

20% in 2020 – Unlocking ASEAN’s Energy Efficiency Potentials

Industrial Energy Efficiency Programmes in Singapore

Presented by: Kwek Chin Hin, Head (Industrial Energy Efficiency)

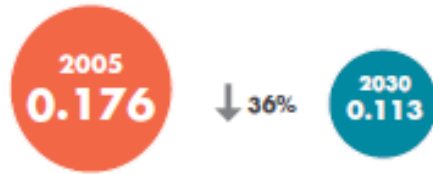
Presented at: Singapore International Energy Week 2017 Roundtable

26 October 2017

Mitigation Target & Approach

- In Sep 2016, Singapore ratified the Paris Agreement and formalised its pledge to reduce its emissions intensity by 36% below 2005 levels by 2030 and stabilise its emissions with the aim of peaking around 2030

Emissions Intensity (kgCO₂e/\$GDP)



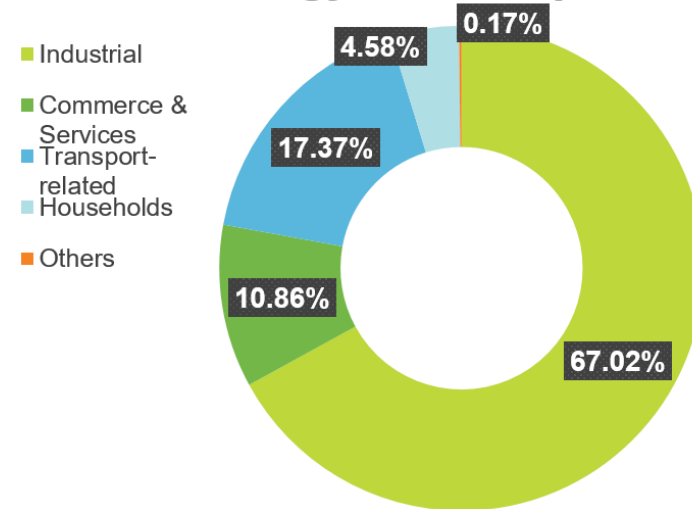
- Whole-of-government approach to implement mitigation measures



Energy Consumption & Mitigation Plan

- Industry sector accounted for >50% of Singapore's total energy consumption, and has the largest potential for energy reduction
- Improving energy efficiency (EE) has been a key strategy to reduce energy consumption and mitigate the impact of climate change
- Further EE improvements will help Singapore to continue to grow sustainably

Final Energy Consumption



* Based on 2015 energy consumption data

Industrial Energy Efficiency Landscape

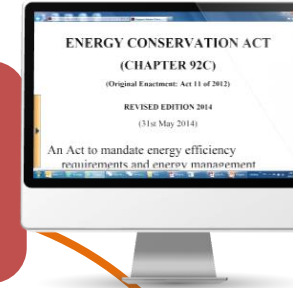
Characteristics of Industrial Sector

- Heterogeneous with complex processes
- Energy efficiency considered as peripheral
- Exposed to global competition

Industrial EE Strategy

- Promote good corporate energy management practices
- Encourage adoption of energy efficient technologies

Regulation and Standards



Approach

Incentive Schemes



Capability Development



Industrial Energy Efficiency Programmes

Mandatory Energy Management Practices under Energy Conservation Act (ECA)



- Energy-intensive industrial facilities* consuming ≥ 54 TJ per year in 2 of 3 preceding years must:
 - appoint an energy manager;
 - monitor and report energy use and GHG emissions; and
 - submit energy efficiency improvement plans
- Companies under ECA:
 - 181 companies operating 230 energy-intensive facilities

Incentive Schemes & Capability Development Programmes



- Incentive schemes
 - design efficient facilities
 - conduct energy assessments
 - adopt energy efficient technologies
- Capability development programmes
 - train professionals in energy management
 - disseminate best practices and raise awareness
 - recognition programme

* (1) Manufacturing & related services (2) Supply of electricity, gas, steam, compressed air & chilled water (3) Water supply & sewage & waste management

Industrial Energy Efficiency Programmes

Enhancements to the Energy Conservation Act gazetted on 2 Jun 2017



New facilities & major expansions

- Review facility design for EE¹
- Report measured energy data¹



Existing facilities

- Put in place structured energy management system²
- Conduct regular EE opportunities assessments²



Common industrial equipment & systems

- Introduce minimum energy performance standards, starting with motors¹

¹ From October 2018 onwards

² From 2021/22 onwards

Our Environment

Safeguard • Nurture • Cherish