



## INTENDED NATIONALLY DETERMINED CONTRIBUTION REPUBLIC OF INDONESIA

### National Context

Indonesia is a nascent yet stable democracy and the fourth most populous country in the world. Despite continuous, multi-decade economic growth, approximately 11% of Indonesia's population is living below the poverty line. To lift people out of poverty, the Government of Indonesia (GOI) is promoting economic development projected to average at least 5% per year in order to reduce the poverty rate to below 4% by 2025, as mandated by the Indonesian Constitution, inter alia, that "*every person shall have the right to enjoy a good and healthy environment.*" As climate change becomes a reality, Indonesia must continue to seek a balance between its current and future development and poverty reduction priorities.

Indonesia's strategic development goals, known as the *Nawacita* (or Nine Agenda Priorities), charts the transitional path towards realizing meaningful and long-term changes, aligning Indonesia's vision as a politically sovereign and economically self-reliant nation with deep roots in its cultural identity. These priorities are consistent with the national commitment to climate change resilience, where climate change adaptation and mitigation are integrated as cross-cutting priorities of the National Medium-Term Development Plan. As the largest archipelagic country in the world, with its internationally recognized Archipelago Doctrine (*Wawasan Nusantara*), Indonesia also needs to articulate its maritime vision in its development priorities.

Given its pivotal geographic position in the global ocean conveyor belt (thermohaline circulation), and its extensive tropical rainforests, with high biodiversity, high carbon stock values and energy and mineral resources, Indonesia recognizes its role to play in combatting global climate change. Nevertheless, Indonesia is also vulnerable to natural disasters that will likely be exacerbated by climate change, especially in low-lying areas throughout the archipelago. Therefore Indonesia views integrated land- and ocean-based climate change adaptation and mitigation efforts as a critical strategic consideration in achieving climate resilience in food, water and energy.

Indonesia's Intended Nationally Determined Contribution (INDC) outlines the country's transition to a low carbon future by describing the enhanced actions and the necessary enabling environment during the 2015-2019 period that will lay the foundation for more ambitious goals beyond 2020, contributing to the concerted effort to prevent 2°C increase in global temperature. For 2020 and beyond, Indonesia envisions achieving archipelagic climate resilience as a result of comprehensive adaptation and mitigation programs and disaster risk reduction strategies. Indonesia has set ambitious goals for sustainability related to production and consumption of food, water, and energy. These goals will be achieved by supporting empowerment and capacity building, improved provision of basic services in health and education, technological

innovation, and sustainable natural resource management, in compliance with principles of good governance and broader constituency strengthening.

## **Mitigation**

According to Indonesia's Second National Communication of 2010, national greenhouse gas (GHG) emissions were estimated to be 1,800 MtCO<sub>2</sub>e in 2005. This represents an increase of 400 MtCO<sub>2</sub>e compared to 2000. Most emissions (63%) are the result of land use change and peat and forest fires, with combustion of fossil fuels contributing approximately 19% of total emissions. It is important to note that fossil energy resource extraction also contributes to land use change emissions. The Indonesia baseline uses the business as usual scenario of emission projections starting in 2010, based on historical trajectory (2000-2010), projected increases in the energy sector and the absence of mitigation actions.

In 2009, Indonesia voluntarily pledged to reduce emissions by 26% on its own efforts, and up to 41% with international support, against the business as usual scenario by 2020. Since then Indonesia has promulgated relevant legal and policy instruments, including the national action plan on GHG emissions reduction as stipulated in Presidential Regulation (PERPRES) No. 61/2011 and GHG inventory through Presidential Regulation (PERPRES) No. 71/2011. Beyond 2020, Indonesia envisions an even bolder commitment to emission reductions. Based on the country's most recent emissions level assessment, the unconditional reduction target is 29% of the business as usual scenario by 2030. In order to support the beyond 2020 target, Indonesia recognizes the need for consolidating both methods and data sources to ensure the high degree of accuracy.

Indonesia has taken significant steps to reduce emissions from Land Use, Land-Use Change and Forestry (LULUCF) by instituting a moratorium on the clearing of primary forests and by prohibiting conversion of peat lands from 2010-2016. Those ongoing efforts will be strengthened through protection and conservation of its remaining forests by reducing deforestation and forest degradation, restoring ecosystem functions, as well as sustainable forest management which include social forestry through active participation of the private sector, small and medium enterprises, civil society organizations, local communities and the most vulnerable groups, especially *adat* communities, and women - in both the planning and implementation stages. A landscape-scale and ecosystem management approach, emphasizing the role of sub-national jurisdictions, is seen as critical to ensuring greater, more enduring benefits from these initiatives.

In energy sector, Indonesia has embarked on a mixed energy use policy, with at least 23% coming from new and renewable energy by 2025. Indonesia has also established the development of clean energy sources as a national policy directive. Collectively, these policies will put Indonesia on the path to de-carbonization.

For the waste management sector, the GOI is committed to develop a comprehensive strategy to improve policy and institutional capacity at the local level, enhance management capacity of urban waste water, reduce landfill waste by promoting the "Reduce, Reuse, Recycle" approach, and the utilization of waste and garbage into energy production. The GOI is committed to further reduce emissions from the waste management sector by 2020 and beyond, through

comprehensive and coherent policy development, institutional strengthening, improved financial and funding mechanisms, technology innovation, and social-cultural approaches.

### **Adaptation**

As an archipelagic state with extensive low-lying areas, Indonesia is highly vulnerable to the adverse impacts of climate change. Indonesia has already experienced extreme climate events such as floods and drought, and will likely see long-term effects from sea level rise. As the Indonesian population grows, climate change-induced natural disasters will impact a greater number of people and their assets, making it more difficult for them to rise out of poverty. It is believed that climate change will increase the risk of hydro-meteorological disasters, which make up 80% of disaster occurrences in Indonesia. The poorest and most marginalized populations tend to live in high-risk areas that are prone to flooding, landslides, sea level rise, and water shortages during drought. Most of these areas have experienced rapid urbanization, reaching 50% in 2010.

Climate change presents significant risks for Indonesia's natural resources that will, in turn, impact the production and distribution of food, water, and energy. Therefore, the GOI considers climate mitigation and adaptation efforts as an integrated concept that is essential for building resilience in safeguarding food, water and energy resources. The GOI has made significant efforts towards developing and implementing a National Action Plan on Climate Change Adaptation (RAN-API) which provides a framework for adaptation initiatives that has been mainstreamed into the National Development Plan.

The GOI will implement enhanced actions to study and map regional vulnerabilities as the basis of adaptation information system, and to strengthen institutional capacity and promulgation of climate change sensitive policies and regulations by 2020. The medium-term goal of Indonesia's climate change adaptation strategy is to reduce risks on all development sectors (agriculture, water, energy security, forestry, maritime and fisheries, health, public service, infrastructure, and urban system) by 2030 through local capacity strengthening, improved knowledge management, convergent policy on climate change adaptation and disaster risks reduction, and application of adaptive technology.

### **Planning Process**

The GOI has demonstrated its strong commitment to institutional development by establishing the Directorate General of Climate Change, under the Ministry of Environment and Forestry. Established by Presidential Regulation No 16 of 2015, the Directorate General serves as the National Focal Point for the Conference of the Parties (COP) of the United Nations Framework Convention on Climate Change (UNFCCC) to effectively facilitate ongoing relevant programs and processes being implemented by a variety of government sectors and stakeholders. Since climate change has local to national and international dimensions, coordination and synergy will continuously be enhanced between the Ministry of Environment and Forestry with Ministry of National Development Planning (BAPPENAS) in the context of climate change and national development and with Ministry of Foreign Affairs in the context of climate change and international negotiations.

To further strengthen institutional capacity, Indonesia is developing appropriate legal instruments for environmental protection and management, spatial planning, renewable energy, and coastal and small islands management. In addition to these legal instruments, Indonesia has created regulatory frameworks specifically on climate change mitigation, and the National Action Plan on Climate Change Adaptation (RAN-API).

In the preparation of the INDC, the GOI has conducted consultations with various stakeholders representing academia, the private sector, and civil society organizations; these consultations have included workshops and consultations organized at both the national and local levels. The preparation of the INDC has taken into account the Post-2015 Sustainable Development Goals (SDG) particularly on taking urgent action to combat climate change and its impacts, promoting food security and sustainable agriculture, achieving gender equality, ensuring the availability and sustainable management of water, access to affordable, reliable, and renewable energy for all, sustained, inclusive and sustainable economic growth, resilient infrastructure, sustainable consumption and production patterns, conservation and sustainable use of the oceans, seas and marine resources, and protecting, restoring and promoting sustainable use of terrestrial ecosystems, sustainably managing forests, combating desertification, and halting and reversing land degradation and biodiversity loss.

### **Strategic Approach**

Indonesia requires a comprehensive and thorough plan to effectively implement sustainable production and consumption patterns, benefiting from the diversity of traditional wisdom of our indigenous institutions, known as the *adat* communities. Broader constituency building is also deemed critical through effective engagement with faith based networks as well as the existing interfaith movement. Therefore, the strategic approach of Indonesia's INDC is predicated on the following foundational principles:

- Employing a landscape approach: Recognizing that climate change adaptation and mitigation efforts are inherently multi-sectoral in nature, Indonesia takes an integrated, landscape-scale approach covering terrestrial, coastal and marine ecosystems, implemented through capacity building of the sub-national jurisdictions.
- Highlighting existing best practices: Recognizing significant strides in multi-stakeholder efforts in combating climate change, Indonesia intends to scale up the diversity of traditional wisdom based as well as innovative climate mitigation and adaptation efforts by government, the private sector, and communities.
- Mainstreaming climate agenda into development planning: Recognizing the importance of integrating climate change into development and spatial planning and the budgeting process, Indonesia will include key climate change indicators in formulating its development program targets
- Promoting climate resilience in food, water and energy: Recognizing the need to fulfill the needs of a growing young population for food, water and energy, Indonesia will improve its management of natural resources to enhance climate resilience by protecting and restoring key terrestrial, coastal and marine ecosystems.

In order to maintain consistent and credible accounting of the monitoring, reporting and verifying (MRV) program, Indonesia has established Presidential Regulation (PERPRES No. 71, 2011) that were designed to take into account national characteristics and circumstances.

Indonesia's commitment to a low carbon future outlines enhanced actions and puts in place the necessary enabling environment for the 2015-2019 period that will lay the foundation for more ambitious goals beyond 2020. This would provide opportunities for building coherent actions at the national level, with particular emphasis on research, resource mobilization through partnerships, and international cooperation. The Indonesian Environmental Protection and Management Law of 2009 secures the legal framework to support 2015-2019 enhanced action strategies and actions, which would serve as enabling conditions for long-term policy of 2020 and beyond. However, to achieve long-term policy goals, a comprehensive legal harmonization of all relevant matters related to climate change is seen as critical to meet the daunting challenges of climate change mitigation and adaptation.

### **Information to Facilitate Clarity, Transparency and Understanding**

#### **Reduction Level**

##### **(a) Unconditional Reduction**

Indonesia has committed to reduce unconditionally 26% of its greenhouse gases against the business as usual scenario by the year 2020.

The above commitment is a necessary prerequisite for embarking on a bolder commitment to further reductions by 2020 and beyond by outlining an emissions reduction plan using an evidence-based and inclusive approach. The commitment will be implemented through, , effective land use and spatial planning, sustainable forest management which include social forestry program, restoring functions of degraded ecosystems, improved agriculture and fisheries productivity, energy conservation and the promotion of clean and renewable energy sources, and improved waste management.

As stated earlier, Indonesia is committed to reducing emissions by 29% compared to the business as usual (BAU) scenario by 2030, as a fair reduction target scenario based on the country's most recent assessment of the 2010's National Action Plan on GHG Reduction. The BAU scenario is projected approximately 2,881 GtCO<sub>2</sub>e in 2030.

##### **(b) Conditional Reduction**

As articulated in the aforementioned Unconditional Reduction Indonesia's target should encourage



support from international cooperation, which is expected to help Indonesia to increase its contribution up to 41% reduction in emissions by 2030.

Indonesia's additional 12% of intended contribution by 2030 is subject to provision in the global agreement including through bilateral cooperations, covering technology development and transfer, capacity building, payment for performance mechanisms, technical cooperation, and access to financial resources.

<b>Type</b>	Emissions reduction relative to a Business As Usual (BAU) baseline
<b>Coverage</b>	Nationwide with a landscape and ecosystem management approach in both adaptation and mitigation efforts by building and strengthening sub-national jurisdictional capacity.
<b>Scope</b>	<ul style="list-style-type: none"><li>• Carbon Dioxide (CO<sub>2</sub>)</li><li>• Methane (CH<sub>4</sub>)</li><li>• Nitrous Oxide (N<sub>2</sub>O)</li></ul>
<b>Baseline</b>	BAU scenarios of emission projection started in 2010, with each sector having various data year interval. For example, the historical data of land-based sector is available from 1990-2012, as seen in Indonesian FREL-REDD+ submission.
<b>Fair and Ambitious</b>	<p>Indonesia GDP growth rate has slowed between 2010-2015, from 6.2-6.5% per annum to only 4.0% (first quarter 2015). Indonesia's population has increased at an average rate of 1.49% during the period of 2010-2010, posing challenges for Indonesia in fulfilling energy demand, ensuring food security, and fulfilling livelihood needs. At the same time, poverty alleviation remains a challenge for Indonesia, with 10.96% of the population still living in poverty in 2014, and the unemployment rate at 5.9%.</p> <p>Despite the challenges common to other developing countries, Indonesia is committed to transition its current development pathway toward climate resilience in a phased approach. The pathway towards de-carbonization of the economy will be fully integrated into Indonesia's National Medium-Term Development Plan for the period 2019-2024.</p> <p>Indonesia also considers to work on finding the</p>

peaking time of national GHGs emissions necessary to meet the national sustainable development objectives while contributing to the global efforts to fight against the dangerous impacts of climate change.

**Perspectives on Vulnerable Groups, including Gender and Adat Communities**

These policies and actions include an emphasis on encouraging participation of the most vulnerable groups, including *adat* communities, the poor, and women, in order for the measures to be effectively implemented, and provide equitable benefits for all citizens.

**Key Assumptions on Mitigation**

**Metric Applied**

Global Warming Potential (GWP) on a 100 year timescale in accordance with the IPCC's 4th Assessment Report.

**Methodology for Estimating Emissions**

Inventory is based on 2006 IPCC Guidelines for National Greenhouse Gas inventories and the IPCC GHG for LULUCF.

All data will refer to the National Inventory System of Greenhouse Gases (SIGN SMART), UNFCCC Biennial Update Report (BUR), and FREL-REDD+ document.

**Baseline**

Assumptions used for baseline projection and policy scenarios for the 2020 to 2030 period are:

- Long-term economic growth will still be influenced by land use governance, tenurial issues energy consumption, and quality of infrastructure connecting the archipelago.
- Beside GDP per capita, population growth, energy intensity and value added, the increasing demand of both domestic and international market on natural resources based commodities influence the dynamic behavior of each sector and the economy.
- Policy scenario for post 2020 in the energy sector refers to Electricity Supply Business Plan (RUPTL) 2015-2024 and National Energy Policy (KEN).

**Measurable, Reportable, Verifiable (MRV)**

Indonesia commits to periodically communicate its greenhouse gases emissions from various sectors, including the status of emission reduction efforts and results to Secretariat of UNFCCC. Indonesia is

currently preparing the Third National Communication Report (TNC), to be submitted by 2016. Indonesia produced the Biennial Update Report (BUR) along with the INDC document.

### **Coverage**

#### • **Sectors/Source Categories**

1. Energy (including Transport)
2. Industrial Processes and Product Use
3. Agriculture
4. Land-use, Land-use Change and Forestry
5. Waste

#### • **International Market Mechanisms**

Indonesia will meet its unconditional commitments regardless of the existence of international market mechanisms. Indonesia welcomes bilateral, regional and international market mechanisms that facilitate and expedite technology development and transfer, payment for performance, technical cooperation, and access to financial resources to support Indonesia's climate mitigation and adaptation efforts towards a climate resilient future.

### **Review and Adjustment**

The INDC reflects the most recent information and analysis by the Government of Indonesia. As a developing country, Indonesia will likely experience dynamic changes due to national and global economic changes. In this regard, the INDC will be reviewed and adjusted, as necessary, up to the time of Indonesia's ratification to the legal instrument to be agreed in COP-21.



## **Annex Indonesia Climate Resilience Strategy**

### **I. Introduction**

The Government of Indonesia considers climate mitigation and adaptation efforts as an integrated concept that is essential for building resilience in safeguarding food, water and energy resources. Indonesia also views its development pathway towards climate resilience as consistent with its commitment to contribute to the global effort for achieving Sustainable Development Goals (SDGs). These global agendas will be contextualized given Indonesia's unique archipelagic geography, and its position within the global ocean conveyor belt (thermohaline circulation) and its extensive tropical rainforests, with their high biodiversity and high carbon stock value. Indonesia is also a nascent yet stable democracy and the fourth most populous country in the world, with the largest generation of young people and the most working-age people in its history.

### **II. Indonesia's Vulnerability to Climate Change**

As an archipelagic country with extensive low-lying and small island areas, Indonesia is highly vulnerable to the adverse impacts of climate change. Indonesia has already experienced extreme climate events such as floods and drought, and is anticipating long-term impacts from sea level rise. As the Indonesian population grows, climate change-induced natural disasters will affect a greater number of people and their assets, making it difficult for them to escape poverty.

Climate change is believed to increase the risk for hydro-meteorological disasters, which make up 80% of disaster occurrences in Indonesia. The poorest and most marginalized populations tend to live in high-risk areas that are prone to flooding, landslides, sea level rise, and water shortages during drought.

As the country with the second longest coastline in the world, Indonesia faces a high risk of coastal inundation and sea level rise that may affect up to 42 million people living in low elevation coastal zones. Most of these areas have experienced rapid urbanization, reaching 50% in 2010.

The vulnerability of Indonesia's coastal zone is also affected by the rate of deforestation and forest degradation. The loss of forest ecosystems leads to the loss of critical environmental services, providing for water catchment areas, preventing erosion and floods, and protecting against the loss of biodiversity.

In order for Indonesia to reduce its vulnerability to climate change, it must strengthen its climate resilience by integrating its adaptation and mitigation efforts in development planning and implementation.

### III. Priority Actions for Climate Resilience

In 2010 the Government of Indonesia pledged to reduce emissions by 26% (41% with international support) against the business as usual scenario by 2020. The current administration, under President Joko Widodo, has determined priority actions within the national *Nawa Cita* (Nine Priority Agendas) framework, which includes protecting Indonesia's citizens, encouraging rural and regional development, improving the quality of life, and improving productivity and global competitiveness. These core missions are consistent with the national commitment toward a climate change-resilient development path, in which climate change adaptation and mitigation constitute an integrated and cross-cutting priority of the National Medium-Term Development Plan. The following priorities for enhanced actions in 2015-2019 will be fully integrated into Indonesia's National Medium-Term Development Plan in 2020.

#### *Enabling conditions for climate resilience*

Indonesia's pathway toward climate resilience must be developed by building a strong foundation based on the following enabling conditions:

- Certainty in spatial planning and land use
- Tenurial security
- Food security
- Water security
- Renewable energy

#### *Economic resilience*

Climate change presents significant risks for Indonesia's natural resources that will in turn impact the production and distribution of food, water and energy. As the population grows, there will be increasing pressures on Indonesia's already limited resources. As a response, Indonesia plans to build resilience into its food, water and energy systems through the following enhanced actions:

- Sustainable agriculture and plantations
- Integrated watershed management
- Reduction of deforestation and forest degradation
- Land conservation
- Utilization of degraded land for renewable energy
- Improved energy efficiency and consumption patterns

#### *Social and Livelihood Resilience*

Climate change impacts the day-to-day lives of all Indonesians, but most severely Indonesia's most vulnerable populations. Climate change-induced natural disasters will impact a greater number of people living below the poverty line, preventing asset accumulation. Rising food,

water and energy prices, which often follow drought, floods, and other disasters, will drive the poor further into poverty. Socio-economic disparity will potentially contribute to political instability in regions most affected by climate change. To prevent further disparity, Indonesia plans to build social resilience through the following actions:

- Enhancement of adaptive capacity by developing early warning systems, broad-based public awareness campaigns, and public health programs;
- Development of community capacity and participation in local planning processes, to secure access to key natural resources;
- Ramping up disaster preparedness programs for natural disaster risk reduction;
- Identification of highly vulnerable areas in local spatial and land use planning efforts.
- Improvement of human settlements, provision of basic services, and climate resilient infrastructure development.
- Conflict prevention and resolution.

#### *Ecosystem and Landscape Resilience*

As an archipelagic country with high biodiversity, Indonesia's highly diverse ecosystems and landscapes provide various environmental services such as watershed protection, carbon sequestration, disaster risk reduction, etc. In order to build climate resilience, Indonesia must protect and sustain these environmental services by taking an integrated, landscape-based approach in managing its terrestrial, coastal and marine ecosystems. The following are enhanced actions to support ecosystem and landscape resilience:

- Ecosystem conservation and restoration
- Social forestry
- Coastal zone protection
- Integrated watershed management
- Climate resilient cities.