

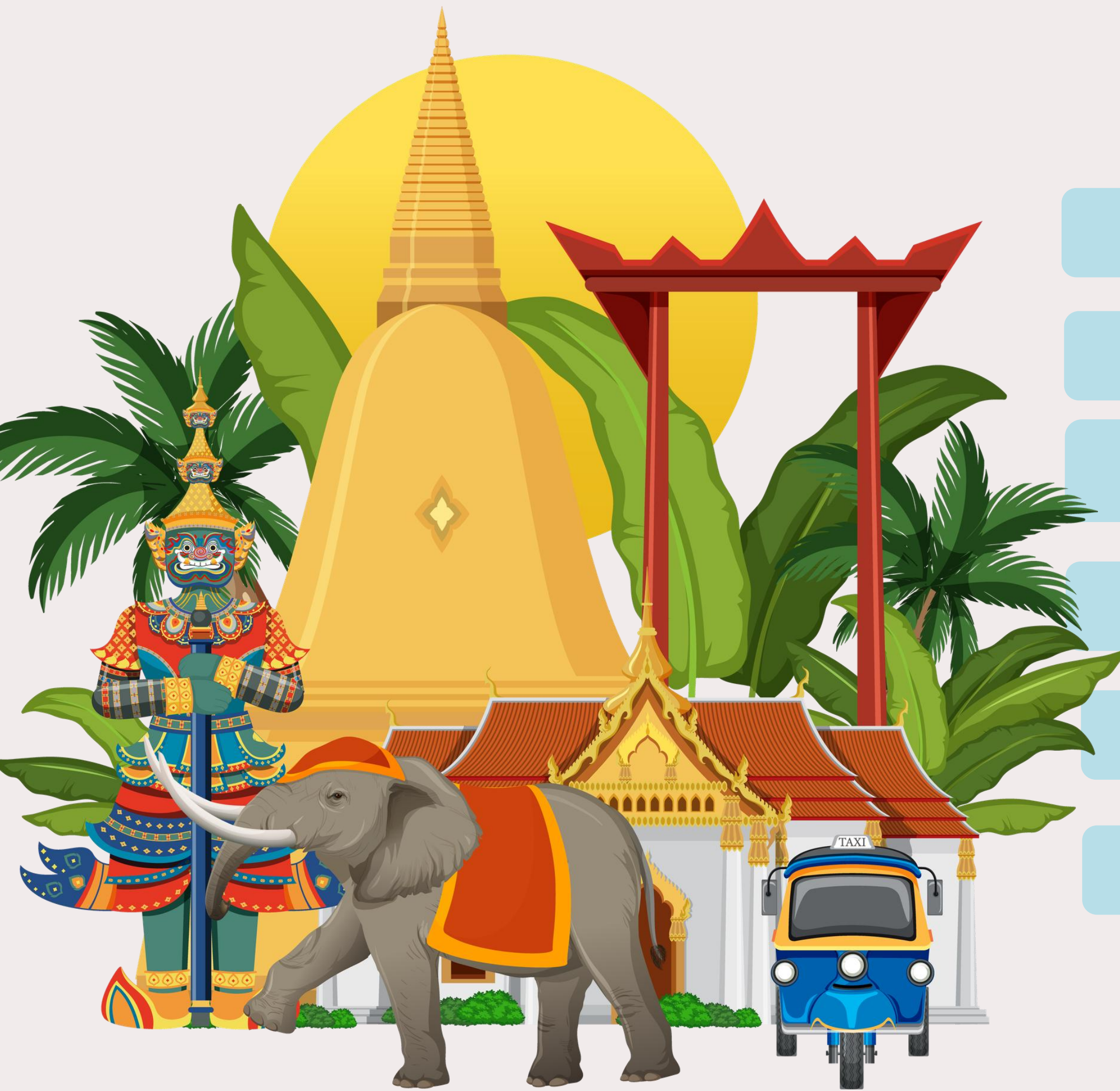


The 23rd Workshop on GHG Inventories in Asia (WGIA23)

Thailand's First Biennial Transparency Report

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OUTLINE

Background

National context

Institutional arrangement

GHG Inventory 2022

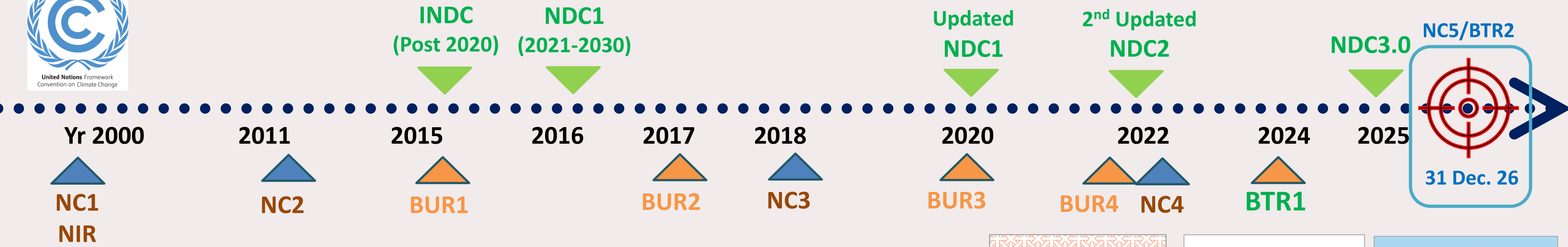
NDC Tracking

Transition to BTR2



Background

United Nations Framework Convention on Climate Change (UNFCCC)



- **Thailand:** Party to UNFCCC
- **Commitment:** Established a systematic and institutional arrangement; Responsible by permanent organization; Data must be accurate, consistent, up-to-date, continuous, and transparent; Measurement, Reporting, and Verification (MRV)

Submission to UNFCCC

- National Communication (NC)
- Biennial Updated Report (BUR)
- Biennial Transparency Report (BTR)
- Nationally Determined Contributions (NDCs)





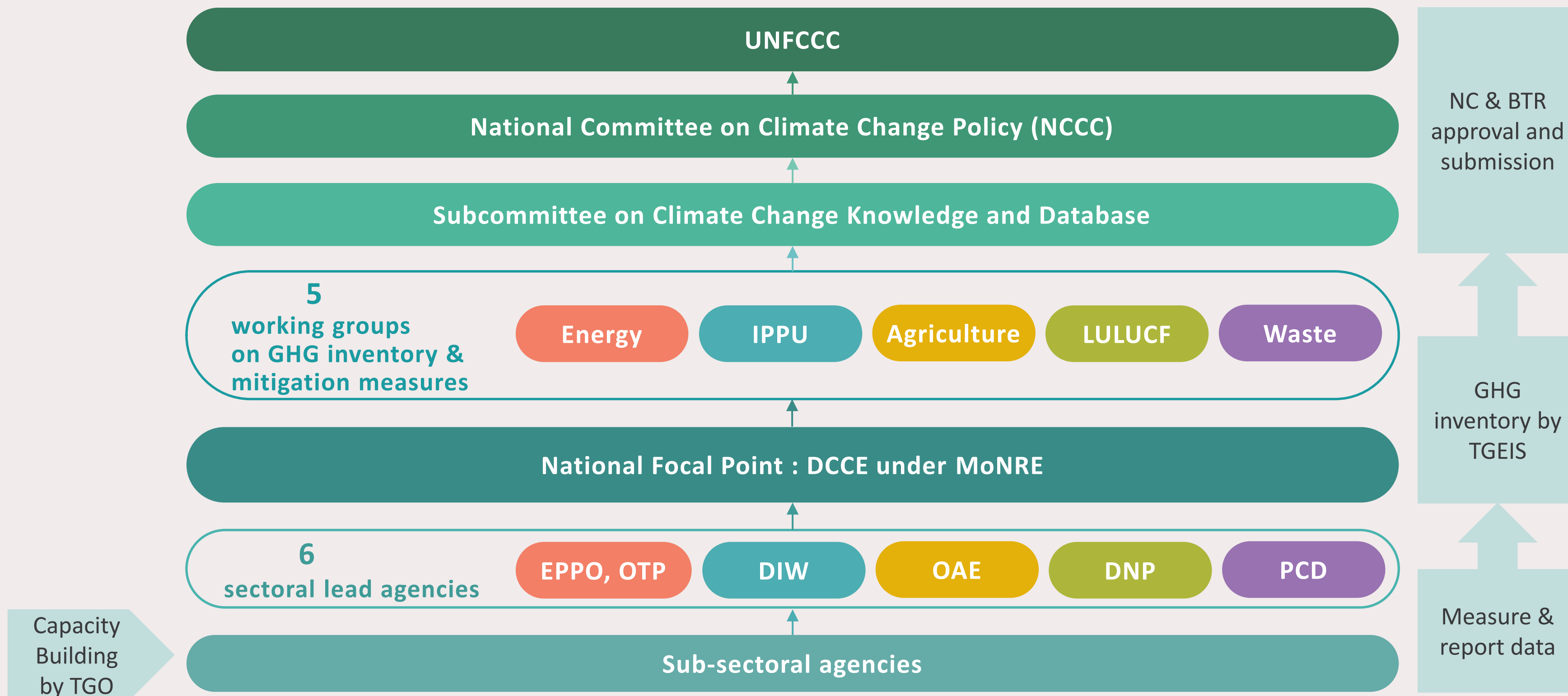
National Context

- Total land area of 513,115 km²
- Forest area average 35%
- Agricultural land 46.4%
- 66.1 million of population
- Climate: increasing average 0.09 °C/year
- Biodiversity +species of plants, animals and microorganisms
- GDP Growth : Expanded by 2.5%
(Accelerating from 1.6% in 2021)



National Context

Institutional arrangement for GHG inventory





Workflow for Preparing the Greenhouse Gas Inventory in BTR

DCCE has developed a digital platform to collect activity data and transmit it to Thailand Greenhouse Gas Emissions Inventory System (TGEIS) for the preparation of the national GHG inventory.

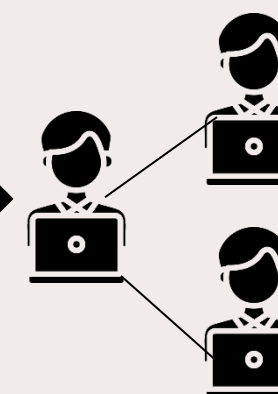


DCCE

GHG Platform

<https://ghgplatform.dcce.go.th>

Focal Point



Request activity data from sectoral agencies through the Thailand GHG Platform.



Verify activity data (AD) and estimate emissions in accordance with the 2006 IPCC.



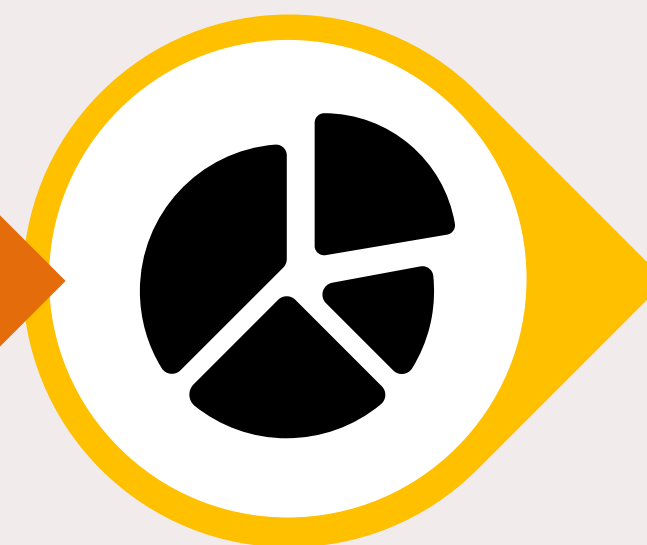
Prepare validated data for GHG emission estimation using TGEIS.



Compare GHG emission estimates between TGEIS and the Pre-calculation results.



Analyze emission trends over time and conduct an uncertainty assessment.

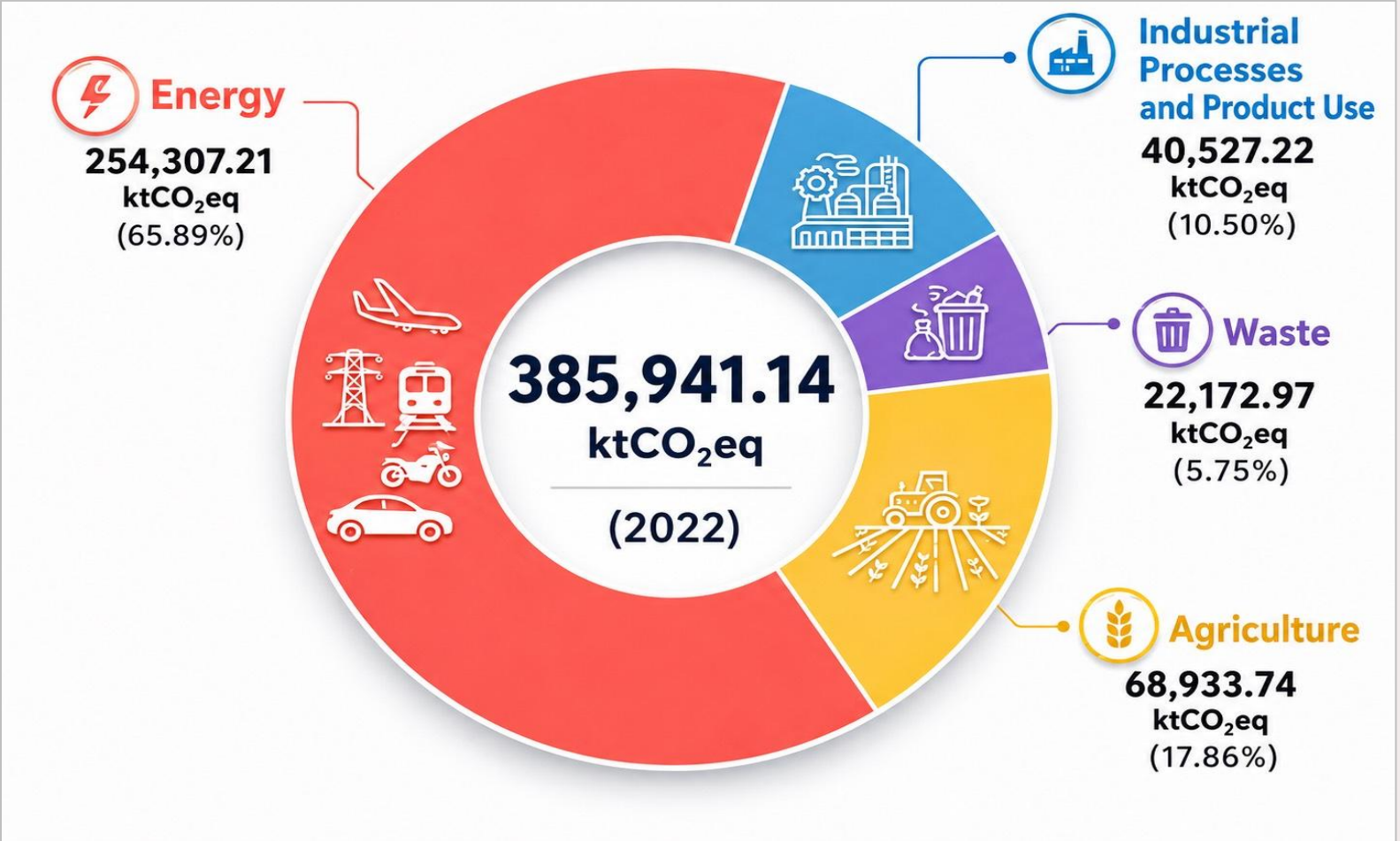
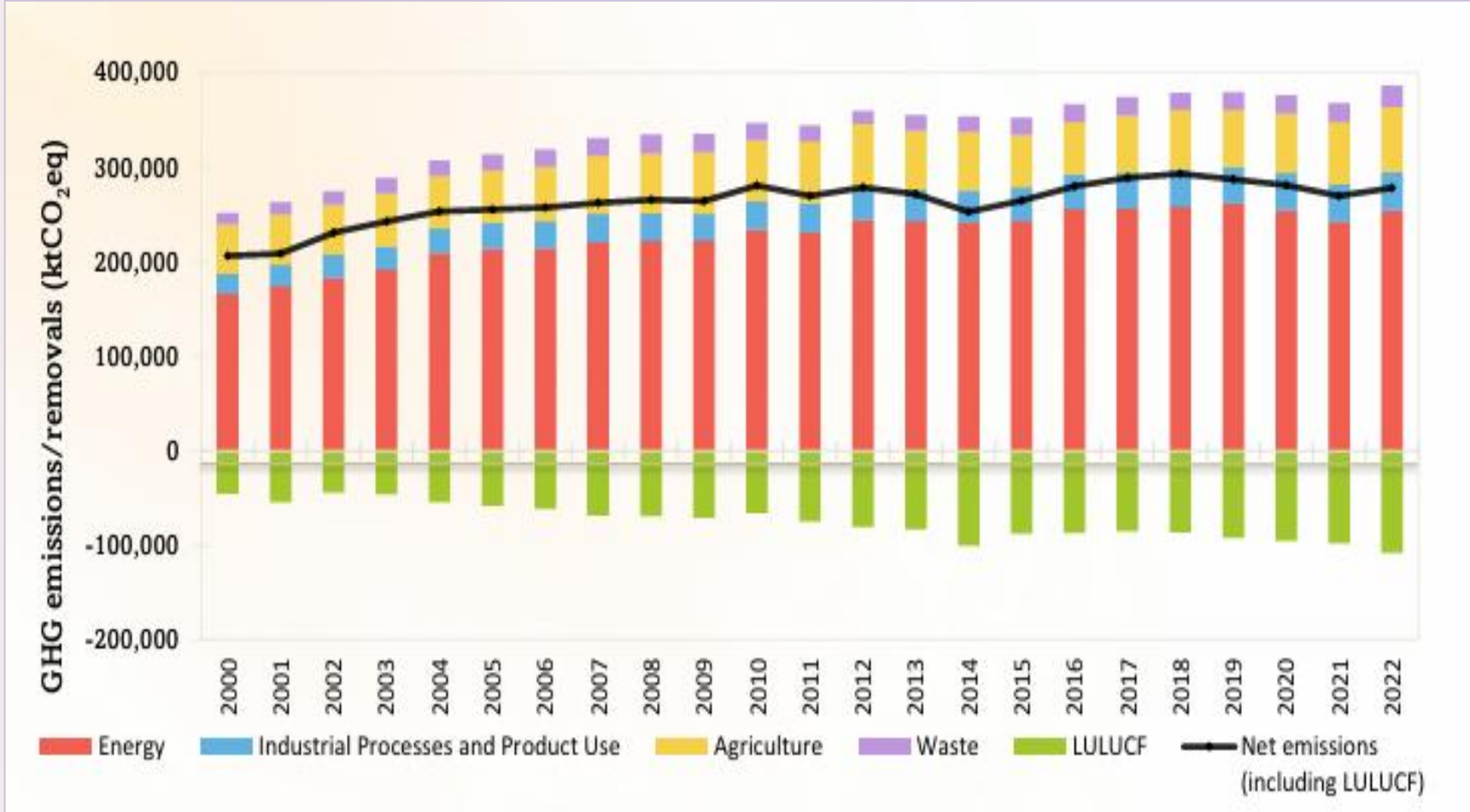


Present the results in tables and graphical formats for reporting and future inventory compilation.



GHG Inventory

IPCC 2006
GWP AR5



- National inventory period: 2000-2022
- The proportion of GHG emissions in the Energy sector accounted for 66.02% of total emission sources in 2000, slightly decreasing to 65.89% of total emission sources in 2022.
- Forests absorbed 34.90% of annual GHG emissions, compared to the year 2000.



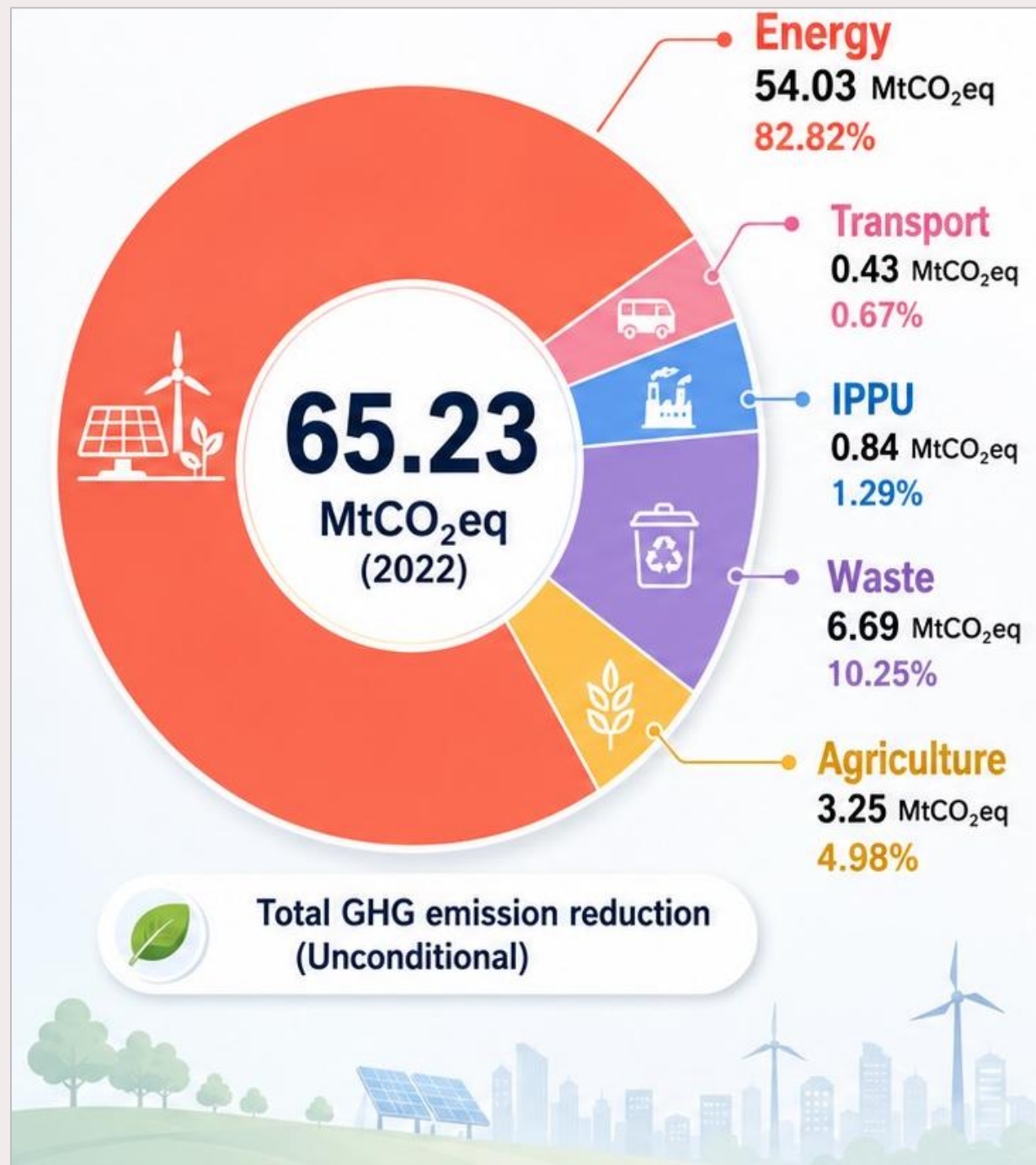
Total GHG emission by sector (excluding LULUCF)
Net emissions (including LULUCF) 278,039.74 ktCO₂eq

Flexibilities in reporting emissions

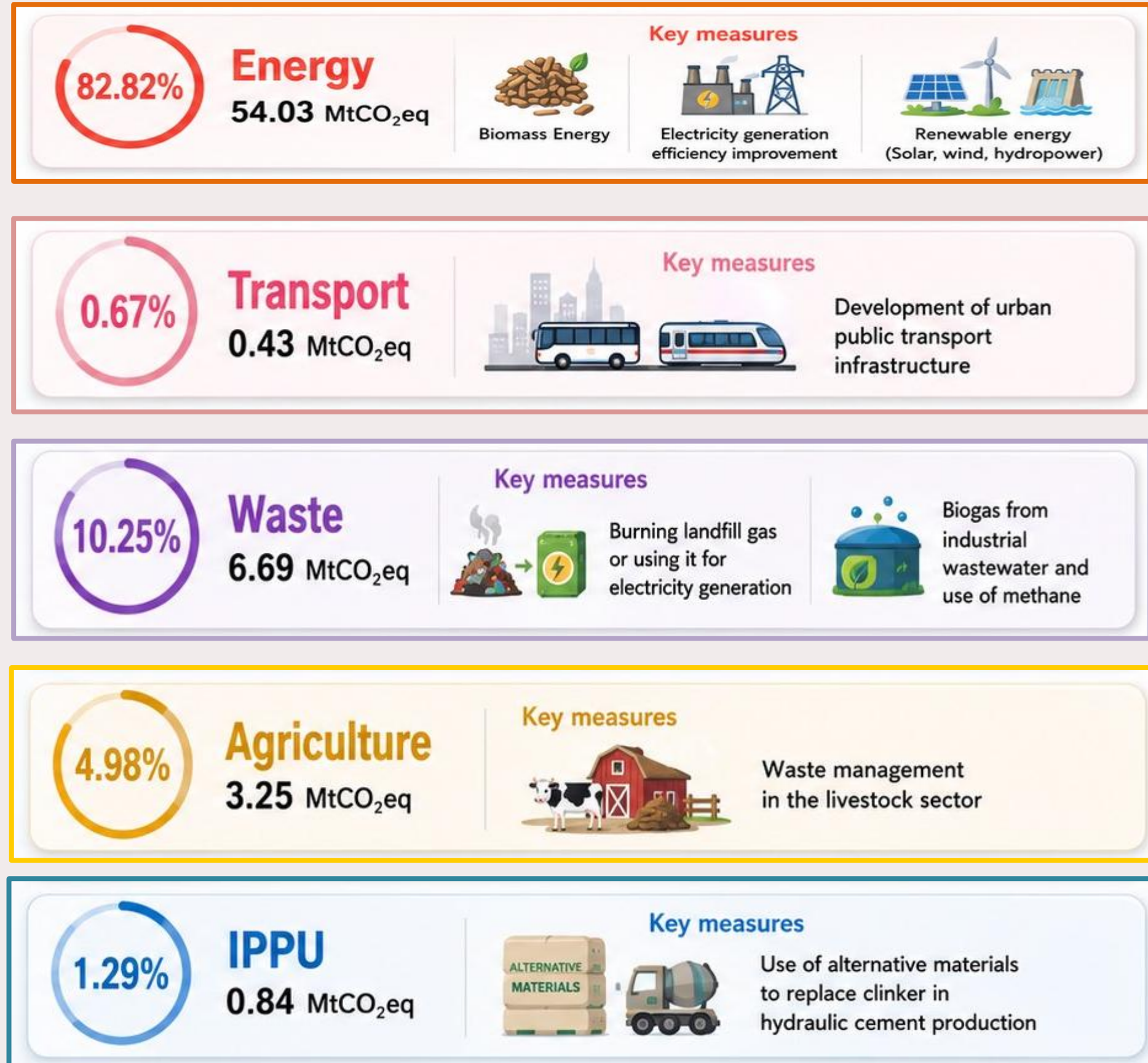
- **Time series between 1990-1999 is under process.**
The time series of national GHG emissions from sources and removal from sinks starting from 1990 is under planned improvements for all sectors and categories.
- **The upper Tier of key categories need support.**
The Tier 2 approach and country-specific emission factors of the key categories are under planned improvements for time series since 1990.



Track Progress made in implementing and achieving its NDC

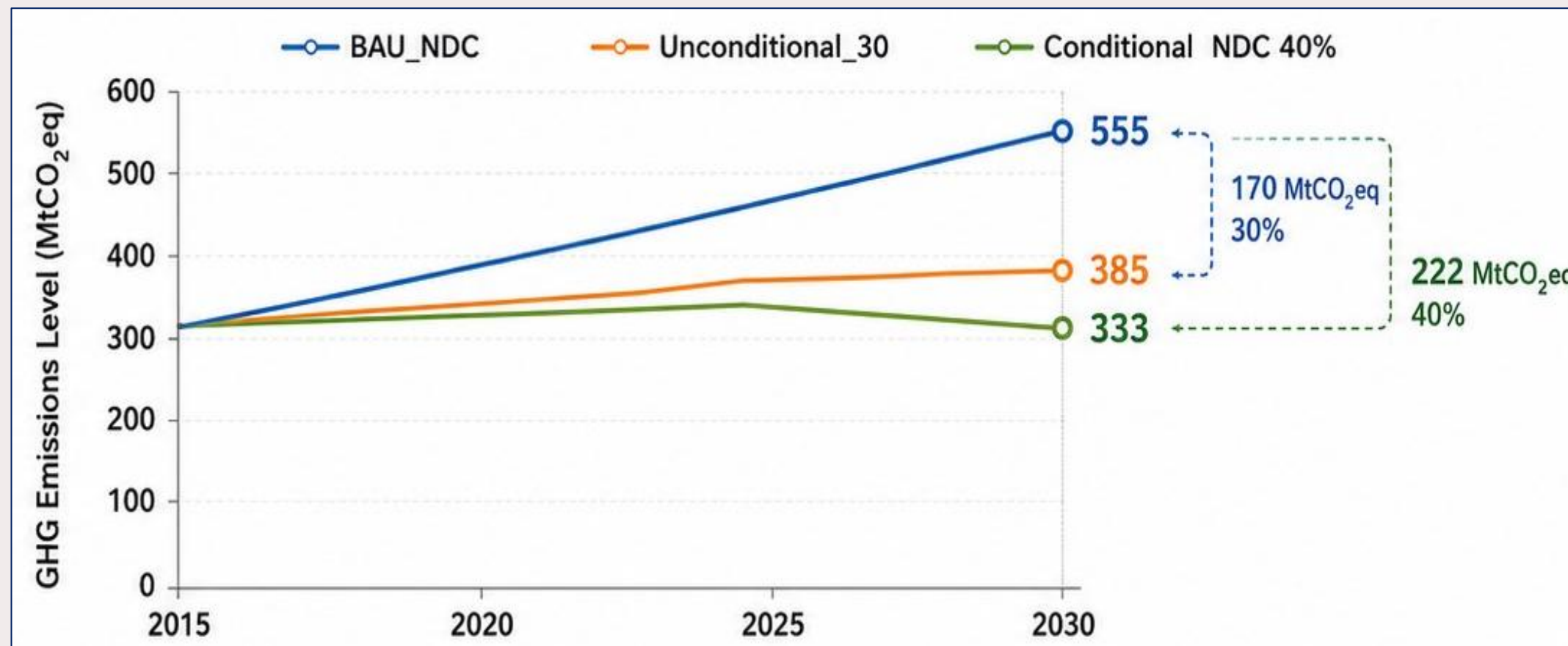


In 2022, Progress NDC implementing at 30.46% below the reference level (BAU)



NDC 2.0

NDC TRACKING PROGRESS UNDER PARIS AGREEMENT



Baseline

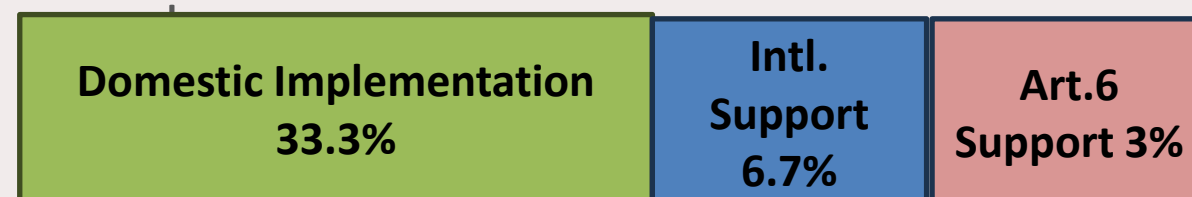
BAU projection from reference year 2005 in absence of major climate change policies [BAU2030: approx. 555 MtCO₂eq]

Target

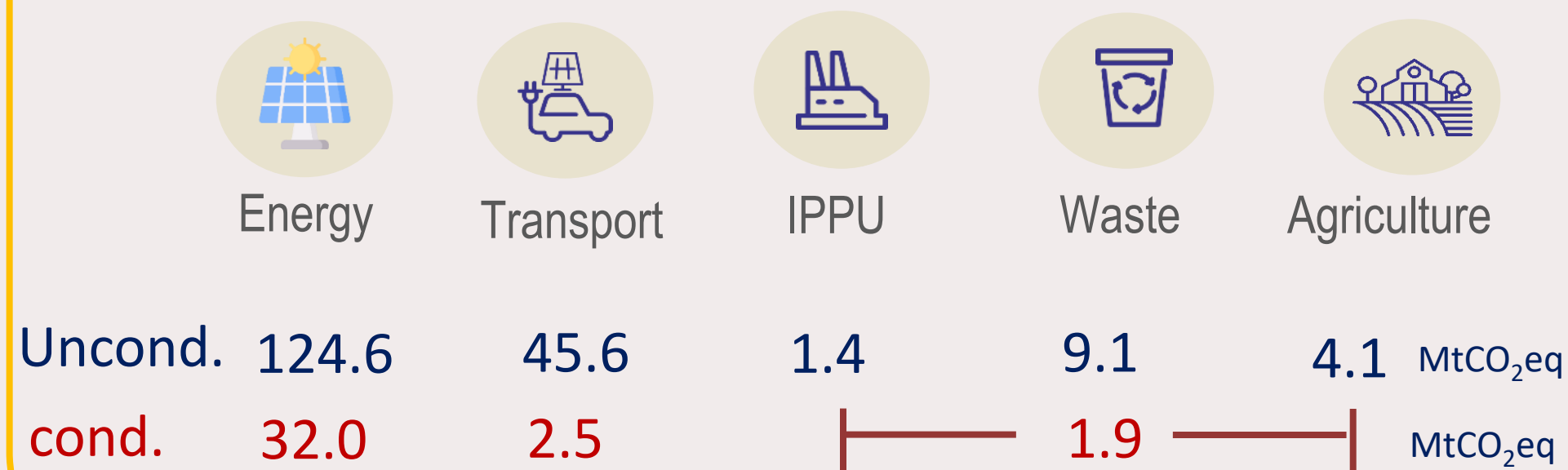
“To reduce GHG emission 30% from BAU by 2030, up to 40% with additional support”

The NDC Roadmap established a framework for mitigation measures 5 sectors.

NDC Action Plan 2021 - 2030



The Key milestone of Thailand for achievement of GHG emissions reduction targets in 2030.





Thailand NDC 3.0: Absolute emission reduction in 2035



**47% Net GHG Reduction
from 2019 Levels**



2019 Base Year
287.3 MtCO₂eq



2035 Base Year
152.1 MtCO₂eq

Emissions Reduction
135.2 MtCO₂eq

Key Sectoral Targets



Financial Need & Strategic Investment

\$7.05 Billion
Required by 2035

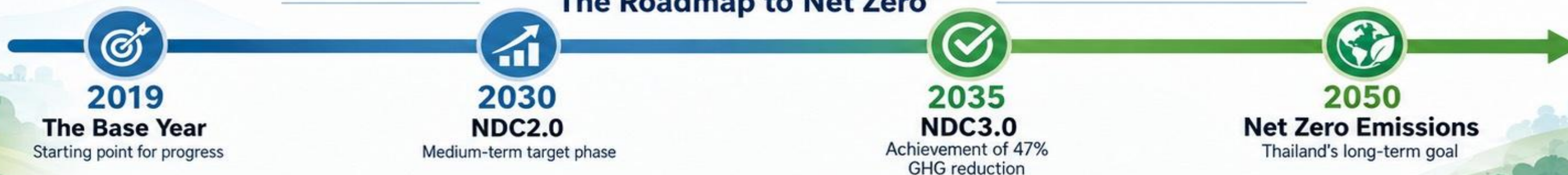
Substantial financial mobilization is necessary to implement the required climate technologies and infrastructure.



High-Impact Technology Focus Areas

CCS/CCUS, Hydrogen infrastructure, SMR/MMR, BESS, Advanced EVs, SAF/Bio-jet fuels, high-efficiency electrical devices.

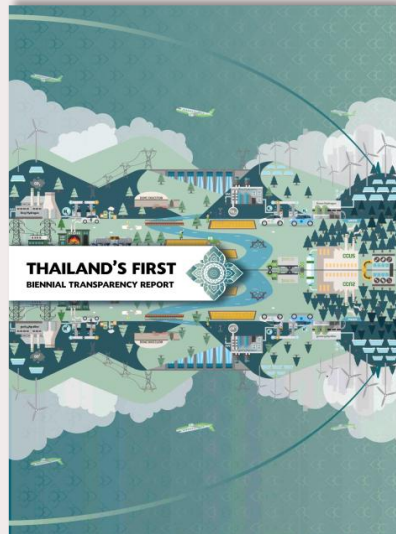
The Roadmap to Net Zero



Enhance Transparency Framework (ETF)



Reporting



Biennial Update Report (BUR)



Biennial Transparency Report (BTR)

Thailand submitted its first Biennial Transparency Report (BTR1) on 26 December 2024.



Review and Analysis



Technical Analysis of BURs



Technical Expert Review (TER)

Thailand's BTR1 underwent a Technical Expert Review (TER) by an international team of experts in September 2025.



Multilateral Consideration



Facilitative Sharing of Views (FSV)



Facilitative Multilateral Consideration of Progress (FMCP)

Thailand participated in the third working group session of the Facilitative, Multilateral Consideration of Progress (FMCP3) on 12 June 2026.





National Greenhouse Gas Inventory and Mitigation Activities



Transition to BTR2

Quality Control of Activity Data on 18–20 March 2026



DCCE



TGO



UNDP



GIZ

Collaborative Partnership

Implemented in collaboration with DCCE, GIZ and UNDP at the hotel in Bangkok, Thailand.

Reporting and Data Collection Across 5 Key Sectors

Focus on collecting data for energy, industrial processes and product use (IPPU), waste, agriculture, and forestry & land use.



Energy

Collect and manage energy production and consumption data across all sub-sectors.



Industrial Processes and Product Use (IPPU)

Monitor emissions from industrial processes and product use activities.



Waste

Collect data on waste management and greenhouse gas emissions.



Agriculture

Collect data on livestock, rice cultivation, soils and fertilizer management.



Forestry & Land Use

Assess emissions and removals from forests and land use activities.



Quality Assurance and Quality Control (QA/QC)

➡ Transition to BTR2 ⬅

Date (25, 27, 29 May 2026)



QA/QC
PROCESS

Enhancing QA/QC across sectors

Developing an integrated QA/QC system for activity data in collaboration with UNDP



TACCC is a Key Focus

Data must be transparent, accurate, consistent, credible, and comparable.

Transparency

Accuracy

Consistency

Comparability

Completeness



Updates on GHG Inventories in BTRs



July 2026

The Working Group on Greenhouse Gas Inventory and Mitigation Measures endorsed the 2023–2024 GHG inventory calculation and uncertainty analysis results for 5 sectors.

August 2026

Subcommittee on Climate Change Knowledge and Database

October 2026

National Committee on Climate Change Policy (NCCC)

December 2026

Thailand's combined **NC5** and **BTR2** submission to the UNFCCC



BTR – National Inventory Report (NIR)

- National inventory document (NID)
- Common reporting tables (CRTs)

Information on inventory methods

- mandatory to use 2006 IPCC Guidelines
- 100-yr- time-horizon GWPs from IPCC 5th AR
- methodologies
- gas and category,
- EFs & AD,
- key categories
- recalculations
- uncertainty analysis,
- reasons for lack of completeness,
- **QA/QC plan and procedures**

• Part of ETF within Paris Agreement (starting 2024)

• ETF built upon **MRV** & **TACCC**

• QA/QC becomes **mandatory** for all countries.

• “Each party shall elaborate an inventory QA/QC plan in accordance with IPCC Guidelines”.



Improvement of Thailand's Greenhouse Gas Inventory



LULUCF Sector for BTR 2

- Enhancing the GHG Inventory for the Forestry and Land Use Sector.
- Upgrade Land Representation from approach 1 to approach 2.
- Apply Approach 2 to track land-use conversions between categories.
- Improve emission factors to better reflect Thailand's national situations.
- Enhance the accuracy and reliability of GHG emission and removal estimates.
- Enhancement of activity data collection and compilation through the use of satellite imagery and Geographic Information System (GIS) technology, with data provided in shapefile format

Preparing to Enhance the Agriculture Sector GHG Inventory for BTR3

- Review and improve the methodologies for estimating GHG emissions from the agriculture sector
- Improve activity data to ensure completeness, accuracy, and timeliness
- Improve emission factors
- Increase the accuracy, transparency, and reliability of emission estimates



THANK YOU



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