Thailand's Policy for Carbon Neutrality and Expectations for JCM

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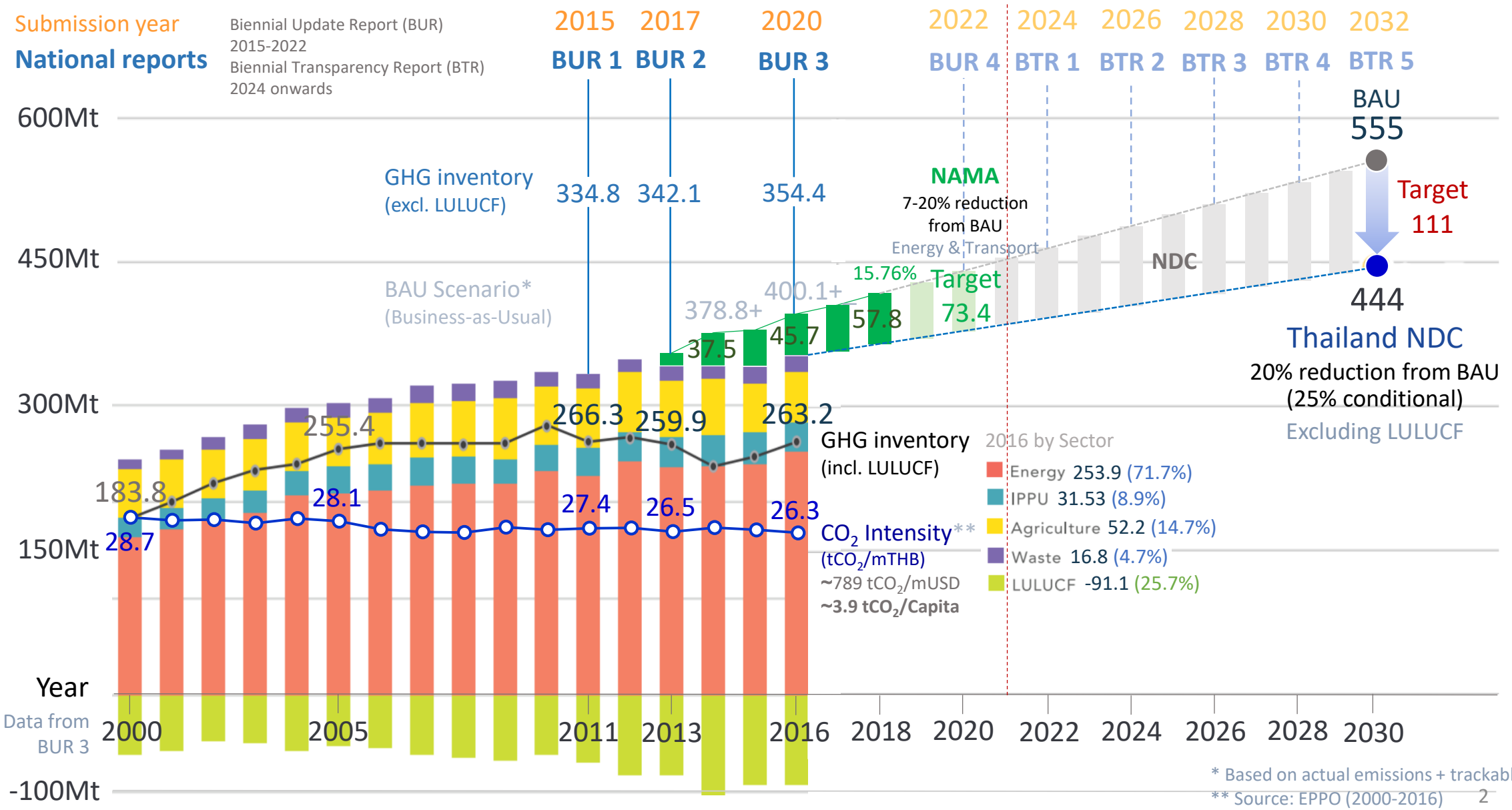
Webinar on the Joint Crediting Mechanism (JCM) Implementation in Thailand
- Innovation for Carbon Neutrality through JCM – September 27, 2021

Thailand's GHG Situation and Emissions Target of NDC

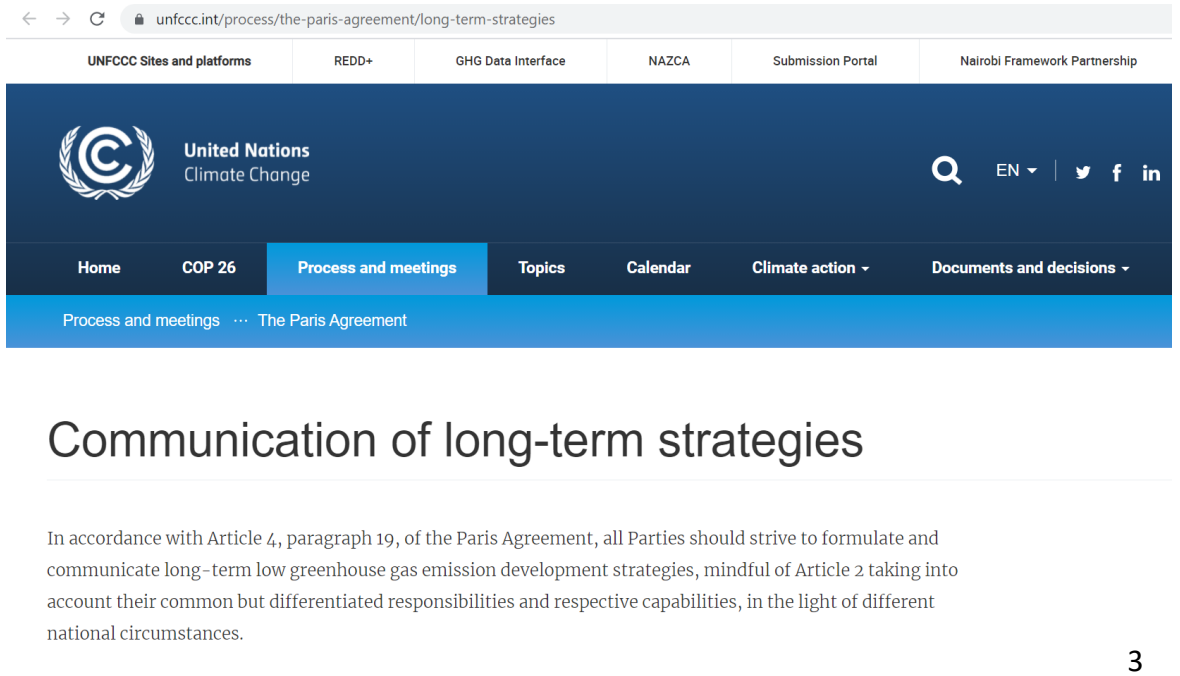


* Based on actual emissions + trackable reduction

** Source: EPPO (2000-2016)

Long-term Low Greenhouse Gas Emission Development Strategy

Thailand, through ONEP, is in the process of formulating a Long-term Low Greenhouse Gas Emission Development Strategy (LT-LEDS) which will guide Thailand towards a climate-resilient and low greenhouse gas emissions development and serve as a basis for enhancing its subsequent NDCs and also the future scenarios in 2050. The long-term strategy will be submitted to UNFCCC for communication within 2021.



Thailand carbon neutrality, Year 2065 – 2070

The National Energy Committee Meeting on 4 August 2021 (No. 2/2021) which chaired by General Prayut Chan-o-cha, Prime Minister of the Kingdom of Thailand approved the Framework of National Energy Plan which aims to promote clean energy and move Thailand towards a carbon neutrality in year 2065-2070*.

* Subject to technology transformation and financial support.

Achieving Carbon Neutrality & Net Zero Emissions

GHG emission from daily life, consumption and economic activity

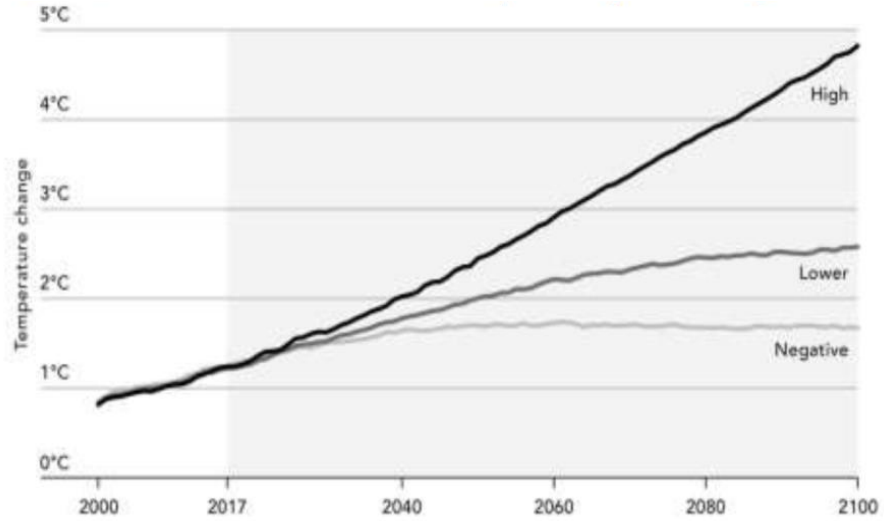
=

GHG reduction

+

GHG removal

Increase GHG emission → increase global temperature



- Clean energy
- CCUS (Carbon Capture Utilization and Storage)
- Reduction from industry, transport, construction, agriculture (fertilizer) and livestock
- Minimalist
- others

- Carbon sink
- Afforestation & reforestation
- Direct Air Capture
- Others

Source: Ministry of Energy (2021)

2065 - 2070 Net-zero CO_2 (Carbon Neutrality) scenario

2075 Net-zero GHG scenario

Disclaimer: unofficial figures

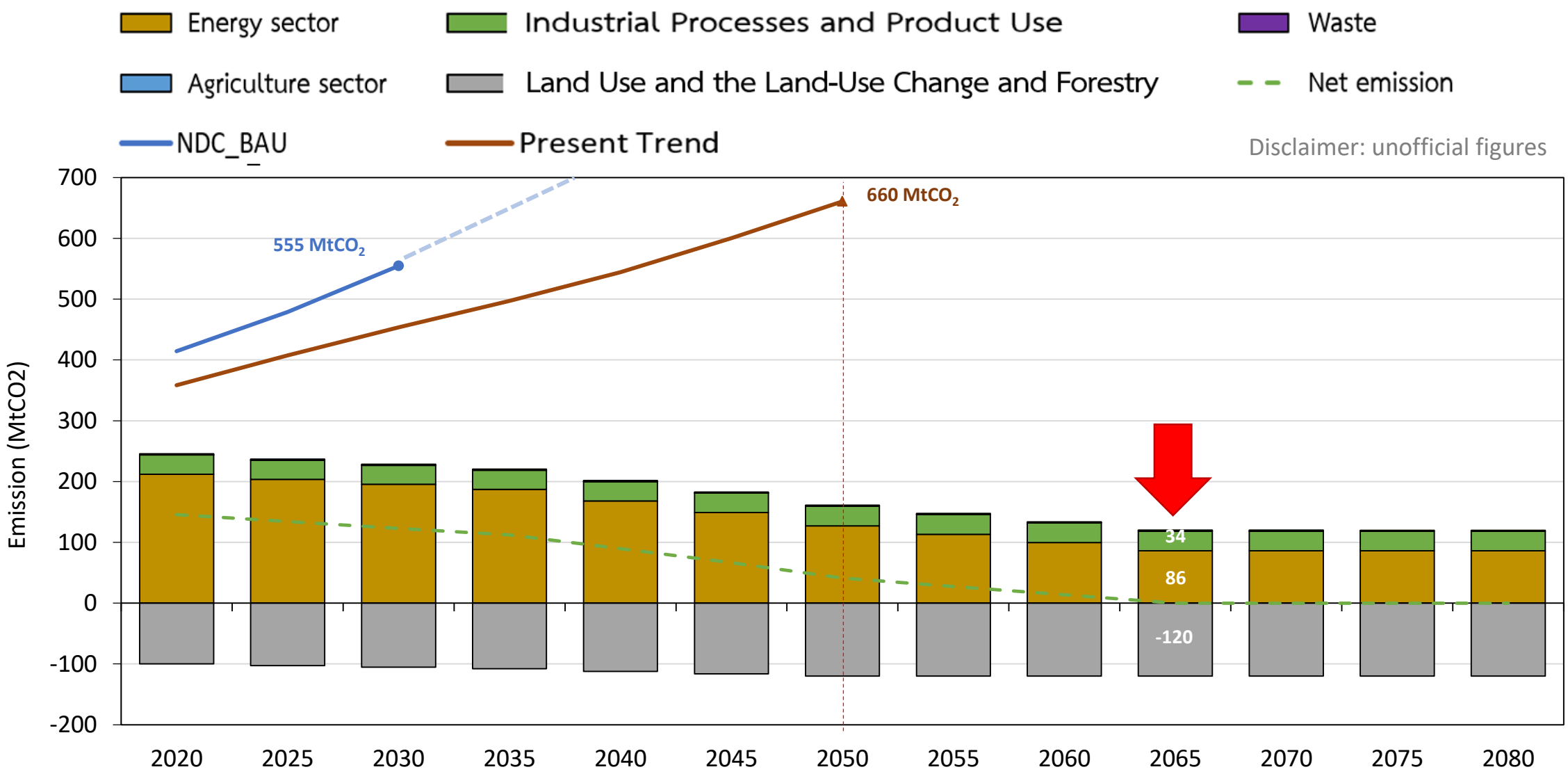
Net Zero vs. 2016 Emissions

Climate Action / Efforts Comparison

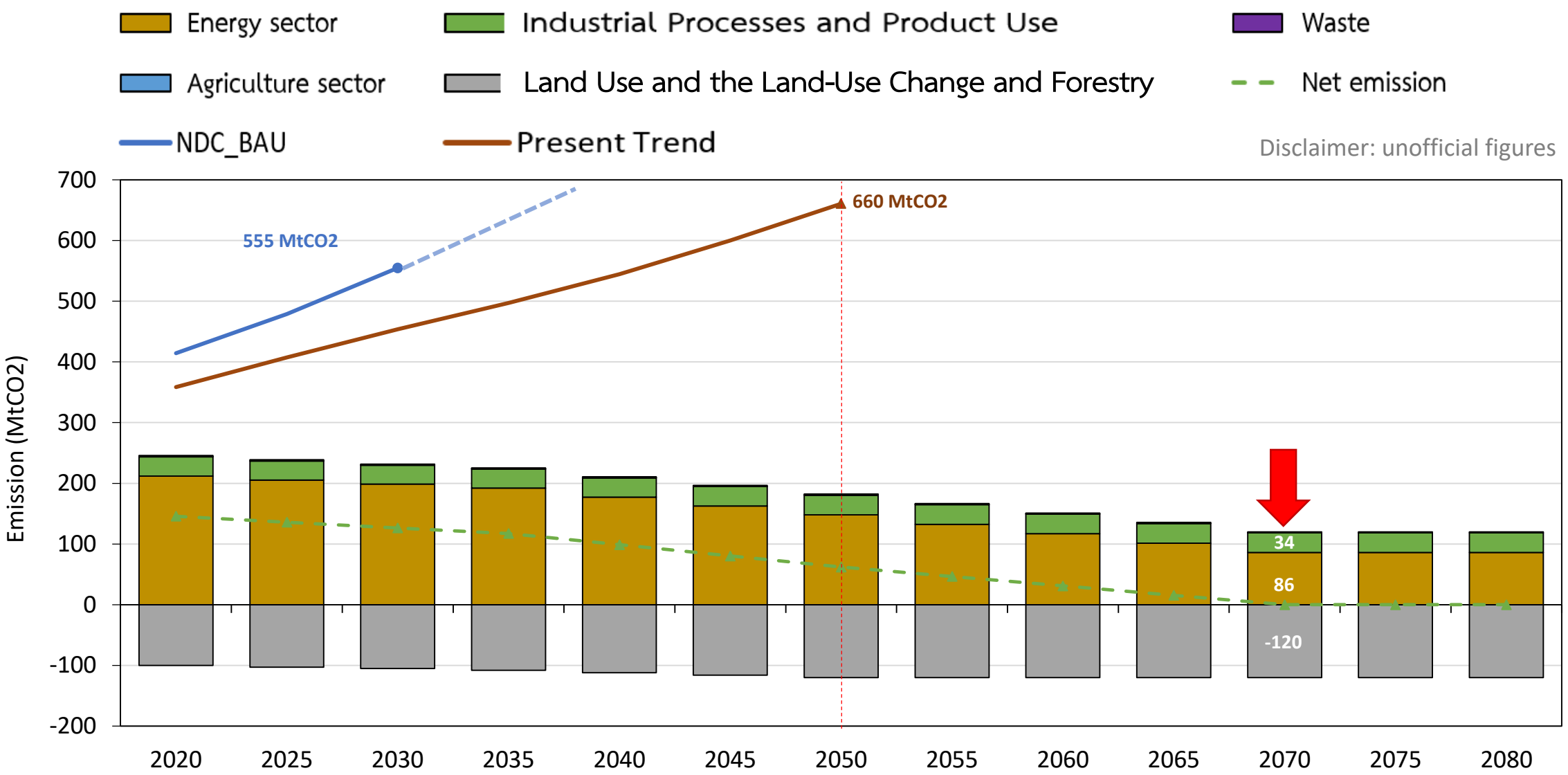
Sector	2016 Emissions (Inventory) CO_2	2016 Emissions (Inventory) GHG	Net Zero Scenario Emissions Net-zero CO_2	Net Zero Scenario Emissions Net-zero GHG	= Reductions (Compared to 2016) Net-zero CO_2	Reductions (Compared to 2016) Net-zero GHG	+ Removals (Compared to 2016) Net-zero CO_2	Removals (Compared to 2016) Net-zero GHG
Energy	**237.9**	253.9	**86**	20	**- 151.9**	- 233.9	-	-
IPPU	**30.8**	31.5	**32.3**	33.2	**+ 1.5**	+ 1.7	-	-
Agriculture	**1.5**	52.2	**1.5**	50.4	**-**	- 1.8	-	-
Waste	**0.2**	16.8	**0.2**	16.4	**-**	- 0.4	-	-
LULUCF	**- 91.4**	- 91.1	**- 120**	- 120	-	-	**+ 28.6**	+ 28.9
Total (Net)	**179**	263.2	**0**	0				

Unit: $MtCO_2eq$

Net Zero CO_2 (Carbon Neutrality) Scenario 2065



Net Zero CO_2 (Carbon Neutrality) Scenario 2070



Thailand Possible Climate Mitigation Options

Energy & Transportation

1. Decarbonized electricity & heat
2. Increase share of EV
3. Reduce 30% Energy Intensity
4. Hydrogen Technology
5. CCS&U

1. Fade out coal from power and industrial, increase RE share and import hydro-power
2. Promote use of EV and fade out ICE
3. Improve Energy Efficiency
4. Develop H_2 Technology
5. Develop CCS&U

IPPU

6. Increase usage of hydraulic cement
7. Alternative low-carbon fuel for Industry
8. Promote substitute refrigerants

6. Promote usage of hydraulic cement
7. Use of alternative low-carbon fuel for industry
8. Use of low-GWP refrigerants

Agriculture

9. Zero burn and smart farming through BCG model and digital technology
10. Cultivation Practices
11. Substitute of N-Base Fertilizers
12. Biogas from livestock

9. No open burning & recovery of Biomass Energy
10. Smart Farming
11. Use of organic fertilizers
12. Biogas energy from livestock

Forest & Land Use

13. Reduce deforestation
14. Proactive reforestation
15. Carbon absorption by forest and Soil
16. Land Sequestration

13. Afforestation
14. Reforestation
15. Soil Carbon in practice
16. Carbonization in Basalt layer

Waste

17. Zero waste to landfilled through BCG model
18. Increase use of low carbon product and services
19. Circular product

17. Waste minimization
18. Circular Economy

Source: Analysis by TGO Technical Team, May 2021

How to achieve carbon neutrality by voluntary actions?

Climate Action Leading Organizations

Energy Producers, Manufacturers, Service Providers
Logistics and Households

carbon neutral network

Committed to carbon neutrality

Climate Action Innovators

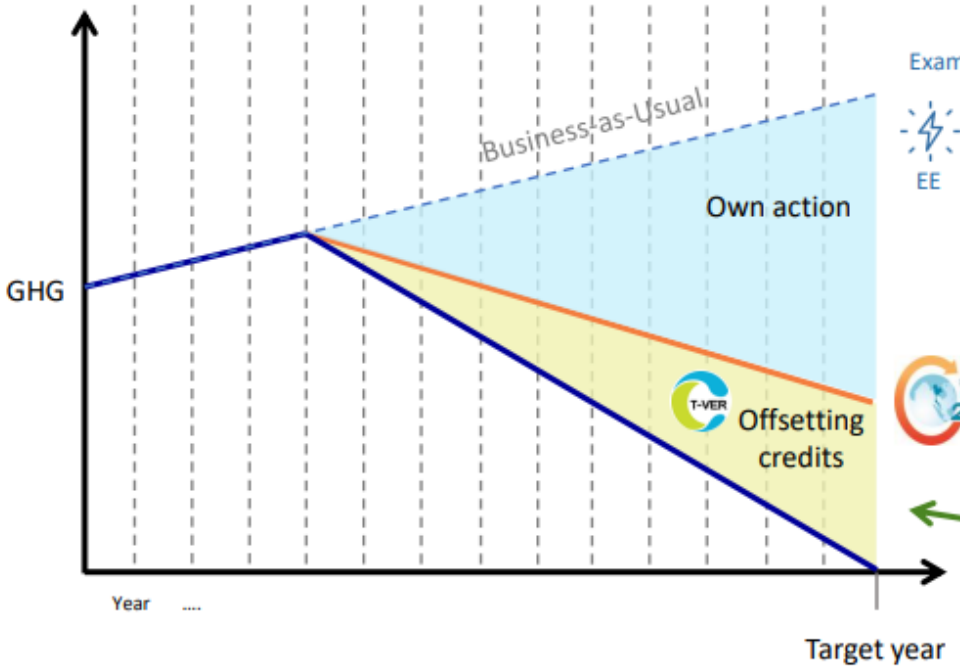
Green project developers

Example of credits

T-VER JCM RE EV Forestry

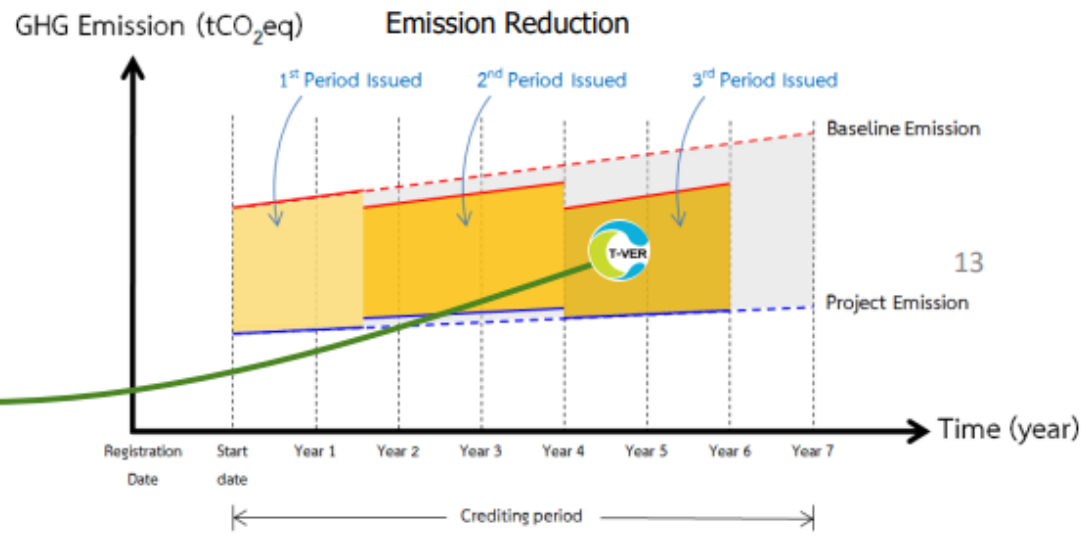
Example of own action

EE CE CCS/CCU



Thailand Carbon Neutral Exchange

Delivers optimum emissions reduction



13

Carbon Footprint for Organization (Scope 1+2+3)

Carbon Neutral Pathway

How to achieve Carbon Neutrality through JCM?

Ministry of the Environment

JCM x Carbon Neutral Project / Future target of JCM

Energy-saving infrastructure	Carbon capture and storage（CCS） 
Solar power generation 	Wind power generation 
Hydrogen  	Use of ammonia fuel
Waste power generation 	Geothermal power generation 
Hydropower generation 	Storage battery and system management 

Source: MoEJ, February 2021

ขอบคุณครับ

Thank you for your attention

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(Public Organizarion)

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