030. The energy sector is expected to be responsible for about 42 per cent of the Greenhouse Gas Emissions (GHG) emissions reduction needed to get to the 2°C scenario.[2] About two-thirds of this reduction (4.5 – 5 Gt) scenario is linked to energy efficiency, while 2 - 2.5 Gt will be achieved through the switch to renewable energy.[3]

In Asia-Pacific, energy-related emissions are currently responsible for around 13Gt $GtCO_2e$ per year. In order to meet the 2°C scenario they should be limited to around 10 $GtCO_2e$ per year by 2030, or less than half of the global total of the energy-related emissions.[4]

Given its dynamic growth path, and its growing energy demand, it is clear that Asia-Pacific will largely shape the progress toward achieving these sustainable energy objectives, including the targets under SDG7. The region consumes more than half of the global energy supply. In 2014, it emitted 55 per cent of global emissions from fuel combustion, nearly two-thirds of which were from coal. The region faces many opportunities to achieve cost-efficient emissions reductions while increasing energy security. Regional economies have already demonstrated a long-term steep decline in energy intensity, falling from 9.1 MJ/$ in 1990 to 6.0 MJ/$ in 2014. Progress is also notable in the renewable energy sector, in which the region has emerged as global leader, with more investment, installed capacity, and consumption than any other region.

The emergence of market-based approaches

Market-based approaches are being increasingly embraced as a way to deliver least-cost emission reductions to achieve the NDCs. As stated in their NDCs, over one hundred parties are considering market-based approaches to achieve low carbon climate resilient development.

Twenty-six countries, or around half of the countries in the region, expressed their willingness to use market-based approaches and are exploring the possibility of enhancing regional or bilateral cooperation under the

remit of Article 6 of the Paris Agreement. With several new systems in development in the region, including the Chinese ETS to launch by the end of 2017, it is expected that 20-25 percent of global carbon emissions will soon be covered by a carbon price.[5]

Regional co-operation for carbon pricing offers an opportunity to further exploit cost savings. It can take many forms and ranges from similar programme elements of different systems to full linking, which entails the unrestricted mutual recognition of carbon units. The first steps towards regional co-operation on carbon pricing in the Asia-Pacific region have resulted in the Joint Crediting Mechanism (JCM), a bilateral mechanism between Japan and eleven countries in the region, to facilitate the transmission of low carbon technologies to host countries and implement emissions reductions.

Apart from the cost-savings, and the incentives it provides that can change production and consumption patterns towards greater sustainability, carbon pricing can raise valuable public revenue through the auction of permits and the collection of carbon taxes. Globally, around US$20bn are raised *per annum*, but there is much greater revenue potential. Developing countries can benefit from selling emission reductions, which have been estimated at 2 – 5 per cent of GDP by 2050. Carbon markets could also give rise to less tangible benefits, such as indirect efficiency gains, enhanced transmission of technical knowledge, or higher regional political commitment to address the climate change agenda and to alleviate competitiveness concerns. However, achieving the maximum effectiveness of carbon markets relies on a strong carbon price, namely $40-80 per tonne of CO_2 by 2020 and $50-100 per tonne by 2030.