

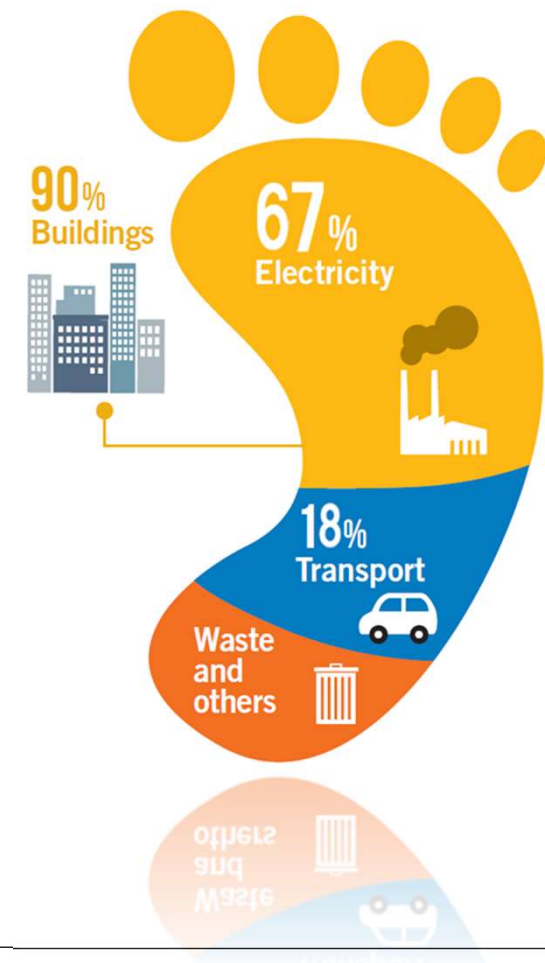
**Exploring Trends, Challenges and Opportunities  
Energy for Our Future Generations**

**Presentation on Government Support for Meeting  
2030 Carbon Emissions Targets  
Revamping Fuel Mix for Electricity Generation**

**9 May 2019**

# Carbon Emissions of the Electricity Generation Sector in Hong Kong

- **Electricity generation accounts for around 2/3s of Hong Kong's greenhouse gas emission**
- Changing our fuel mix plays a key role in our decarbonisation strategy



# Key Considerations in Planning Fuel Mix

- **Four energy policy objectives which are competing:**
  - Safety
  - Reliability
  - Affordability
  - Environmental protection
- **How to arrive at an optimal fuel mix?**

# Carbon Emissions of Different Fuel Types

- **Coal > natural gas**
- **Zero carbon:**
  - **Renewable energy (RE)**
  - **Nuclear**
  - **Power import**



# Key Milestones in Decarbonising the Electricity Generation Sector

- **1994:** Began to import nuclear power from the Mainland
- **1996:** Built the first gas-fired electricity generating plant
- **1997:** Not to build new coal-fired electricity generating plant

# Key Milestones in Decarbonising the Electricity Generation Sector (Con't)

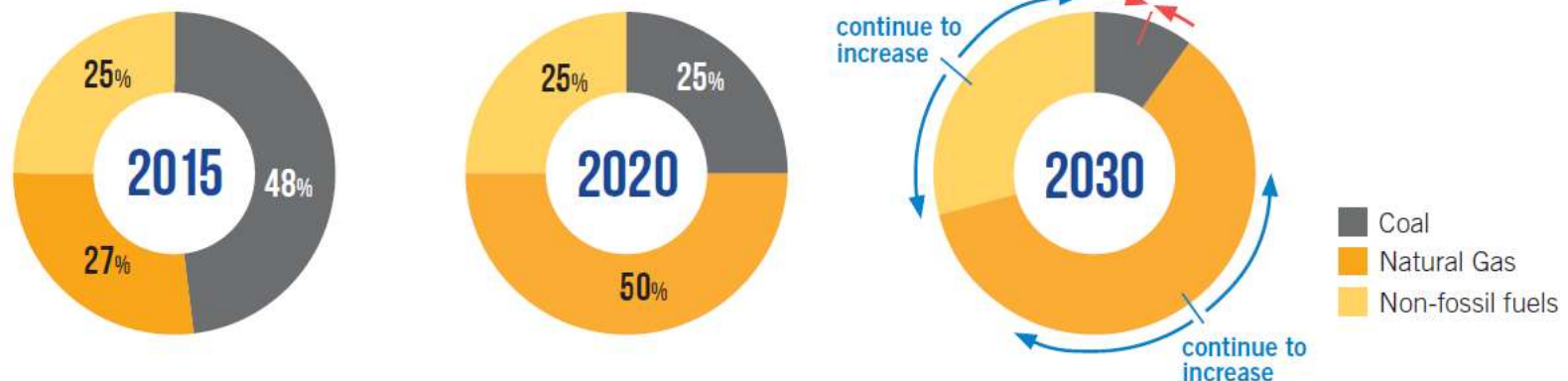
- **2014: Conducted a public consultation on the 2020 fuel mix for electricity generation**
  - Most of the respondents supported local natural gas generation and expressed reservation about importing more electricity from the Mainland



# Key Milestones in Decarbonising the Electricity Generation Sector (Con't)

- **2015:** Announced the 2020 fuel mix plan of increasing local natural gas generation to about 50%
- **2017:** Announced phasing down coal for electricity generation by 2030

REDUCTION OF COAL IN FUEL MIX FOR ELECTRICITY GENERATION 2015-2030



# Key Milestones in Decarbonising the Electricity Generation Sector (Con't)

- **2017-18 and onwards:** Launched various RE facilitation measures, e.g.:

## Public sector

- Take the lead in developing large-scale RE projects
- Earmarked a total of \$2B for installation of small-scale RE systems at Government buildings, venues and facilities





# Key Milestones in Decarbonising the Electricity Generation Sector (Con't)

## Private sector

- Feed-in Tariff (FiT) Scheme
- Relax buildings-related requirements
- New programme called “Solar Harvest” to install small-scale RE systems for eligible schools and welfare NGOs



# Key Milestones in Decarbonising the Electricity Generation Sector (Con't)

- **2018: Approved CLP's proposed Clean Energy Transmission System (CETS)**
  - To help replace some retiring coal plants
  - Give us the capability and flexibility to use more zero-carbon energy from the Mainland of around 30% - 35% of Hong Kong's fuel mix
  - Allow us to advance our achievement of 2030 carbon intensity reduction target

## Further Down the Road

- Need to substantially increase the proportion of zero carbon energy in our fuel mix

To achieve Paris Agreement's **2°C** target

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**Majority** coming from **zero carbon energy**

- Timely decision on future fuel mix is important
  - Many coal plants will reach the end of their useful life in the next decade or so
  - A gas unit will normally operate for 30 years or more
  - Once we replace a retiring coal plant with a gas unit -> little way to drastically reduce carbon emissions in the next 20-30 years

## Further Down the Road (Con't)

Develop more RE?

- Overseas countries which use large amount of RE
  - Abundant RE resources (e.g. hydro and wind)
    - Hong Kong only has 3-4% local RE potential (subject to review)
  - Depend a lot on regional cooperation

10% Electricity  
Consumption from PV



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About the size of **Wan Chai**  
plus **Central & Western**  
**District**

Heavy Investment



## Further Down the Road (Con't)

Enhance regional cooperation?

- Public acceptance
- Timely decision to allow time to plan and build new cross-boundary power transmission infrastructures

## Other Mitigation Measures

- Practicing energy saving in buildings
- Greening transportation
- Low carbon consumption

**THANK YOU**