International Conference of Low Carbon Asia
4th Annual Meeting of LocArnet
Stabilizing Climate Through Low Carbon Actions in Asia: Road to COP21
And Beyond

Indonesia GHG Reduction Planning, Mitigation Actions and INDC

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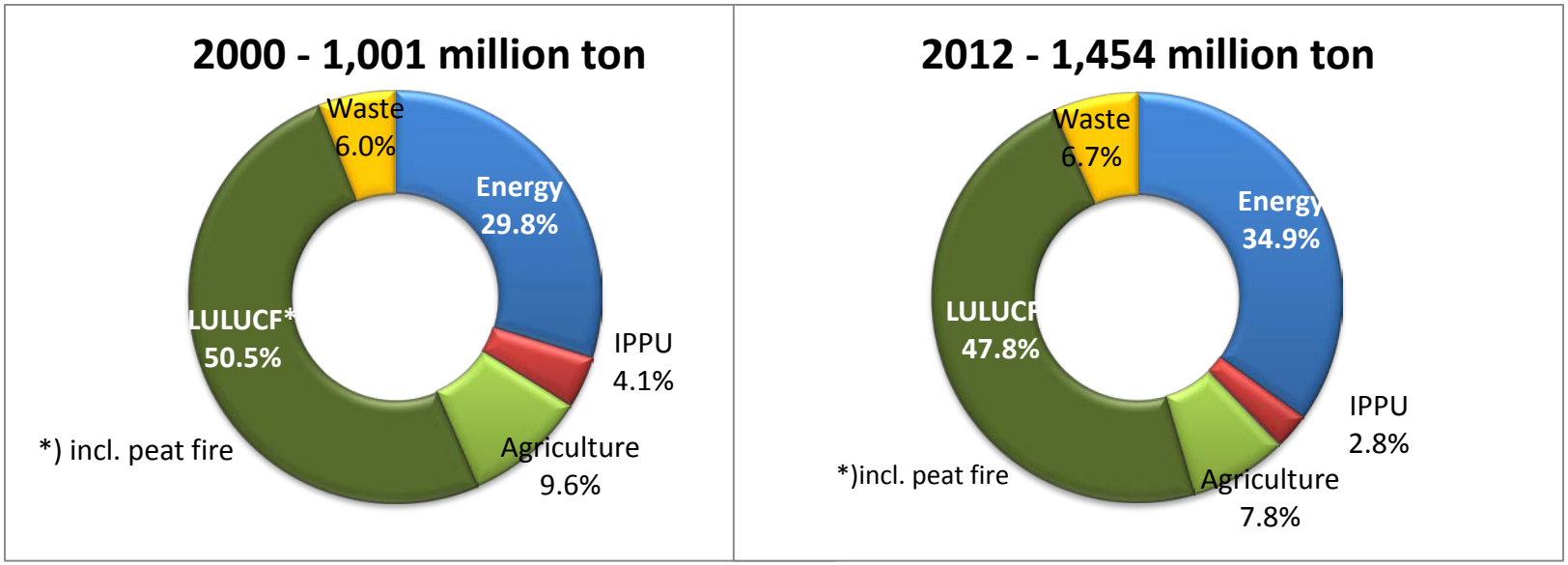
Outline

- Past Trend of GHG Emissions
- GHG Reduction Planning and Implemented Plans
- Indonesia INDC
- Closing Remarks

Past Trend of GHG Emission

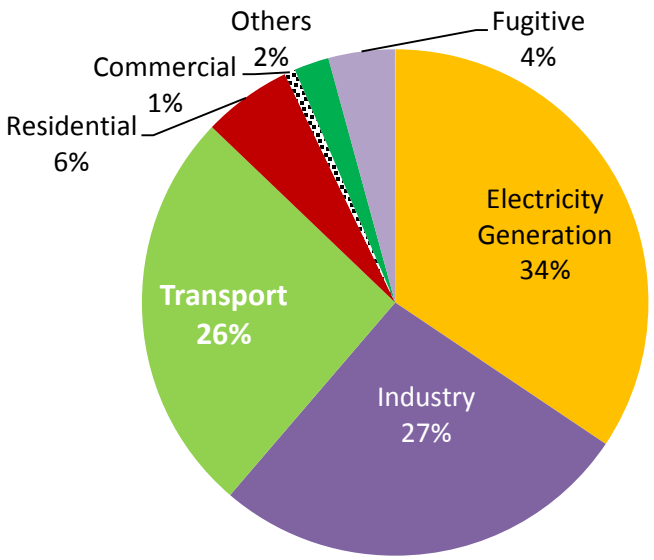


Sectors		Million ton CO2e		Percentage		Average annual growth
		2000	2012	2000	2012	
1	Energy	298	508	30	35	4.5%
2	IPPU	41	41	4	3	0.1%
3	Agriculture	96	113	10	8	1.3%
4	LULUCF *	505	695	51	48	2.7%
5	Waste	61	97	6	7	4.0%
	Total	1,001	1,454			3.2%

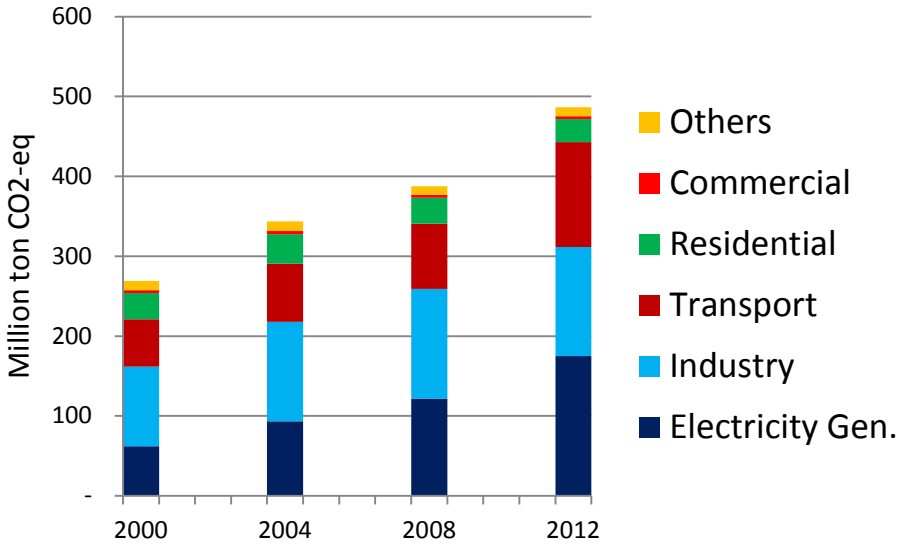
**) including peat fire*

Source: Draft-Indonesia 1st BUR

Breakdown of Energy Sector Emissions



Energy 2012
508 mill ton



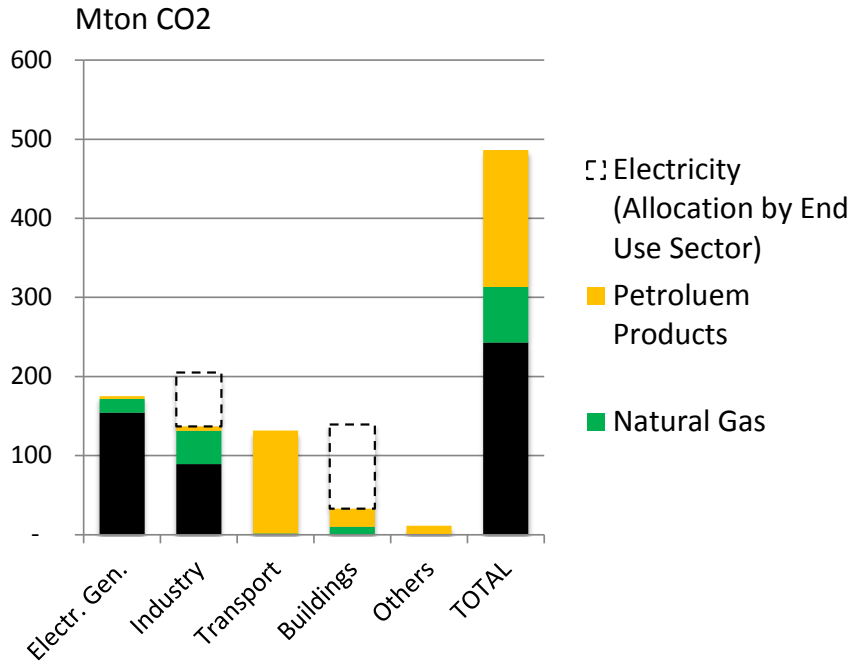
<u>Combustion Emissions</u>

Major sources: coal & oil

Uses: Power gen., industry, transport

End-use sector: 45% from fuel burning in industry;

Emissions from power generation is accounted by building (60%) and industry (40%) sectors.



GHG Reduction Planning

Key Institutions:

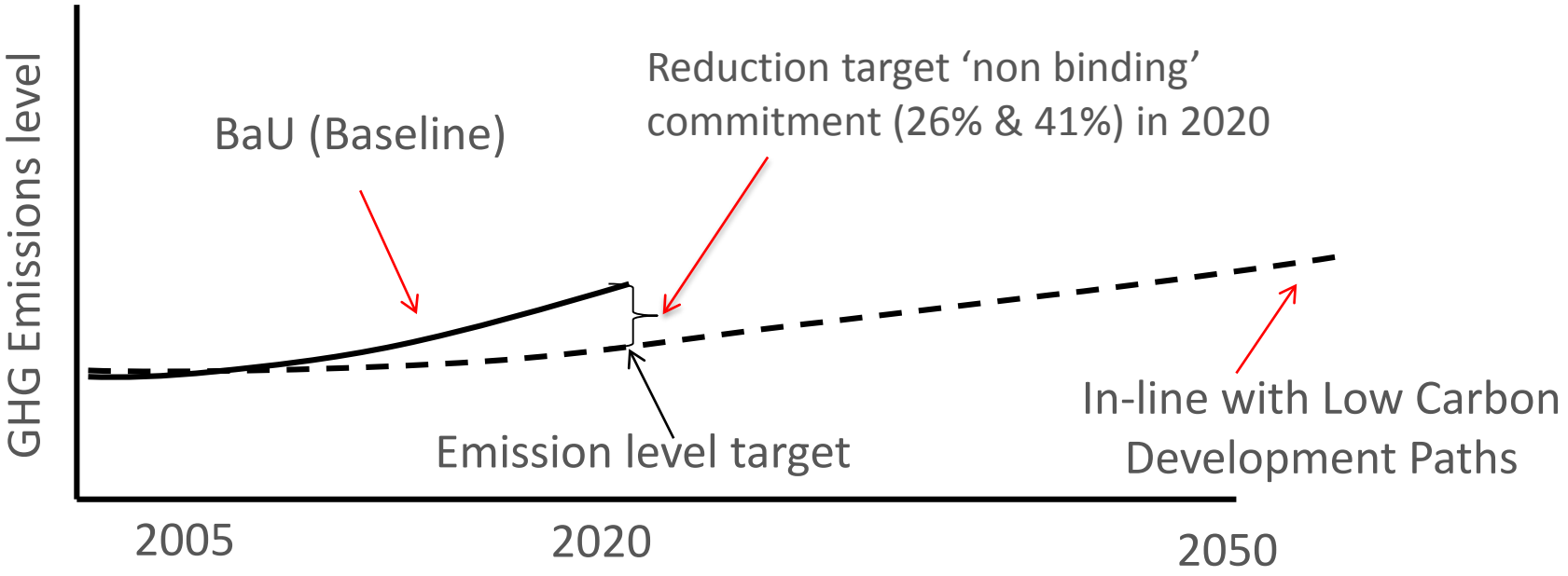
- Ministry of Environment and Forestry
- BAPPENAS (National Planning Board)
- Line ministries
- Energy companies
- Universities/Researchers

Focus Group Discussions to achieve:

- Establish baseline
- Determine mitigation actions
- Reduction Targets

National Mitigation Action Plans (RAN – GRK) Presidential Regulation No.61/2011

National Mitigation Action Plan (RAN GRK)



Sector	Emission Reduction (Giga ton CO2e)		Total (41 %)
	26%	15%	
Forestry & Peatland	0.672	0.367	1.039
Waste	0.048	0.030	0.078
Agriculture	0.008	0.003	0.011
Industry	0.001	0.004	0.005
Energy	**0.038**	**0.018**	**0.056**
Total	**0.767**	**0.422**	**1.189**

Mitigation Actions 2012- 2020 (RAN –GRK)

Target 38 million ton CO2e reduction in 2020

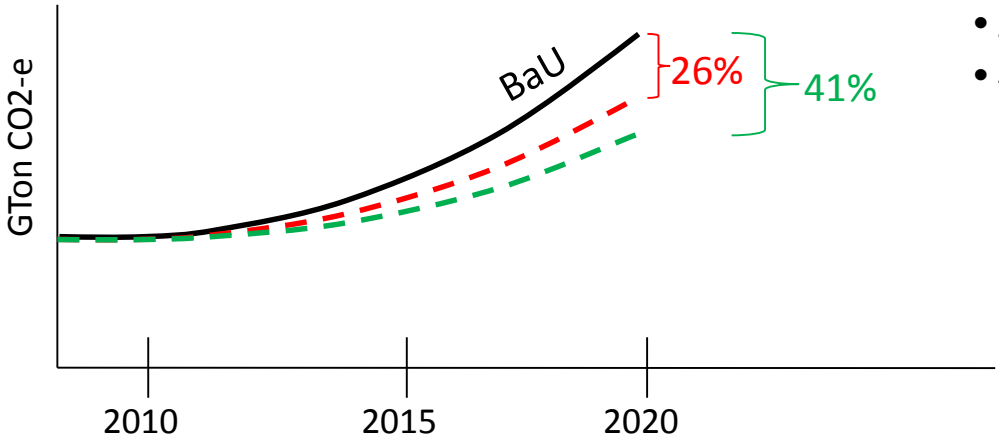
Actions	Sector					Measures	
	Transport	Residential	Industry	Commercial	Power	Project	Policy
Demand Side:							
Mass transport	●					–	
CFL & LED		●		●			–
Energy efficiency		●	●	●		–	–
Supply Side:							
Biofuel	●		●		●		–
Biogas		●				–	
Hydropower					●	–	
Geothermal					●		–
Natural gas	●	●				–	
Solar PV		●				–	

Realization

- Biofuel: 70 million bbl /year
- Geothermal: 195 MW, 5 sites (additional)
- Hydro: 830 MW
- Biogas: 31.000 units (residential)
- Natural gas: 90.000 hh connected, 120 MSCD in transport
- Solar PV: 600 MW

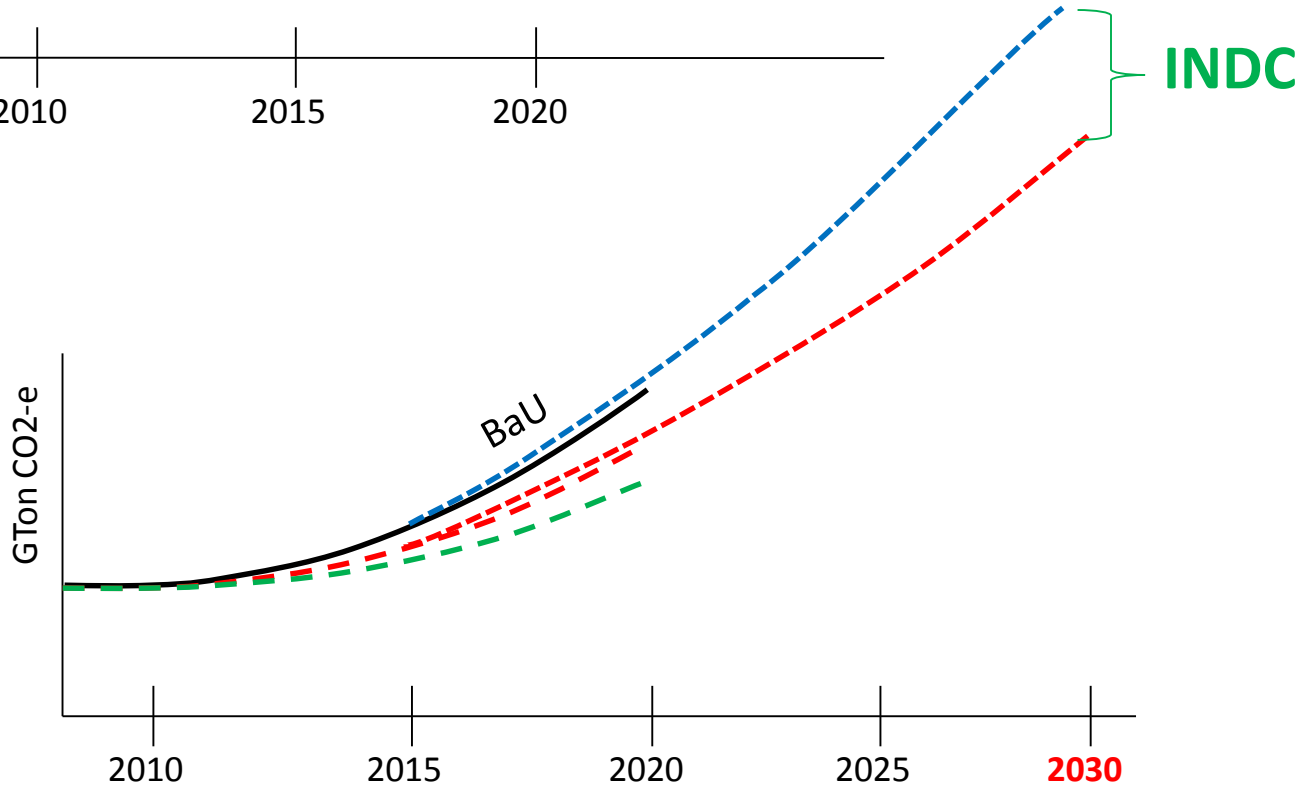
Emission reduction pledge and INDC

Indonesian President's pledge (end of 2009)



RAN-GRK:

- *26% Domestic Budget*
- *41% Dom. Budget+internat'l Support*



INDC Process

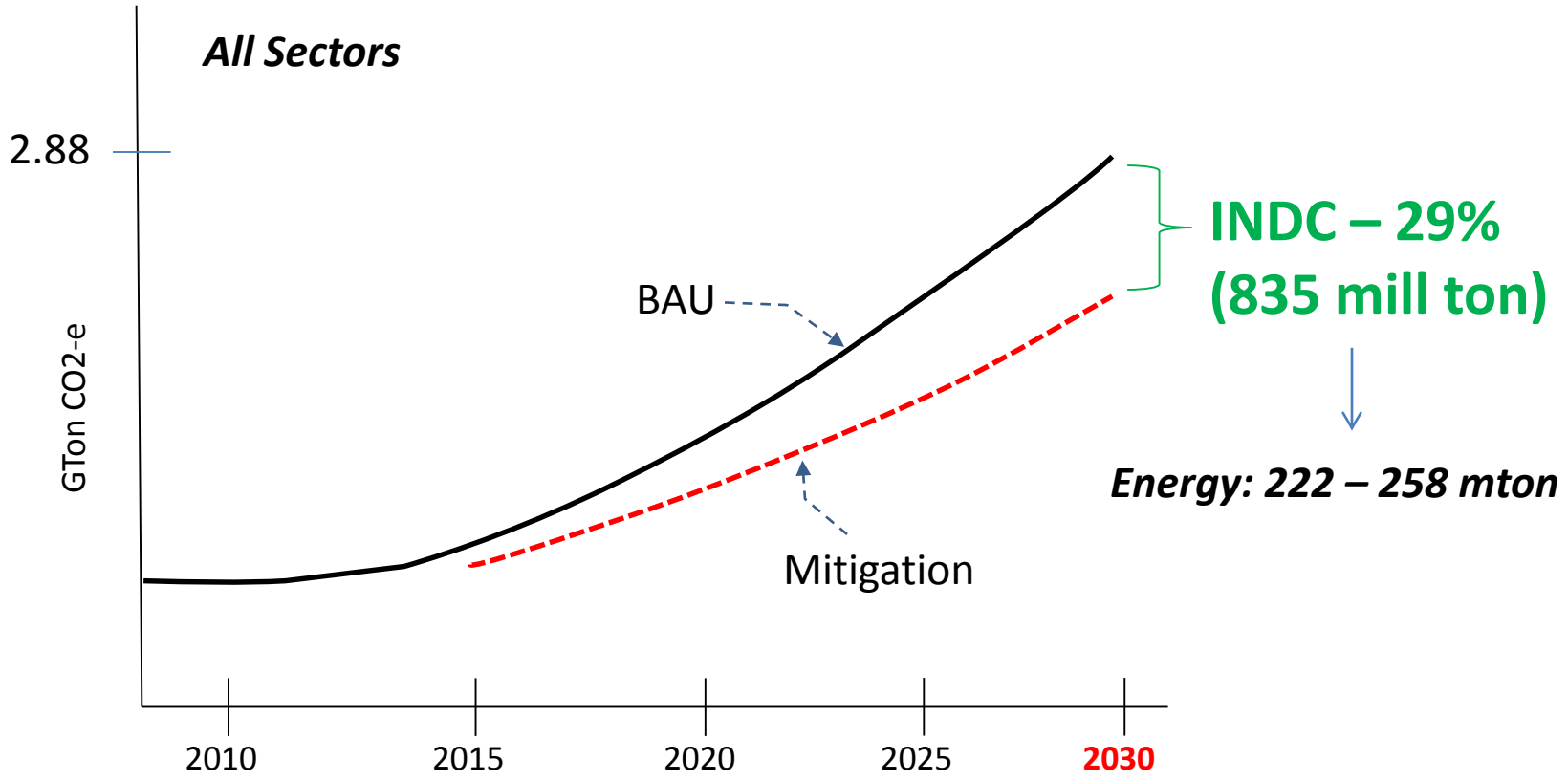
Leading institution: BAPPENAS

Contributors: sectoral line agencies and related economic ministries, researchers, council of MoEF advisors

- Based on rigorous scientific-policy assessments.
- Comprehensive policy impacts and carrying capacity assessments:
  - Sector policies
  - Inter linkages policies across sectors and economy
- Tools: System Dynamics model

- Indonesia INDC: 29% lower than BAU in 2030

Indonesia INDC

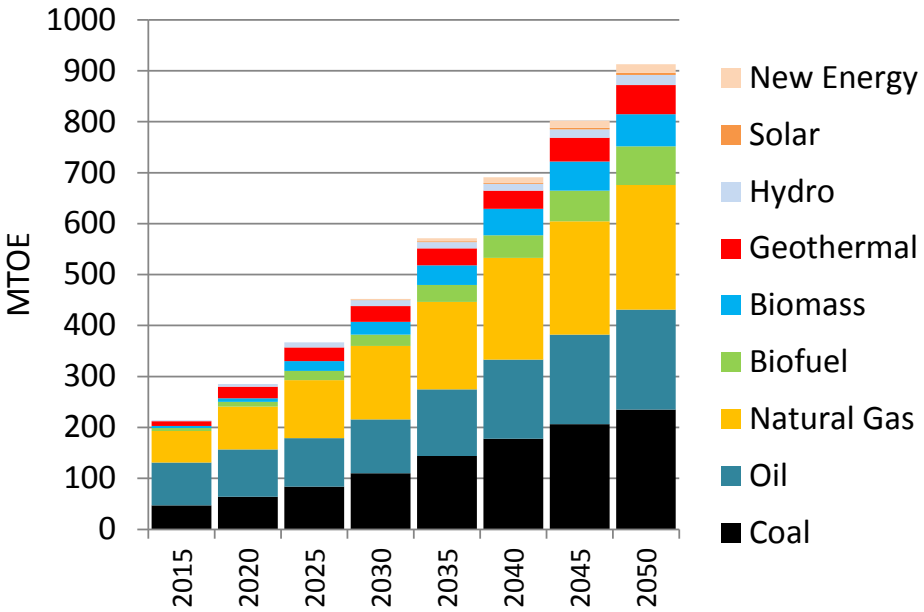


Mitigation Potentials Analysis

- Modelling RAN GRK and examine GHG reduction potential.
- Modelling extension of RAN GRK for achieving INDC
- Modelling National Energy Council Policy Scenario and examine GHG reduction

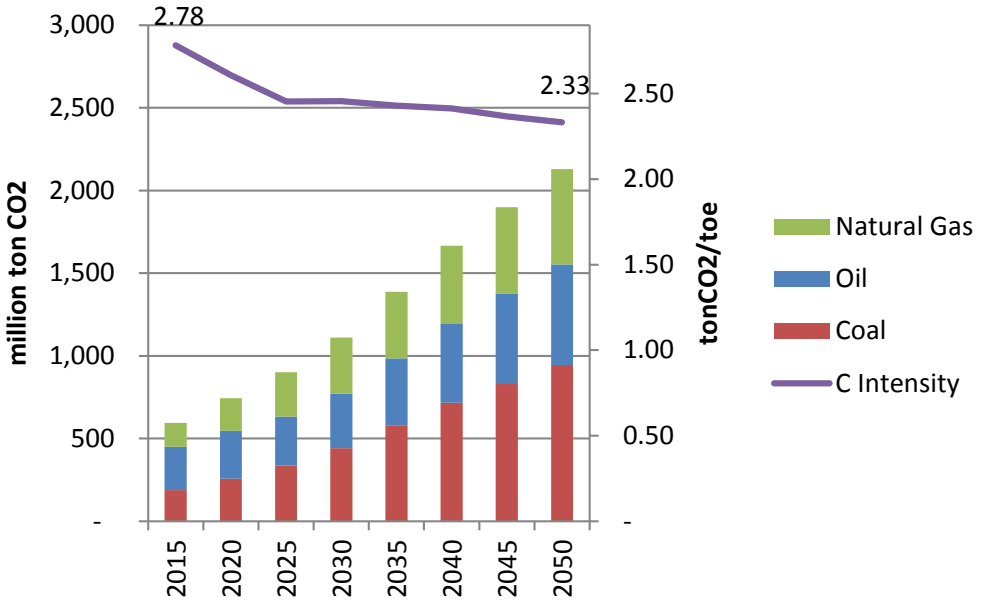
Tools for analysis: ExSS Snapshot AIM Model

National Energy Council (DEN) Scenario

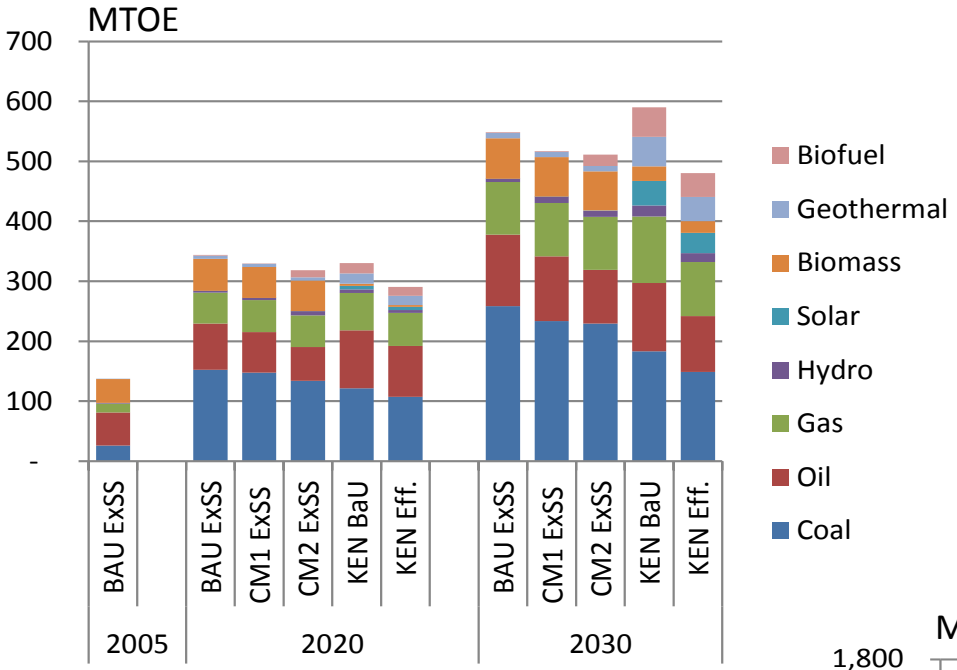


Development Objective:
Energy Security

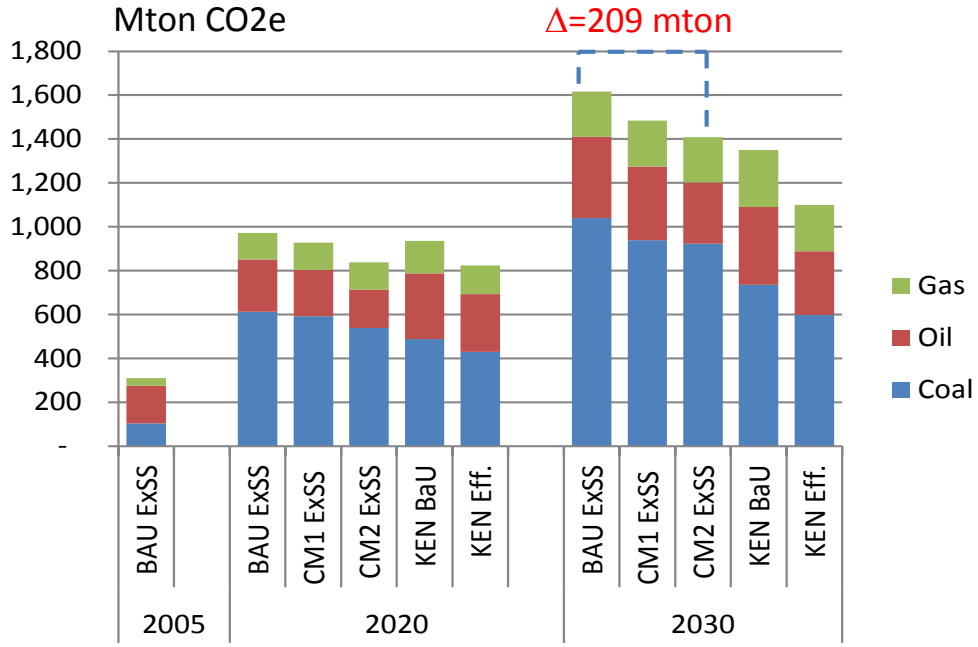
GHG Emissions →



Results of ExSS Model Runs



CM1: extend RAN GRK
CM2: RAN GRK + biofuel
KEN: Nat Energy Council



Closing Remarks

- Indonesia GHG reduction has been planned based on scientific rationale, involving line ministries and scientific communities.
- Mitigation action plans for RAN GRK have been implemented and the corresponding GHG reductions have been reported. MRV system to verify reduction claims need to be established.
- Indonesia INDC has been submitted, targeting 29% emission reduction (below BAU) in 2030.
- INDC emission targets needs to be translated into specific mitigation plans. This will require science-based policy/planning inputs.