

Low Carbon Asia Research Network (LoCARNet)
4th Annual Meeting
International Conference of Low Carbon Asia
Positive Action from Asia – Towards COP21 and Beyond

12 October 2015, Johor Bahru, Malaysia

INDC session: Thailand's INDC

Bundit Limmeechokchai

Sirindhorn International Institute of Technology

Thammasat University

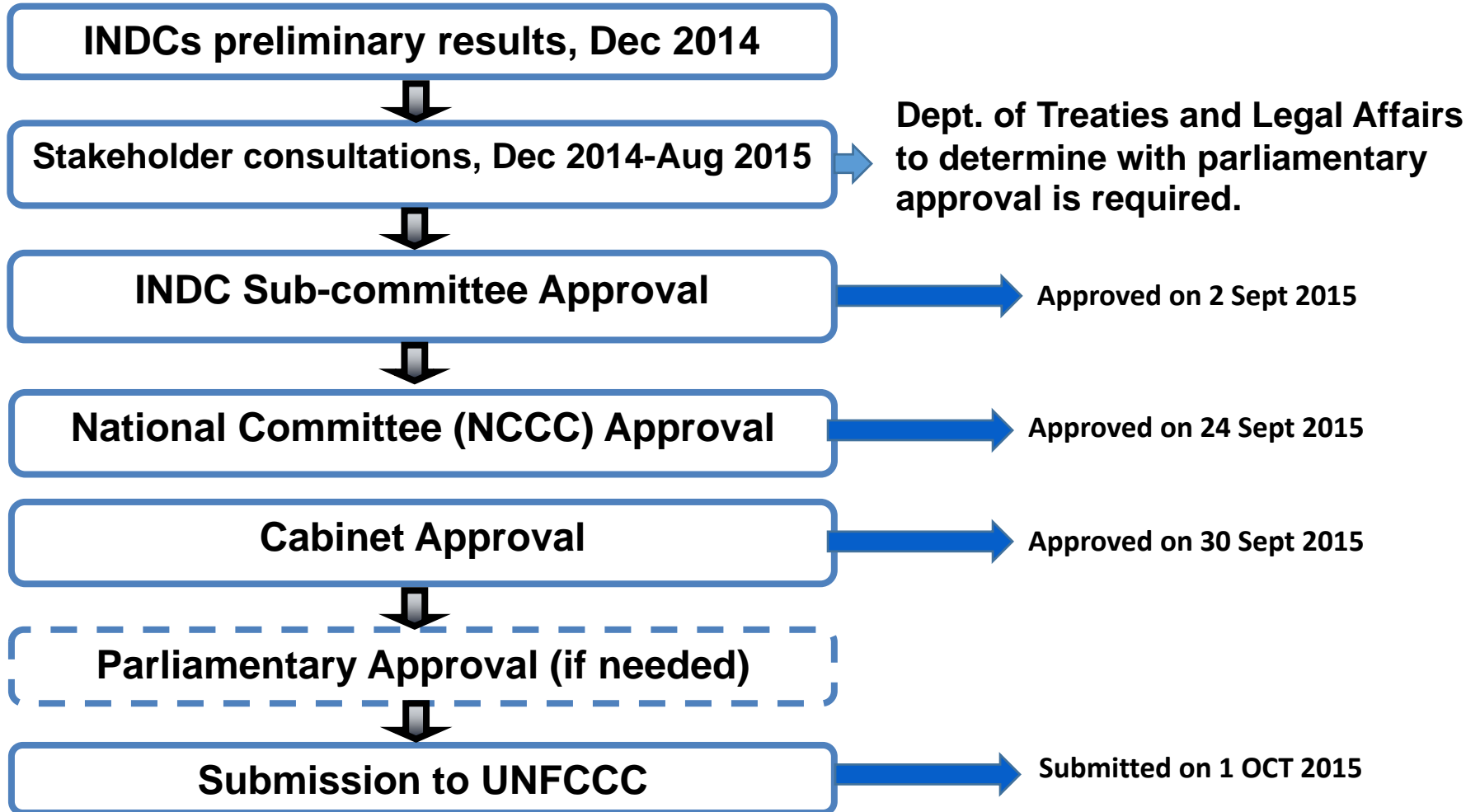
Thailand's INDC 2030

Thailand's INDC actions are in line with national development plans, and aimed at achieving a reduction in emissions relative to 'business as usual' emissions in 2030, resulting in GHG mitigation, and has an impact that can be measured, reported and verified (MRV).

Thailand is now implementing a national strategy “*Roadmap to Thailand NAMAs 2020*” with clear targets of emission reduction in the range of 20% in 2020 on the basis of domestic resources.

The AIM/Enduse model is repeatedly used to construct emission pathways for analysis of “Thailand's INDC 2030”.

Thailand's INDCs Approval Process



Development of BAU in Thailand's INDC

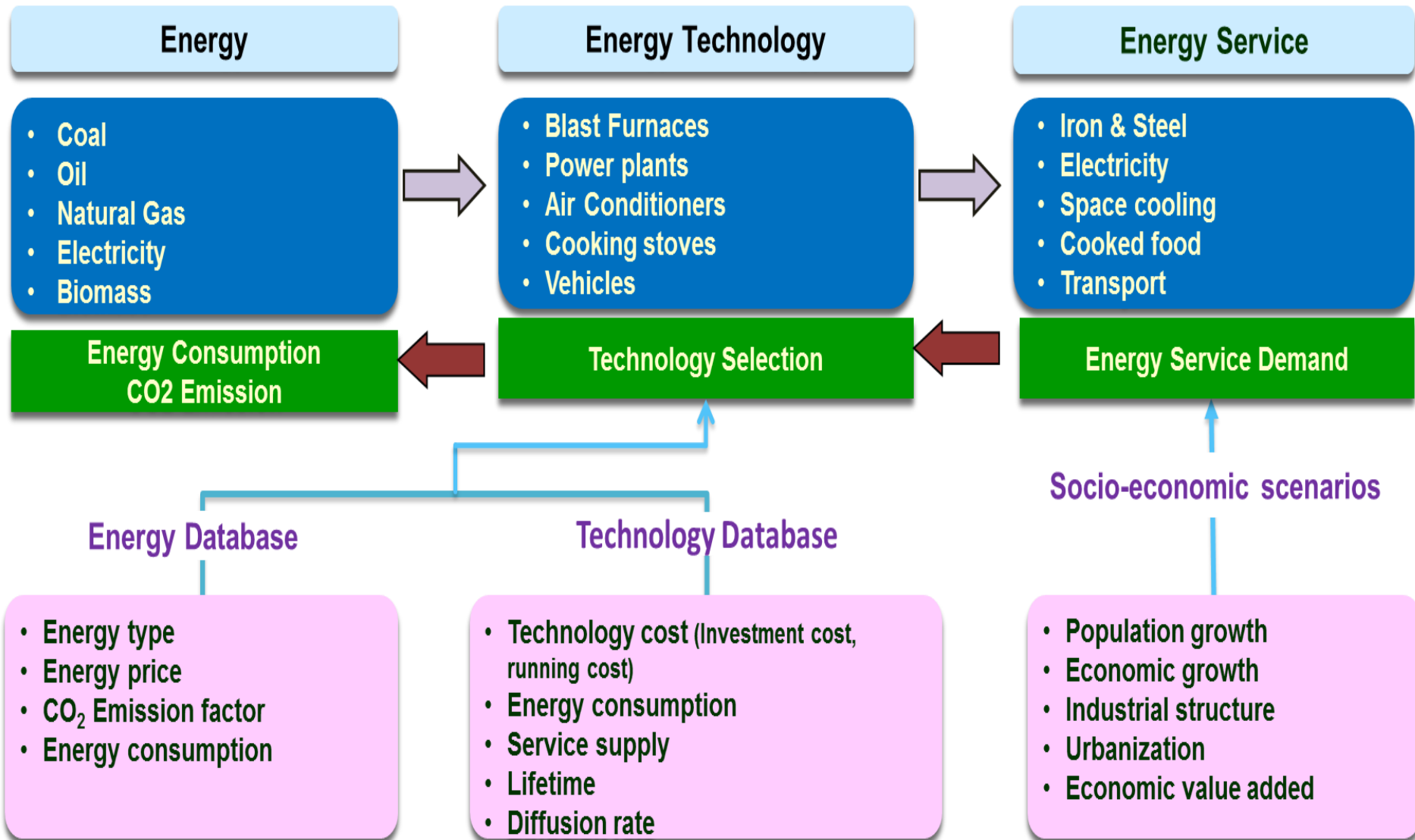
Base year	2005
Target year	2030
Sector	Power, transportation, buildings, residential, manufacturing industries, wastes, agriculture, industrial processes
Gases	Carbon dioxide (CO ₂), Methane (CH ₄), Nitrous oxide (N ₂ O), Hydrofluorocarbons (HFCs), Perfluorocarbons (PFCs), Sulphur hexafluoride (SF ₆)
Global Warming Potential	IPCC Fourth Assessment (AR4)
Modeling tool	Asia-Pacific Integrated Model (AIM/Enduse)
Modeling Approach	Bottom-up/End-use approach (by technologies and CO ₂ countermeasures)
GDP growth	3.94% p.a. (revised by TH Govt in 2015)
Population growth	0.03% p.a. (revised by TH Govt in 2015)
Energy prices	Oil prices (International Energy Agency, 2015)
Technology database	Updated SIIT Technology Database 2015 for Thailand

Development of BAU in Thailand's INDC

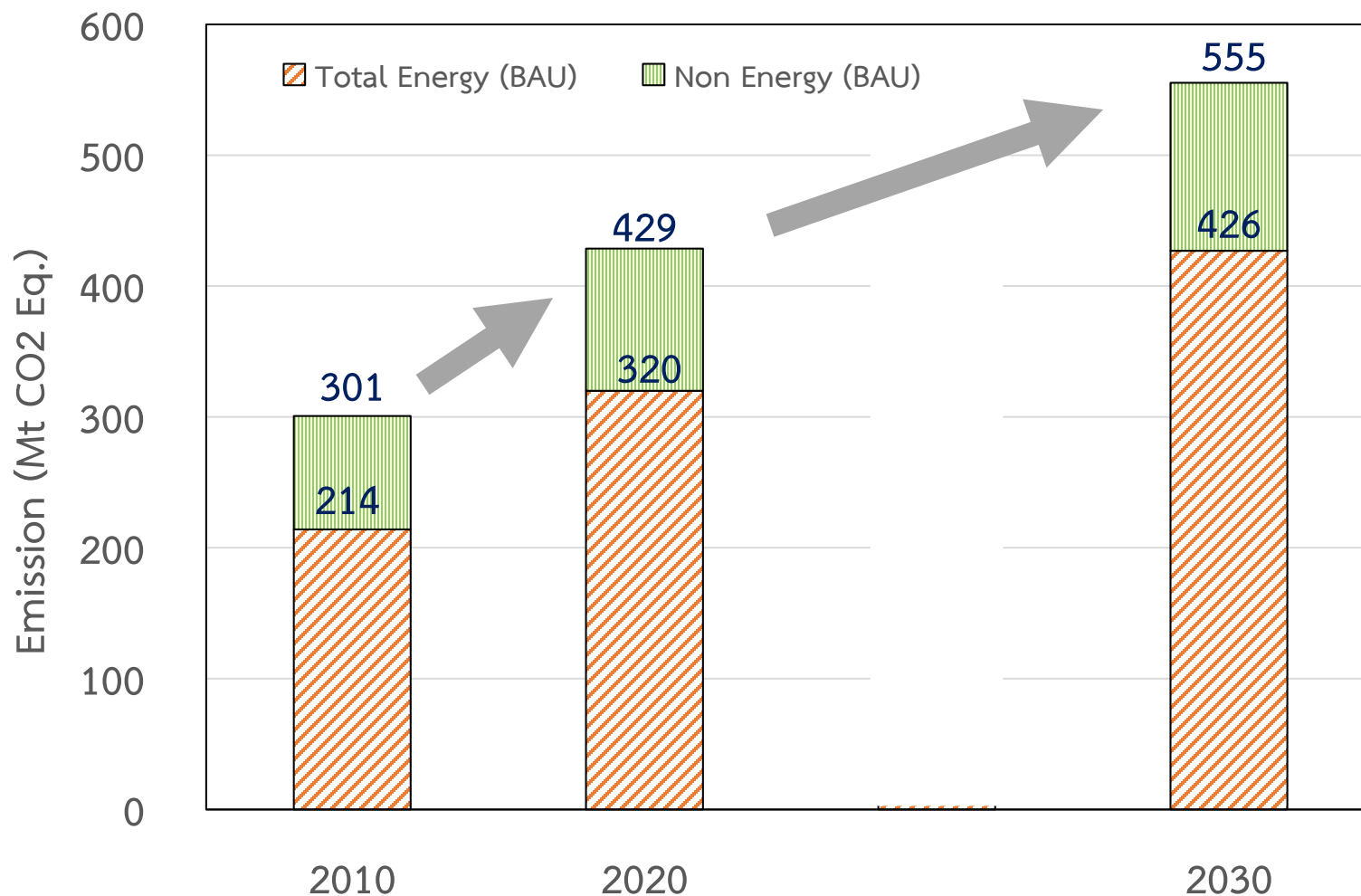
Planning processes

- National Economic and Social Development Plans
- Climate Change Master Plan, 2015-2050
- Power Development Plan, 2015-2036
- Thailand Smart Grid Development Master Plan, 2015-2036
- Energy Efficiency Plan, 2015-2036
- Alternative Energy Development Plan, 2015-2036
- Environmentally Sustainable Transport System Plan, 2013-2030
- National Industrial Development Master Plan, 2012-2031
- Waste Management Roadmap

Modeling Tool: The AIM/Enduse



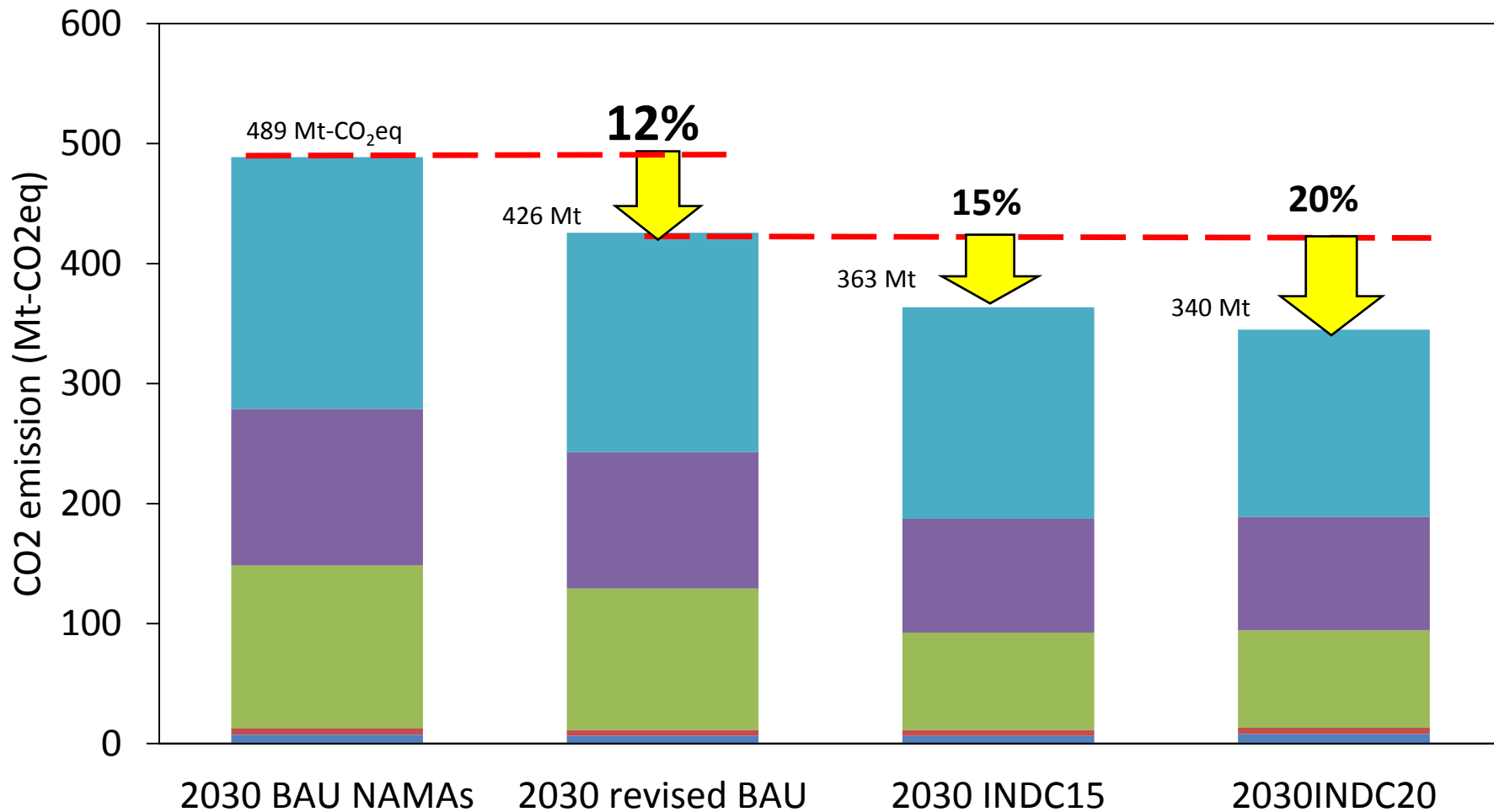
Projection of Thailand's Economy-Wide GHG Emissions In the BAU of Thailand's INDC



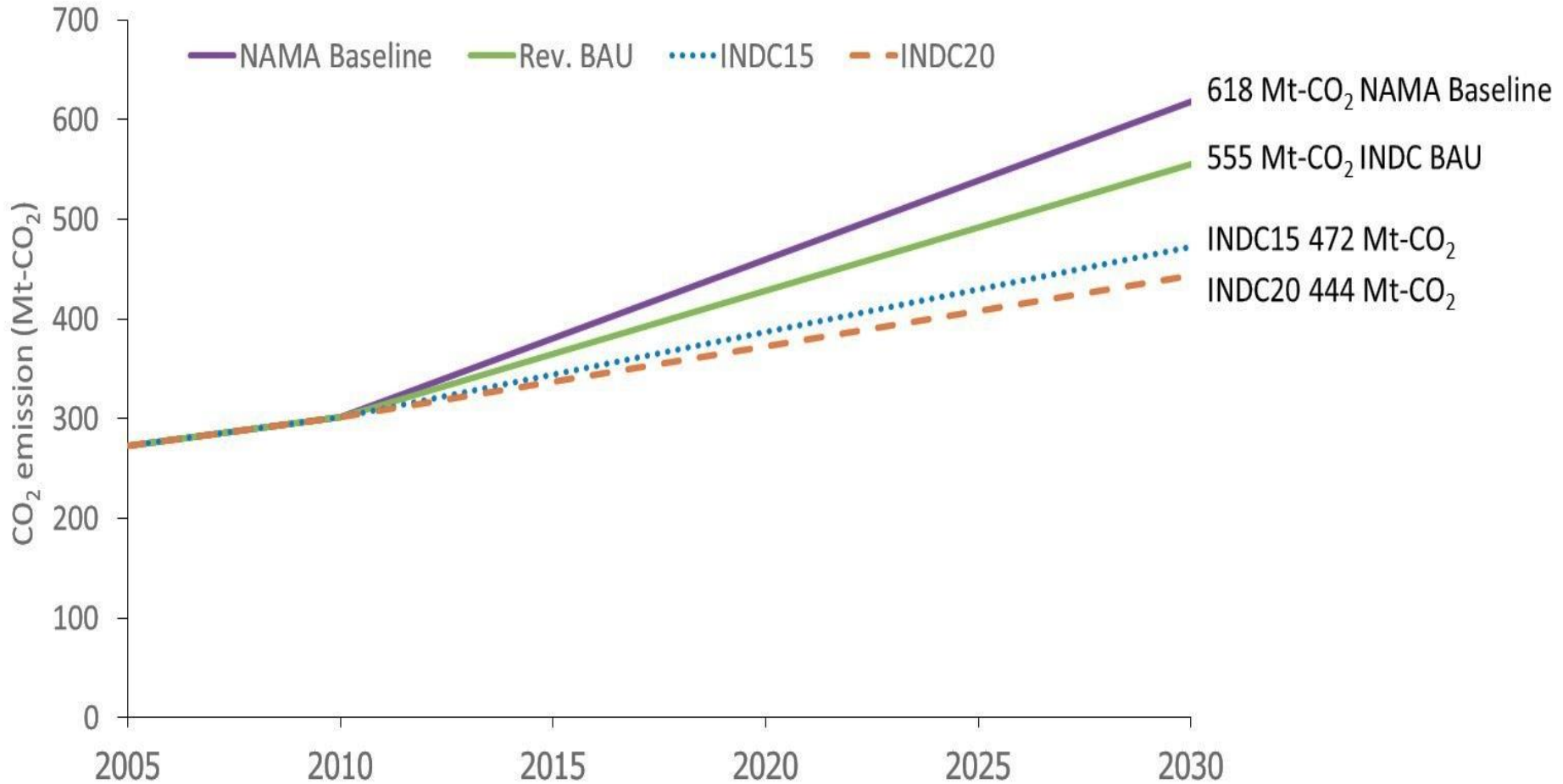
Notes: 1) Non energy emissions include wastes, agriculture and IPPU. LULUCF is excluded.

Comparison of CO₂ emissions in 2030

Residential Commercial Industry Transport Power

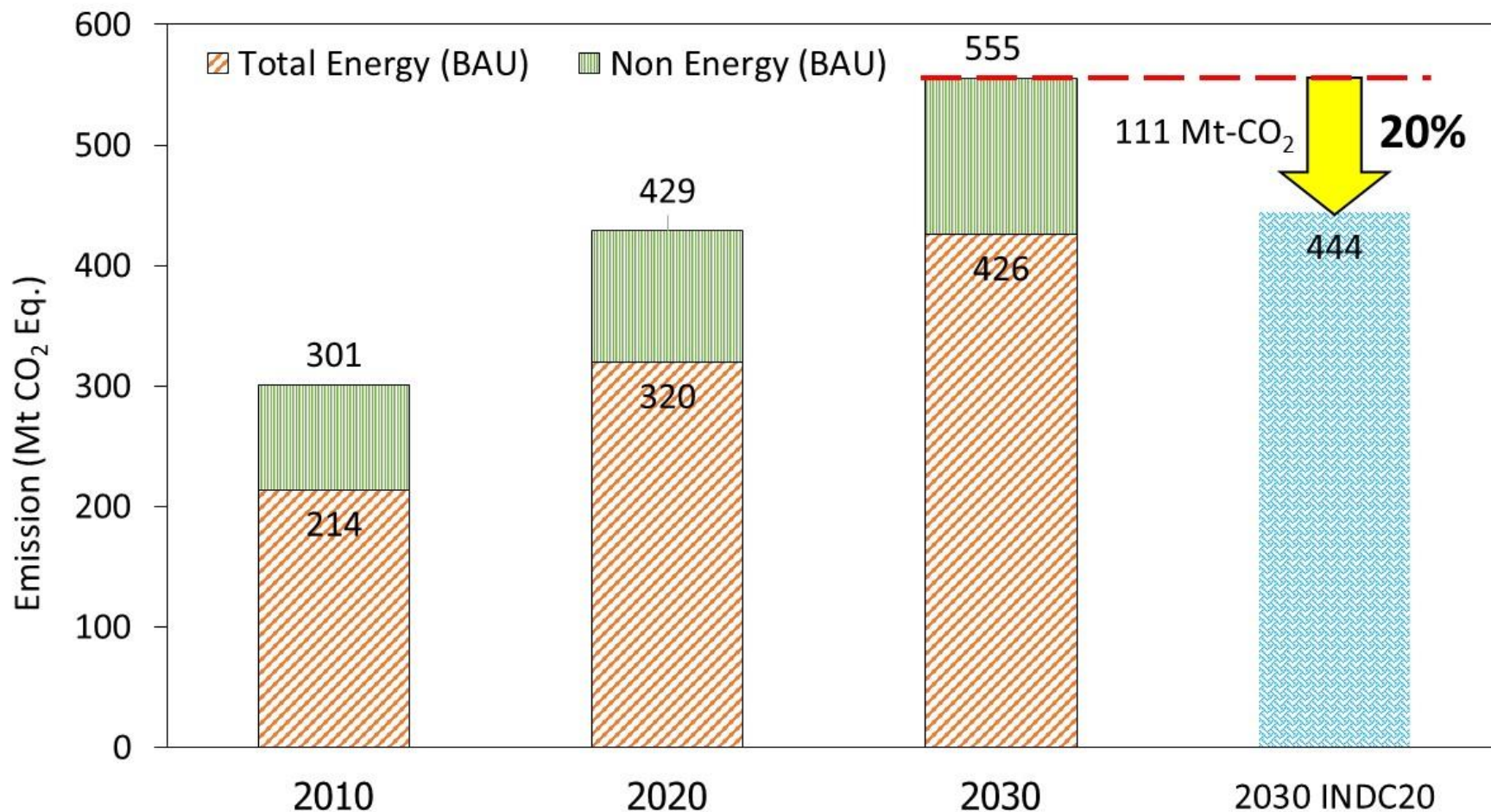


Economy-Wide GHG Mitigation Potential in 2030



Thailand's Economy-wide GHG Emissions

Thailand's INDC: Ambitious Target of 20-25% in 2030



Conclusions

- In 2030, however, Thailand's INDC will not result in **transformational changes**.
- To achieve the objective, Thailand needs, i) **Institutional Arrangement** ii) **Capacity Building**, iii) sustainable **Feed-in Tariff scheme** for RE, iv) enforcement of **EE laws in buildings and industries**, v) **co-funding** of the LCS Actions in both **demand side** and **clean supply side** including **Technology Transfer**.
- The **Peak target** will not be achieved **if it is not planned & implemented in the early stage**.
- In addition, **M R V** of such LCS actions are of necessity.