



KNOWLEDGE - SHARING EVENT CAMBODIA'S RESPONSE TO CLIMATE CHANGE

INDEPENDENCE HOTEL, SIHANOUKVILLE, 29-30 NOVEMBER 2016



Status of Climate Change Mitigation in Cambodia

Presented by Mr. Uy Kamal

Deputy Director, Department Climate Change

General Secretariat of National Council for Sustainable Development

OUTLINE

1. Global Climate Change at a glance
 2. National Policy and Mitigation Actions
 3. Conclusion
- 
- A decorative graphic consisting of several parallel white lines of varying lengths, slanted upwards from left to right, located in the bottom right corner of the slide.

1. GLOBAL CLIMATE CHANGE AT A GLANCE

Sources of emissions

Energy production remains the primary driver of GHG emissions

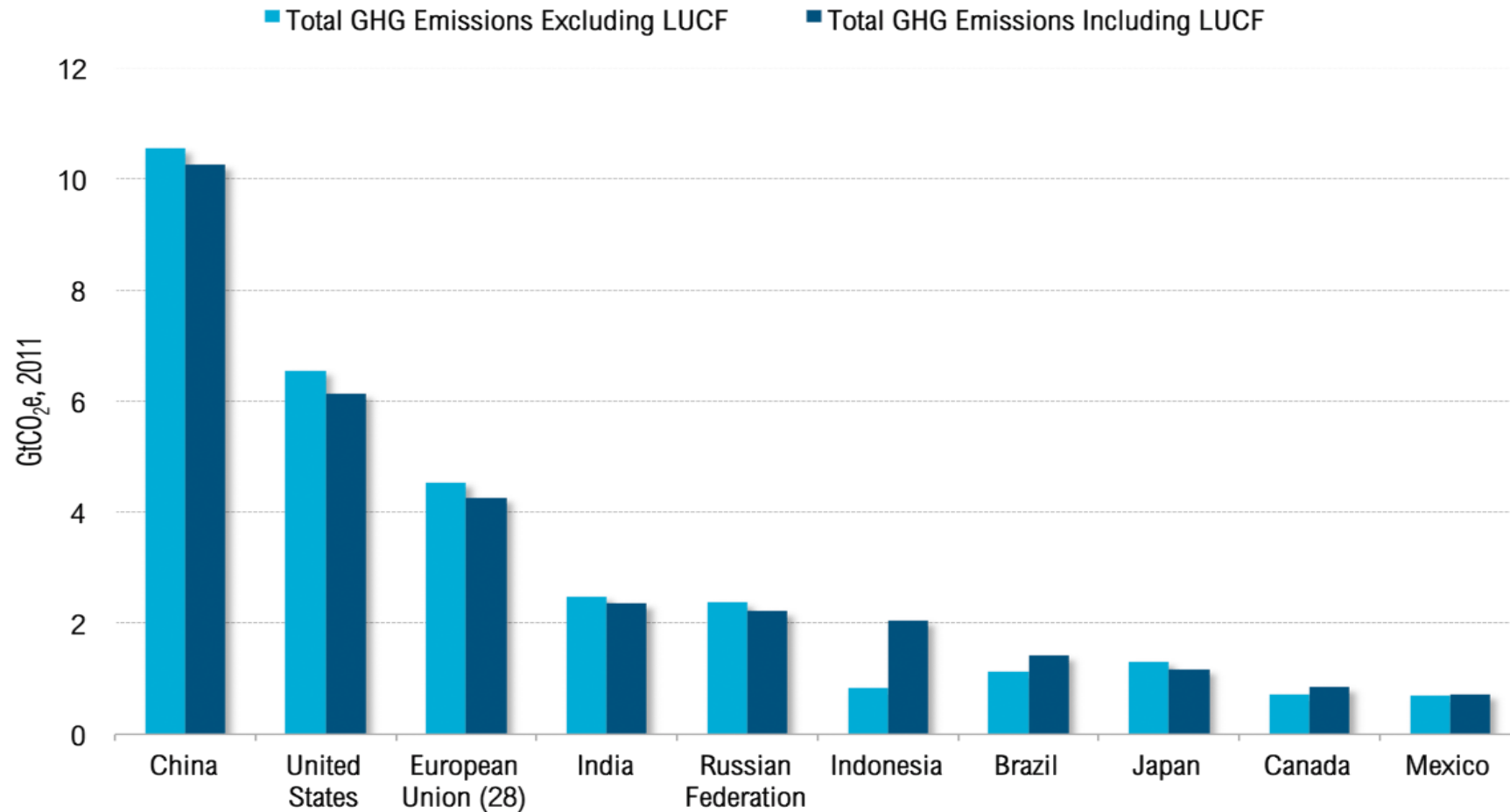


2010 GHG emissions

AR5 WGIII SPM

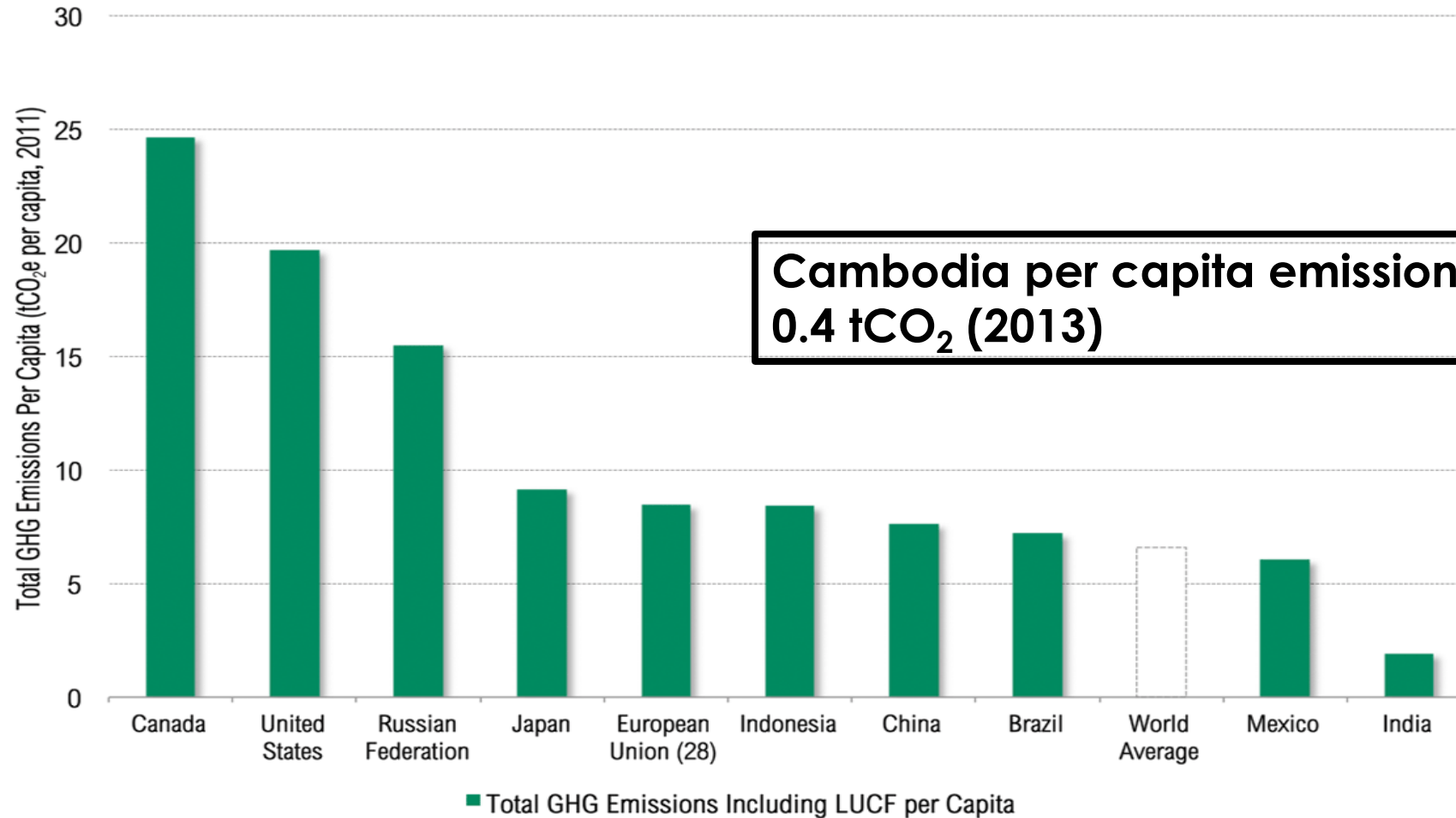
1. GLOBAL CLIMATE CHANGE AT A GLANCE

Top 10 Emitters



1. GLOBAL CLIMATE CHANGE AT A GLANCE

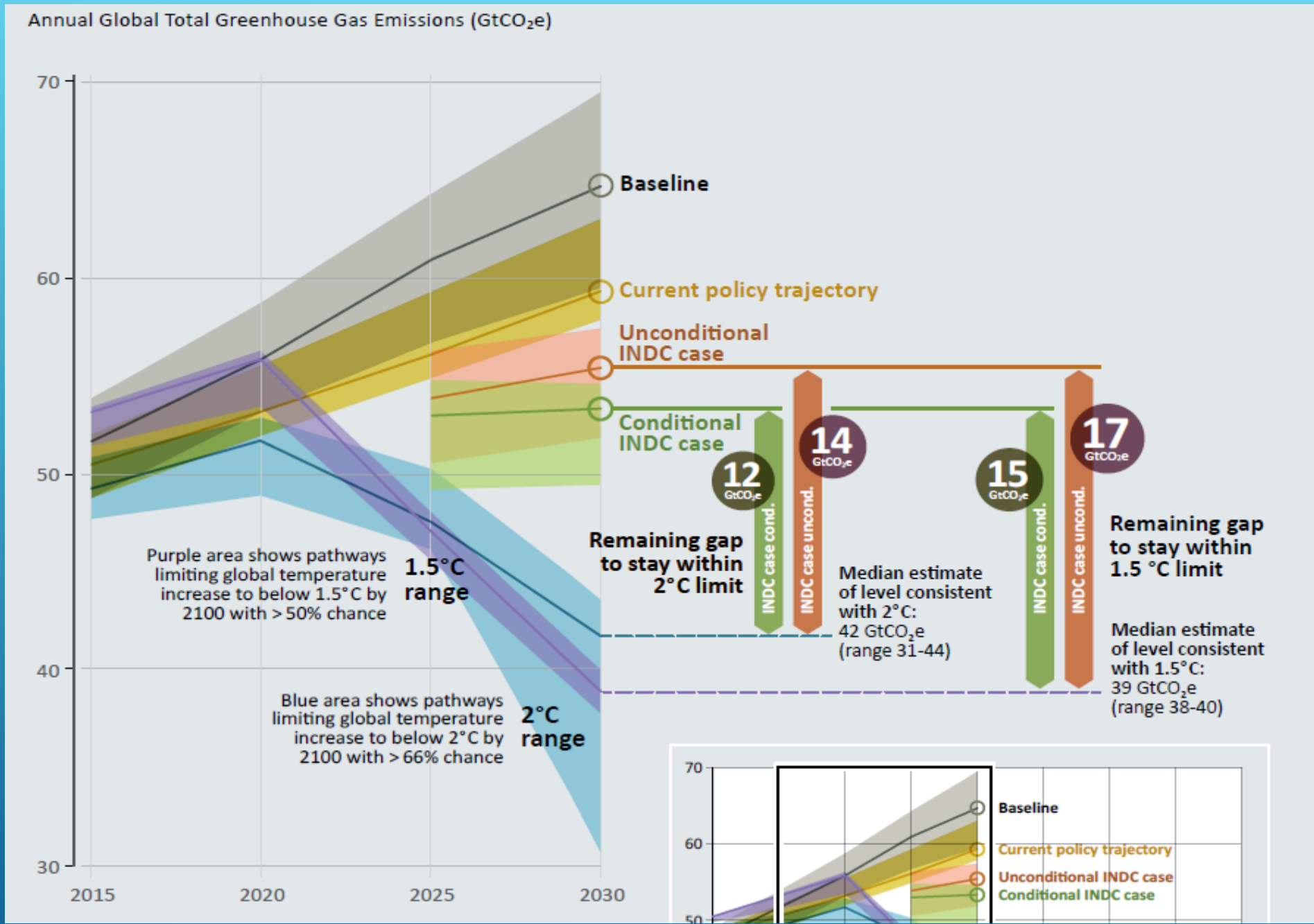
Per Capita Emissions for Top 10 Emitters



Cambodia per capita emission:
0.4 tCO₂ (2013)

1. GLOBAL CLIMATE CHANGE AT A GLANCE

UNEP (2016) THE EMISSION GAP



1. GLOBAL CLIMATE CHANGE AT A GLANCE

PARIS AGREEMENT - PA



▶ PA was adopted in COP 21, Paris, French 2015

- ❑ 113 Parties have ratified of 197 Parties to the Convention
- ❑ On 5 October 2016, the threshold for entry into force of the PA was achieved.
- ❑ The PA entered into force on 4 November 2016.
- ❑ The first session of the Conference of the Parties serving as the Meeting of the Parties to the Paris Agreement (CMA1) has been took place in Marrakech in conjunction with COP 22 and CMP 12.
- ❑ Cambodia, The National Assembly ratified Paris Agreement in 22 November 2016

1. GLOBAL CLIMATE CHANGE AT A GLANCE

PA VS CDM

- ▶ The Paris Agreement is different from previous attempts to strike an international deal on climate in that it requires *all* countries, not just those deemed to be “developed,” to submit national climate plans.
- ▶ Its Article 6 creates the space for a market-based mechanism that would allow countries to trade internationally transferred mitigation outcomes (known as “ITMOs”). **Unlike the Clean Development Mechanism (CDM), which was created for developed countries to purchase emissions reductions units from developing ones, a market-based mechanism under the Paris Agreement could potentially include any country, and transfers could flow in any direction.** Any transfer of emissions reductions among parties must therefore ensure that ITMOs are clearly defined and that each emissions reduction is counted only once.
- ▶ This will be a key topic for discussion as climate negotiators discuss the potential new, global market-based mechanism (tentatively being called the “Sustainable Development Mechanism” or the “New Mechanism”).

2ND KYOTO PROTOCOL - 2KP



- ▶ **2KP was adopted in COP 18, Doha, Qatar 2012**
- ❑ The Kyoto Protocol is an international agreement linked to the United Nations Framework Convention on Climate Change, which **commits** its Parties by setting internationally binding emission reduction targets.
- ❑ New commitments for Annex I Parties to the Kyoto Protocol who agreed to take on commitments in a second commitment period from 1 Jan. 2013 to 31 Dec. 2020;
- ❑ Amendments to several articles of the Kyoto Protocol which specifically referenced issues pertaining to the first commitment period and which needed to be updated for the second commitment period.
- ❑ During the first commitment period, 37 industrialized countries and the European Community committed to reduce GHG emissions to an average of 5% against 1990 levels. During the second commitment period, Parties committed to reduce GHG emissions by at least 18% below 1990 levels in the eight-year period from 2013 to 2020; however, the composition of Parties in the second commitment period is different from the first. As of 9 Nov. 2016, only 73 Parties (??annex I party countries) have deposited their instrument of acceptance. To get into force, it requires 144/192.

1. GLOBAL CLIMATE CHANGE AT A GLANCE

NATIONALLY DETERMINED CONTRIBUTIONS - NDCs

- ▶ The Paris Agreement requires all Parties to put forward their best efforts through “nationally determined contributions” (NDCs) and to strengthen these efforts in the years ahead. This includes requirements that all Parties report regularly on their emissions and on their implementation efforts.

In 2018, Parties will take stock of the collective efforts in relation to progress towards the goal set in the Paris Agreement and to inform the preparation of NDCs.

- ▶ There will also be a global stocktake every 5 years to assess the collective progress towards achieving the purpose of the Agreement and to inform further individual actions by Parties.



2. NATIONAL POLICY AND MITIGATION ACTIONS

Cambodia's INDC: Mitigation actions in Non-AFOLU sector – aggregate reductions by 2030

Sector	Priority actions	Reduction as Gg CO ₂ eq & % in the year 2030 compared to the baseline
Energy Industries	Connecting auto producers to the grid, development of hydropower and other renewable energy such as using solar, rice husks for electricity generation, and promoting energy efficiency by end users	1,800 (16%)
Manufacturing Industries	Promoting renewable energy and energy efficiency for garment factory, rice mills, and brick kilns	727 (7%)
Transport	Promoting mass transport, Motor vehicle inspection, eco-driving	390 (3%)
Other	Promoting energy efficiency for buildings, more efficient cookstoves, bio-digesters and water filters	155 (1%)
Total Savings		3,100 (27%)

2. NATIONAL POLICY AND MITIGATION ACTIONS

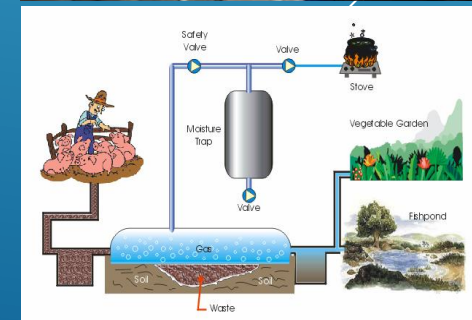
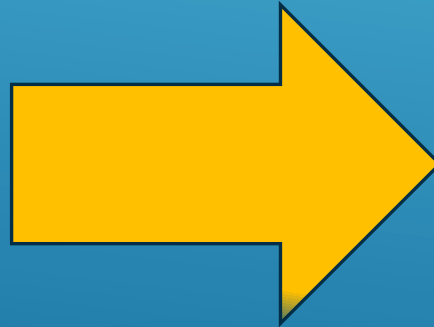
Cambodia's INDC: Mitigation Contribution in LULUCF

Activity	Description	Est. emission reductions
<p>Increasing the forest cover to 60% of national land area by 2030 and maintaining it after 2030</p>	<p>In accordance with the National Forest Programme (2010-2029) the RGC is striving to increase and maintain the forest cover at 60% of the total land area, from an estimate of 57% in 2010, in particular through:</p> <p><u>Reclassification of forest areas to avoid deforestation:</u></p> <ul style="list-style-type: none"> - Protected areas: 2.8 million ha - Protected forest: 3 million ha - Community forest: 2 million ha - Forest concessions reclassified to protected and production forest: 0.3 million ha - Production forest: 2.5 million ha <p><u>Implementation of the REDD+ Strategy</u></p> <p>From 2021 onwards, Cambodia aims to have an operational NFMS, FREL/FRL, and SIS, to be able to account for the emissions reduced via the implementation of activities identified from 2016-2020.</p> <p><u>Implementation of the FLEGT programme in Cambodia</u></p> <p>The objective is to improve forest governance and promote international trade in verified legal timber.</p>	<p>4.7tCO₂eq/ha/y ear for up to 5 million ha</p>

2. NATIONAL POLICY AND MITIGATION ACTIONS

2.1. CURRENT MITIGATION ACTIVITIES

Clean Development Mechanism (CDM)

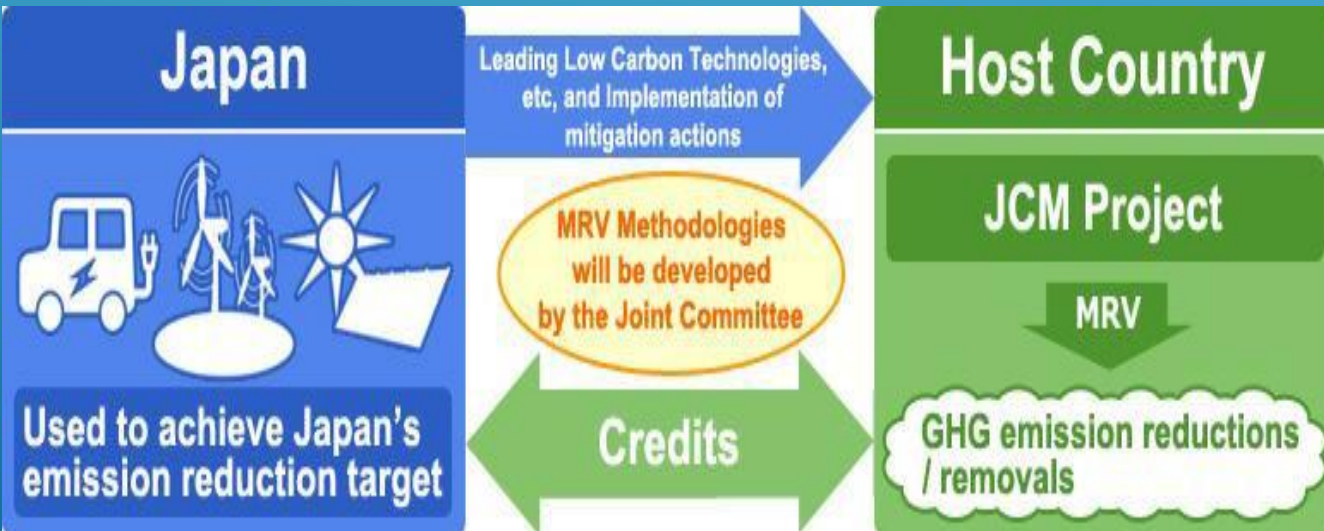


Name of CDM Project Activity	Type of Project	Supplemental Information	Approval Date by DNA (D/M/Y)	Registration date by CDM Secretariat ((D/M/Y)	Annual emission reduction (tCO2/Yr)	Project Participants (Host Country)	Project Participants (Others)	Remark (as of 10 Aug16)
Angkor Bio Cogen Rice Husk Power Project	Biomass	Rice husk	19/1/2006	10/8/2006	51,620	Angkor Bio Cogen Co., Ltd.	Mitsubishi UFJ Securities Co., Ltd.	Active
T.T.Y. Cambodia Biogas Project	Biogas	Agricultural Waste	4/7/2007		0	T.T.Y Agricultural Plant Development and IMEX Co. Ltd; Carbon Bridge Pte Ltd		Inactive
Methane fired power generation plant in Samrong Thom Animal Husbandry,	Biogas	Animal Waste	15/10/2007	3/12/2008	5,593	Samrong Thom Animal Husbandry	Mitsubishi UFJ Securities Co., Ltd.	Active
Kampot Cement Waste Heat Power Generation Project (KCC-WHG)	Waste heat/gas utilisation	Cement production line	20/11/2008	17/04/2009	17,107	Kampot Cement Company Co., Ltd.		Active
Kamchay Hydroelectric BOT Project	Hydro	New reservoir	20/11/2008	8/10/2013	281348	The Royal Government of Cambodia EDC	Sinohydro Corporation Limited	Active (EAC report 2014)
Biogas Project at MH Bio-ethanol Distillery, Cambodia	Biogas	Agricultural Waste	29/6/2009	16/02/2012	58,146	MH Bio-Energy Co., Ltd		active
W2E Siang Phong Biogas Project Cambodia	Biogas	Agricultural Waste	3/11/2010	7-Apr-11	26,592	W2E Siang Phong Ltd		Active
Lower Stung Russei Chrum Hydro-Electric Project	Hydro	New reservoir	2/11/2011	21/08/2012	701,199	China Huandian Lower Stung Reussei Chrum Hydro-Electric Project (Cambodia) Co., Ltd.,	Vitol S.A., Switzerland	Active (EAC report 2013) Operation 2015
Cambodia Stung Atay Hydropower Project	Hydro	New reservoir	3/1/2012	19/12/2012	266,472	C.H.D (Cambodia) Hydropower Development Co., Ltd	Carbon Asset Management Sweden Pte Ltd	Active (EAC report 2014)
Stung Tatay Hydroelectric Project	Hydro	New reservoir	16/01/2012	14/12/2012	563,074	Cambodian Tatay Hydropower Limited	Gazprom Marketing & Trading Singapore Pte. Ltd.	Active (EAC report 2013)
International Water Purification Programme	Water Filter		5/9/2014	16/11/2012	82	The Pure Water Ltd		Active
The Waste to Energy Programme	Biomass	Agricultural Waste	29/02/2016	14/03/2016	549	Nexus Carbon for Development Ltd		Active

2. NATIONAL POLICY AND MITIGATION ACTIONS

2.1. CURRENT MITIGATION ACTIVITIES

2.2. Joint Crediting Mechanism (JCM)



JCM SIGNING CEREMONY BETWEEN CAMBODIA-JAPAN
11 APRIL 2014, PHNOM PENH, CAMBODIA

2. NATIONAL POLICY AND MITIGATION ACTIONS

2.1. CURRENT MITIGATION ACTIVITIES

Introduction of High Efficiency LED Lighting Utilizing Wireless Network

- ▶ Minebea Co., Ltd., Shukaku Inc./Overseas Cambodian Investment Corporation(OCIC)/Siem Reap Provincial Hall/APSARA



Expected GHG Emission Reductions

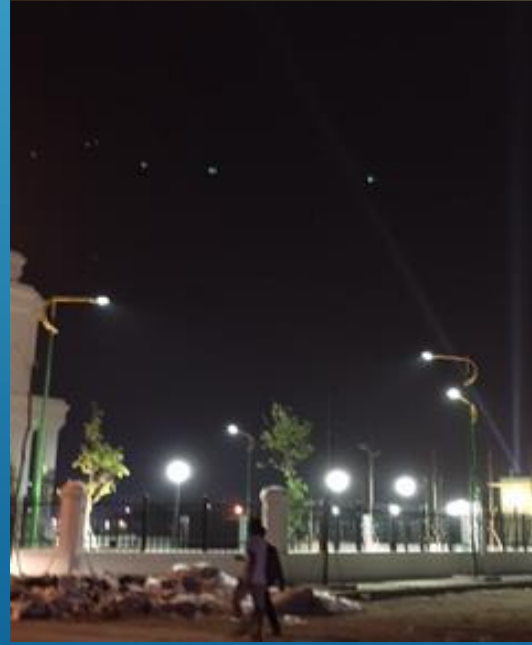
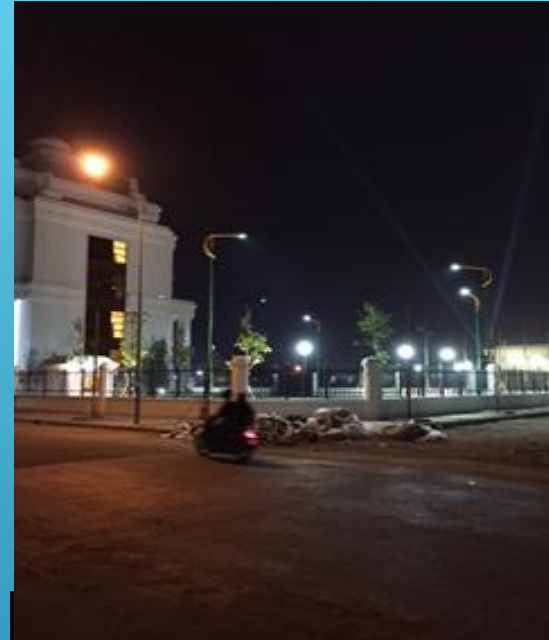
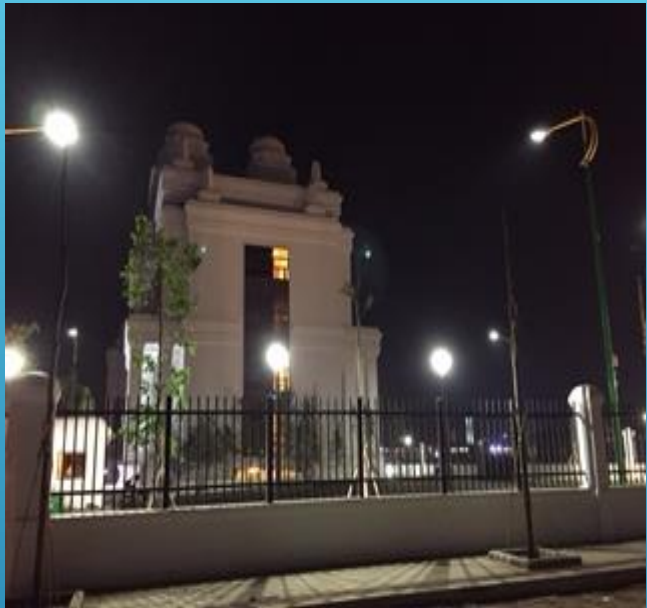
3,590tCO₂/year

Emissions Reduction (tCO₂) = Reference emissions (tCO₂) - Project emissions (tCO₂)

Reference emissions (tCO₂) = Power consumptions by HID street lights (MW) x annual operating hours (hrs/year) x grid CO₂ emission factor (tCO₂/MWh)

Project emissions (tCO₂) = Power consumptions by LED street lights (MW) x annual operating hours (hrs/year) x grid CO₂ emission factor (tCO₂/MWh)

ឧ. ការបំពាក់អំពូលភ្លើង LED នៅក្រសួងបរិស្ថានថ្មី អគារមរតកតេជោ រាជធានីភ្នំពេញ



2. NATIONAL POLICY AND MITIGATION ACTIONS

2.1. CURRENT MITIGATION ACTIVITIES

Further JCM Projects Under preparation step

1. Solar PV

1.1. Introduction of 0.8MW Solar Power Generation in International School,

1.2 Introduction of 1MW Solar Power System and High Efficiency Centrifugal Chiller in Large Shopping Mall

2. Forest (REDD+ under JCM scheme, implement 2017)

3. Methane Capture from factory's wastewater

4. Others

2. NATIONAL POLICY AND MITIGATION ACTIONS

2.1. CURRENT MITIGATION ACTIVITIES



Reducing **E**missions from **D**eforestation and forest **D**egradation

Cambodia supports the decision of UNFCCC , “the result base payment” (9/CP. 19)



2. NATIONAL POLICY AND MITIGATION ACTIONS

2.1. CURRENT MITIGATION ACTIVITIES



Reducing Emissions from Deforestation and forest Degradation

➤ For pilot program, MoE facilitated in preparation of carbon credit project document for Keo Seima, and reached an agreement with US\$ 2.6M



2. NATIONAL POLICY AND MITIGATION ACTIONS

2.1. CURRENT MITIGATION ACTIVITIES

National Appropriate Mitigation Action (NAMA)

➤ Sustainable Charcoal Chain Production



Objectives:

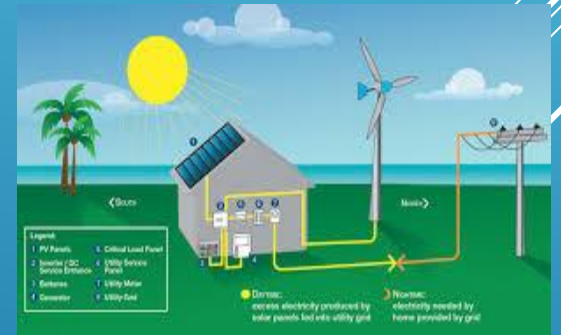
1. **Reduce forest degradation in Protected Areas** affected by charcoal production;
2. **Leverage private sector investment** in the sustainable charcoal sector to support Cambodian green economic growth;
3. **Invest in forest restoration and support switch to sustainable production** for illegal charcoal producers in **Protected Areas buffer-zones**.

2. NATIONAL POLICY AND MITIGATION ACTIONS

2.1. CURRENT MITIGATION ACTIVITIES

Other mitigation initiatives: Cambodia also recognizes other initiatives/approaches toward low carbon pathway:

- **Climate and Clean Air Coalition (CCAC):** Proposal for **Supporting National Action and Planning on SLCPs (SNAP)** initiative is approved for financial support.
- **Green City initiatives**
- **Developing Environmental code**



3. CONCLUSION

- As a low emitting and highly vulnerable country to the negative effects of climate change, Cambodia's contribution in climate change response is necessarily aligned with national development priorities,
- Cambodia recognizes and supports various types of carbon market mechanisms and New Market Based Mechanism,
- Mitigation actions started in energy sector, from small to large scale RE&EE project, and therefore, it should be expanded into other sectors with any appropriate mechanism,
- Capacity building to various relevant stakeholders,
i.e. public institutions, private sectors, policy makers, academia
- Improving MRV Framework
i.e. International MRV, Domestic MRV, REDD+ MRV
- Increasing financial resources



ស្វ័យអរគុណ



Tel: 012 283956

Email: kamaluy@hotmail.com