**Cambodia’s Nationally Determined Contribution: 2020 Update**

# **Introduction:**

The Royal Government of Cambodia (RGC) has updated its Nationally Determined Contribution, in alignment with the UNFCCC’s decisions. This update provides for a Business-as-Usual emission scenario and 3 NDC scenarios and their respective emission reductions.

The RGC can decide on an NDC scenario to be followed based on the adaptability under the environmental, cultural, economic, technical, and political conditions and priorities of the country.

### **Business-as-Usual GHG Emissions in 2030:**

|  |  |  |
| --- | --- | --- |
| **Sector** | **Sectoral share (%)** | **GHG Emissions (MtCO2e)** |
| FOLU | 49.2 | 76.3 |
| Energy | 22.2 | 34.4 |
| Agriculture | 17.5 | 27.1 |
| Industry (IPPU) | 9.0 | 13.9 |
| Waste | 2.1 | 3.3 |
| **Total** | **100** | **154.9** |

### **Mitigation Projects:**

The mitigation projects are distributed among 7 sectors: **Energy, Waste, Industry, Transport, Agriculture, Building, and Forestry & other Land Use (FOLU).**

In all sectors except FOLU, there is only one NDC scenario. The FOLU sector has 3 NDC scenarios.

The estimated emission reduction with FOLU by 2030 under different NDC scenarios will be approximately:

|  |  |  |  |
| --- | --- | --- | --- |
| **Sector** | **NDC Scenario 1 (MtCOe2)** | **NDC Scenario 2**  **(MtCOe2)** | **NDC Scenario 3**  **(MtCOe2)** |
| **FOLU** | 302.8 | 38.1 | 3.8 |
| **Energy** | 13.7 | 13.7 | 13.7 |
| **Agriculture** | 6.2 | 6.2 | 6.2 |
| **Industry (IPPU)** | 5.9 | 5.9 | 5.9 |
| **Waste** | 0.6 | 0.6 | 0.6 |
| **Total** | **329.2** | **64.5** | **30.2** |

|  |  |  |
| --- | --- | --- |
| **No** | **Mitigation Projects/Activities** | **ER (ktCO2e)** |
| 1 | Promote sustainable energy practices in manufacturing  *Garments: 2,291 GgCO*2*e, 55% by 2030*  *Bricks: 1,799 GgCO*2*e, 44% by 2030*  *Food and Beverage: 1,043 GgCO*2*e, 25% by 2030* | 5133 |
| 2 | Urban Planning Tools for Climate Change Mitigation and the urban planning solution in three sub-cities | 2.36 |
| 3 | Application of electrical equipment’s labeling & MEPS (Lighting, Cooling & Equipment)  *Reduce 1.2 TWh (29.7%) of electricity use in 2030* | 1000 |
| 4 | Improvement of process performance of EE by the establishment of energy management in buildings/industries  *Voluntary scheme for other companies, especially for SMEs to reduce by 10% in 2030* | 100 |
| 5 | Public awareness campaigns, DTEBP-EE info centers  *Reduce 2% of energy consumption in 2030* | 25 |
| 6 | Building codes and enforcement/certification for new buildings and those undergoing a major renovation  *Reduce 10% of electricity consumption in 2030* | N/a |
| 7 | Introduction of efficient electrical motors and boilers  *Reduce 2.3% of current electricity consumption in 2030* | 80 |
| 8 | Improve sustainability of charcoal production through enforcement of regulations | 200 |
| 9 | Roadmap study on Integration of RE (Renewable Energy) resources.  *25 % of renewable energy in the energy mix (solar, wind, hydro, biomass) by 2030* | N/a |
| 10 | New sanitary landfills with LFG extraction and LFG extraction at the Dangkor Landfill  *Increase the share of waste disposed at sanitary landfills with LFG extraction from 0% in 2020 to 50% by 2030 and extract LFG from the Dangkor Landfill* | 1272 |
| 11 | Composting of biodegradable organic fraction of MSW supplemented with the separation of organic waste (at source).  *If 10% of all MSW generated is composted by 2030 then upto 500 ktCO*2*e/year of GHG emissions can be avoided by 2030* | 500 |
| 12 | Production of Refuse-Derived Fuel (RDF) from either a)  fresh MSW or b) old MSW mined from the Dangkor  landfill.  *GHG ER from RDF + anaerobic digestion up to 200 ktCO*2*e/year* | 200 |
| 13 | Implementation of National 3R strategy | 421 |
| 14 | Enhance maintenance and inspection of the vehicle (Piloting maintenance and emission inspections of vehicles)  *30 vehicle inspection centers in operation by 2030* | N/a |
| 15 | Promote integrated public transport systems in the main cities | N/a |
| 16 | Reducing GHG emissions through the off-grid street lightening of a rural municipality  *10 Sangkat of Senmonorom municipality, Kep municipality, and Preah municipality integration of climate change into financial management, institutional arrangement, and policy reform by 2028.* | N/a |
| 17 | Bio-digester construction (85% reduction compared to 2000) (Small size (2-3-4m3) | 121.8 |
| 18 | Bio-digester construction (85% reduction compared to 2000) Medium size(6-8-10m3) | 10.08 |
| 19 | Bio-digester construction (85% reduction compared to 2000) Large size(>10m3) | 8.96 |
| 20 | Centralized recycling facility for industrial waste from the garment sector  *Reduce 108,472 tCO*2*e/at an average of 10,847 tCO*2*e/year* | 10.847 |
| 21 | Climate-friendly cooling of public sector buildings  *Reduce 43 000ton/year* | 43 |
| 22 | Toward Battambang City to green city  *5 Sangkat of Battembang municipality integration of*  *green city by 2025* | N/a |
| 23 | Shift long-distance freight movement from trucks to train | N/a |
| 24 | Emission management from factories  *Monitor air quality at 105 factories annually and provide permit letters on air emissions to 90 factories. 90% of factories are to be licensed.* | N/a |
| 25 | Increasing the effectiveness and sustainability of agricultural land management techniques (Conservation Agriculture) | N/a |
| 26 | Organic input agriculture and bio-slurry; and deep placement fertilizer technology  *10 Provinces by 2030* | N/a |
| 27 | Promote manure Management through compost making process to reduce carbon emission  *25 provinces and cities by 2030* | N/a |
| 28 | Better management of industrial wastewater in the food & beverage sector | N/a |
| 29 | Implementation of National Cooling Action Plan | 1090 |
| 30 | Inclusion of performance requirements of Passive Cooling Systems in the Building Energy Code of Cambodia | 140.9 |
| 31 | Implementation of “passive cooling” measures in the cities (addressing urban heat island effect [UHIE]), public buildings, and commercial buildings. | 74.5 |

### **Priority adaptation actions:**

| **No** | **Adaptation action** | **Subsector** |
| --- | --- | --- |
| 1 | Towards an Agroecological transition in the uplands of Battambang | Agriculture |
| 2 | Development of Rice crops for increased production improved quality-safety; harvesting and post-harvesting technique and agro-business enhancement |
| 3 | Development of Horticulture and other food crops to increase production, improved quality-safety; and post-harvesting technique and agro-business enhancement |
| 4 | Development of Industry crops for an increase in production, improved quality-safety; harvesting and post-harvesting technique and agro-business enhancement |
| 5 | Improvement of support services and capacity building to crop production resilient to climate change by promoting research, trials, and up-scaling climate-smart systems that farming increase resilience to climate change and extreme weather events |
| 6 | Building climate change resilience on cassava production and processing |
| 7 | Research for the development and enhancement of agricultural productivity, quality, and transfer through the strengthening of crop variety conservation and new variety release responding to the impacts of climate change |
| 8 | Development of new technologies and increased yields by using new crop varieties which adapt to climate change |
| 9 | Development of rubber clone varieties suitable for AEZ and resilient to climate change |
| 10 | Enhancing institutional and capacity development on climate change impact, vulnerability assessment, adaption measures, and mitigation related to the rubber sector | Agriculture |
| 11 | Improvement of animal breeding technology in Cambodia through AI which can adapt to climate change |
| 12 | Promotion of research capacities on animal genetics, animal breeding, and animal feed is strengthened to adapt to climate change |
| 13 | Strengthening capacities for risk prevention and reduction, effective emergency preparedness and response at all levels; enhancing livestock and disease-related early warning system, integrating disaster risk reduction and climate change adaptation measures into recovery and rehabilitation initiatives in the livestock sector |
| 14 | Promoting aquaculture production systems and practices that are more adaptive to climate change |
| 15 | Promoting climate resilience in the capture fisheries sector |
| 16 | Scaled up climate‐resilient agricultural production through increased access to solar irrigation systems and other climate-resilient practices |
| 17 | Developing a training manual and providing training on approaches for the development of climate-smart and sustainable livelihood for rural poor people |
| 18 | Protection, risk mitigation, and resilience building from marine pollution particularly caused by activities on land including marine pollution from waste and aquaculture activities. | Coastal zones |
| 19 | Effective management and protection of ecological systems of marine and coastal zones to avoid adverse impacts from various factors, build their resilience and restore their functions for productive and healthy oceans |
| 20 | Conduct climate risk analysis for the existing electricity infrastructures and provide recommendations | Energy |
| 21 | Climate-proofing existing and future solar/hydropower infrastructure |
| 22 | Enable effective decision-making for health interventions through the generation of information and improved surveillance or early-warning systems | Human health |
| 23 | Enhance climate resilience in health service delivery |
| 24 | Strengthen and provide capacity building of technical guidelines for diagnosis, detection, prevention, control, and treatment of vector-borne and water-borne diseases, injuries, and other food poisoning illnesses arising from climate change |
| 25 | Conduct water sanitation and hygiene (WASH) assessments on climate change and develop planning for communities and health facilities. |
| 26 | Strengthen institutional capacities to effectively integrate climate risks and adaptation options in health sector planning and implementation |
| 27 | Heat stress adaptation for industrial production | Industry |
| 28 | Integrating climate change response measures onto the construction design for buildings and rural housing (use of modern integration of technology) | Infrastructure – Buildings |
| 29 | Develop the resilient infrastructure of school buildings in response to climate change |
| 30 | Implement climate change and disaster resilient construction and infrastructure standards including for public sector and community-focused buildings covering public health, education, WASH etc. |
| 31 | Prepare spatial planning (city/district/municipality) guidelines at all levels for climate change adaptation Integrating climate change response measures to the commune land use planning | Infrastructure - Land use planning |
| 32 | Integrating climate change response measures to the policy of social land concession (SLC) and its procedures |
| 33 | Prepare modality of standardized green spaces for urban planning or new sub-cities to address the vulnerability of urbanization. |
| 34 | Vulnerability assessment towards the development of climate change strategic plans to respond to the impacts on land, housings, coastal management, and building due to climate change |
| 35 | Promote Land Use Planning Tools for urban houses and building construction adaptive to climate change benefits to the low-income and homeless people |
| 36 | Promote proper low-cost shelters for low-income households resilient to climate change, practically in the area of social land concession |
| 37 | Development of building code with mainstreaming climate change into building designs |
| 38 | Mainstream climate change response measures for coastal development planning against seawater intrusion, seawater rise and seasonal storm destruction, and rising temperature |
| 39 | Strengthening Climate-Resilient Cities |
| 40 | Develop national road construction and maintenance design standards for national and provincial roads, considering climate change impacts, including developing an M&E framework for climate-proofing and low-carbon technology roads | Infrastructure - Roads |
| 41 | Repair and rehabilitate existing road infrastructure and ensure effective operation and maintenance systems, considering climate change impact |
| 42 | Rural Road rehabilitation and improvement for climate change resilience |
| 43 | Develop and annually update national and subnational multi-hazard  and climate risk assessments, including the  identification of the most vulnerable communities | Livelihoods, poverty and biodiversity |
| 44 | National end-to-end early warning systems with a focus on  effective dissemination to populations at risk |
| 45 | Implement community–based disaster and climate risk  management programs |
| 46 | Building resilience of biodiversity conservation and restoration  to adapt to climate change |
| 47 | Integrated village development |
| 48 | Strengthen the flood resiliency capacity of communities around  lake Tonle Sap (access to clean water, off-grid renewable energy  and waste management) |
| 49 | Building climate-resilient livelihood and public infrastructures  in social land concession for vulnerable communities |
| 50 | Provide capacity building and supports for climate change  innovation at the provincial along Tonle Sap River | Tourism |
| 51 | Raising public awareness of climate change innovation at all levels |
| 52 | Practicing smart agriculture in the tourism sector |
| 53 | Establish an automated nationwide hydromet monitoring  network and data transmission program, including the  collection of climate and hydrological data | Water resources |
| 54 | Establish a centralized and standardized approach to climate-resilient  water management |
| 55 | Establish a national climate and flood warning system,  including a service center and flood emergency response plans |
| 56 | Integrated groundwater management in Cambodia |
| 57 | Establish nationally standardized best-practice systems for  irrigation |
| 58 | Resilient and Adaptive rural water supply and sanitation  construction |

# **Article 6 Agreements**

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| Host Country | Country | Status |
| Cambodia | Singapore | MoU signed |
| Japan | Joint Crediting Mechanism |
| Sweden | Swedish Energy Agency is collaborating with the Global Green Growth Institute to transact ITMOs with Cambodia |
| South Korea | In Discussion |