



Singapore's NAMA: Context and Case Studies

Regional workshop on promoting
international collaboration to facilitate
preparation, submission and
implementation of NAMAs, 13 August
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Overview

- Understanding the Context
- Singapore's NAMA
- Mitigation Measures
- Case Studies

National Circumstances

- Small (700km²)
- Low-lying island state
- Flat coastline
- Highly urbanised, densely populated

National Vision

- Early actions
- Development constraints

Alternative Energy Disadvantaged

Nuclear energy technologies not yet suitable for deployment in Singapore

Low wind speeds

No large river systems

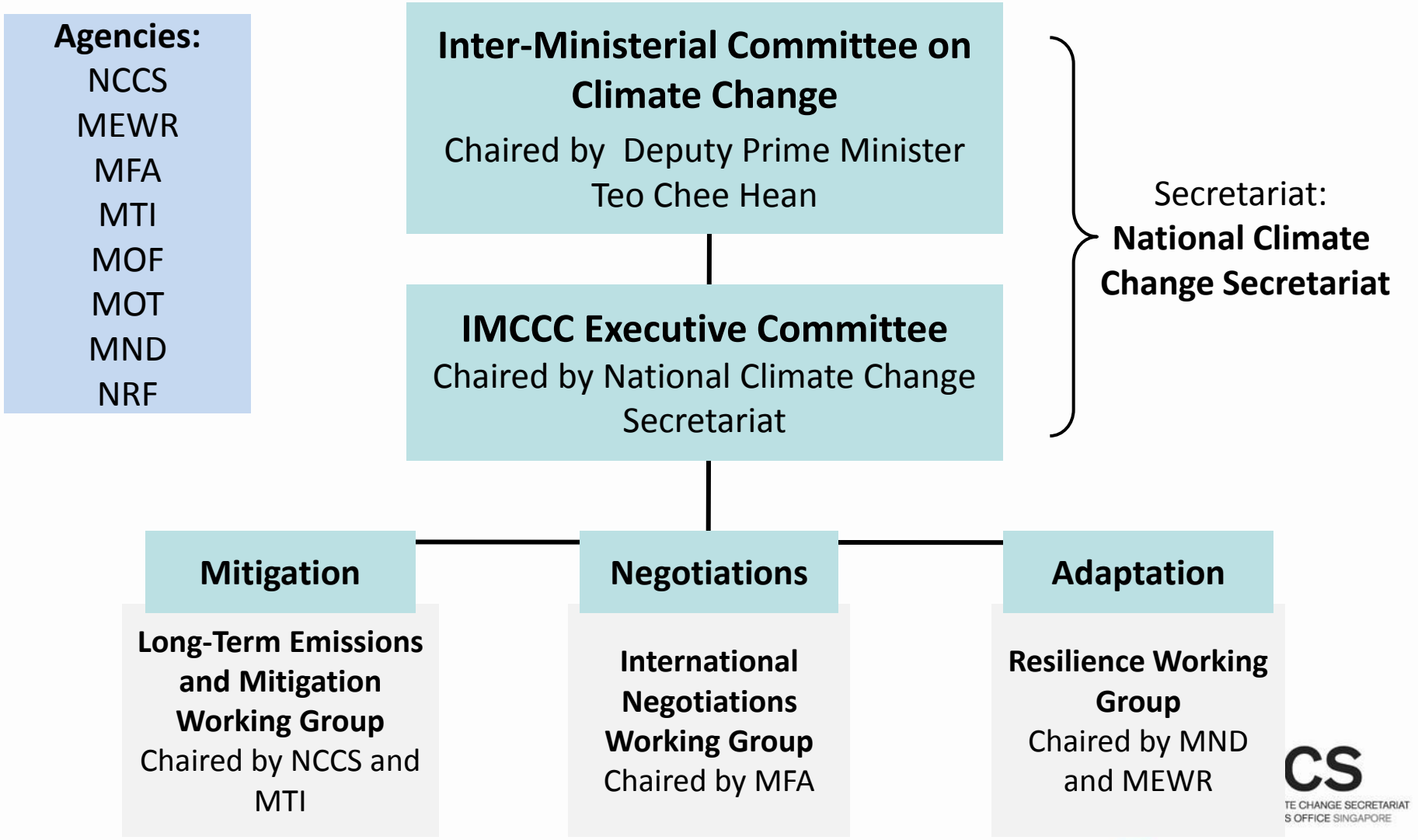
Solar unlikely to provide base-load because of intermittency & limited land

Lack of conventional geothermal resources

Fuel Mix Switch

- Switched away from fuel oil to natural gas
- 80% of Singapore's electricity generated by natural gas
- Exploring ways to increase our use of solar energy

Institutional Structure



NAMA- Emissions Reduction Pledge

To undertake mitigation actions leading to a reduction of greenhouse gas emissions by 16% below business-as-usual (BAU) levels in 2020, contingent on a legally binding global agreement in which all countries implement their commitments in good faith

- Although a legally binding agreement has yet to be achieved, Singapore will nonetheless begin to implement the mitigation measures
 - towards **7 – 11% reduction** in GHG emissions below business-as-usual (BAU) levels in 2020

Key Mitigation Strategies

Strategies

- Improving Energy Efficiency
- Greening Fuel Mix
- Adopting Low-Carbon Technologies

Tools

- Policies, Regulations, Business Models
- Capability Building, Technologies, R&D
- Incentives

Mitigation Measures

Power Generation

Fuel mix switch
Encourage solar

Waste / Water

Incinerate sludge
Reduce plastics incineration

Households

Minimum Energy Performance Standards – air-conditioners, fridges, lighting etc.

Capability development measure
Energy Conservation Act (ECA) for large energy users to develop energy efficiency improvement plans and take other measures

Buildings

Green Mark legislation for new and existing buildings
Mandatory energy audits & reporting

Transport

70% modal split
Carbon Emissions-based Vehicle Scheme

Industry

Grant for energy efficient technologies
Encourage co-generation plants

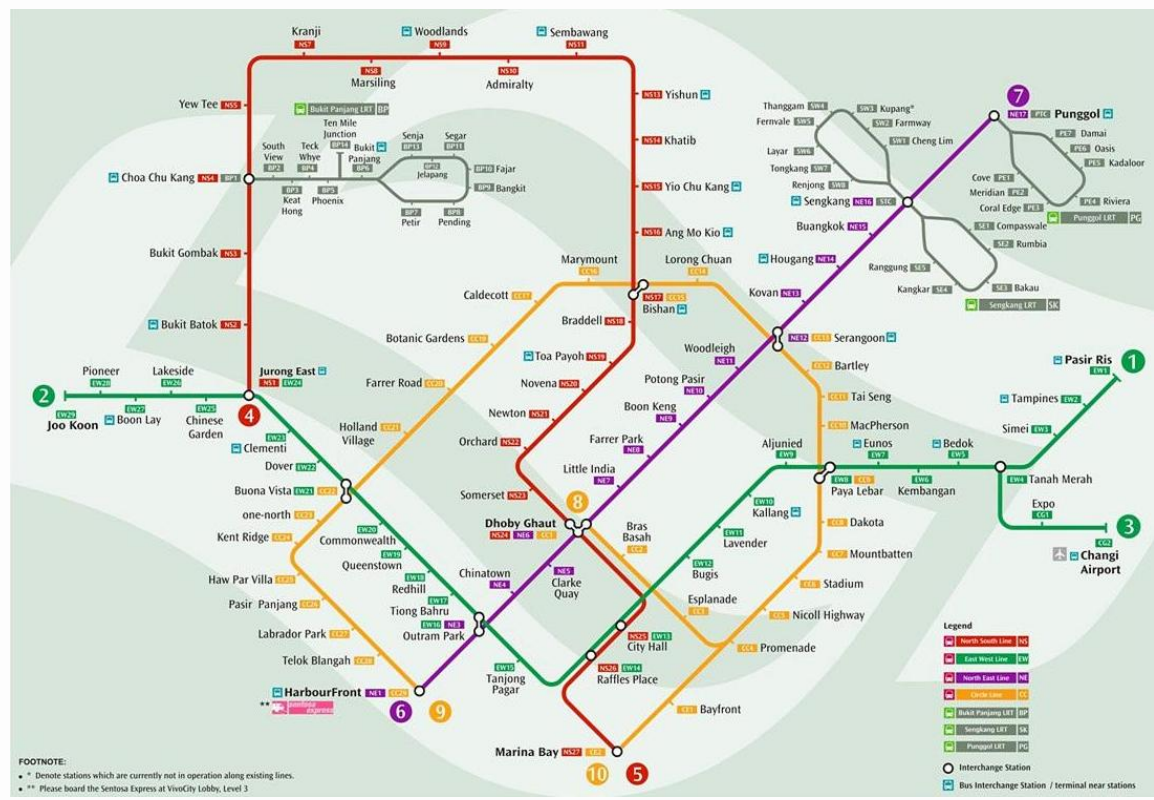


Case Study 1- Mitigation Actions in the Buildings Sector

- All new buildings and existing buildings undergoing major retrofitting to achieve minimum Green Mark standards.
- To cover 80% of buildings by 2030
- Financial Incentives
- Mandatory audits and reporting
- Green Mark standards help buildings achieve energy savings of 20%-40% over their lifetimes

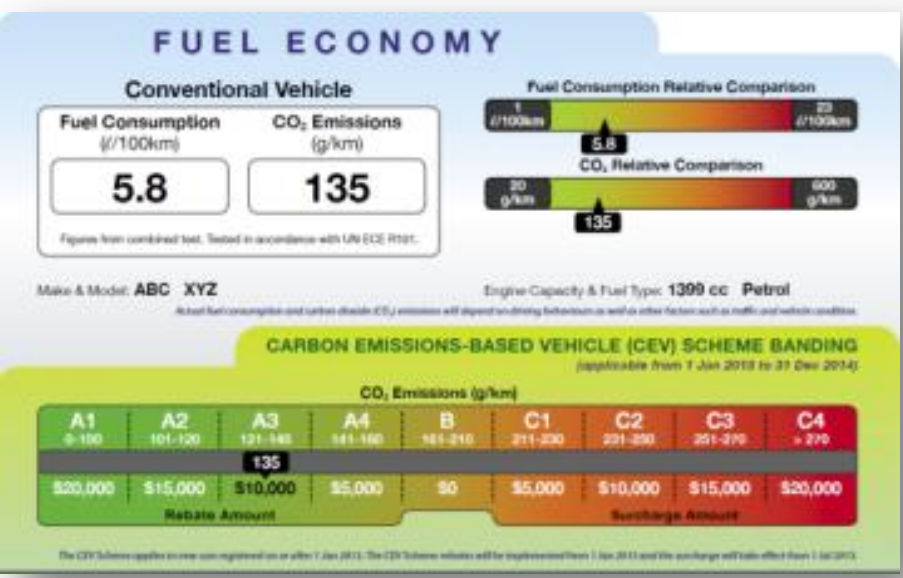
Case Study 2- Mitigation Actions in the Transport Sector

- Encouraging increased use **public transport** – aim to achieve **70:30 modal split**



Case Study 2- Mitigation Actions in the Transport Sector

- Greening private transport
 - Mandatory Fuel Labelling Scheme
 - Carbon Emissions-based Vehicle Scheme



Band	CO ₂ (g/km)	Rebate/Surcharge* for Cars
A1	0 to 100	\$20,000 rebate
A2	101 to 120	\$15,000 rebate
A3	121 to 140	\$10,000 rebate
A4	141 to 160	\$5,000 rebate
B	161 to 210	0
C1	211 to 230	\$5,000 surcharge
C2	231 to 250	\$10,000 surcharge
C3	251 to 270	\$15,000 surcharge
C4	271 & above	\$20,000 surcharge

Summary

- Long Term Vision
- Whole Of Government approach
- Pledge
- Focus on Practical & Cost-Effective Measures

“Our vision for Singapore is a climate resilient global city that is well positioned for green growth... Together, we can ensure that Singapore remains a vibrant and liveable nation for our future generations.”

— DPM Teo Chee Hean, March 2012

Accolades

- *Asia’s Greenest City- EIU Green City Index*
- *4th on Solidiance Green Ranking of Asia-Pacific Cities*
- *I-Star Award- International Panel of Expert on Sustainability of the Built Environment*

Questions?

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