Requested slide (1)

INDC session
Discussion on INDC in Malaysia

CS HO

The 20th AIM International Workshop
NIES
January 23, 2015

Requested slide (2)

Features of your country's INDC

- Mitigation target : maintain 40% reduction emission intensity
- Year : 2020
- Conditions : technology transfer from developed countries

- How is the target decided? – COP15
- What is the public opinion to the target?

* Focus on adaptation and mitigation measures

* If all countermeasures are implemented then Potential 55% by 2030 (high cost mitigation)

AIM
ASIA-PACIFIC INTEGRATED MODEL

Others

- INDC – contribution from adaptation due to impact, especially evident damage / lost from recent major flooding in many states in east coast of Peninsular Malaysia as well as sabah and Sarawak.

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others

- Low Carbon Roadmap of Malaysia Economy 2030

(pending for Cabinet approval Jan / Feb 2015 (Jan 9 postponed to new date)

- currently achieved 33% (2014) as compared with 40% target by 2020

- consider mitigation option (big financial implication)

- countermeasures include FIT – solar and rain harvesting, hybrid car policy, MRT.

Enablers

- Financial support
- Access to technology + focus more on adaptation.

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Developing Malaysia LCS vision in 2020 and 2030 for Energy, Waste and AFOLU sectors

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Approach/Methodology

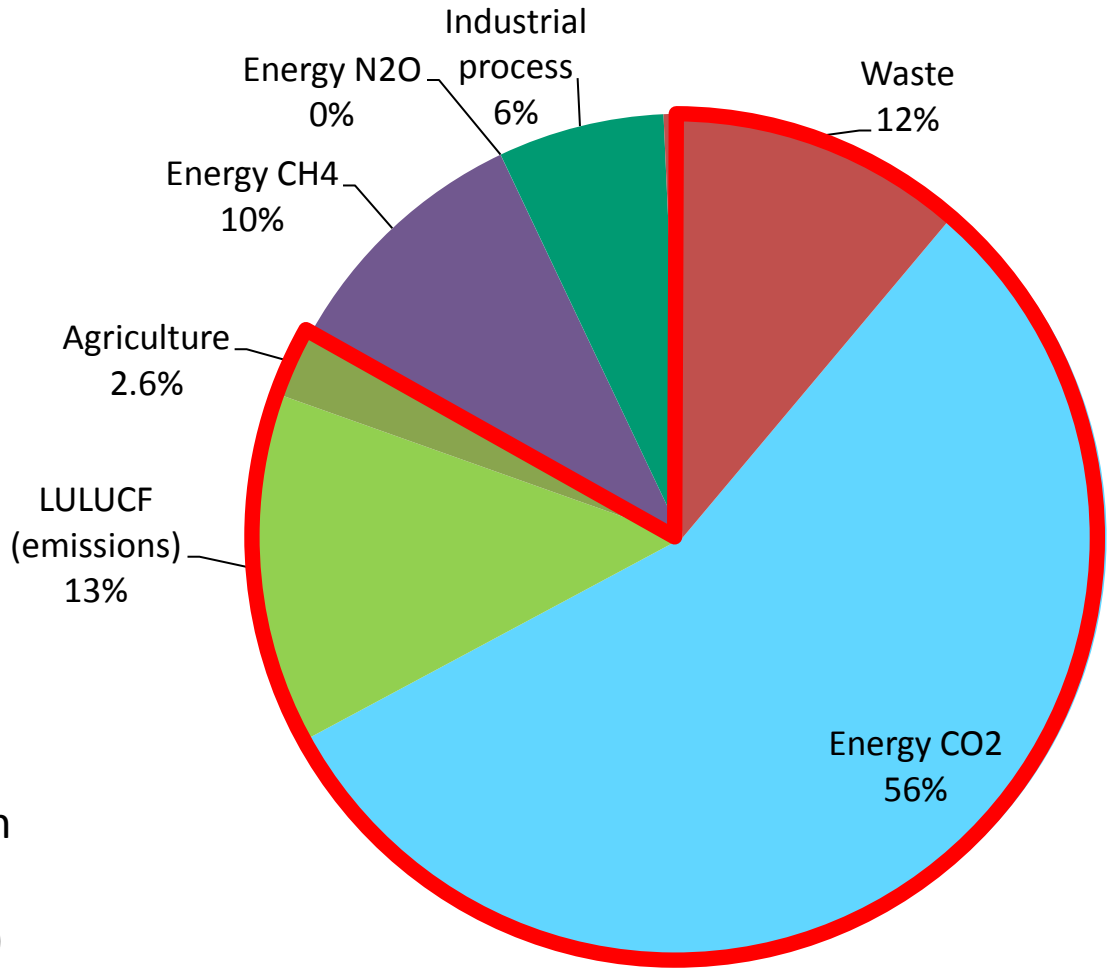
- Main Findings are based on **quantitative estimation tools - Extended Snapshot Tool (ExSS) and AFOLU model.**

- Major assumption and data are based on **Malaysia Second National Communication (NC2) 2011** submitted to the UNFCCC

- Two mitigation scenarios were developed: CM1 and CM2

- Research Findings adopted **Low-carbon society (LCS) scenario in 2020** and supported with **more quantitative socio-economic scenarios and mitigation option details.**

Target gas: Energy CO_2 , Waste, AFOLU



Covers 84% of total emissions in 2000

GHG Emission Composition in 2000 (Source : NC2)

CONTENT

Part I: Socio-economic scenario in 2020 and 2030

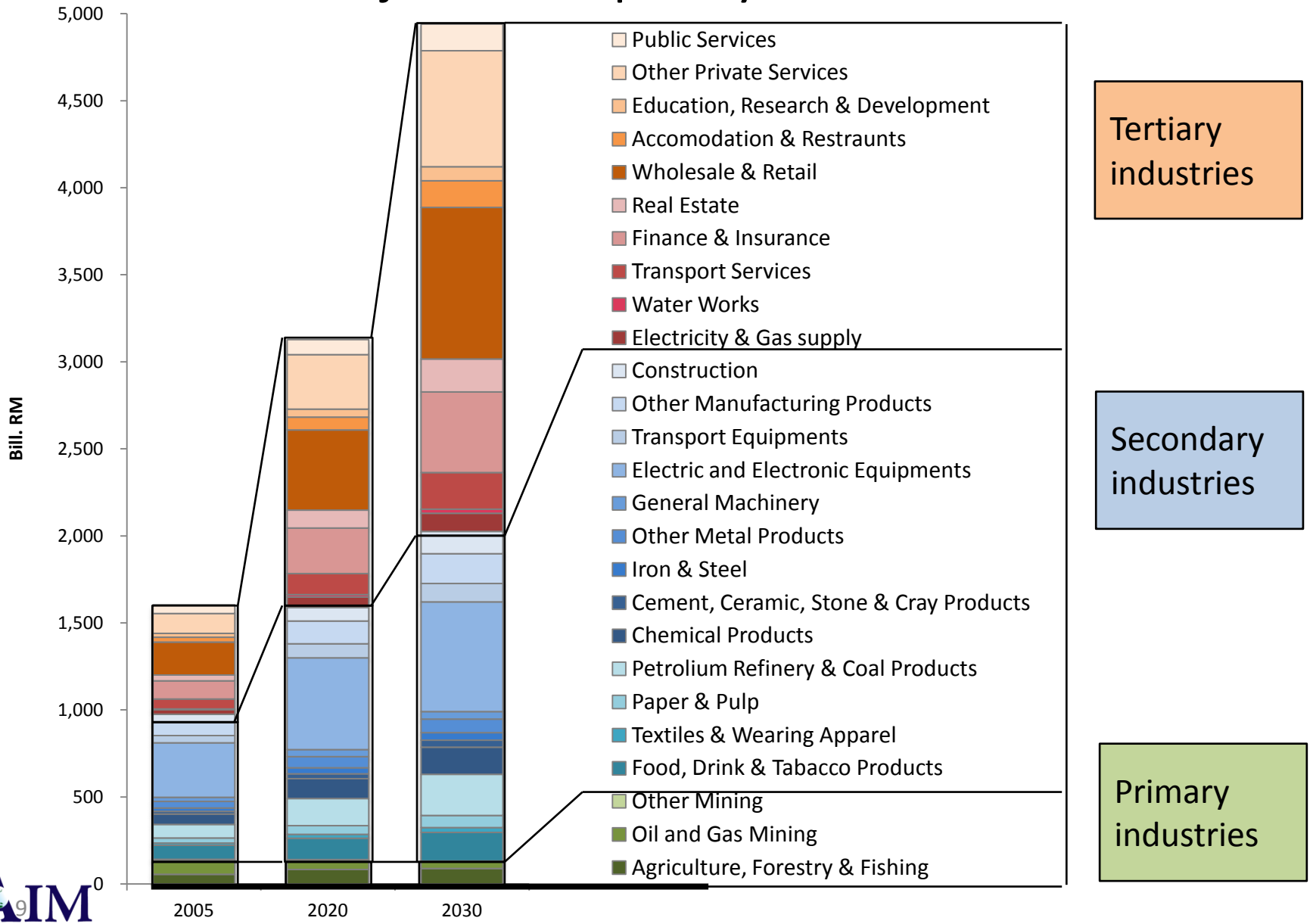
Part II: Energy

Part III: Waste

Part IV: Agriculture, forestry and other land use

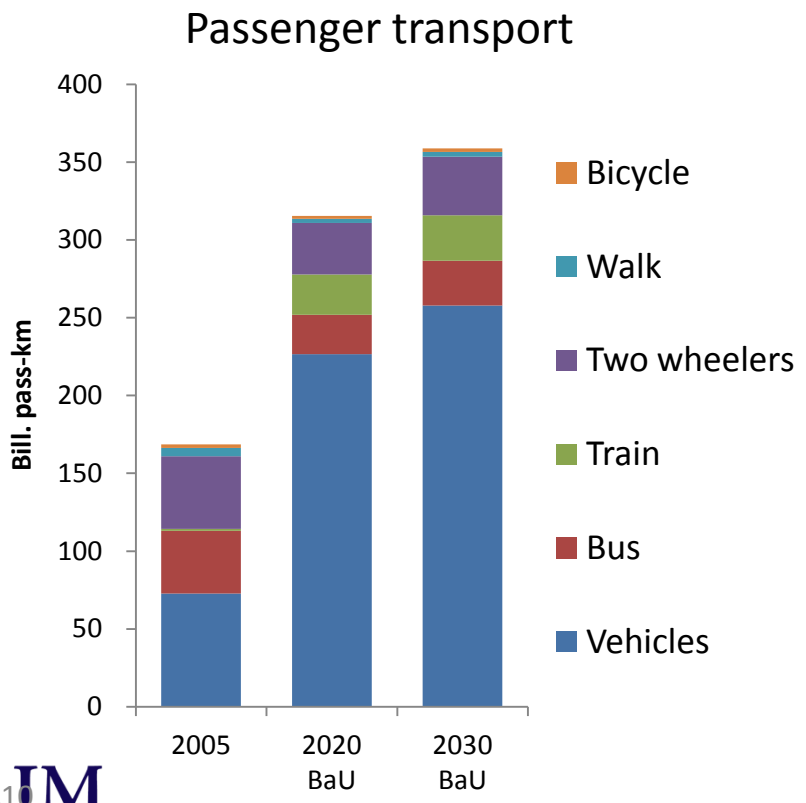
Part V: Integration

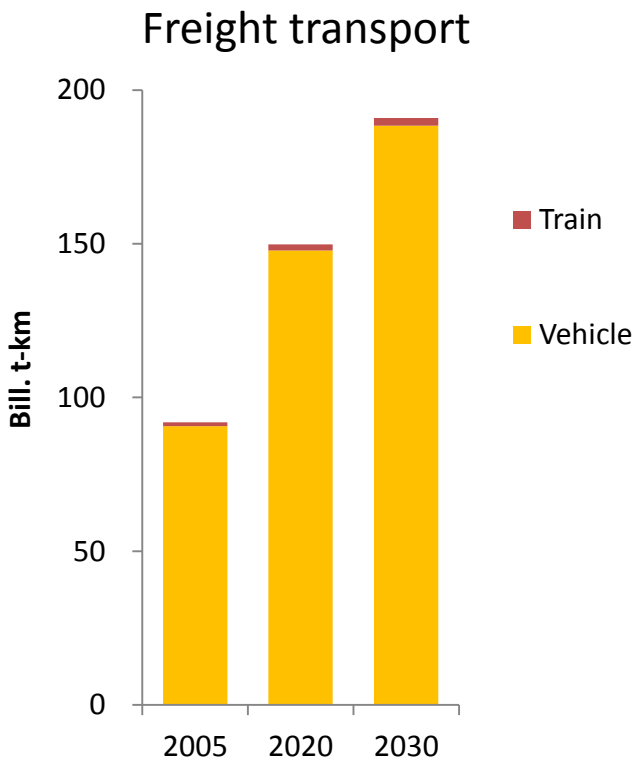
Projected output by 26 sectors



Projected transport volume

- Both **modal share and transport volume** of **private vehicle** increase in 2020
- Freight **transport volume** increases proportionally with growth of **secondary industries**



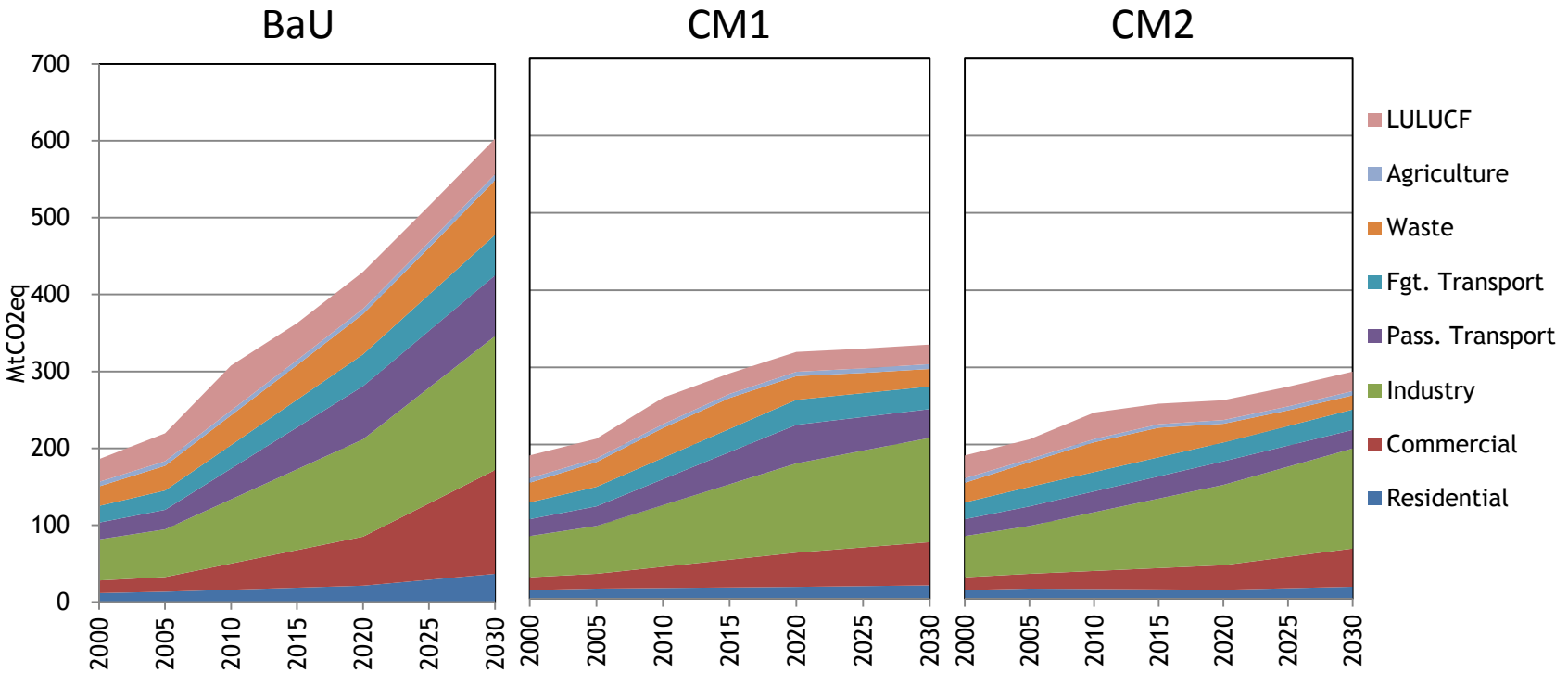


Summary of mitigation options

	2020		2030	
	CM1	CM2	CM1	CM2
Diffusion of energy efficient devices	40%	60%	75%	85%
EEI rate from BaU of thermal power plants	10%	20%	20%	30%
Modal shift from passenger cars	10%	22%	20%	40%
Share of bio diesel in transport	2%	6%	3%	8%
Capacity of RE power plant (MW)	2080	4160	4160	10400
Recycling rate of solid waste	40%	55%	50%	60%
Incineration rate of solid waste	10%	15%	20%	20%
Recovery rate of CH4 from waste management	25%	35%	40%	40%
Mitigations in AFOLU sectors*	<10USD/ktCO2eq			

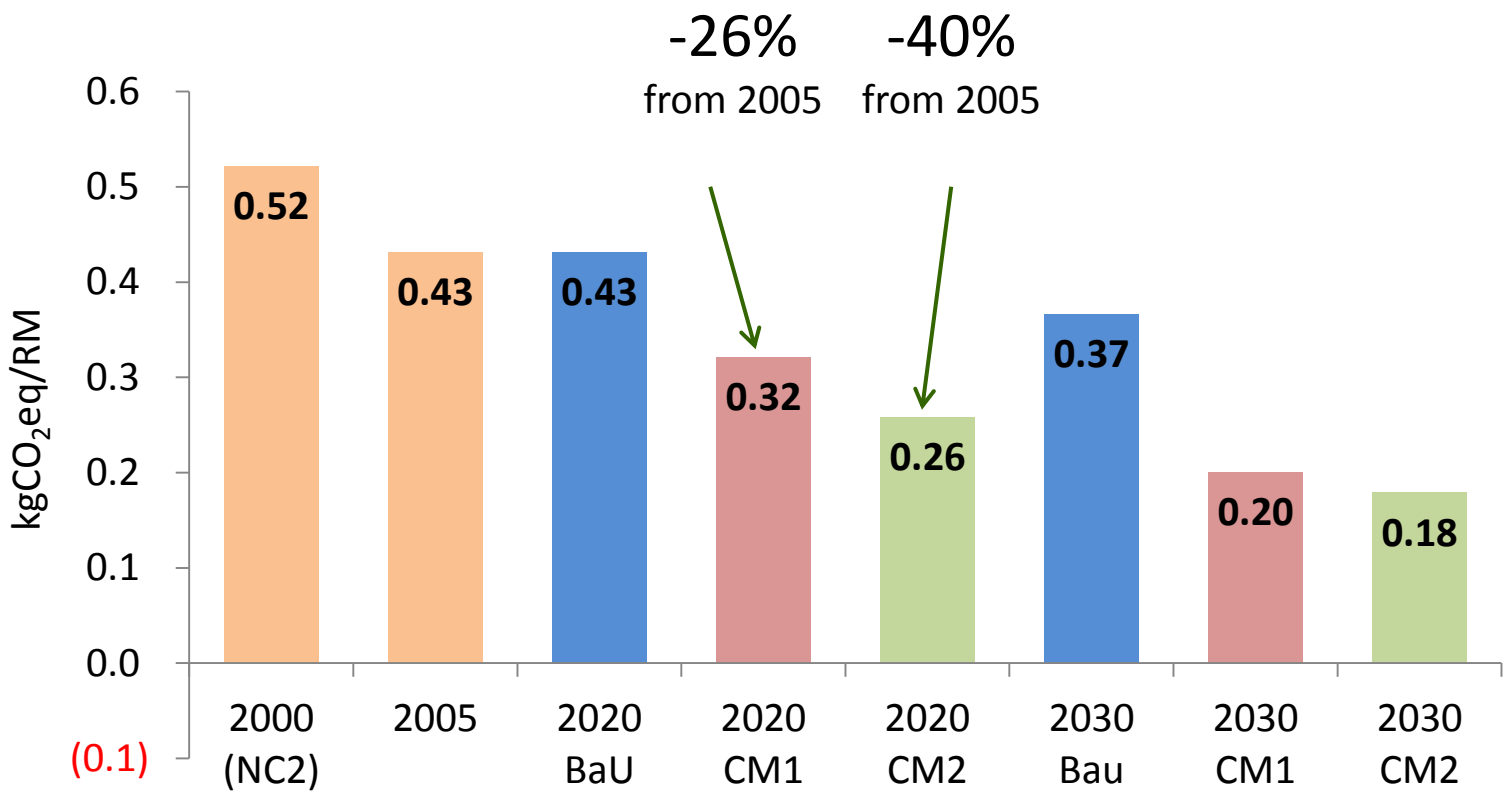
GHG emissions (Energy, Waste and AFOLU)

- Energy has the largest contribution in both scenarios in all years.
- In BaU scenario, GHG emission increased by 96% (2020) and 175% (2030) from 2005
- In CM1 scenario, it was reduced by 26% (2020) and 45% (2030) from BaU, in CM2, 40% (2020) and 51% (2030).



Periods between projected years were interpolated linearly.

Emission intensity (GHG emission per GDP)



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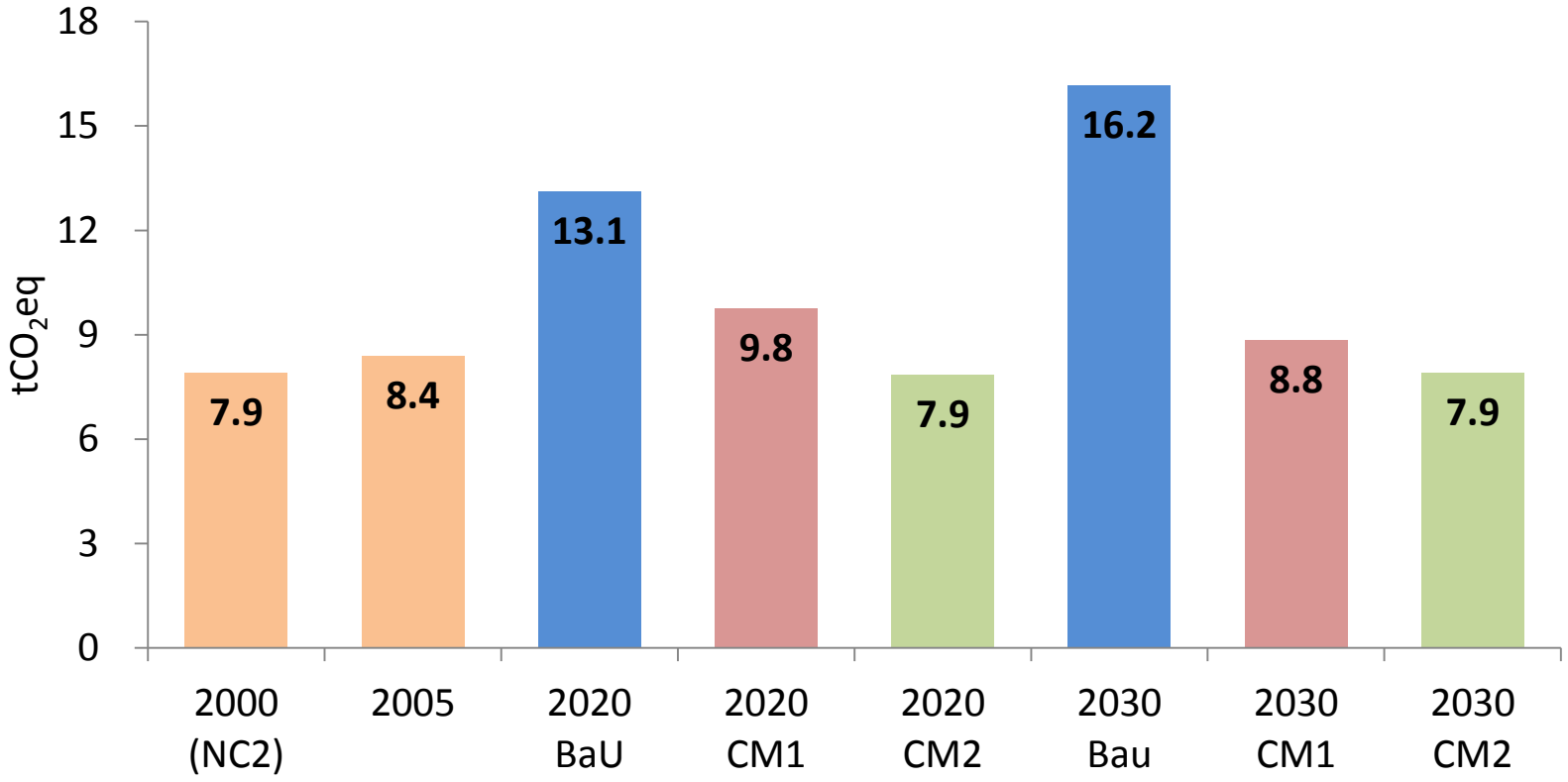
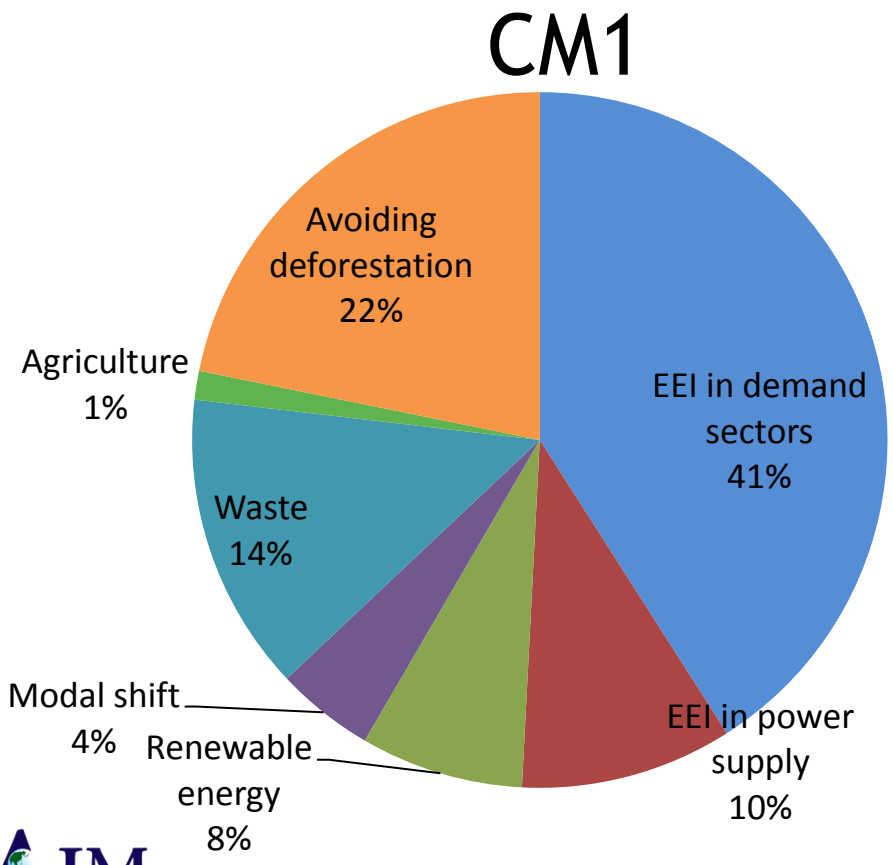
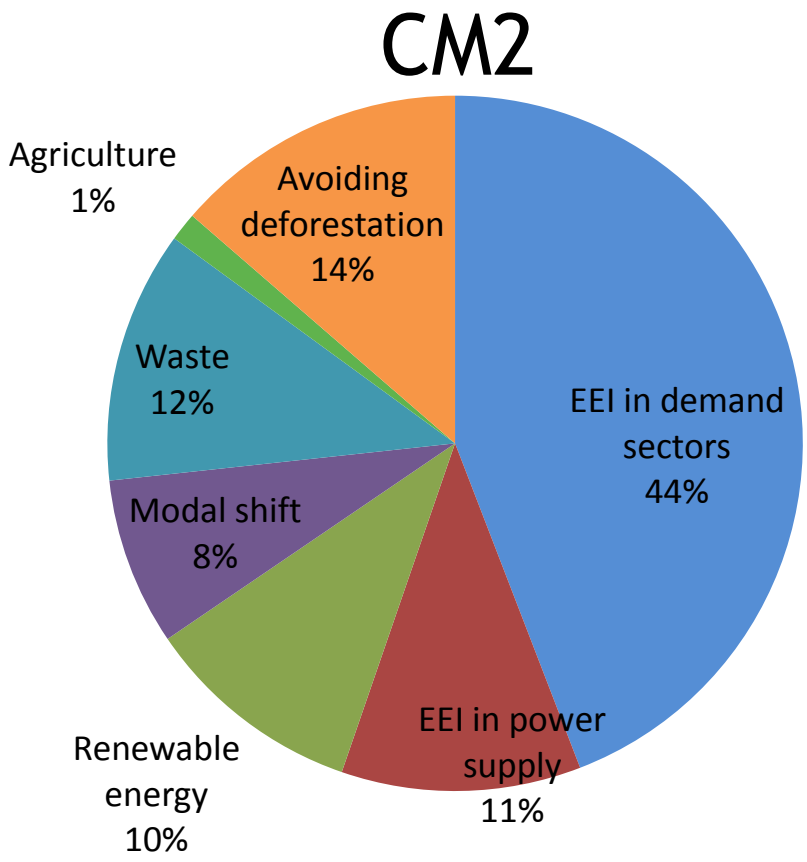
Per capita GHG emission



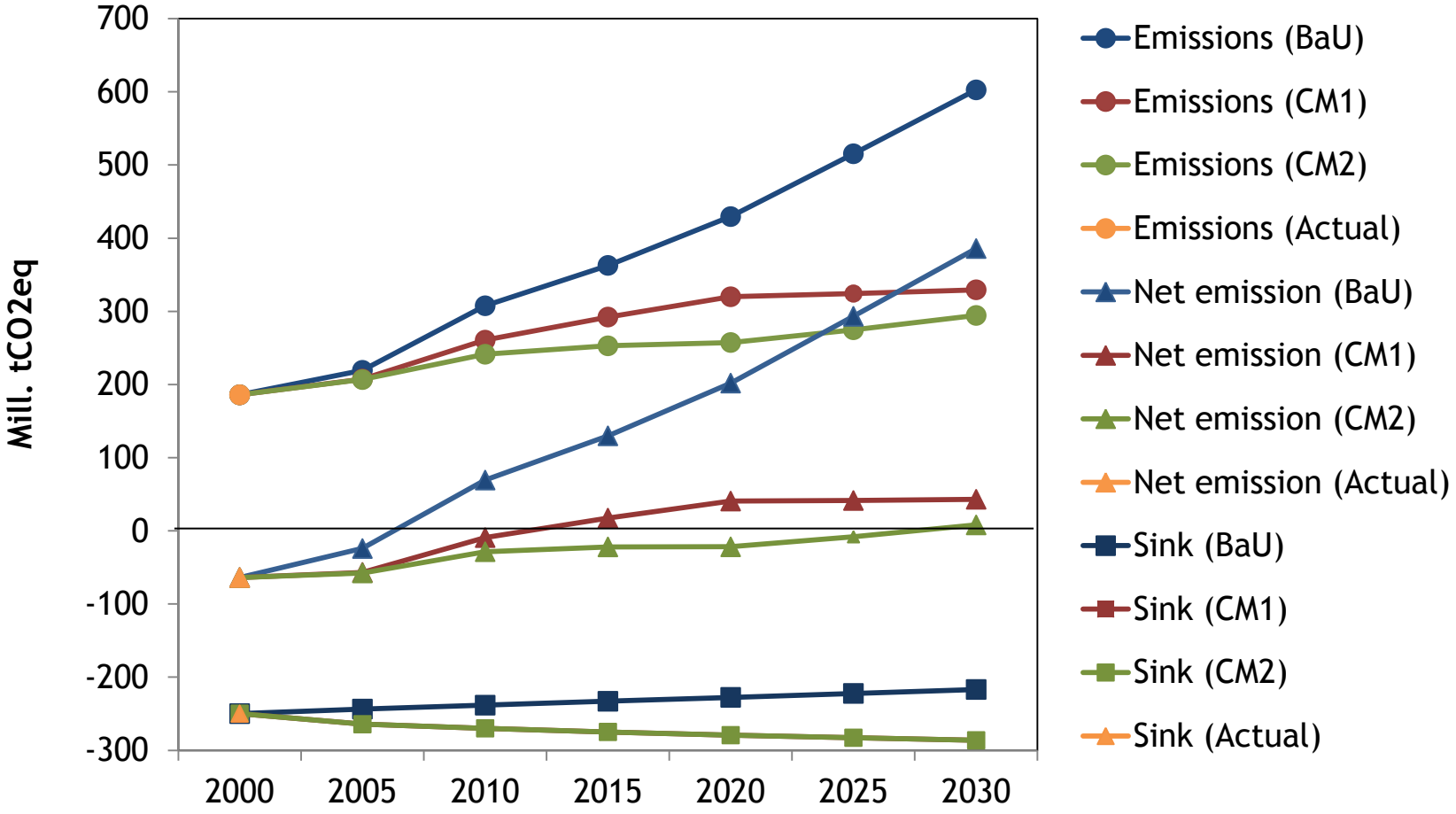
Contribution to emission reduction in 2020

- In order to achieve -40% target in 2020, more contribution of EEI, renewable energy and modal shift is required.





Emissions, sink, and net emissions



Conclusion

- Using ExSS and AIM/AFOLU model, Malaysia LCS scenarios in 2020 and 2030 were projected.
- Target GHGs are: CO_2 from energy use, CO_2 and CH_4 from waste management, CO_2, CH_4 and N2O in AFOLU sectors
- In 2020BaU scenario, GHG emission was doubled from 2005.
- In 2020CM1 scenario, GHG emission intensity was reduced by 26% from 2005.
- In 2020CM2 scenario, GHG emission intensity was reduced by 40% from 2005.
- In order to achieve -40% target of emission reduction, more intensive implementation is needed especially in energy sector.