

A panoramic view of the Singapore skyline, featuring numerous modern skyscrapers and buildings. In the foreground, there is a large, flat, blue-tinted area that appears to be a solar panel array or a similar industrial structure. The sky is clear and blue.

5TH FACILITATIVE SHARING OF VIEWS SINGAPORE

**BONN
5 June 2024**

Outline

1. National context and institutional arrangements
2. Emissions profile
3. Mitigation actions
4. Capacity building
5. ETF transition & implementation



National context



Dense urban landscape

- Small, low-lying, highly urbanised and dense island state (~733 km²)
- High pop density of 8058 pax per km²
- Accommodate housing, commercial centres, transport hubs



Limited alternative energy options

- Unfavourable geographical conditions to deploy renewable energy at scale
- Solar energy is limited by intermittency & land constraints
- 95% electricity generated from natural gas



Export-oriented and open economy

- Lack of natural resources and hinterland
- Trade to GDP ratio: >300%
- Manufacturing, finance and business services are pillars of our economy

Institutional arrangements (updated as of Jan 2024)

Inter-Ministerial Committee on Climate Change (IMCCC)

Chaired by Senior Minister & Coordinating Minister for National Security
Teo Chee Hean

IMCCC Executive Committee

Chaired by Permanent Secretary
(Strategy Group, Prime Minister's Office)

Government agencies

National Climate Change Secretariat, Strategy Group (NCCS)
Ministry of Sustainability and the Environment (MSE)
Ministry of Foreign Affairs (MFA)
Ministry of National Development (MND)
Ministry of Finance (MOF)
Ministry of Transport (MOT)
Ministry of Trade and Industry (MTI)
Economic Development Board (EDB)
Monetary Authority of Singapore (MAS)
National Research Foundation (NRF)

Carbon & Energy
Transition Working Group

Resilience
Working Group

Sustainability &
Engagement
Working Group

Economic Transition
Working Group

Measurement, Reporting
& Verification Task Force

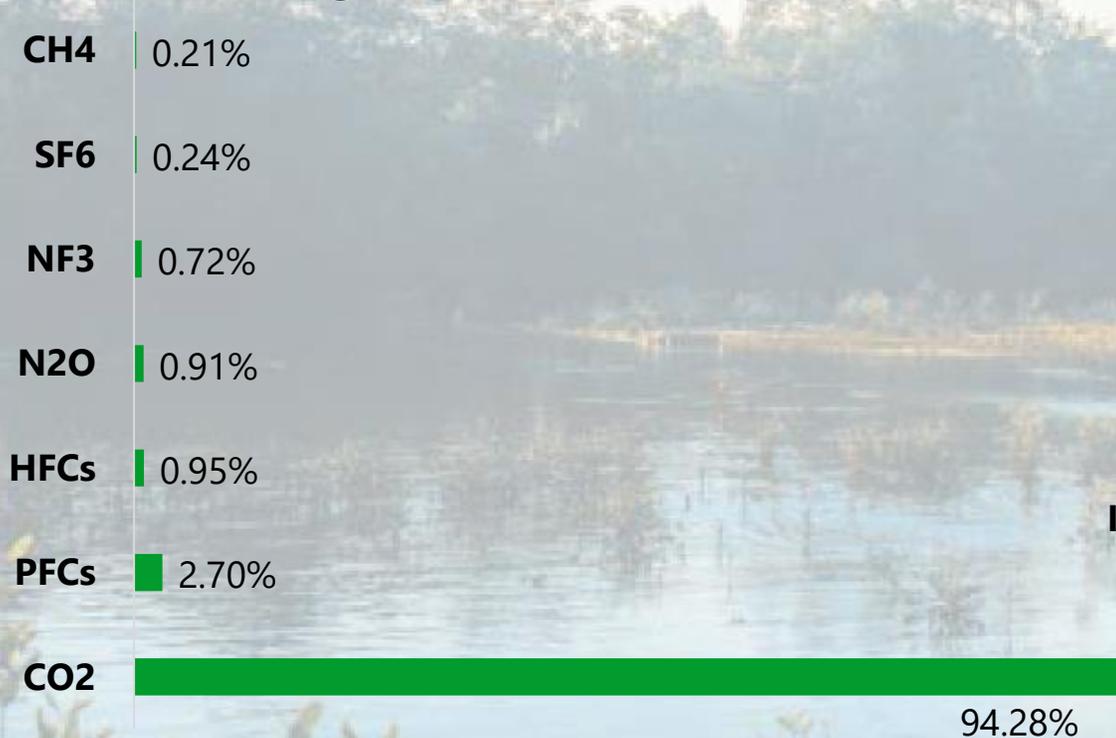
Interagency Working
Group on NC & BUR

Emissions profile

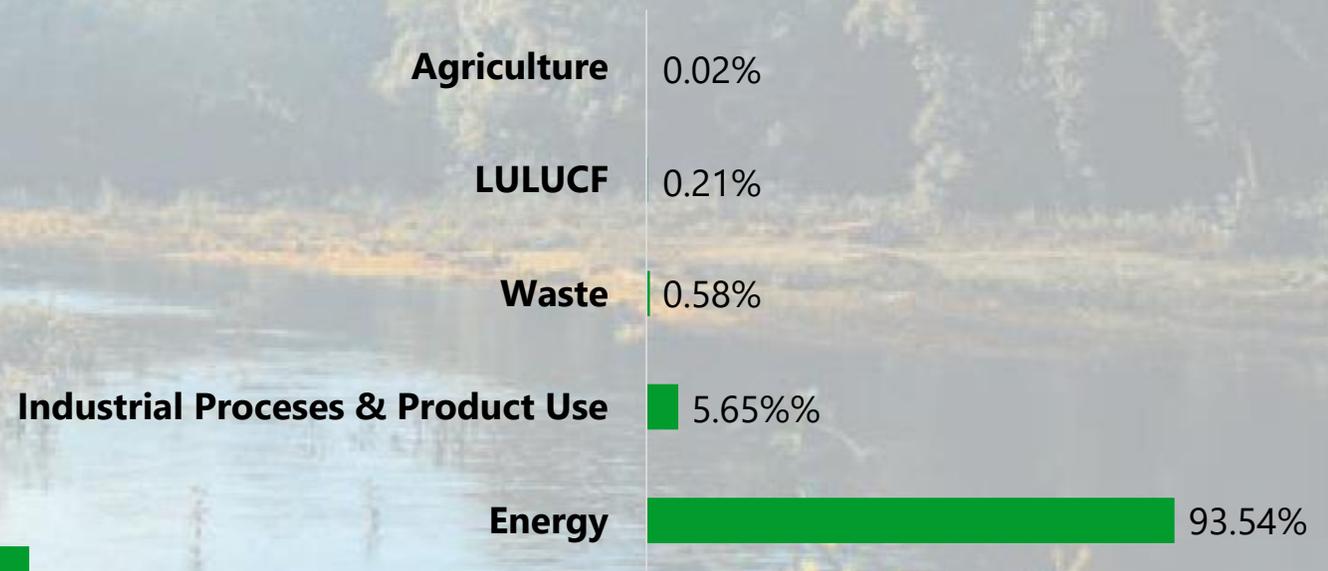
Total emissions in 2018: 53.3 MtCO₂eq

CO₂: 50.3 MtCO₂eq
Non-CO₂: 3.0 MtCO₂eq

Percentage contribution of each GHG



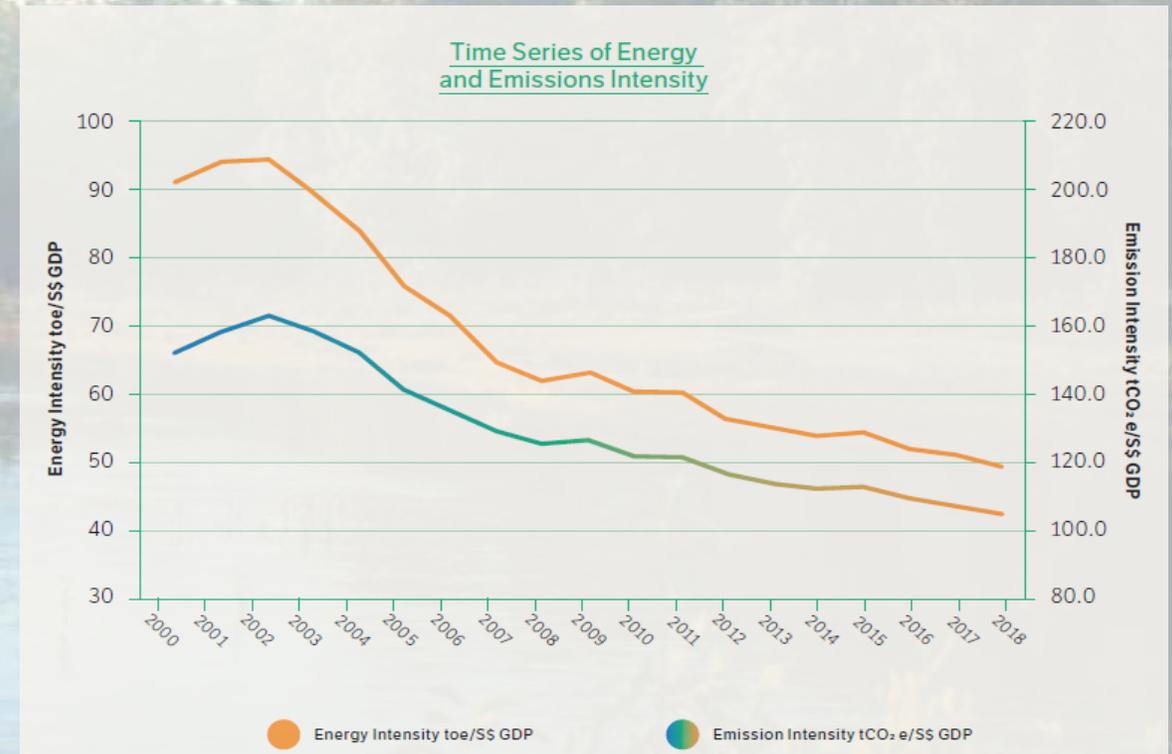
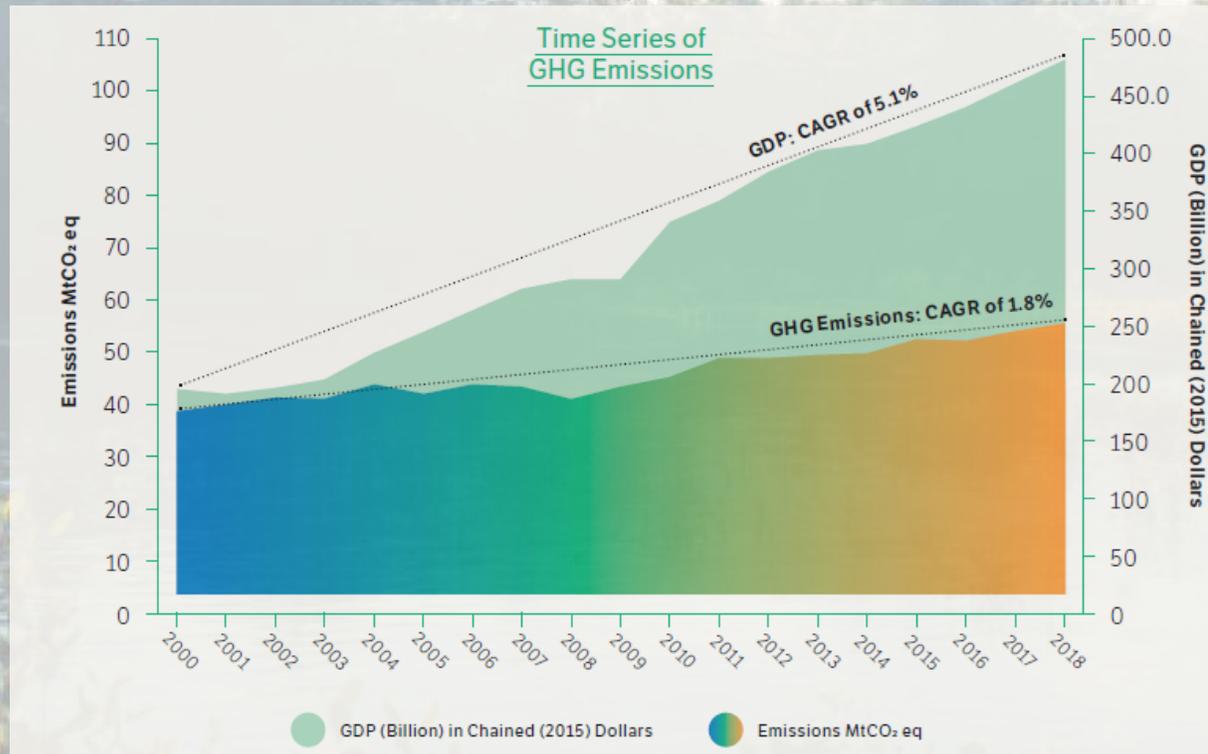
Percentage contribution of each Greenhouse Gas Source & Sink Categories



Time Series of Greenhouse Gas (GHG) Emissions

Singapore's GHG emissions grew at a significantly slower rate than real GDP and...

...Emissions intensity improved by 44.5% & energy intensity improved by 39.8%.



Improvements in MRV Capacities



Inclusion of GHG emissions from Agriculture

Developed Tier 1 estimate of GHG emissions from Agriculture for year 2018 in alignment with 2006 IPCC Guidelines for National GHG Inventories



Recalculation of GHG time series

Singapore's GHG inventory updated in consistent manner in line with IPCC Good Practice Guidance



Inclusion of new sectoral reporting tables

In response to feedback from technical analysis of BUR4, Singapore included reporting tables under Waste & Agriculture, Forestry and Other Land Use (AFOLU) sectors



Singapore's climate pledges: Progression over time

**Submission in
2010**

2020 Copenhagen Pledge

Reduce GHG emissions by 16% below Business-As-Usual (BAU)

**Submission in
2015**

2030 Nationally Determined Contribution (NDC)

Reduce Emissions Intensity by 36% from 2005 levels by 2030 and stabilise emissions with the aim of peaking around 2030

**Submission in
2020**

Enhanced 2030 NDC

Peak emissions at 65 MtCO₂e around 2030

Long-term Low-Emissions Development Strategy

Halve emissions from peak to 33 MtCO₂e by 2050 and net zero emissions as soon as viable in the second half of the century

2022 enhancement of climate pledges

Charting Singapore's Net Zero Future

Achieve net zero emissions by 2050

Long-Term Low-Emissions Development Strategy (LEDS)

**Reduce 2030 emissions to 60 MtCO₂e
after peaking emissions earlier**

2030 Nationally Determined Contribution (NDC)



Whole-of-nation approach to mitigation undergirded by the right-pricing of carbon

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Achieve net zero emissions by 2050

Long-Term Low-Emissions Development Strategy (LEDS)

Reduce 2030 emissions to 60 MtCO₂e after peaking emissions earlier

2030 Nationally Determined Contribution (NDC)

Accelerating Low-Carbon Transition in Industry, Economy and Society

Catalyse business transformation

- Sustainable energy and chemicals hub in conjunction with industry
- Grants for energy efficiency and emissions reduction

Invest in low-carbon technologies

- Carbon Capture Utilisation and Storage
- Low-carbon hydrogen
- Solar and energy storage systems

Pursue effective international cooperation

- International carbon markets with high quality carbon credits
- Regional power grids for green energy

Adopt low-carbon practices

- Green commutes via public transport, Walk-Cycle-Ride & cleaner energy vehicles

KEY ENABLER

Right-pricing carbon to shape business decisions and consumer behaviour

Carbon tax
S\$50-80/tCO₂e
by 2030

EVERYONE CAN PLAY A PART

Public sector

Achieve net zero emissions across public sector around 2045 as part of GreenGov.SG



Private sector

Develop and adopt low-carbon solutions, and pursue green growth opportunities



Individuals

Contribute to climate friendly initiatives





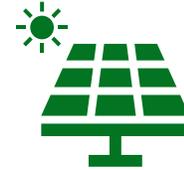
Example 1: We are shifting towards a net zero power grid by 2050

4 National Switches



Increase efficiency of natural gas power generation

95.8% of 2020 fuel mix; significantly less carbon intensive than coal



Maximise solar deployment

In progress to achieve **1.5 GWp by 2025** and at least **2 GWp by 2030** with conventional rooftop & innovation solar applications



Import low-carbon electricity

In progress to import up to **4 GW low-carbon electricity**

Development of Lao PDR-Thailand-Malaysia-Singapore Power Integration Project



Develop low-carbon alternatives

Published inaugural **National Hydrogen Strategy**.

Example 2: Beyond primary emissions, we also manage energy demand across all sectors, including Household

Reducing Electricity Use among Households

1. Mandatory Energy Labelling Scheme & Minimum Energy Performance Standards
2. Energy-Saving Challenge in 2017 and 2018 saved a total of 800,000 kWh
3. Vouchers to select HDB households through *Switch and Save – Use LED and Climate Friendly Households*



We will continue to rally bold and collective action from all stakeholders in society to achieve our climate targets

We launched the Singapore Green Plan 2030 in 2021 as a whole-of-nation movement towards sustainable development & net-zero emissions. It is a **long-term blueprint** that charts **bold and concrete sectoral targets** for the rest of this decade.

GREEN PLAN



City in Nature



Energy Reset



Sustainable Living



Green Economy



Resilient Future

Supported by...



Green Citizenry



Green Government – net zero emissions around 2045

ETF transition and implementation

Understanding the Enhanced Transparency Framework (ETF)

Since 2023, we have made active efforts to **build capacity** for the more onerous reporting obligations our 1st BTR.

Representatives from various sectors across government have attended workshops to familiarise themselves with the modalities, procedures & guidelines (MPGs).

Developing Singapore's Biennial Transparency Report

Singapore is currently developing our BTR for **submission before the end of the year.**

We recognise that the BTR will be new for all countries. We look forward to **learning from this experience** and to **improve** upon it for future iterations.

Building capacity through peer learning



Training Workshop on Transitioning to the ETF & Tracking of Progress in Implementing and Achieving NDCs, 8-10 Mar 2023, Singapore

- Co-organised by Singapore and US Environmental Protection Agency (EPA), with support from UNFCCC Secretariat
- 30 participants from 15 developing countries
- Mainly to facilitate the identification of nationally appropriate indicators to track progress of the implementation and achievement of NDCs, and necessary institutional arrangements.

Hands-on Training Workshop on Transitioning to the ETF, including the Preparation of the BTR, 12-15 Mar 2024, Singapore

- Co-organised by Singapore, US EPA and NDC Partnership, with support from UNFCCC Secretariat.
- 41 participants from 20 developing countries
- Mainly to enhance the technical understanding of the MPGs and their application to different thematic areas.



Thank you

Presented by:

Derek Ng, Assistant Director (Mitigation Policy)

National Climate Change Secretariat, Prime Minister's Office Strategy Group, Singapore

For additional information, please visit the following websites:



**Singapore
Green Plan 2030**



**Singapore's Long-Term
Low-Emissions Development
Strategy (LEDS)**



**National Climate Change
Secretariat**