



KEY ELEMENTS OF NATIONAL FRAMEWORK ON MITIGATION OF CLIMATE CHANGE

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(C)

The Range of the Difference between Emissions in 1990 and Emission Allowances in 2020/2050 for Various Concentration Levels for Annex I And Non-Annex I Countries as a Group^a

Scenario Category	Region	2020	2050
A-450 ppm CO ₂ -eq ^b	Annex I	-25 % to – 40 %	-80% to -95 %
	Non-Annex I	Substantial deviation from baseline in Latin America, Middle East, East Asia and Centrally-Planned Asia	Substantial deviation from baseline in all regions
B-550 ppm CO ₂ -eq	Annex I	-10% to -30%	-40% to -90%
	Non-Annex I	Deviation from baseline in Latin America and Middle East, East Asia	Deviation from baseline in most regions, especially in Latin America and Middle East
C-650 ppm CO ₂ -eq	Annex I	0% to -25%	-30% to -80%
	Non-Annex I	Baseline	Deviation from baseline in Latin America and Middle East, East Asia

- Source: IPCC Working Group III, Chapter 13, Box 13.7, page 776.
- a) The aggregate range is based on multiple approaches to apportion emissions between regions (contraction & convergence, multistage, Triptych and intensity targets, among others). Each approach makes different assumption about the pathways, specific national efforts and other variables. Additional extreme cases – in which Annex I undertakes all reductions, or non-Annex I undertakes all reductions – are not included. The range presented here do not imply political feasibility, nor do the results reflect cost variance.
- b) Only the studies aiming at stabilization at 450 ppm CO₂-eq assume a (temporary) overshoot of about 50 ppm (See Den Elzen and Meinshausen, 2006)

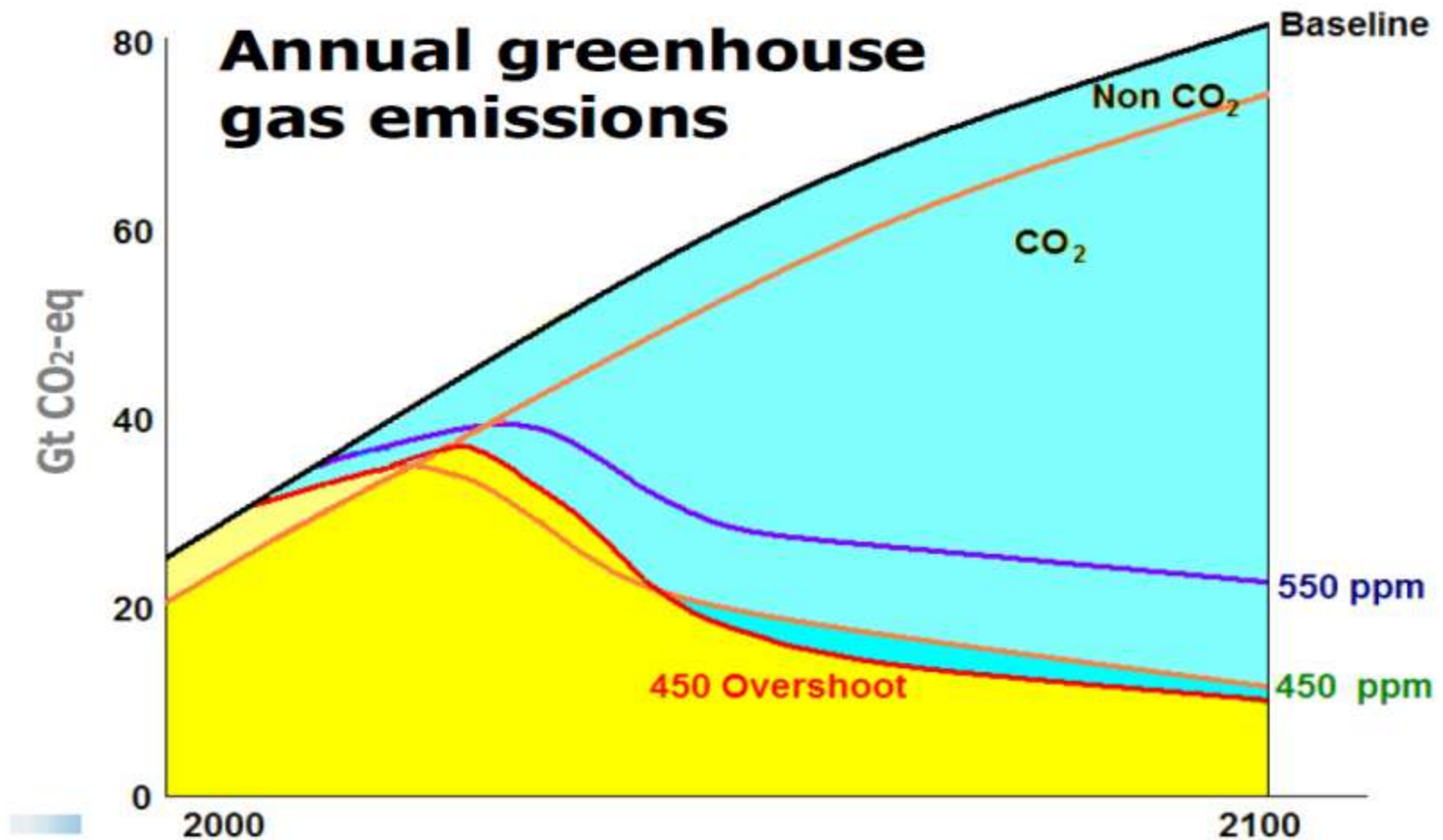
REDUCTION IN BOX 13.7

- For non-Annex I (NA1) countries as a group “substantial deviation from baseline” is now specified: **15-30%** for 450 ppm CO₂-eq, **0-20%** for 550 ppm CO₂-eq and from 10% above to 10% below baseline for 650 ppm CO₂-eq, in 2020. Roughly the first 10% can be “no-regret options”
- If Annex I countries as a group reduces with **30% below 1990** level, non-Annex I need to reduce about **10-25% below baseline** for meeting 450 ppm CO₂-equivalent
- For baseline that assume ongoing rapid growth in non-Annex I emissions (higher than IPCC SRES range), the reductions will be higher.
- Avoiding deforestation relaxes the reductions for Annex I and non-Annex I

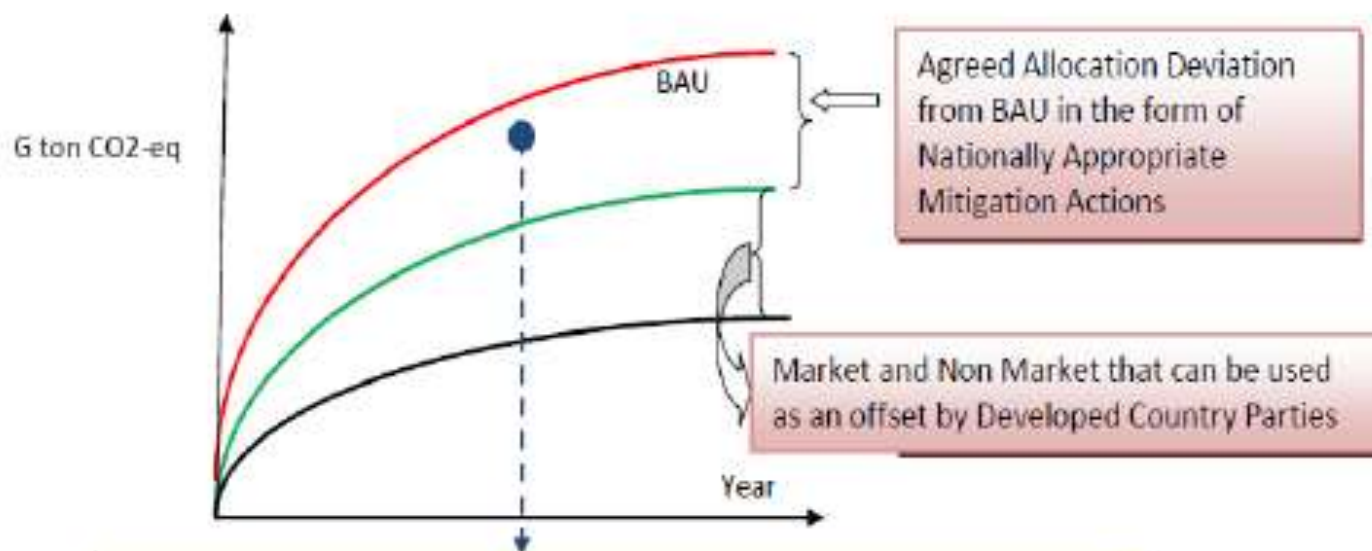
Indonesia Voluntary Mitigation Actions

[Letter to Executive Secretary UNFCCC - 30 January 2010]

Nationally Appropriate Mitigation Actions	Emission Reduction
The Reduction will be achieved, inter alia, through the following action: 1. Sustainable Peat Land Management 2. Reduction in Rate of Deforestation and Land Degradation 3. Development of Carbon Sequestration Projects in Forestry and Agriculture 4. Promotion of Energy Efficiency 5. Development of Alternative and Renewable Energy Sources 6. Reduction in Solid and Liquid Waste 7. Shifting to Low-Emission Transportation Mode	26 % by 2020



DIFFERENT PERIOD OF STABILIZATION LEVELS



- No offset (cannot be used as an offset by developed country Parties)
- Type of Financing :
 - ✓ Financed by Financing Mechanism under the Convention
 - ✓ Self Financing

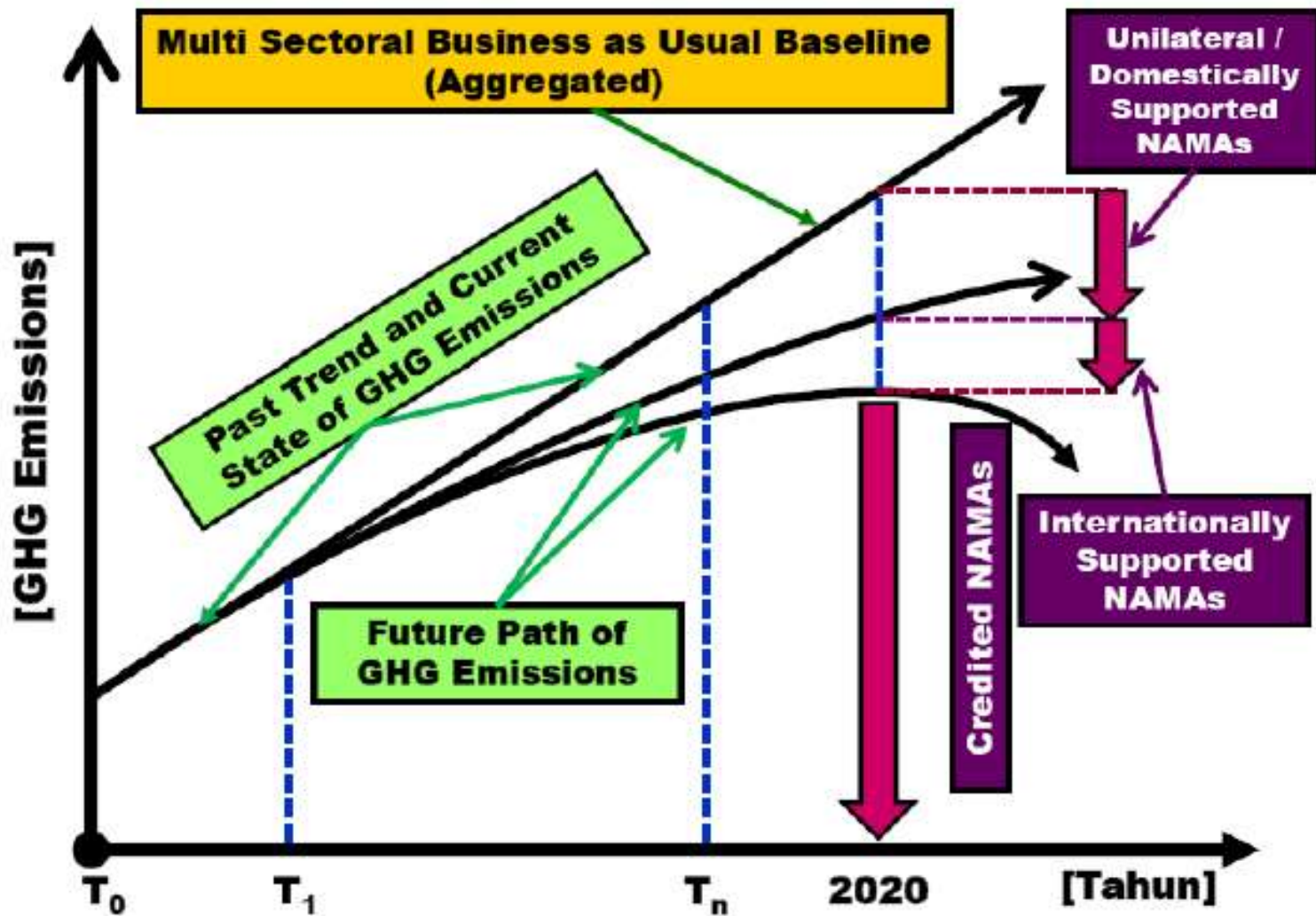
KATEGORI NAMAs

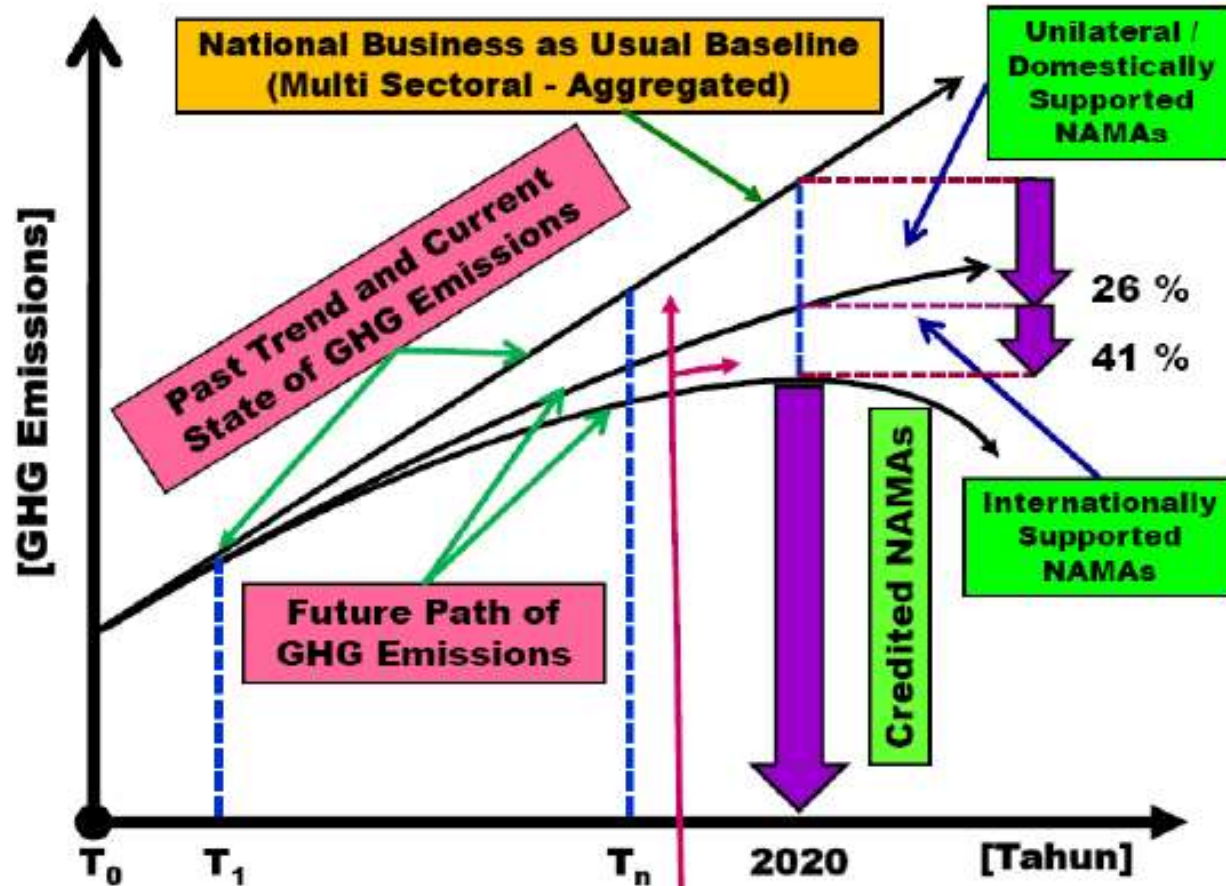
- *Unilateral NAMAs/Domestically Supported NAMAs* (unsupported or self supporting): autonomous mitigation actions undertaken by developing country Parties on their own to achieve certain emission reduction level without international (outside) support under the UNFCCC framework
- *Internationally Supported NAMAs*: mitigation actions by developing country Parties supported directly by developed country Parties as internationally supported mitigation actions under the UNFCCC framework
- *Credited NAMAs (credit generating NAMAs)*: mitigation actions in developing countries, which generate credits to be sold on the carbon market

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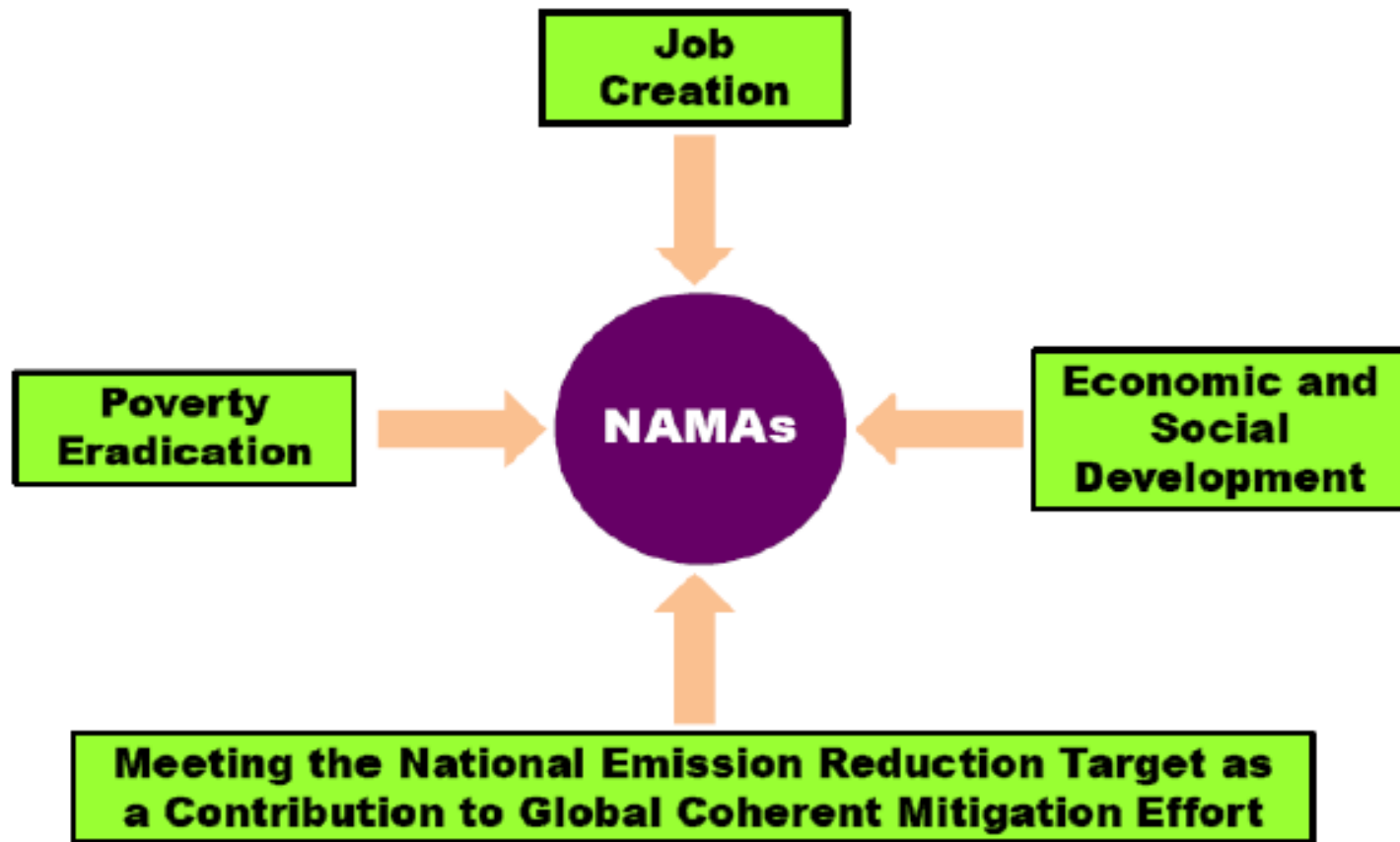
KATEGORI NAMAs

1. **UNILATERAL NAMAS/DOMESTICALLY SUPPORTED NAMAS**
(UNSUPPORTED OR SELF SUPPORTING): AUTONOMOUS
MITIGATION ACTIONS UNDERTAKEN BY DEVELOPING COUNTRY
PARTIES ON THEIR OWN TO ACHIEVE CERTAIN EMISSION
REDUCTION LEVEL WITHOUT INTERNATIONAL (OUTSIDE) SUPPORT
UNDER THE UNFCCC FRAMEWORK
2. **INTERNATIONALLY SUPPORTED NAMAS**: MITIGATION ACTIONS
BY DEVELOPING COUNTRY PARTIES SUPPORTED DIRECTLY BY
DEVELOPED COUNTRY PARTIES AS INTERNATIONALLY SUPPORTED
MITIGATION ACTIONS UNDER THE UNFCCC FRAMEWORK
3. **CREDITED NAMAS (CREDIT GENERATING NAMAS)**:
MITIGATION ACTIONS IN DEVELOPING COUNTRIES, WHICH
GENERATE CREDITS TO BE SOLD ON THE CARBON MARKET

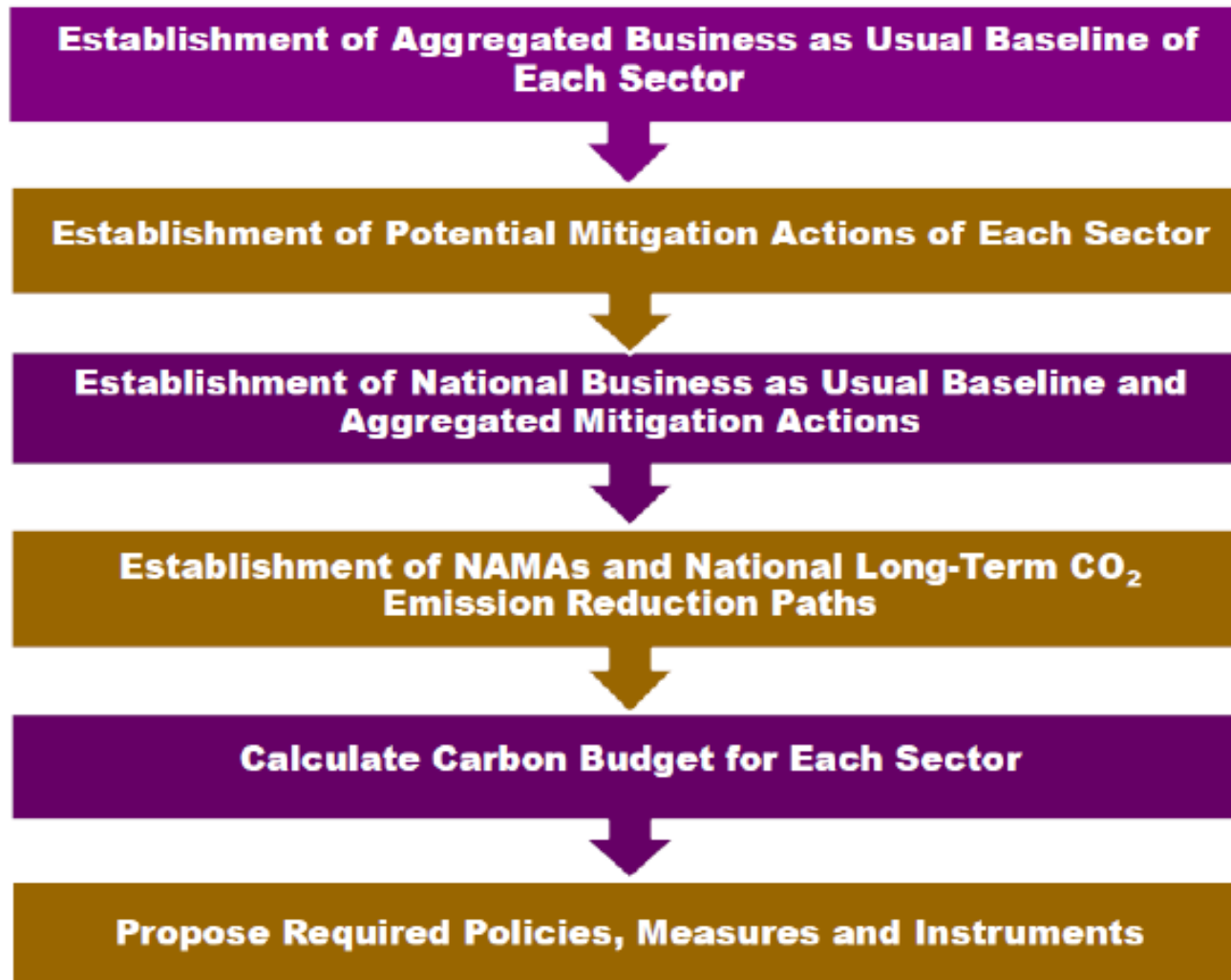




National integrated processes in meeting the national emission reduction target based on cost effectiveness and its implementability level.







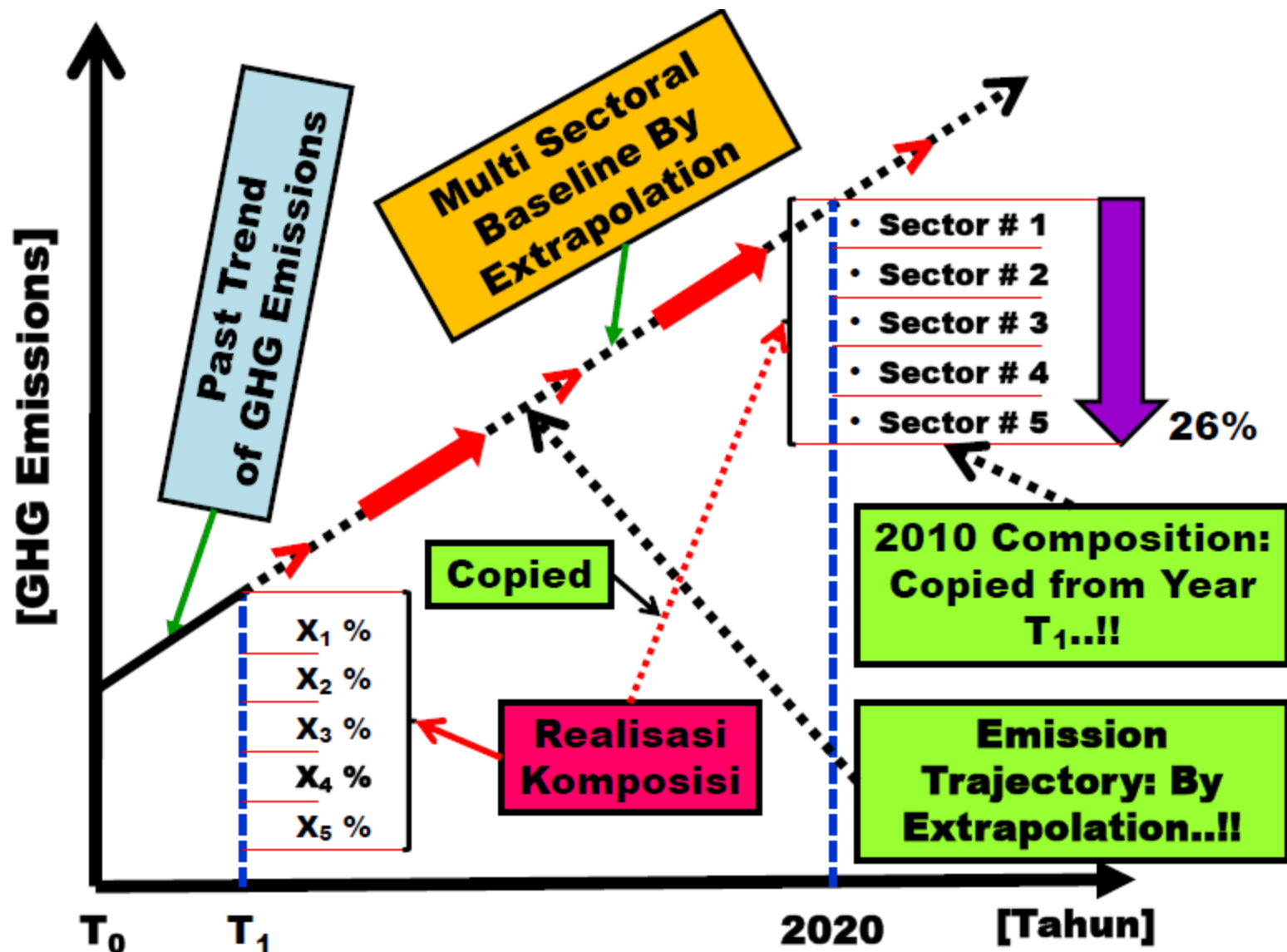
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- The current policy, and future if exists without any climate change policy intervention and action,
- Market trends and its features,
- Associated uncertainties,
- Evolution of supply and demand,
- Cost effectiveness, and
- Expected performance of the system.

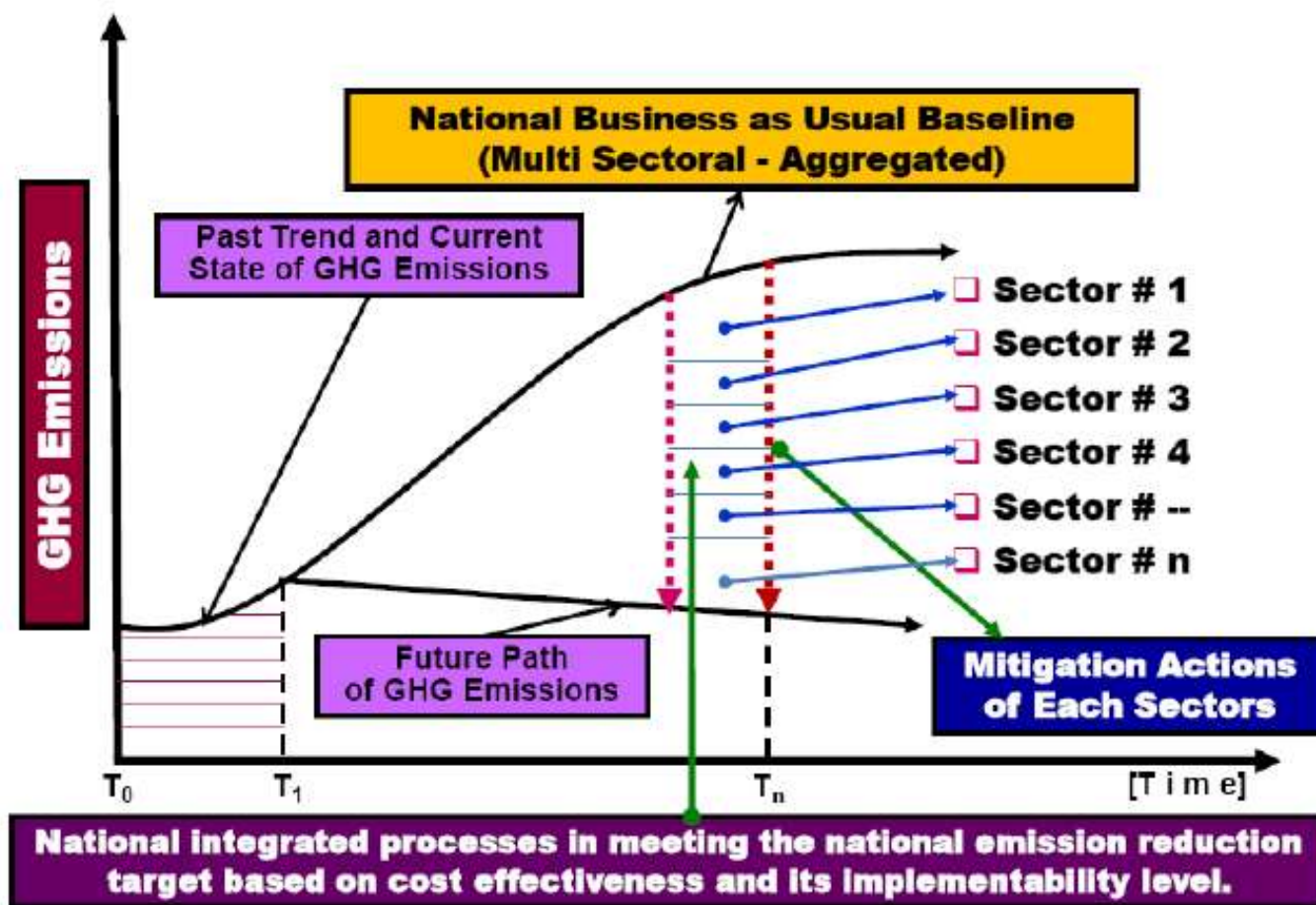
national business as usual baseline

- Establishment of aggregated business as usual baseline of each sector, and
- Establishment of national business as usual baseline (aggregated business as usual baseline).

Future Path of GHG Emissions Reduction



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Required National Integrated Processes To Establish National Business as Usual Baseline (Aggregated Business as Usual Baseline)

As a main part of proposed national integrated process, national business as usual baseline as aggregated business as usual baseline should be established as indispensable tool.

The required processes to render the national business as usual baseline consists of 2 (two) key elements that need to be constructed:

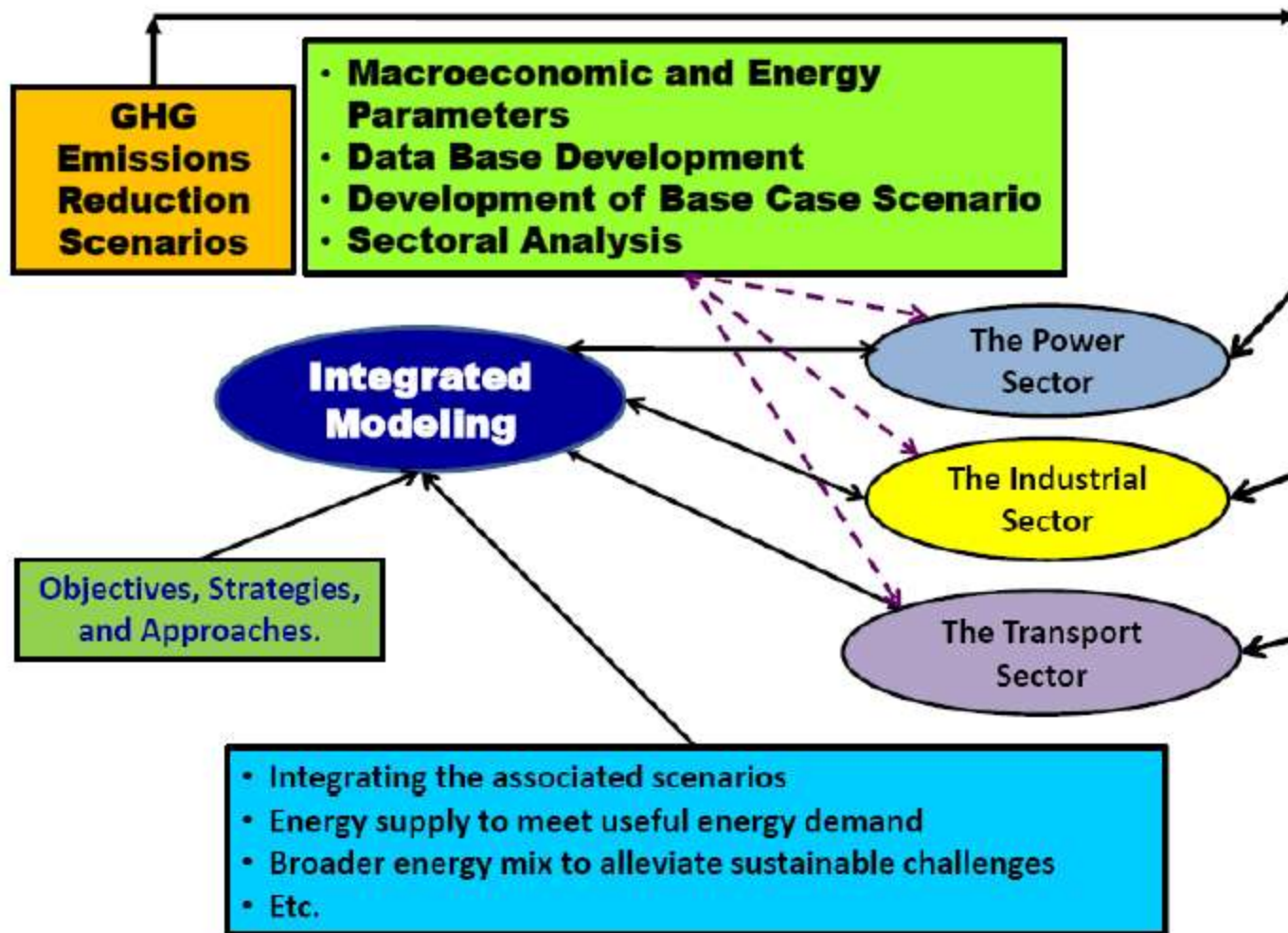
- 1. Establishment of aggregated business as usual baseline of each sectors, and**
- 2. Establishment of national business as usual baseline as aggregated business as usual baseline.**

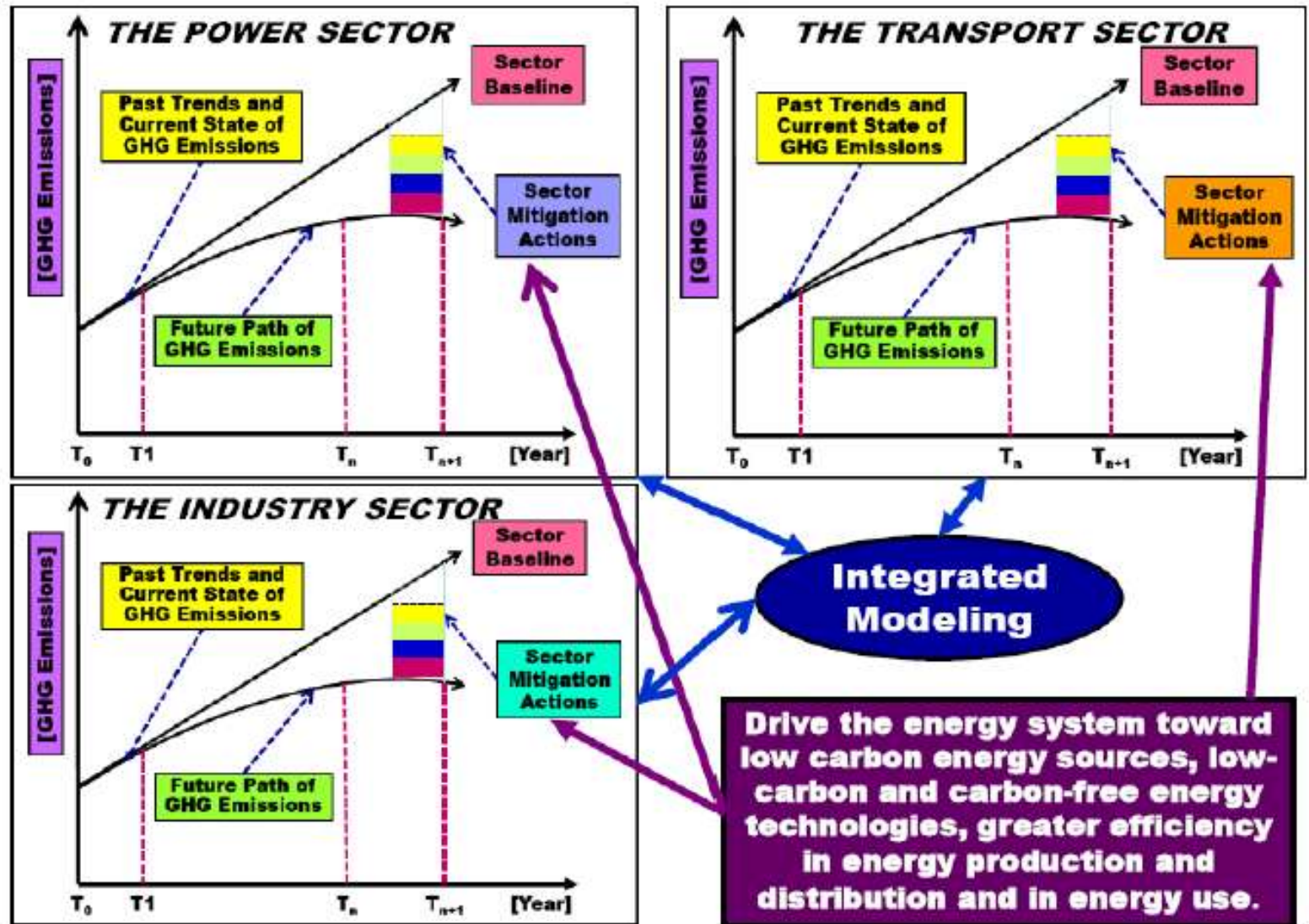
Bottom-up and Top-down

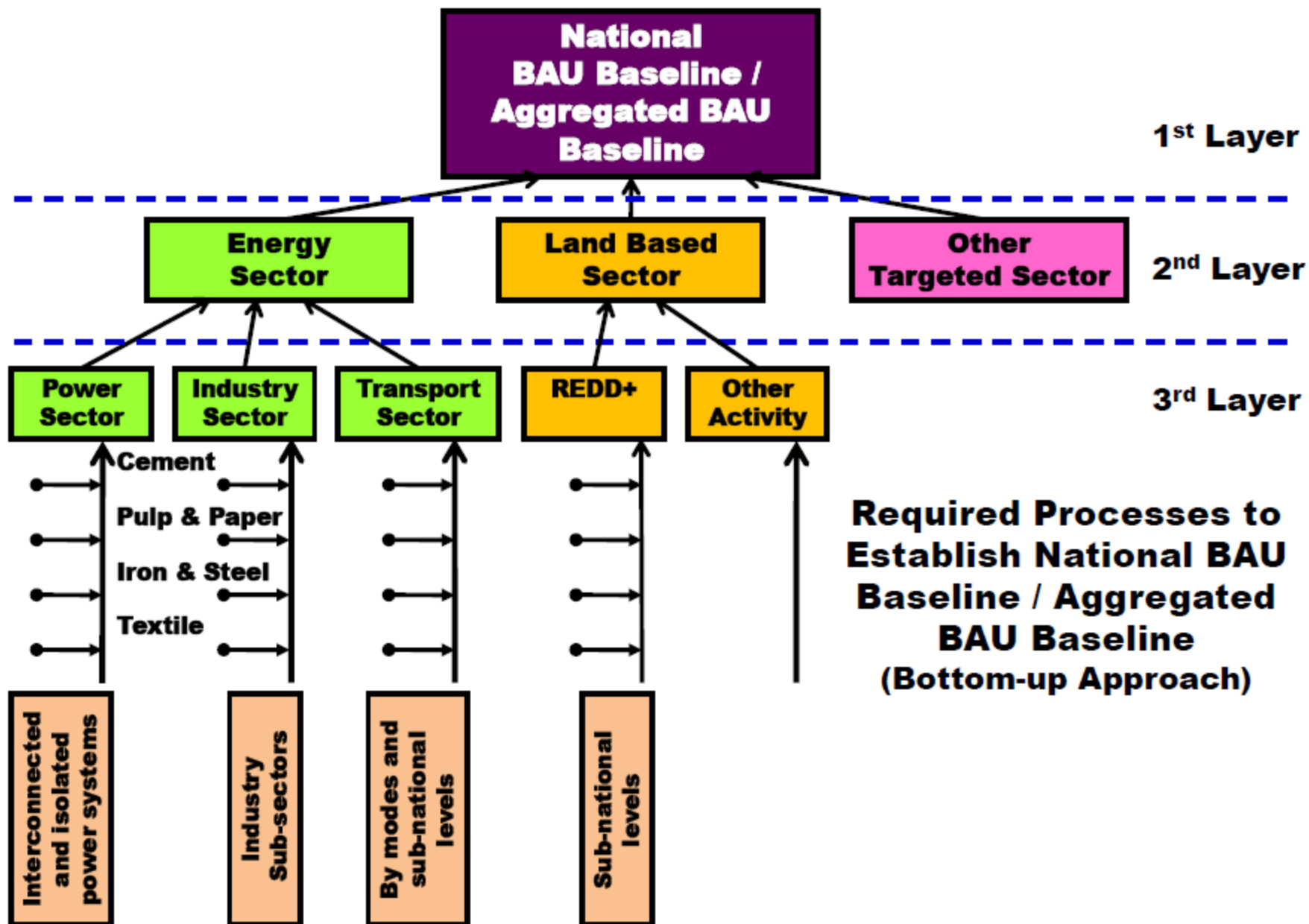
To establish of aggregated national business as usual baseline of each sectors, it's preferable to use a bottom-up approach rather than a top-down approach, since each sectors possibly can comprises of: (i) sub-sectors, like in industry sector, or (ii) many sub-national levels in accordance with national circumstances, like in REDD+ case, or (iii) many interconnected systems and isolated power systems like in power sector.

The bottom-up approach more reflects to (1) the imbedded system conditions at national and sub-national levels that have specific sectoral conditions and its evolution, (2) more adapted to deal with the existing policy instruments of sectoral levels, and (3) also more focus on available/evolution technology including its characteristics and common practices.

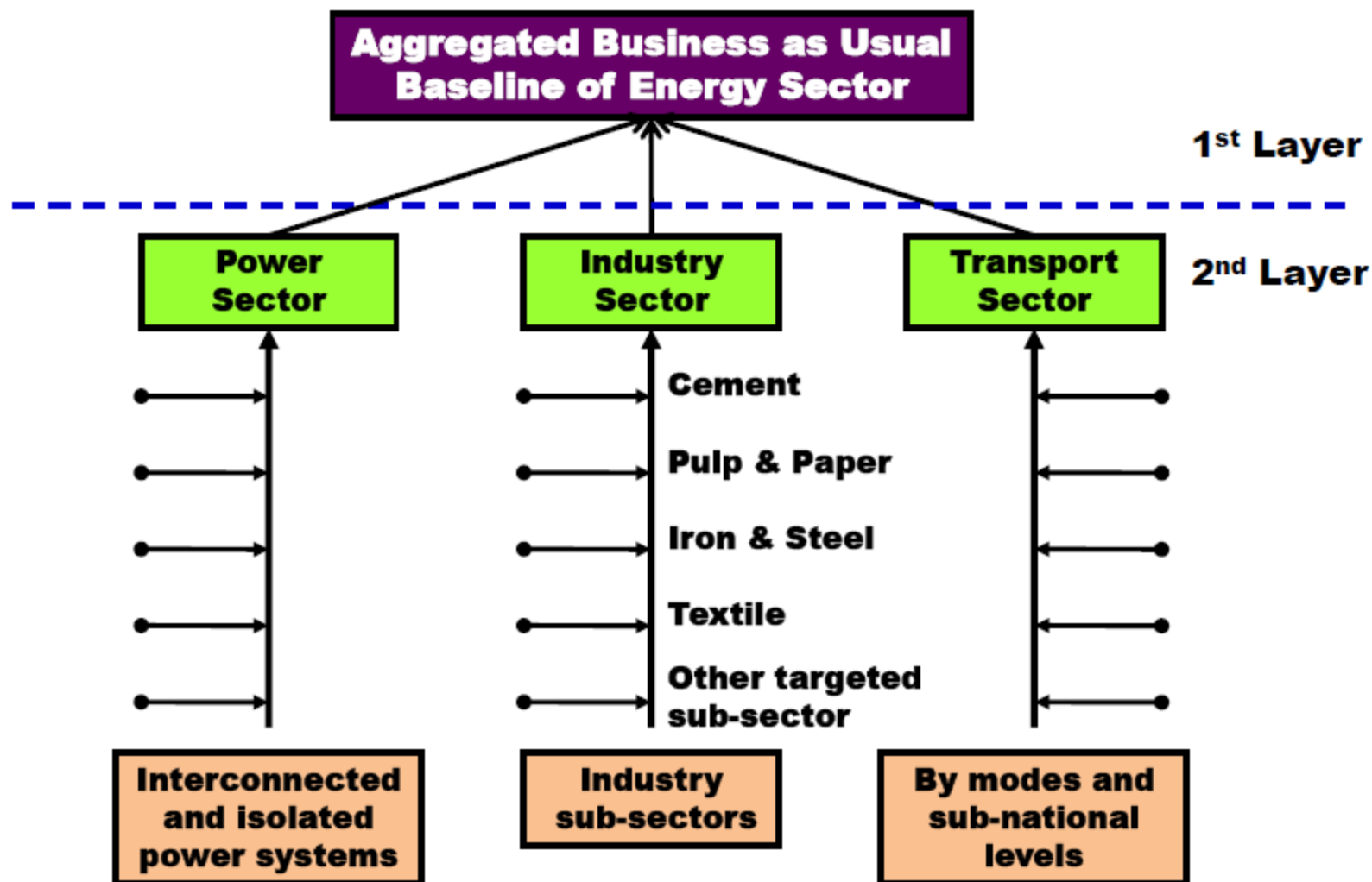
The top-down approach is suitably for studying the processes within the economy on the basis of observed historical characteristic. However under this approach, it needs to be pondered that possible discrepancy is difficult to prevent in which there will be possibility that a deviation will occur in further development of business as usual baseline at sub-sectors, or at sub-national levels which are derived from the aggregated business as usual baseline of associated sector (top-down process) which can be mainly caused by data inconsistency.







Required Processes to Establish Aggregated BAU Baseline of Energy Sector (Bottom-up Approach)



some important issues to be addressed in establishing NAMAs

- Establish aggregated business as usual baseline of sectors using sector's development plan and future evolution of activities without explicit new climate change policy intervention and action,
- Propose list of potential mitigation emission reduction actions of sectors in the order according to sector's cost effectiveness and level of implementability,
- Integrate sector's aggregated business as usual baseline to establish national business as usual baseline (aggregated),
- Construct list of national aggregated mitigation emission reduction actions based on national cost effectiveness and level of implementability,
- Establish NAMAs from the national aggregated mitigation emission reduction actions in meeting the national emission reduction target, and
- Linkage NAMAs to the UNFCCC level.

Table IV.1: Matrix of Domestically Supported NAMAs (Indonesia Case – 26% from BAU in 2020)

No	Sector	Mitigation Actions	Emissions Reduction		Mitigation Cost	Abatement Cost	Time Frame	
			[Mt CO ₂]	[%]	Cost [US\$]	[US\$/tCO ₂]	Required Completion Period [Years]	Operating Date
1	--aa--	---xxx---	xx,xxx,xx	-x-	x,xxx,xxx	xx.xx	xx	---zz---
2	--bb--	---xxx---	xx,xxx,xx	-x-	x,xxx.xxx	xx.xx	xx	---zz---
3	--aa--	---xxx---	xx,xxx,xx	-x-	x,xxx.xxx	xx.xx	xx	---zz---
4	--cc--	---xxx---	xx,xxx,xx	-x-	x,xxx.xxx	xx.xx	xx	---zz---
5	--aa--	---xxx---	xx,xxx,xx	-x-	x,xxx.xxx	xx.xx	xx	---zz---
6	--dd--	---xxx---	xx,xxx,xx	-x-	x,xxx.xxx	xx.xx	xx	---zz---
7	--ee--	---xxx---	xx,xxx,xx	-x-	x,xxx.xxx	xx.xx	xx	---zz---
n-1	--bb--	---xxx---	xx,xxx,xx	-x-	x,xxx.xxx	xx.xx	xx	---zz---
n	--aa--	---xxx---	xx,xxx,xx	-x-	x,xxx.xxx	xx.xx	xx	---zz---
TOTAL			xx,xxx,xx	26	x,xxx,xxx	xx.xx		

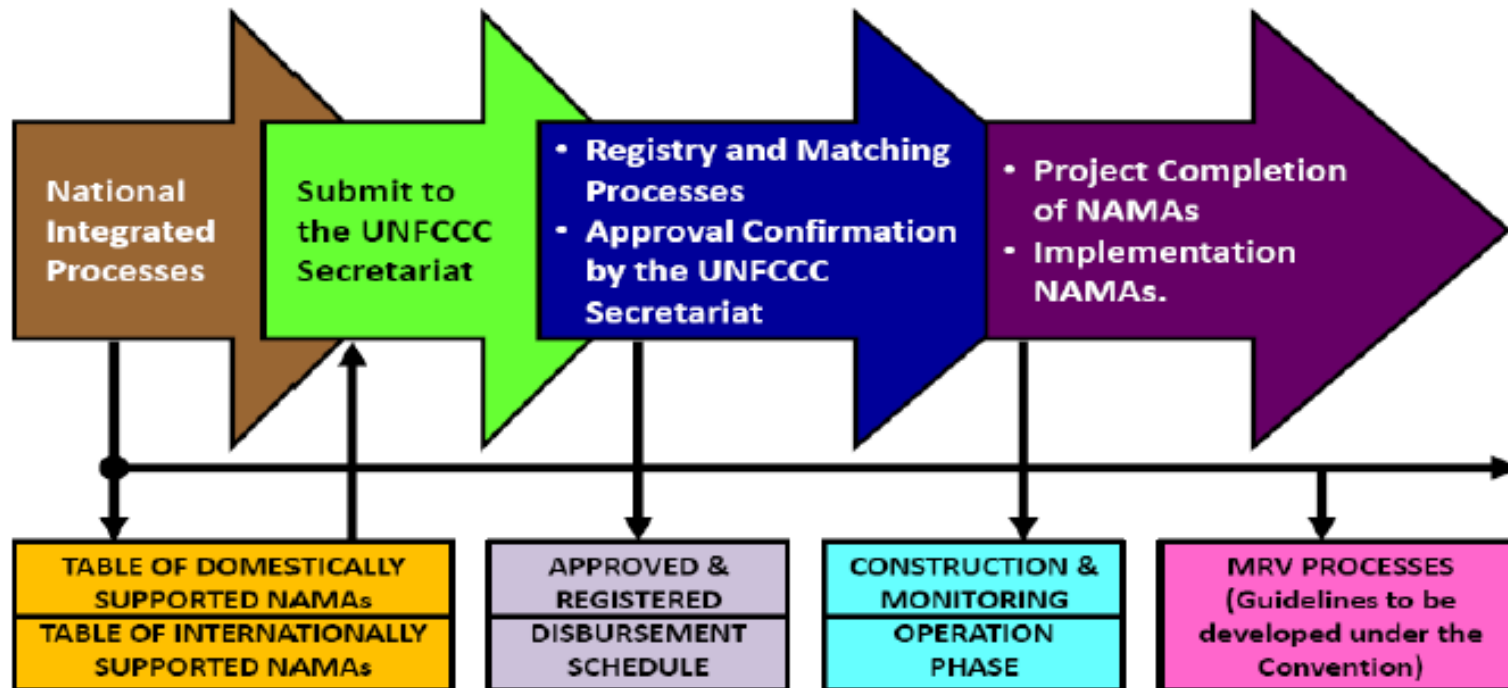
Table IV.2: Matrix of Internationally Supported NAMAs (Indonesia Case – Increase up to 41% from in 2020)

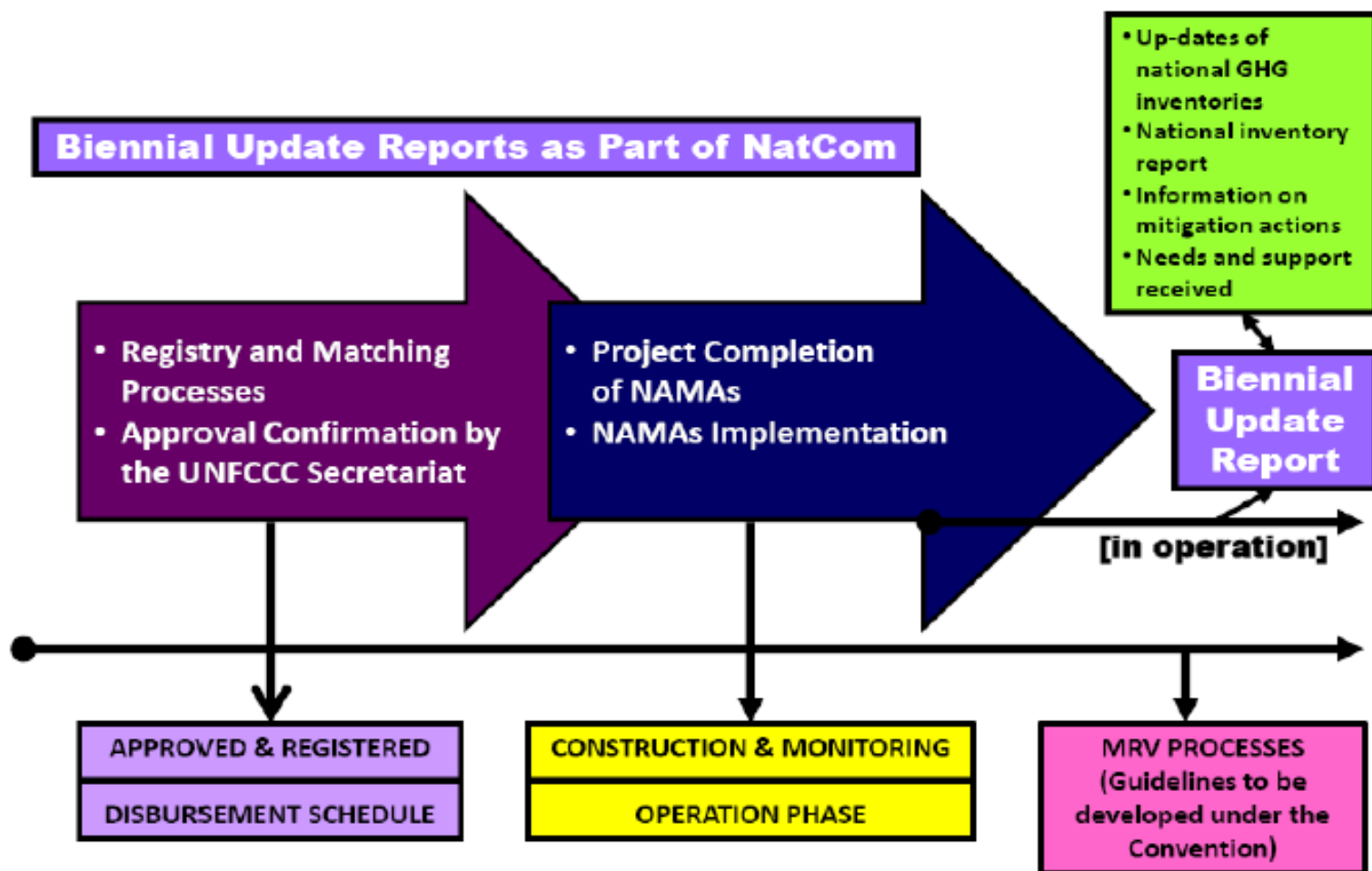
No	Sector	Mitigation Actions	Emissions Reduction		Mitigation Cost	Abatement Cost	Required Financing Support ^{*)}	Time Frame	
			[Mt CO ₂]	[%]	[US\$]	[US\$/tCO ₂]	[US\$]	Required Completion Period [Years]	Operating Date
1	--aa--	---xxx---	xx,xxx,xx	-x-	x,xxx.xx	xx.xx	x,xxx.xx	xx	---zz---
2	--bb--	---xxx---	xx,xxx,xx	-x-	x,xxx.xx	xx.xx	x,xxx.xx	xx	---zz---
3	--aa--	---xxx---	xx,xxx,xx	-x-	x,xxx.xx	xx.xx	x,xxx.xx	xx	---zz---
4	--cc--	---xxx---	xx,xxx,xx	-x-	x,xxx.xx	xx.xx	x,xxx.xx	xx	---zz---
5	--aa--	---xxx---	xx,xxx,xx	-x-	x,xxx.xx	xx.xx	x,xxx.xx	xx	---zz---
6	--dd--	---xxx---	xx,xxx,xx	-x-	x,xxx.xx	xx.xx	x,xxx.xx	xx	---zz---
7	--ee--	---xxx---	xx,xxx,xx	-x-	x,xxx.xx	xx.xx	x,xxx.xx	xx	---zz---
n-1	--bb--	---xxx---	xx,xxx,xx	-x-	x,xxx.xx	xx.xx	x,xxx.xx	xx	---zz---
n	--aa--	---xxx---	xx,xxx,xx	-x-	x,xxx.xx	xx.xx	x,xxx.xx	xx	---zz---
TOTAL			xx,xxx,xx	-y-	x,xxx.xx	xx.xx	x,xxx.xx		

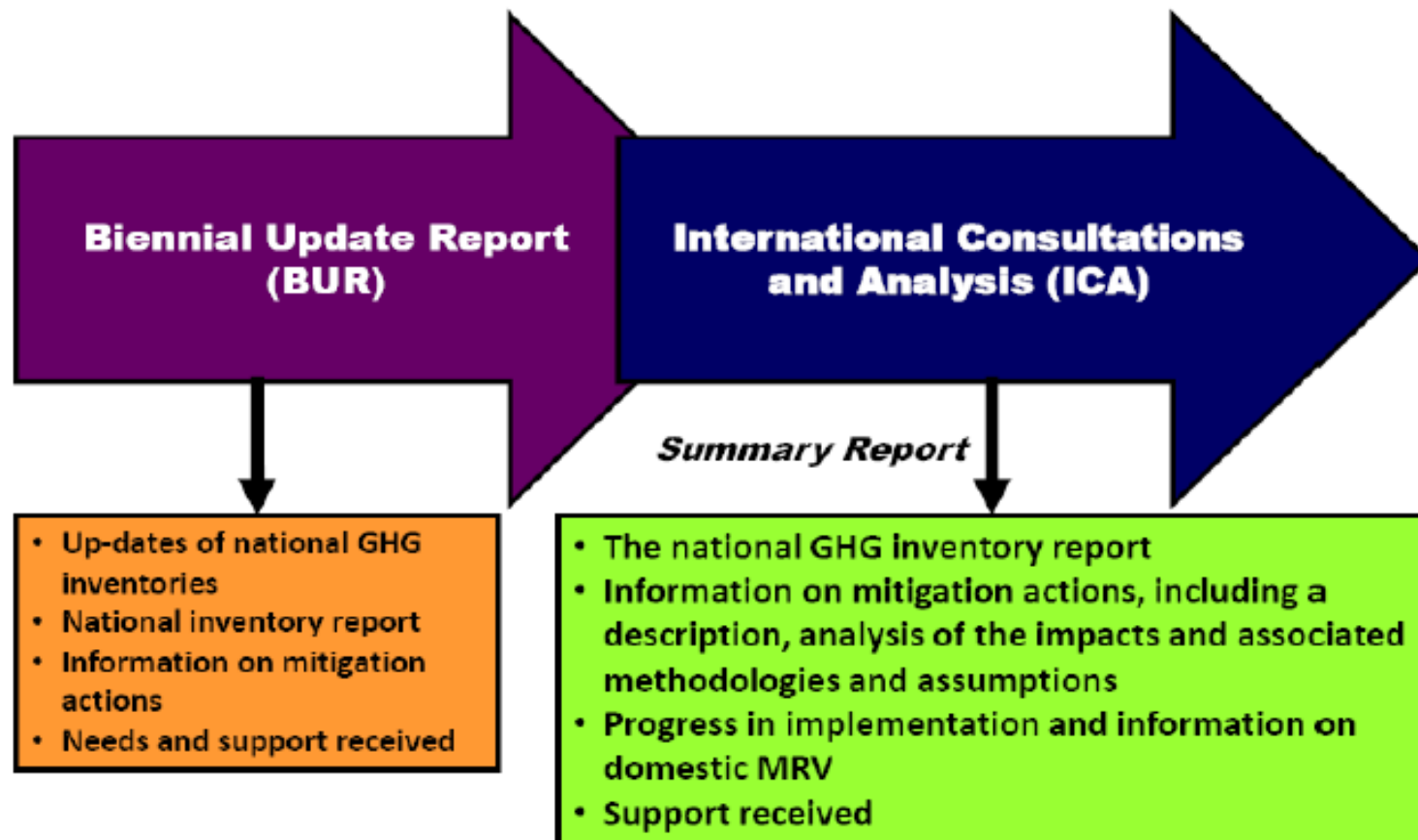
Note:

1. 26% + -y-% = 41%, which is deviation from the baseline in 2020

2. *) Submit to the UNFCCC Secretariat (support by Developed Country Parties)









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Perhatiannya*