



Close The Gap ?

PaSTI – FGD # 3, 7

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Ketua Komite Nasional Indonesia - World Energy Council (KNI-WEC)

Paris Agreement



Key Linkages

5 Year Cycle of NDC - Transparency Framework – Global Stocktake

5 Year Cycle of NDC as Strategic Review.

Successive NDC will represent a progression beyond the Party's current NDC and reflect its highest possible ambition, reflecting its CBDR-RC, in the light of different national circumstances (PA 4.3).

All Parties shall provide the information necessary for clarity, transparency and understanding in accordance with decision 1/CP.21 & any relevant decisions the CMA (PA 4.8)

Shall inform Parties in updating and enhancing, in a nationally determined manner, their actions and support.

All Parties should strive to formulate and communicate long-term low greenhouse gas emission development strategies, mindful of Article 2 taking into account their CBDR-RC, in the light of different national circumstances (PA 4.19).

Each Party shall regularly provide the following information: (a) A national inventory report of anthropogenic emissions by sources and removals by sinks GHG, prepared using good practice methodologies accepted by the IPCC & agreed upon by the CMA; (b) Information necessary to track progress made in implementing and achieving its NDC under Article 4 (Pa 13.7)

Every 5 Years the Global Stocktake.
The 1st GST in 2023.

Enhanced Transparency Framework for Action and Support.

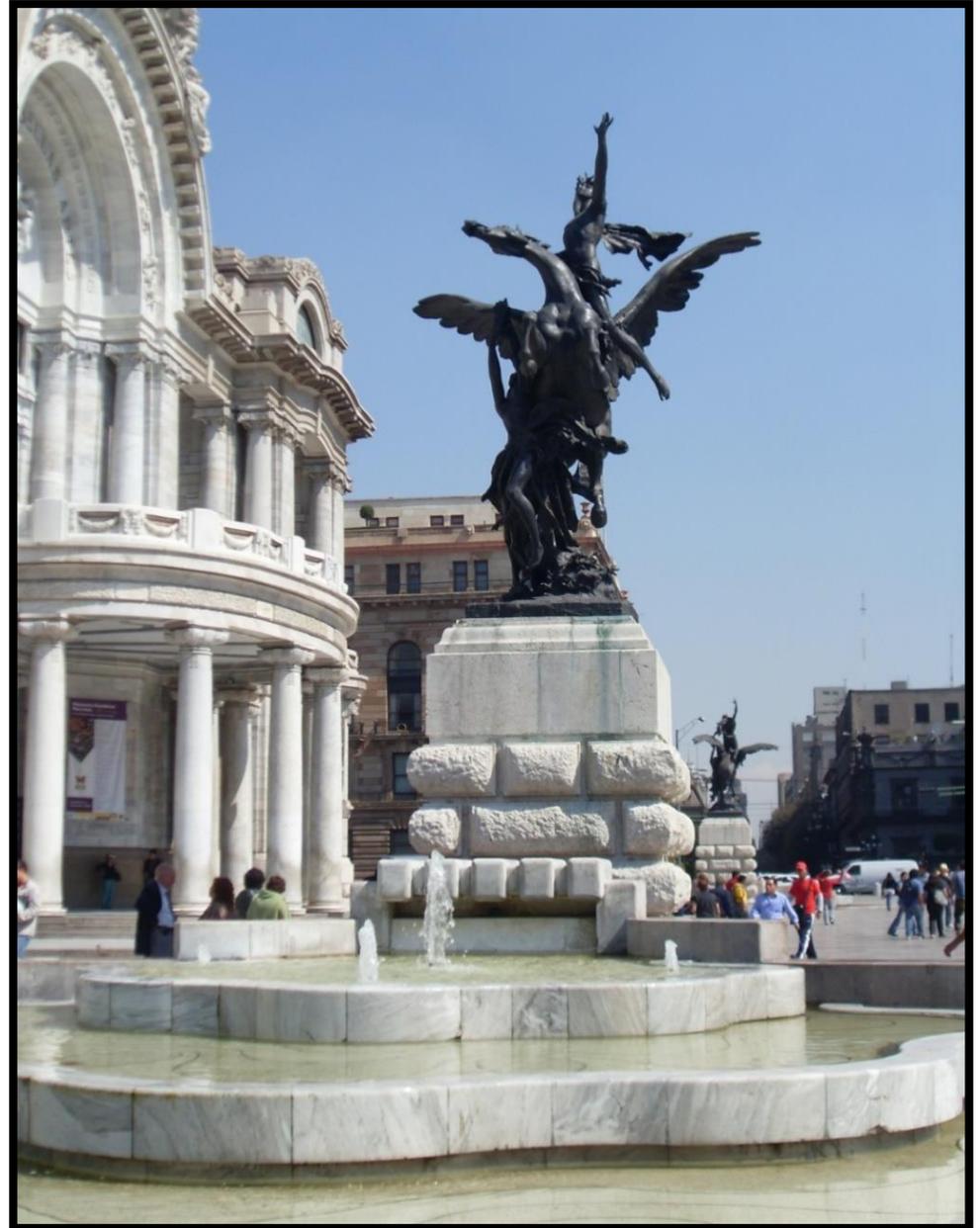
The purpose of the framework for transparency of action is to provide a clear understanding of climate change action in the light of the objective of the Convention as set out in its Article 2, including clarity and tracking of progress towards achieving Parties' individual nationally determined contributions under Article 4, and Parties' adaptation actions under Article 7, including good practices, priorities, needs and gaps, *to inform the global stocktake* under Article 14 (PA 13.5).

The purpose of the framework for transparency of support is to provide clarity on support provided and received by relevant individual Parties in the context of climate change actions under Articles 4, 7, 9, 10 and 11, and, to the extent possible, to provide a full overview of aggregate financial support provided, *to inform the global stocktake* under Article 14 (PA 13.6).

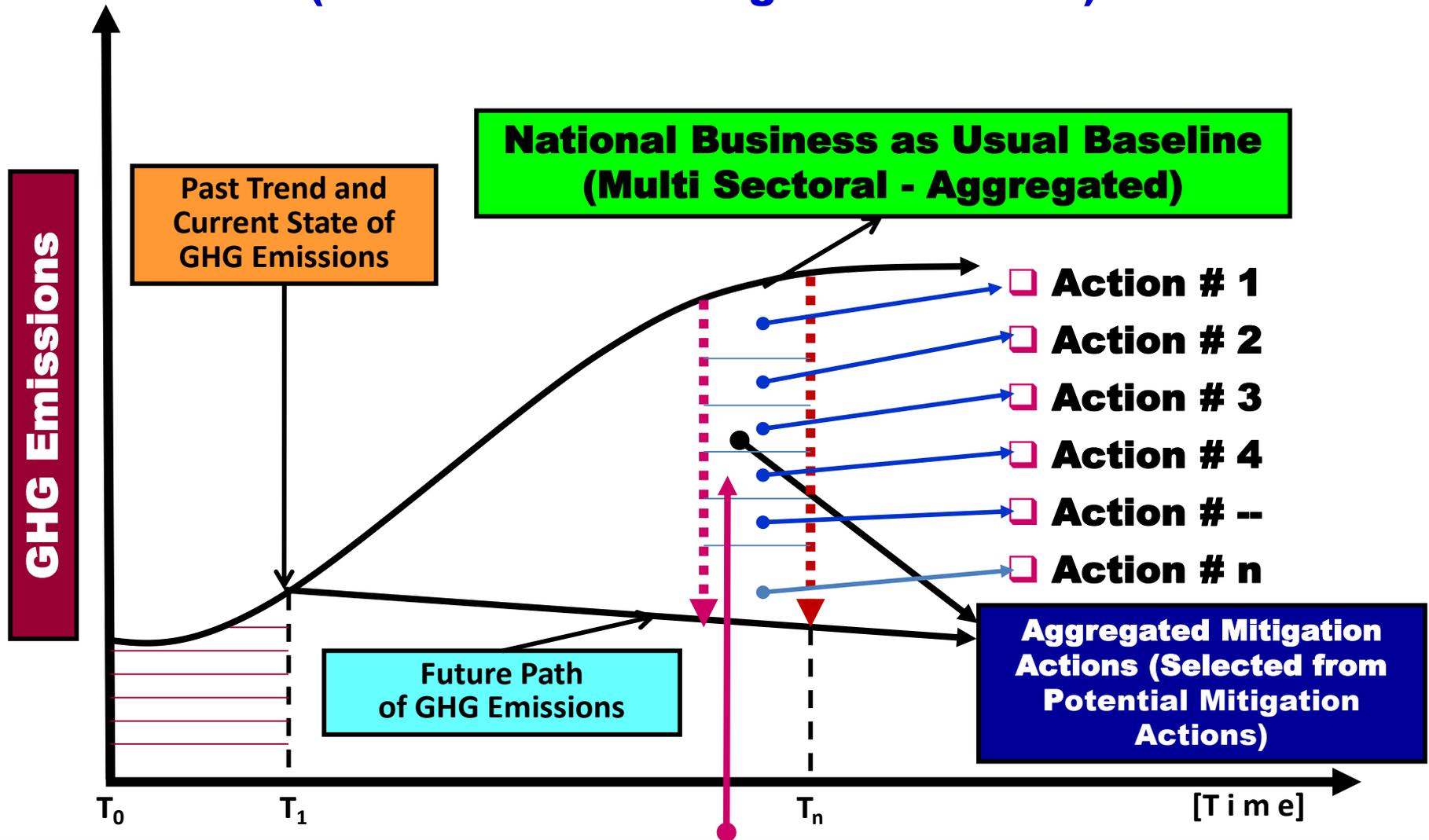
Inform the global stocktake

Linkages at National Level as Mitigation Actions

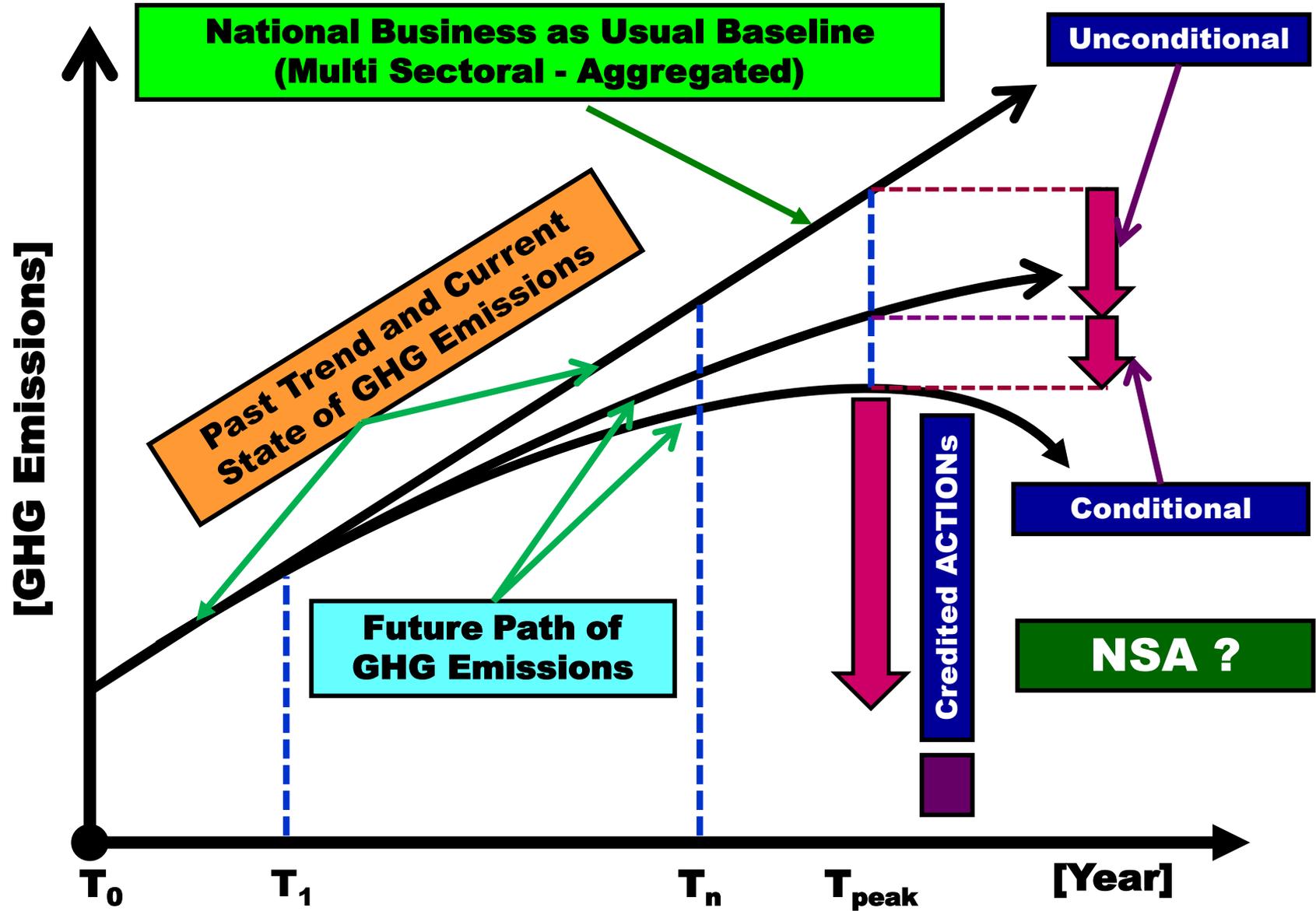
*Coordination and
Integration of
Climate Actions*



Future Path of GHG National Emissions Reduction (Multi Sectoral Mitigation Actions)

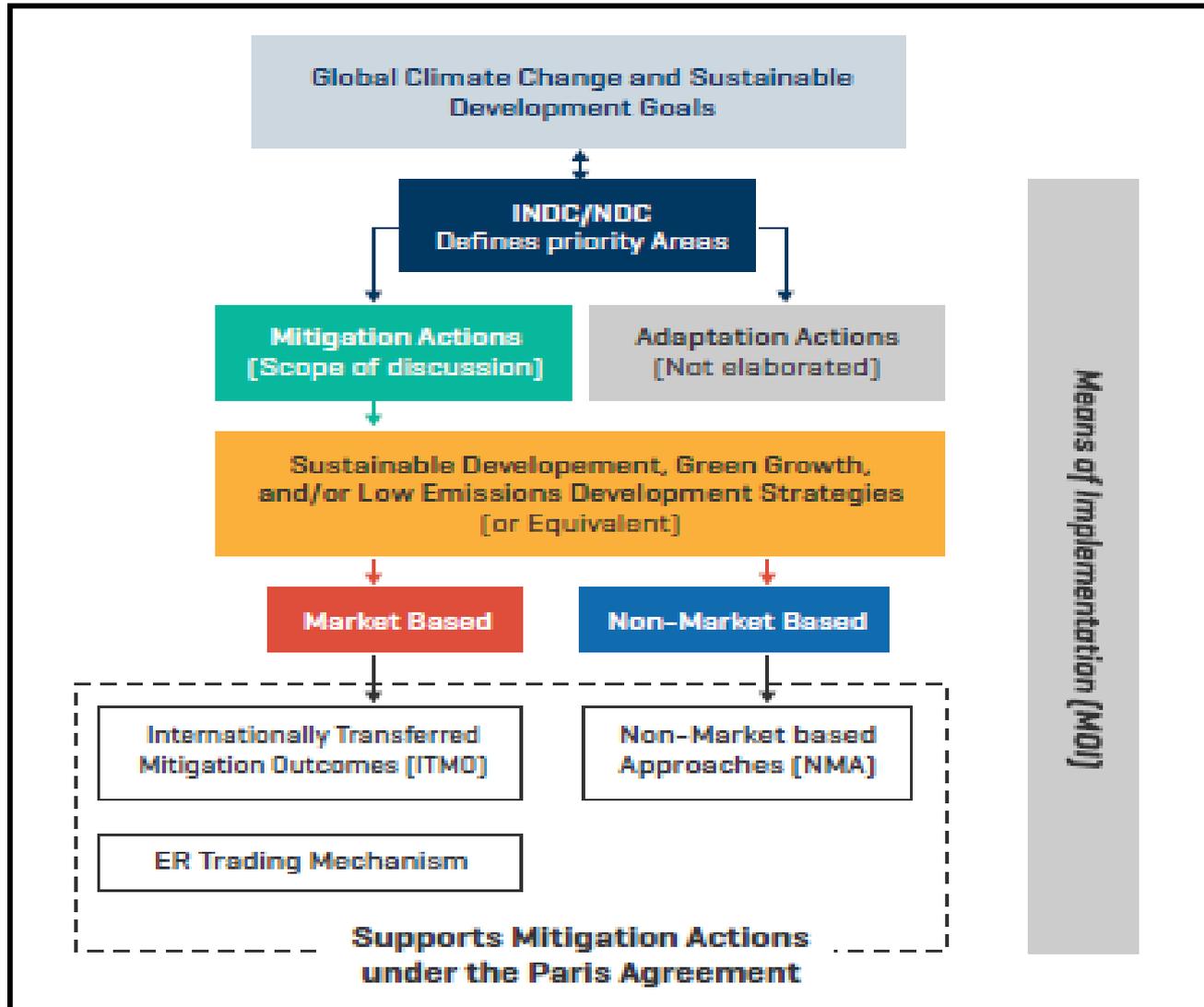


National integrated processes in meeting the national emission reduction target



Possible National Mitigation Actions Composition of Developing Country Parties

The 3 Mechanisms Under Article 6 of PA in The National Context



Source: Arindam Basu, Douglas Marett, James Marett, Marc Marr, “Operationalizing NDCs – Rethinking the Approach Mitigation Actions to ensure National Appropriateness”, GRUE + HORNSTRUP, Vol. 1 | 2017.



**FIRST NATIONALLY DETERMINED CONTRIBUTION
REPUBLIC OF INDONESIA**

November 2016

FIRST NATIONALLY DETERMINED CONTRIBUTION REPUBLIC OF INDONESIA

Projected BAU & Emission Reduction from Each Sector Category

No	Sector	GHG Emission Level 2010* M Ton CO ₂ e	GHG Emission Level 2030 (M Ton CO ₂ e)			GHG Emission Reduction (M Ton CO ₂ e)				Annual Average Growth BAU (2010-2030)	Average Growth 2000-2012*
			BaU	CM1	CM2	% of Total BaU					
		CM1				CM2	CM1	CM2			
1	Energy*	453.2	1,669	1,355	1,271	314	398	11%	14%	6.7%	4.50%
2	Waste	88	296	285	270	11	26	0.38%	1%	6.3%	4.00%
3	IPPU	36	69.6	66.85	66.35	2.75	3.25	0.10%	0.11%	3.4%	0.10%
4	Agriculture	110.5	119.66	110.39	115.86	9	4	0.32%	0.13%	0.4%	1.30%
5	Forestry**	647	714	217	64	497	650	17.2%	23%	0.5%	2.70%
TOTAL		1,334	2,869	2,034	1,787	834	1,081	29%	38%	3.9%	3.20%

* Including fugitive

**Including peat fire

Notes: **CM1** = Counter Measure (*unconditional mitigation scenario*)

CM2 = Counter Measure (*conditional mitigation scenario*)

NDC Pertama Republik Indonesia - Sektor Energi

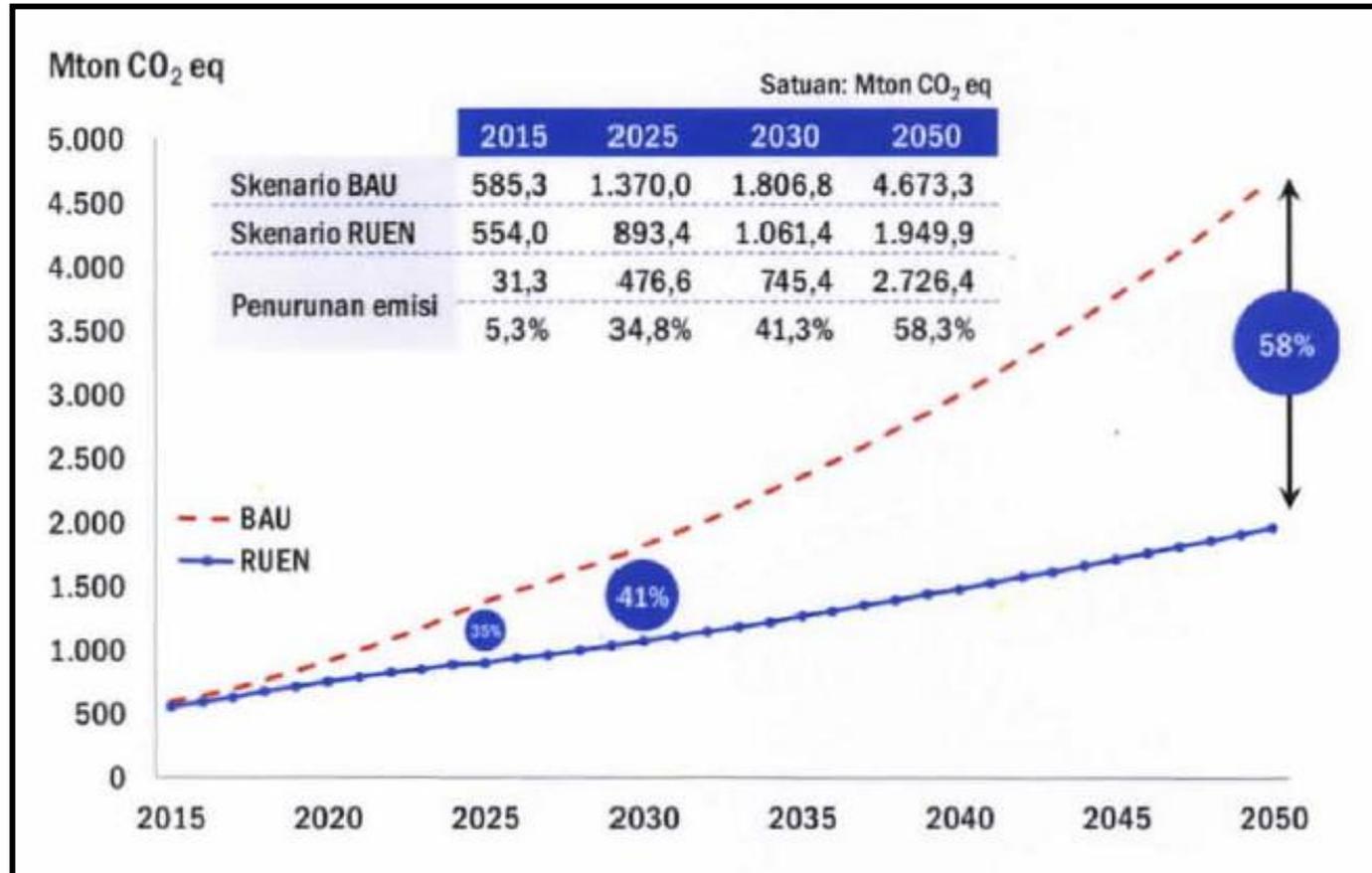
SEKTOR : ENERGI			
	BAU	Skenario Mitigasi 1 (CM 1)	Skenario Mitigasi 2 (CM 2)
1. Efisiensi konsumsi energi final	Konsumsi energi final tidak efisien		
2. Penerapan teknologi CCT (<i>clean coal technology</i>) di pembangkit listrik	0%	75%	100%
3. Penggunaan energi baru terbarukan pada pembangkit listrik	Pembangkit Listrik menggunakan batubara	19.6% (Committed 7,4 GW berdasarkan RUPTL)*	Produksi Listrik 132,74 TWh*
4. Penggunaan bahan bakar nabati-BBN (<i>Mandatory B30</i>) di sektor transportasi	0%	90%	100%
5. Penambahan jaringan gas (Jargas)	0%	100%	100%
6. Penambahan Stasiun pengisian Bahan Bakar Gas (SPBG)	0%	100%	100%

* 132,74 TWh adalah setara dengan 21,65 GW

Note: Asumsi yang Dipergunakan dalam Proyeksi BAU dan Reduksi Emisi GRK (reduksi unconditional / CM1 dan conditional / CM2) untuk seluruh kategori Sektor (Energi, Limbah, IPPU, Pertanian dan Kehutanan).

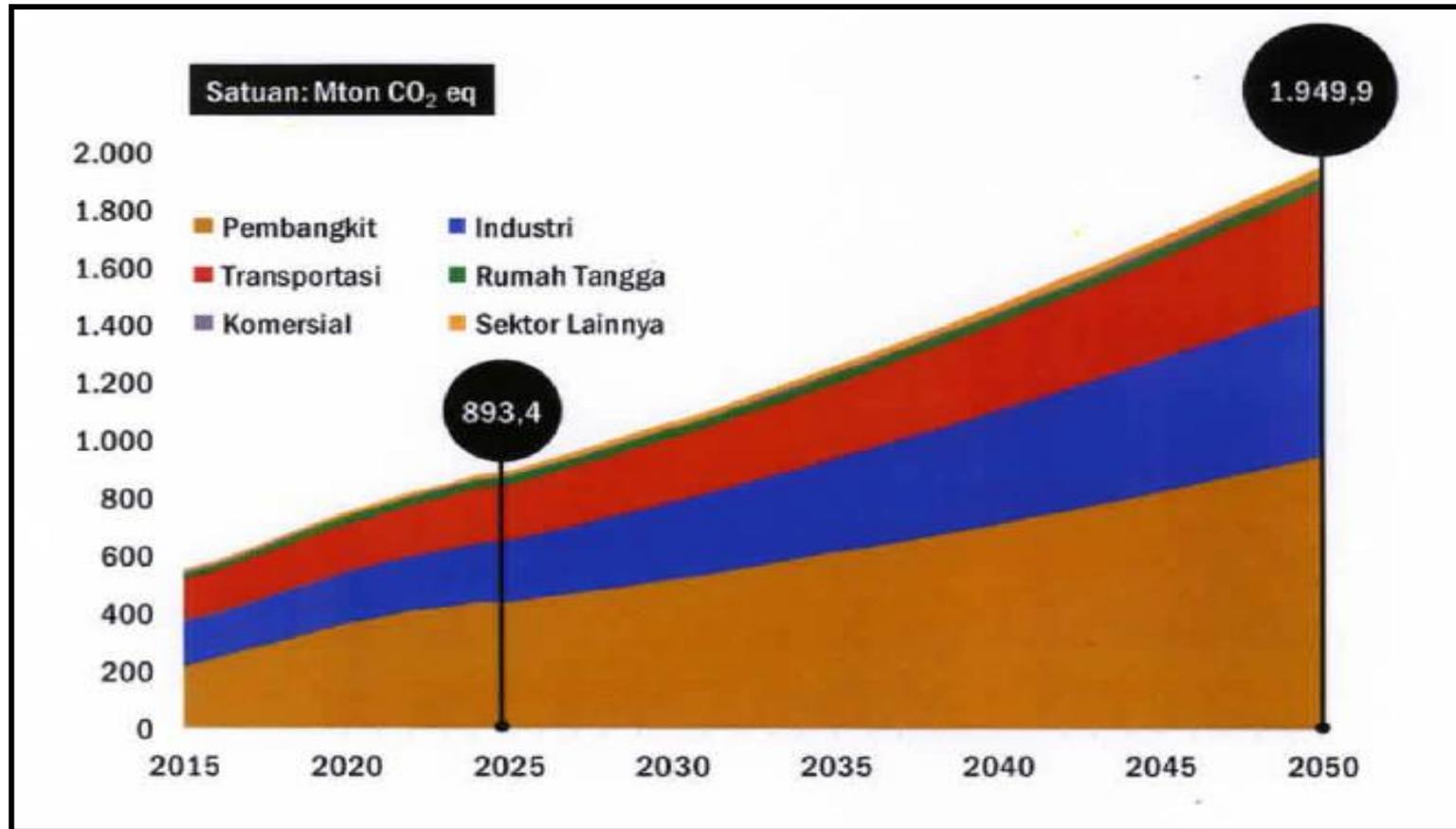
Penurunan Emisi GRK Tahun 2015-2050

Sebagaimana yang dinyatakan pada RUEN yang terbaru, penurunan emisi GRK dalam RUEN sudah sejalan dengan *Nationally Determined Contribution (NDC)* Indonesia sebesar 29% pada tahun 2030 yang merupakan bagian dari komitmen Indonesia untuk turut mendukung upaya pengendalian peningkatan suhu global rata-rata di bawah 2°C.



Penurunan emisi GRK disebabkan oleh empat faktor: (1). Diversifikasi energi, dengan meningkatkan porsi energi terbarukan dan mengurangi porsi energi fosil; (2). Pemanfaatan teknologi batubara bersih (clean coal technology) untuk pembangkitan tenaga listrik; (3). Substitusi penggunaan energi dari BBM ke gas bumi; dan (4). Pelaksanaan program konservasi energi pada tahun-tahun mendatang. Penurunan emisi GRK dalam RUEN sudah sejalan dengan *Nationally Determined Contribution (NDC)* Indonesia sebesar 29% pada tahun 2030 yang merupakan bagian dari komitmen Indonesia untuk turut mendukung upaya pengendalian peningkatan suhu global rata-rata di bawah 2°C.

Emisi GRK Tahun 2015-2050



Sektor pembangkit listrik diproyeksikan akan menjadi penyumbang emisi terbesar, diikuti oleh sektor industri dan sektor transportasi. Proyeksi emisi GRK pada tahun 2025 sebesar 893 juta ton CO_{2eq} dan tahun 2050 sebesar 1,950 juta ton CO_{2eq}, sebagaimana dapat dilihat pada gambar diatas.

Hasil pemodelan pencapaian sasaran KEN akan memberikan dampak penurunan GRK secara signifikan apabila dibandingkan dengan *Business as Usual* (BAU). Penurunan emisi GRK tahun 2025 sebesar 34,8% dan pada tahun 2050 sebesar 58,3%, sebagaimana dapat dilihat pada slide berikutnya.

SINGAPORE'S INTENDED NATIONALLY DETERMINED CONTRIBUTION (INDC)

In accordance with Decisions 1/CP.19 and 1/CP.20, Singapore communicates that it intends to reduce its Emissions Intensity by 36% from 2005 levels by 2030, and **stabilise its emissions with the aim of peaking around 2030.**

Singapore's Efforts. While Singapore is heavily dependent on fossil fuels, given its severe limitations on using alternative energy, Singapore had made early policy choices **to reduce its GHG footprint by switching from fuel oil to natural gas, the cleanest form of fossil fuel, for electricity generation, even though it meant higher cost.** Today, over 90% of electricity is generated from natural gas. Singapore prices energy at market cost, without any subsidy, to reflect resource scarcity and promote judicious usage. **On top of this, and despite the challenges, the government is significantly increasing the deployment of solar photovoltaic (PV) systems.**



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INTERGOVERNMENTAL PANEL ON climate change
Working Group III – Mitigation of Climate Change

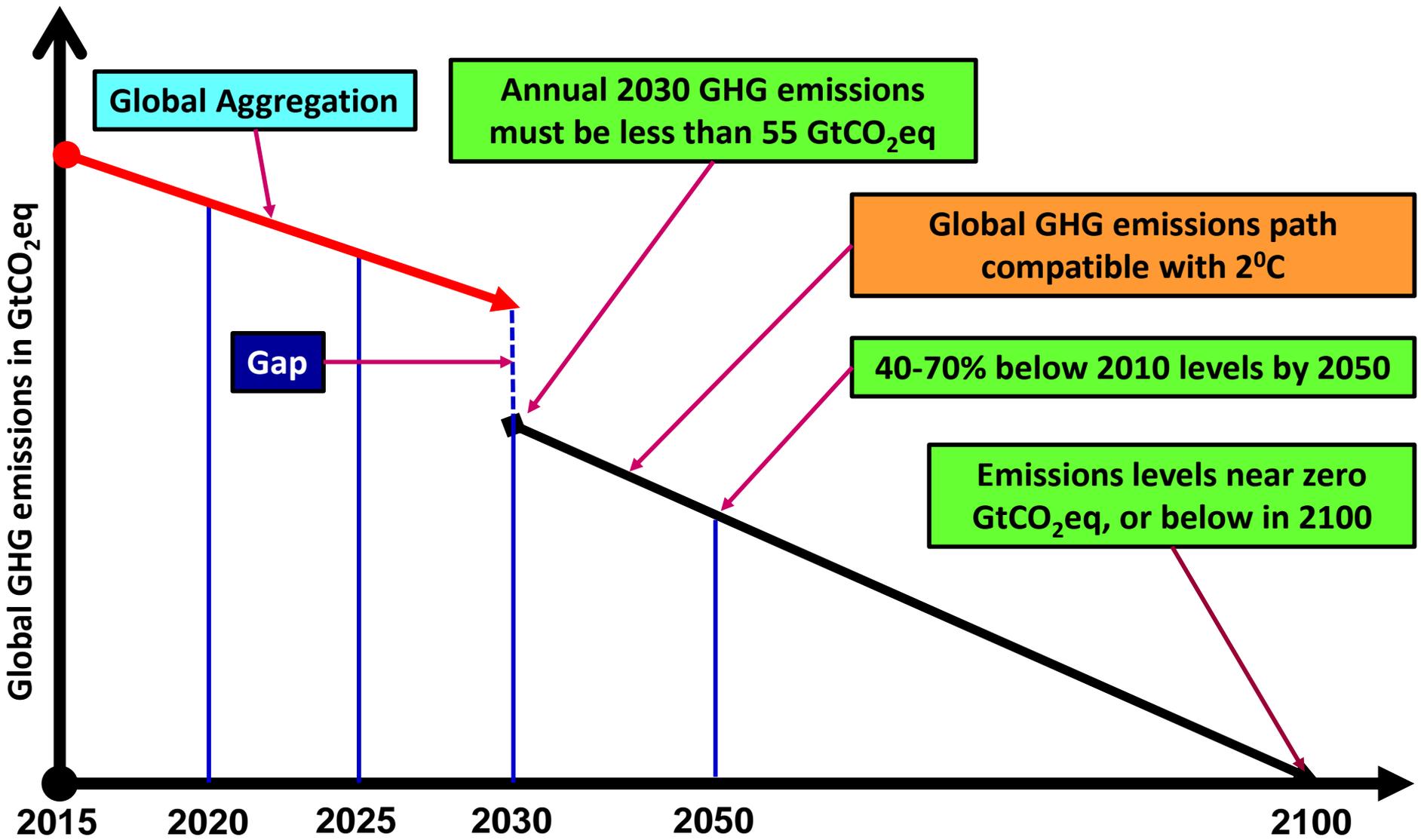
Summary for Policymakers

SPM.4 - Mitigation Pathways and Measures in the Context of Sustainable Development

Scenarios reaching atmospheric concentration levels of about 450 ppm CO₂eq by 2100 (consistent with a likely chance to keep temperature change below 2°C relative to pre-industrial levels) include substantial cuts in anthropogenic GHG emissions by mid-century through large-scale changes in energy systems and potentially land use (high confidence).

Scenarios reaching these concentrations by 2100 are characterized by lower global GHG emissions in 2050 than in 2010, 40 % to 70 % lower globally, and emissions levels near zero Gt CO₂eq or below in 2100.

- ❑ **Delaying mitigation efforts beyond those in place today through 2030 is estimated to substantially increase the difficulty of the transition to low longer-term emissions levels and narrow the range of options consistent with maintaining temperature change below 2°C relative to pre-industrial levels (high confidence).**
- ❑ **Cost-effective mitigation scenarios that make it at least as likely as not that temperature change will remain below 2°C relative to pre-industrial levels (2100 concentrations between about 450 and 500 ppm CO₂eq) are typically characterized by annual GHG emissions in 2030 of roughly between 30 Gt CO₂eq and 50 Gt CO₂eq.**
- ❑ **Scenarios with annual GHG emissions above 55 GtCO₂eq in 2030 are characterized by substantially higher rates of emissions reductions from 2030 to 2050; much more rapid scale-up of low-carbon energy over this period; a larger reliance on Carbon Dioxide Removal (CDR) technologies in the long-term; and higher transitional and long-term economic impacts.**
- ❑ **Due to these increased mitigation challenges, many models with annual 2030 GHG emissions higher than 55 GtCO₂eq could not produce scenarios reaching atmospheric concentration levels that make it as likely as not that temperature change will remain below 2°C relative to pre-industrial levels.**



- 1) Strongly Required: Pre-2020 and Post-2020 actions reinforce each other and in the same direction of higher ambition.
- 2) Scenarios that follow a least-cost emission trajectory from 2010 onwards (so-called P1 scenarios) with a greater than 66 per cent likelihood of temperature rise staying below 2 °C correspond to 44.3 (38.2–46.6) Gt CO₂eq emissions in 2025 and 42.7 (38.3–43.6) Gt CO₂eq emissions in 2030.

2018/24/PR

IPCC PRESS RELEASE

8 October 2018

Summary for Policymakers of IPCC Special Report on Global Warming of 1.5°C approved by governments

The report finds that limiting global warming to 1.5°C would require “rapid and far-reaching” transitions in land, energy, industry, buildings, transport, and cities. Global net human-caused emissions of carbon dioxide (CO₂) would need to fall by about 45 percent from 2010 levels by 2030, reaching ‘net zero’ around 2050. This means that any remaining emissions would need to be balanced by removing CO₂ from the air.

Trends in Atmospheric Carbon Dioxide

- **Recent Global Monthly Mean CO₂**
- **Recent Monthly Mean CO₂ at Mauna Loa**

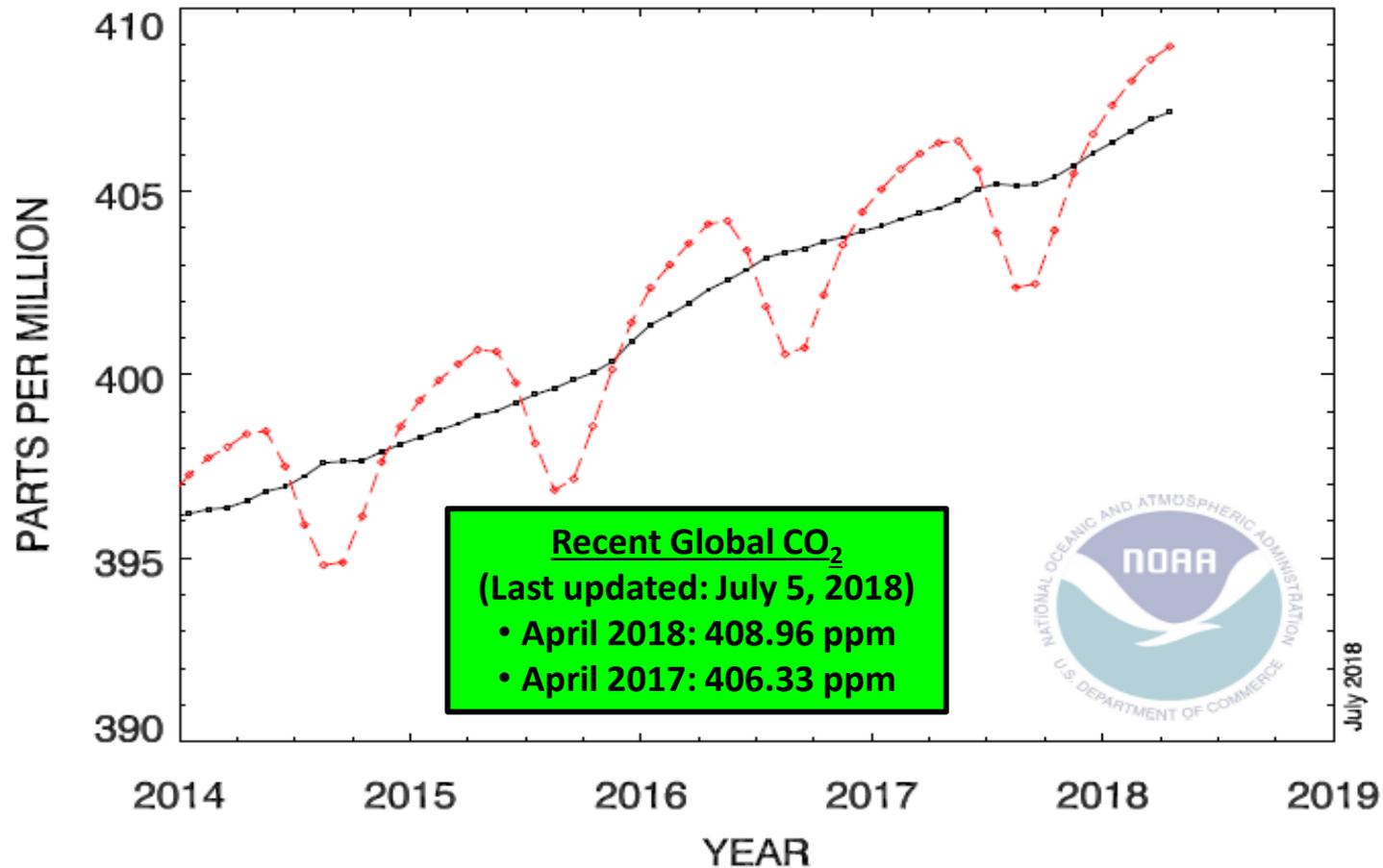
**Earth System Research Laboratory (<https://www.esrl.noaa.gov>)
Global Monitoring Division (/gmd/)**

Characteristic of Post - Third Assessment Report Stabilization Scenarios

Category	CO ₂ concentration at stabilization (2005 = 379 ppm) ^(a)	CO ₂ -equivalent Concentration at stabilization including GHGs and aerosols (2005 = 375 ppm) ^(a)	Peaking year for CO ₂ emissions ^(a, c)	Change in global CO ₂ emissions in 2050 (% of 2000 emissions) ^(a, c)	Global average temperature increase above pre-industrial at equilibrium, using "best estimate" climate sensitivity ^(a, b)	Global average sea level rise above pre-industrial at equilibrium from thermal expansion only ^(f)	Number of assessed scenarios
	ppm	ppm	Year	Percent	°C	metres	
I	350 – 400	445 – 490	2000 – 2015	-85 to -50	2.0 – 2.4	0.4 – 1.4	6
II	400 – 440	490 – 535	2000 – 2020	-60 to -30	2.4 – 2.8	0.5 – 1.7	18
III	440 – 485	535 – 590	2010 – 2030	-30 to +5	2.8 – 3.2	0.6 – 1.9	21
IV	485 – 570	590 – 710	2020 – 2060	+10 to +60	3.2 – 4.0	0.6 – 2.4	118
V	570 – 660	710 – 855	2050 – 2080	+25 to +85	4.0 – 4.9	0.8 – 2.9	9
VI	660 – 790	855 – 1130	2060 – 2090	+90 to +140	4.9 – 6.1	1.0 – 3.7	5

- Sea level rise under warming is inevitable
- Long time scales of thermal expansion & ice sheet response to warming imply that stabilisation of GHG concentrations at or above present levels will not stabilise sea level for many centuries

RECENT GLOBAL MONTHLY MEAN CO₂



The graph shows *recent monthly mean carbon dioxide globally averaged over marine surface sites*. The Global Monitoring Division of NOAA/Earth System Research Laboratory has measured carbon dioxide and other greenhouse gases for several decades at a globally distributed network of air sampling sites [Conway, 1994]. A global average is constructed by first fitting a smoothed curve as a function of time to each site, and then the smoothed value for each site is plotted as a function of latitude for 48 equal time steps per year. A global average is calculated from the latitude plot at each time step [Masarie, 1995].

Go here for more details on how global means are calculated. ([/gmd/ccgg/about/global_means.html](http://gmd/ccgg/about/global_means.html))

2 Degree Celsius is Attainable?



Cancun Beach, 8 December 2010

**Aggregate Effect of the Intended Nationally Determined
Contributions: An Update**

Synthesis Report by the UNFCCC Secretariat

FCCC/CP/2016/2 – 2 May 2016

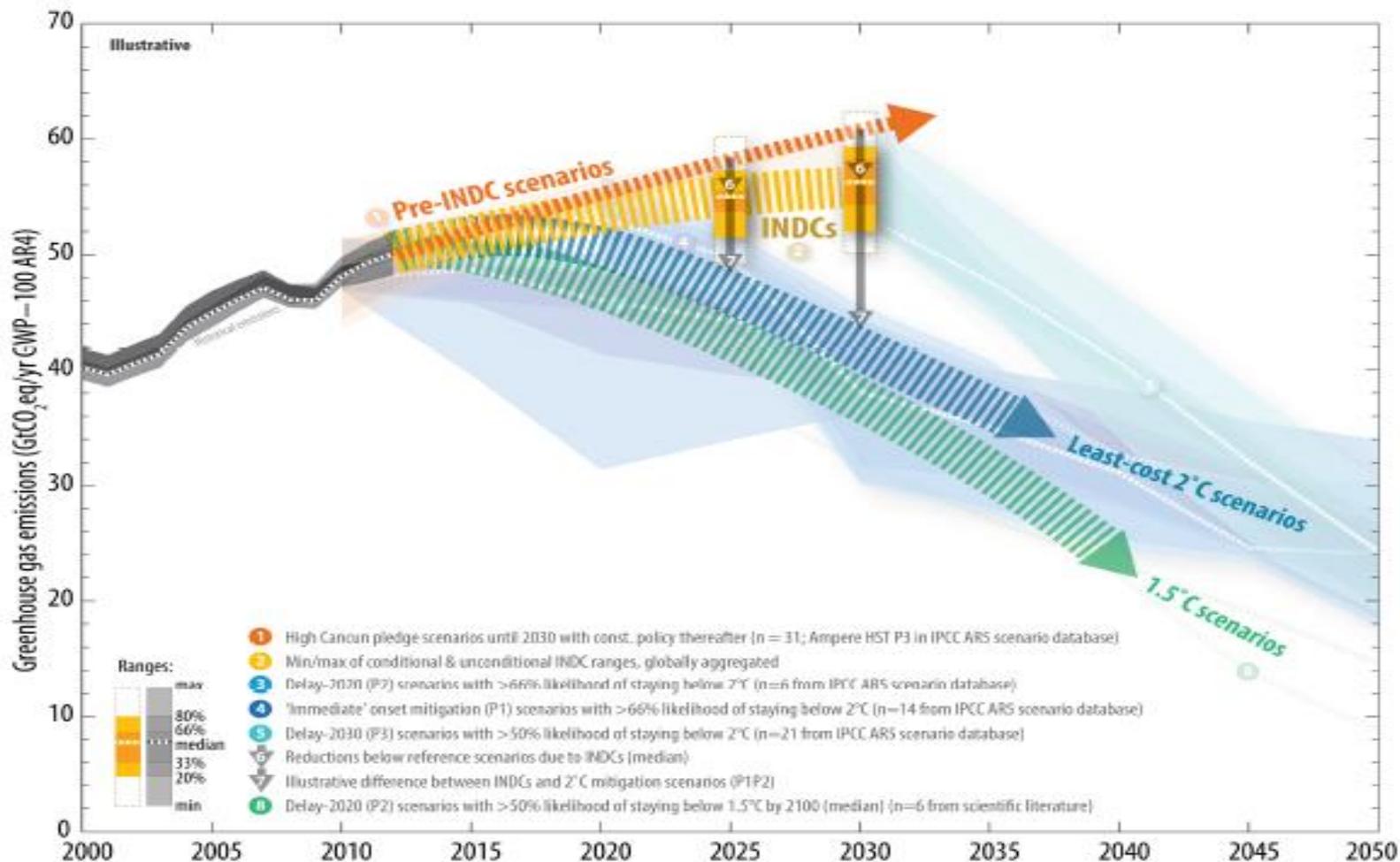
Aggregate Effect of the INDC: An Update

Synthesis report by the Secretariat - FCCC/CP/2016/2

Report - 02 May 2016

- ❖ **The UN Climate Change Secretariat has published an update to its synthesis report on the collective impact of national climate action plans (Intended Nationally Determined Contributions, or INDCs), submitted by governments as contributions to global climate action under the Paris Agreement.**
- ❖ **Since the publication last October of the 1st synthesis report prepared ahead of the Paris Climate Change Conference, 42 additional countries submitted their INDCs. The updated report now captures the overall impact of 161 national climate plans covering 189 countries and covering 95.7% of total global emissions. (The European Union and its 28 member States submit a joint INDC.)**
- ❖ **There are 137 of the 161 INDCs (85%) which include an adaptation component, reflecting a common determination of governments to strengthen national adaptation efforts.**
- ❖ **INDCs are expected to deliver sizeable emission reductions and slow down emissions growth in the coming decade. However, these are still not enough to keep the global temperature rise since pre-industrial times to below 2, or preferably 1.5 degrees Celsius.**

Comparison of Global Emission Levels in 2025 and 2030 Resulting from the Implementation of the INDC and under Other Scenarios



Sources: Intergovernmental Panel on Climate Change (IPCC) Fifth Assessment Report scenario database, 1.5 °C scenarios from scientific literature (see footnote 18), IPCC historical emission database and intended nationally determined contribution.

Abbreviations: AR4 = Fourth Assessment Report of the Intergovernmental Panel on Climate Change, GWP = global warming potential, INDC = intended nationally determined contribution, IPCC AR5 = Fifth Assessment Report of the Intergovernmental Panel on Climate Change, n = number of scenarios, yr = year.

Aggregate Effect of the INDC: An Update

Synthesis report by the Secretariat - FCCC/CP/2016/2

Paragraph 41

41. The estimated aggregate annual global emission levels resulting from the implementation of the INDCs do not fall within the scope of least-cost 2 °C scenarios by 2025 and 2030 (see figure 2). However, by lowering emissions below pre-INDC trajectories, the INDCs contribute to lowering the expected temperature levels until 2100 and beyond. Such temperature levels strongly depend on assumptions of socioeconomic drivers, technology development and actions undertaken by Parties beyond the time frames stated in their INDCs (e.g. beyond 2025 and 2030). Making such assumptions is beyond the scope of this document and, therefore, the aggregate effect of the INDCs on the global average temperature rise is not provided herein.

Paragraph 42

42. If Parties do not enhance mitigation action until 2030 beyond the action envisaged in their INDCs, the possibility of keeping global average temperature increase below 2 °C still remains. However, the scenarios in the AR5 indicate that this could be achieved only at substantially higher annual emission reduction rates and cost compared with the least-cost scenarios that start today or in 2020. Therefore, much greater emission reduction efforts than those associated with the INDCs will be required in the period after 2025 and 2030 to hold the temperature rise below 2 °C above pre-industrial levels.



UN 
environment

United Nations
Environment Programme

Emission Gap Report 2018

Key Messages

How are we doing?

The definitive measurement of global emissions

1. Current national commitments on emission reduction are not sufficient to bridge the emissions gap in 2030. Technically, it is still possible to ensure global warming stays well below 2°C and 1.5°C, but if countries do not scale up their ambitions before 2030, exceeding the 1.5°C goal can no longer be avoided.

Now more than ever, unprecedented and urgent action is required by all nations. The assessment of actions by the G20 countries indicates that this kind of action is yet to happen; in fact, global CO₂ emissions increased in 2017 after three years of stagnation.

- This year's report presents the latest assessment of global emission levels under full implementation of countries' emissions pledges (or NDCs), and those consistent with least-cost pathways to stay below 2°C and 1.5°C respectively.
- The emissions gap has increased significantly in comparison with previous estimates - — especially with regards to the goal to stay below 1.5°C warming. New studies make more cautious assumptions about the possibilities of removing carbon dioxide on a global scale.
- Projections reflecting current nation emission efforts and ambitions imply that if nothing changes, the world will see global warming of about 3°C by 2100, with warming continuing afterwards. If the emissions gap is not closed by 2030, it is very plausible that the goal of a well-below 2°C temperature increase will not be reached.

- 2. Global greenhouse gas emissions show no signs of peaking. Global CO₂ emissions from energy and industry increased in 2017, following a three year period of stabilization.** Total annual greenhouse gases emissions, including from land-use change, reached a record high of 53.5 GtCO₂e in 2017, an increase of 0.7 GtCO₂e compared with 2016. In contrast, global GHG emissions in 2030 need to be approximately 25 percent and 55 percent lower than in 2017 to put the world on a least-cost pathway to limiting global warming to 2oC and 1.5oC respectively.
- In 2017 greenhouse gas emissions (GHG) - excluding emissions from land-use change - reached a record 49.2 GtCO₂e. This is an increase of 1.1 percent compared to the previous year.
 - Despite modest growth in the world economy, CO₂ emissions remained relatively stable from 2014 to 2016, indicating that global GHG emissions might show signs of peaking. However, preliminary estimates of global CO₂ emissions from fossil fuels, industry and cement for 2017 suggest an increase of 1.2 percent.
 - The main drivers of the increase are higher gross domestic product (GDP) growth (about 3.7 percent) and slower declines in energy, and especially carbon, intensity, compared with the 2014–2016 period.
 - The 2017 increase leaves considerable uncertainty as to whether the 2014–2016 slowdown was driven primarily by short-term economic factors.

What needs to happen?

New insight into the most effective climate actions to reduce the emissions gap

3. The projected gap in 2030 between emission levels under full implementation of conditional National Determined Contributions and those consistent with least-cost pathways to the 2°C target is 13 GtCO₂e.

If only the unconditional NDCs are implemented, the gap increases to 15 GtCO₂e. The gap in the case of the 1.5°C target is 29 GtCO₂e and 32 GtCO₂e respectively. This emissions gap has is showing an increase compared with the 2017 report: this is a result of expanded and more diverse literature on these 1.5°C and 2°C pathways, as prepared for the IPCC Special Report.

Who is doing it?

The latest assessment of Nationally Determined Contributions.

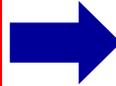
4. In order to achieve the temperature goals of the Paris Agreement, countries need to strengthen the ambition of their Nationally Determined Contributions and increase the effectiveness of domestic policy. To bridge the 2030 emissions gap and ensure long-term decarbonization, countries must also enhance their mitigation ambitions. By scaling up the ambition in their NDCs, nations send an important signal regarding mitigation commitments, both internationally and domestically. However, to translate mitigation ambition into action, it is the domestic policies that are crucial.

Expanding climate action:

The untapped emissions reduction potential from the private sector and sub-national level

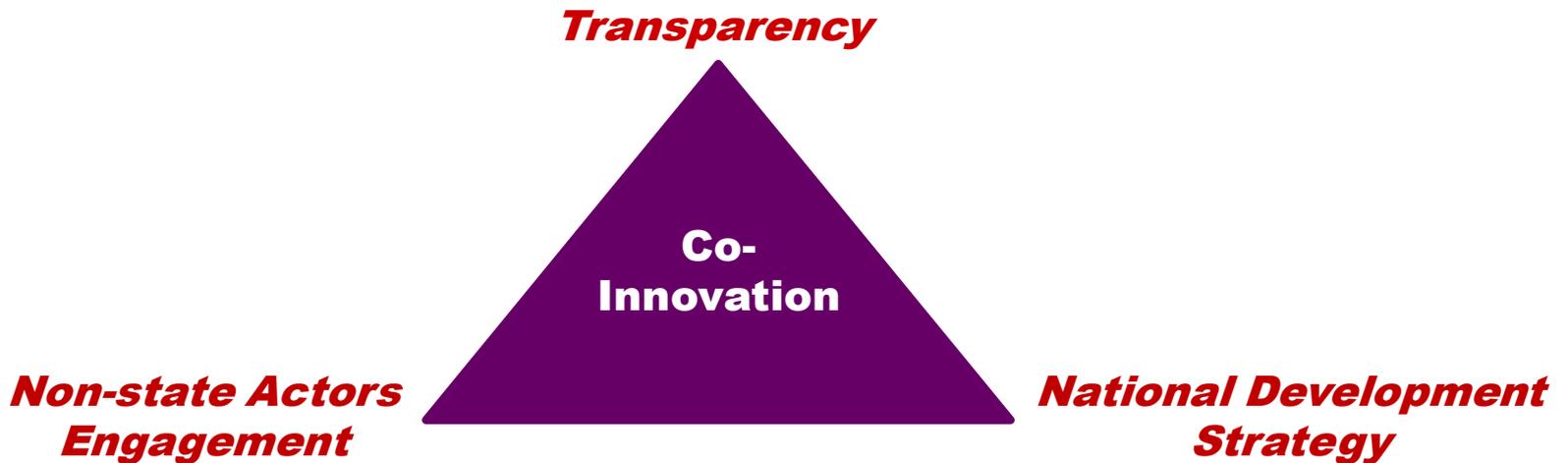
- 5. Non-state and subnational action plays an important role in delivering on national pledges. Non-state and subnational action could potentially allow countries to raise their ambition.** However, current impacts are extremely limited and poorly documented.
- **Action by non-state and subnational actors (NSAs), including regional and local governments and businesses, is key to realizing greenhouse gas emissions. However, the impact of current individual NSA pledges on reducing the emissions gap is extremely limited.**
 - **If international cooperative initiatives succeed in increasing their membership and ambition, much greater potential can be realized**
 - **To enhance the credibility of NSA action, monitoring and reporting of actions and resulting emissions reductions will be essential.**

Goal of PaSTI



- 1. Promoting the engagement of non-state actors such as private companies and local governments with incentive mechanism**
- 2. Enhancing the capacities and institutional structure in each country under their national development strategies**
- 3. Strengthening and streamlining the transparency action at subnational, national and regional level**

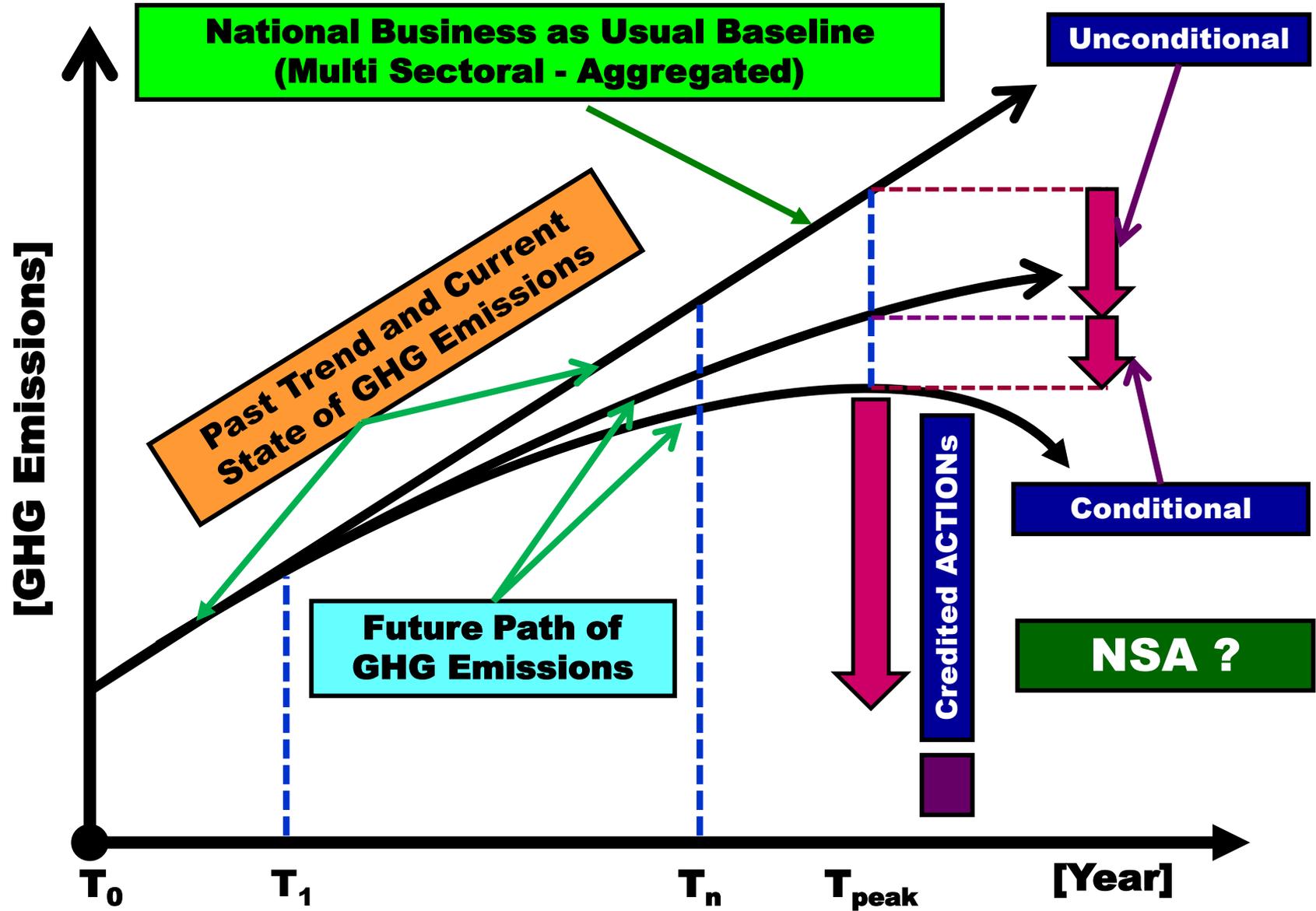
PaSTI's Perspectives - Concept



- | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> ▪ National plan to attract NSA's participations at national level |
| <ul style="list-style-type: none"> ▪ NSA participation process & procedure |
| <ul style="list-style-type: none"> ▪ Type of system incentives, its criteria, its mechanism & procedure |
| <ul style="list-style-type: none"> ▪ Integration as part of national actions: type of engagement – collaboration, type of action, time frame |
| <ul style="list-style-type: none"> ▪ Its required system transparency, mrv & accounting system; integration with existing & tracking system at national level, data availability, synchronization system & its required protocol to support interoperability, and establishment of appropriate indicators to support tracking system |
| <ul style="list-style-type: none"> ▪ Availability of adequate & sustainable financial support & capacity building |
| <ul style="list-style-type: none"> ▪ Identification of required policy including fiscal policy & regulation, financing availability |



**Some of the Key Issues for
Moving Towards
[Highlights of FGD 1]**



Possible National Mitigation Actions Composition of Developing Country Parties



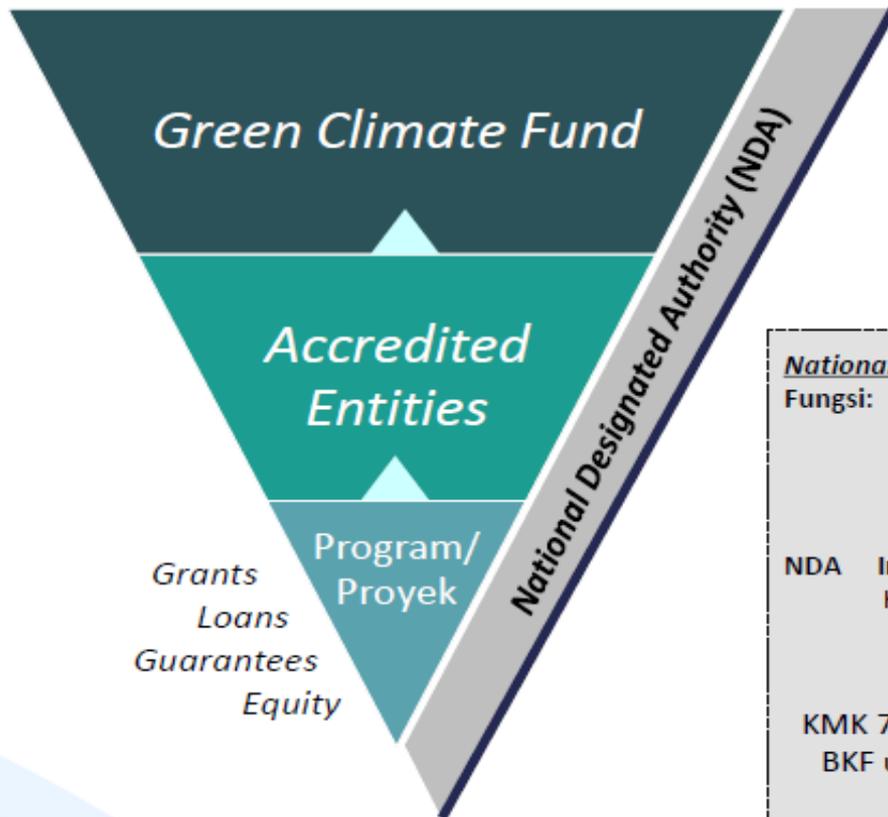
BADAN KEBIJAKAN FISKAL
KEMENTERIAN KEUANGAN RI

DUKUNGAN PEMERINTAH DALAM PEMBIAYAAN PERUBAHAN IKLIM DI INDONESIA

Disampaikan oleh
Prof. Suahasil Nazara
Kepala Badan Kebijakan Fiskal

Hari Aksi Pengendalian Perubahan Iklim
Jakarta, 24 Oktober 2018

Kerangka Kelembagaan GCF (Country Driven Approach)



Accredited Entities (AE)

Tugas: Menyusun dan mengajukan proposal pendanaan kepada GCF

National AE: PT Sarana Multi Infrastruktur

Dalam proses akreditasi: PT IIF, Kemitraaan

National Designated Authority (NDA)

Fungsi: *core interface* antara setiap negara dan GCF, memastikan kesesuaian antara program/proyek dengan prioritas nasional - menerbitkan *No-Objection Letter* (NOL).

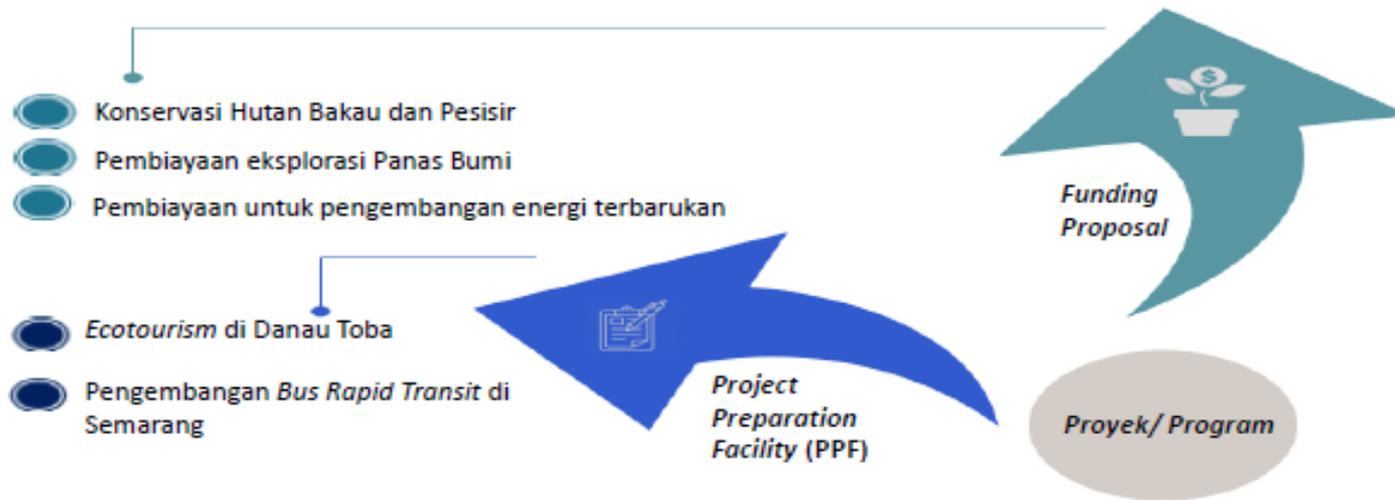
NDA Indonesia: Kepala Badan Kebijakan Fiskal, Kementerian Keuangan



KMK 756 tahun 2017 tentang Penugasan Kepala BKF untuk Mewakili Menkeu selaku NDA GCF



Daftar Proyek yang Telah Mendapatkan NOL



2 Proyek yang telah disetujui oleh Board GCF (Oktober 2018):

- ❖ **Indonesia Geothermal Resource Risk Mitigation Project oleh World Bank**
Program ini mendapatkan pendanaan GCF sebesar USD 100 juta. Program *GREM World Bank* adalah fasilitas pembiayaan dalam bentuk *convertible grant* untuk pengembangan energi panas bumi di Indonesia dengan PT SMI sebagai *executing entity*.
- ❖ **Programme Climate Investor One (CIO)**
 - Sebuah program *blended finance facility* dengan tujuan untuk meningkatkan investasi energi terbarukan dengan pinjaman murah di negara-negara berkembang di Asia dan Afrika termasuk Indonesia.
 - Jumlah pendanaan dari GCF yaitu sebesar USD100 juta dari total pendanaan keseluruhan sebesar USD 821,5 juta. Dari USD 821,5 juta tersebut, FMO (*Dutch Development Bank*) memperkirakan bahwa Indonesia dapat menyerap kurang lebih USD 43,9 juta.



TANTANGAN & LANGKAH KE DEPAN

- Melanjutkan penandaan anggaran (*Budget Tagging*) Mitigasi & Adaptasi Perubahan Iklim dengan dukungan K/L terkait. Dan pengembangan formula penghitungan *emission impact* atas emisi yang bisa diturunkan dari aksi pengendalian perubahan iklim.
- Peningkatan kerjasama Pemerintah Pusat dan Pemerintah Daerah dalam **pengarusutamaan (*mainstreaming*)** isu mitigasi dan adaptasi perubahan iklim dalam program kerja di daerah. Termasuk pengembangan dan pelaksanaan mekanisme penandaan anggaran (*budget tagging*) perubahan iklim di tingkat lokal (sub-nasional).
- Pengembangan parameter terkait aksi pengendalian perubahan iklim dan lingkungan hidup terhadap fasilitas Dana Transfer ke Daerah, seperti DID, DAK Fisik, dan DAK Non-Fisik.
- Optimalisasi sumber pembiayaan non-APBN dengan melibatkan peran sektor swasta, *multilateral development banks* (MDBs), maupun skema pembiayaan lain yang dapat mendukung program pembangunan.



Terima Kasih

**Report of the Conference of the Parties on its twenty-first session, held in Paris from 30 November to 13 December 2015 -
Decisions adopted by the Conference of the Parties.**

Decision 1/CP.21 Adoption of the Paris Agreement

II. Intended Nationally Determined Contributions

17. *Notes with concern* that the estimated aggregate greenhouse gas emission levels in 2025 and 2030 resulting from the intended nationally determined contributions do not fall within least-cost 2 °C scenarios but rather lead to a projected level of 55 gigatonnes in 2030, and *also notes* that much greater emission reduction efforts will be required than those associated with the intended nationally determined contributions in order to hold the increase in the global average temperature to below 2 °C above pre-industrial levels by reducing emissions to 40 gigatonnes or to 1.5 °C above pre-industrial levels by reducing to a level to be identified in the special report referred to in paragraph 21 below;

21. *Invites* the Intergovernmental Panel on Climate Change to provide a special report in 2018 on the impacts of global warming of 1.5 °C above pre-industrial levels and related global greenhouse gas emission pathways;



KEMENTERIAN ENERGI DAN SUMBER DAYA MINERAL
DIREKTORAT JENDERAL ENERGI BARU TERBARIKAN DAN KONSERVASI ENERGI

CAPAIAN PENURUNAN EMISI CO₂ SEKTOR ENERGI

Jakarta, 13 Juli 2018



Rincian Capaian Mitigasi Emisi GRK Sektor Energi Sampai dengan 2017

NO	AKSI MITIGASI	PROGRAM/ KEGIATAN (DIPA/DIPDA)	Tahun 2014		Tahun 2015		Tahun 2016		Tahun 2017					
			Capaian Kegiatan (Jumlah & Unit)		Realisasi Penurunan Emisi (ton CO2e)		Capaian Kegiatan (Jumlah & Unit)		Realisasi Penurunan Emisi (ton CO2e)		Capaian Kegiatan (Jumlah & Unit)		Realisasi Penurunan Emisi (ton CO2e)	
1	2	3	8A		8B		9A		9B		10A		10B	
1	Penerapan mandatori manajemen energi untuk pengguna padat energi	DIPA	62	Perusahaan	1.710.218,51	109	Perusahaan	5.849.410,51	120	Perusahaan	4.371.848,00	120	Perusahaan	4.371.848,00
2	Penerapan program kemitraan konservasi energi	DIPA	300	Obyek	30.000,00	10	Obyek	0,05	10	Obyek	0,05	10	Obyek	0,05
3	Peningkatan efisiensi peralatan rumah tangga	DIPA	109,00	GWh	2.819.359,41	1.076,62	GWh	3.791.547,27	2.752,54	GWh	6.277.094,50	2.752,54	GWh	6.277.094,50
4	Penyediaan dan Pengelolaan Energi Baru Terbarukan dan Konservasi Energi													
	- PLTP	Swasta	120	MW	121.839,00	128	MW	612.865,00	128	MW	621.718,72	725	MW	4.360.600
	- PLTMH	DIPA	2,18	MW	10.239,24	3,23	MW	15.040,09	6,33	MW	34.706,49	3,67	MW	16.832
	- PLTM	Swasta	12,5	MW	59.369,80	12,5	MW	67.079,51	20	MW	88.529,44	97	MW	1.563.283
	- PLTS	DIPA	12,595	MW	3.609,96	18,115	MW	5.078,00	24,745	MW	7.374,27	12,369	MW	27.293
	- PLTBayu	DIPA	0	MW	0	0	MW	0	0	MW	0	0	MW	0
	- PLT Hybrid	DIPA	0,173	MW	48,79	3,673	MW	1.008,65	3,673	MW	1.804	3,519	MW	941
	- PLT Biomassa	Swasta	91,6	MW	408.199	123,6	MW	574.690	138,6	MW	654.319	168	MW	1.195.409
5	Pemanfaatan Biogas	DIPA	3.747.082	m3	5.394	5.749.272	m3	8.277	8.206.488	m3	11.814	8.206.488	m3	11.814
6	Penggunaan gas alam sebagai bahan bakar angkutan umum perkotaan	DIPA	4,22	MMSCFD	86.756	3,83	MMSCFD	109.826	3,38	MMSCFD	132.896	33,70	MMSCFD	204.169
7	Peningkatan sambungan rumah yang teraliri gas bumi melalui pipa	DIPA	16.949	SR	33.108	7.636	SR	38.249	88.915	SR	42.135	235.925	SR	80.000
8	Reklamasi lahan pasca tambang	Swasta	6.596,58	Ha	1.447.901,6	6.732,69	Ha	1.701.050,7	6.876,72	Ha	1.959.615	6.876,72	Ha	1.959.615
Total Mitigasi Sesuai Perpres No. 61 tahun 2011					6.736.043			12.774.122			14.203.854			20.068.898
9	Pemanfaatan Biodiesel	Swasta	1.844.663	Kilo Liter	2.747.810	915.640	Kilo Liter	1.363.937	3.007.522	Kilo Liter	4.480.005	2.571.569	Kilo Liter	3.830.609
10	Penerapan Inpres No. 13 Tahun 2011 tentang Penghematan Energi dan Air	DIPA	4.169	MWh	3.565	270.107,500	MWh	226.890	21.693	MWh	20.174	21.693	MWh	20.174
11	Aksi Mitigasi Sektor Ketenagalistrikan													
	- Pembangunan PLTA	Swasta	12	MW	62.935,68	12	MW	69.076,23	16,9	MW	74.975,89	298,0	MW	620.076,13
	- Penggunaan Clean Coal Technology pada Pembangkit listrik	Swasta	1.475	MW	1.059.130,340	1.475	MW	1.937.348,260	1.475	MW	1.989.834,000	1.475	MW	1.020.007
	- Penggunaan Cogeneration pada Pembangkit Listrik	Swasta	619,14	MW	1.672.654,81	619,14	MW	1.402.872,65	619,14	MW	1.127.695,26	628,00	MW	2.022.800
12	Program Konversi Minyak Tanah ke LPG	DIPA	6.093.138.000	Ton LPG	10.964.052,02	6.376.989.660	Ton LPG	11.474.817,47	6.677.333.000	Ton LPG	12.015.258,21	6.305.422.000	Ton LPG	12.428.000
13	Pembangunan Penerangan Jalan Umum Cerdas													
	- Tenaga Surya	DIPA	0	Jumlah Titik	0	600	Jumlah Titik	1.784	4.915	Jumlah Titik	2.326	4.915	Jumlah Titik	2.326
	- Retrofitting Lampu LED	DIPA	0	Jumlah Titik	0	516	Jumlah Titik	3.467	7.322	Jumlah Titik	7.662	7.322	Jumlah Titik	7.662
Kegiatan Baru														
14	Fuel Switching BBM Transportasi (RON 88 ke RON 90 dan 92)	DIPA										10.009.097	Kilo Liter	53.501
TOTAL					23.246.191			29.254.314			33.921.785			40.074.055

Penurunan emisi sektor energi
di tahun 2017 sebesar
40 Juta Ton CO2e