



# **Climate Policy Forum Cum Workshops**

GHG Reduction Solutions for a Low Carbon Hong Kong

30 September, 2010

Disclaimer: This powerpoint presentation for this forum only reflects the opinion of our guest speakers and do not represent the stance of WWF-Hong Kong.

# Hong Kong's Climate Change Strategy and Action Agenda

Environment Bureau

September, 2010



# Impacts on Hong Kong

Climatic Variables	Observed Change per Decade
<b>Annual mean temperature</b>	Increasing by 0.12 °C ( 1885 – 2009)
<b>Mean diurnal range</b>	Decreasing by 0.24 °C (1947 -2009)
<b>Hot nights</b> ( minimum temperature $\geq 28^{\circ}\text{C}$ ) <b>in Jun-Aug</b>	Increasing by 3.5 nights (1947 – 2009)
<b>Cold days</b> (minimum temperature $\leq 12^{\circ}\text{C}$ ) <b>in Dec-Feb</b>	Decreasing by 2.3 days (1948 – 2009)
<b>Annual rainfall</b>	Increasing by 51 mm (1947 – 2009)
<b>Heavy rain days</b> (hourly rainfall > 30 mm)	Increasing by 0.4 days (1947 – 2009)
<b>Mean sea level (Victoria Harbour)</b>	Rising by 26 mm (1954 – 2009)

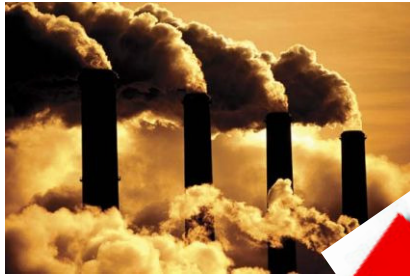
# Projected Impacts by end 21st Century

	Current Conditions 1971 – 2000	Impact 2090 – 2099
<b>Decadal mean annual temperature (°C)</b>	23.1	24.5 - 32.3
<b>Hot nights</b> (i.e. minimum temperature of 28°C or above) <b>in Jun-Aug</b>	12.2	22.0 – 68.7
<b>Very Hot nights</b> (i.e. maximum temperature of 33°C or above) <b>in Jun-Aug</b>	8.2	9.6 – 23.5
<b>Cold days</b> (i.e. minimum temperature of 12°C or below) <b>in Dec-Feb</b>	16.3	<1

# Combating Climate Change

- ❑ Responsibility
- ❑ Urgency
- ❑ Economic Development
- ❑ Competitiveness
- ❑ Positioning

# Hong Kong's Target (2020)



Carbon intensity  
reduction

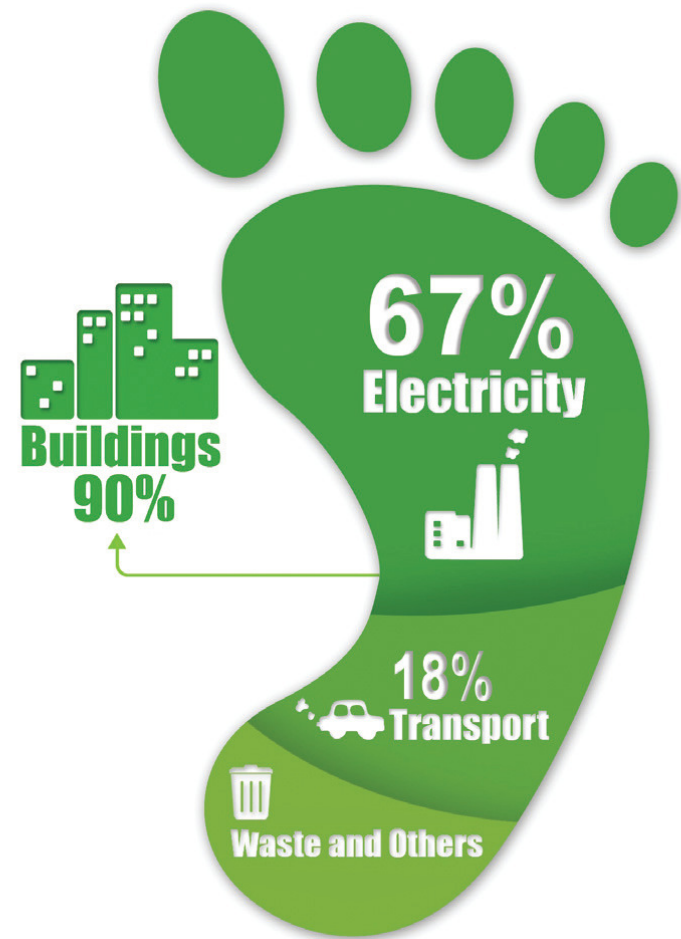
**50-60%**

## With the achievement of the targets :

- Hong Kong's annual greenhouse gas (GHG) emissions will be reduced from 42 million tonnes in 2005 to 28-34 million tonnes in 2020, representing an absolute reduction of **19-33%**.
- Per capita emission will drop from 6.2 tonnes to 3.6 – 4.5 tonnes, representing a reduction of **27-42%**.

# Hong Kong's Carbon Footprint

- Electricity generation (67%)
- Transport (18%)
- Waste (5%)
- Others



# Proposed GHG Mitigation Measures

- ❑ Maximising energy efficiency
- ❑ Greening road transport
- ❑ Cleaner fuels for motor vehicles
- ❑ Waste to energy
- ❑ Improving electricity fuel mix



# 1. Maximising Energy Efficiency



Electricity generation accounts for at least **60%** of total GHG emissions, and buildings take up approximately **90%** of electricity consumed in Hong Kong.



# Proposed Mitigation Measures

Expand the scope and tighten the requirements of the Building Energy Codes



By 2020 major electrical equipments in all new commercial buildings will be up to 50% more energy efficient as compared with 2005 building stock

Expand the use of district cooling or water-cooled air conditioning



By 2020 up to 20% of all commercial buildings will be up to 50% better in refrigeration performance compared with buildings using regular air conditioners

Reduce energy demand in new buildings by various means such as tightening the overall thermal transfer value (OTTV) standards and promoting wider adoption of green roofing



By 2020 all new commercial buildings will reduce their energy demand by up to 50% as compared with new buildings in 2005

Improve energy efficiency in commercial buildings through good housekeeping, information technology products and intelligent building environmental management system



By 2020, 25% of existing commercial buildings can be 15% more energy efficient compared with 2005

Expand the scope and tighten the energy efficiency electrical appliance standards for domestic use



By 2020 all appliances sold in the market will be 25% more energy efficient compared with 2005

## 2. Promoting Green Road Transport



**The transport sector in Hong Kong accounts for about 18% of GHG emissions. Road transport dominates the emissions in this sector**

Wider use of motor vehicles running on alternative fuel

Implementation of importers' average fleet efficiency standards



By 2020, 30% of private cars, 15% of buses and goods vehicles in Hong Kong are hybrid and EVs or other vehicles with similar performance



New vehicles will be 20% more energy efficient than the 2005 market average



### 3. Promoting Use of Clean Fuels for Motor Vehicles



**Almost all motor vehicles in Hong Kong rely on fossil fuels, including petrol, diesel and liquefied petroleum gas. About 16% of GHG emitted in Hong Kong is derived from these fuels**

Require petrol and diesel for motor vehicles to be blended with 10% of ethanol and biodiesel respectively

Look into the possibilities of better utilising waste cooking oils in producing biodiesel locally



Further reduce our reliance on fossil fuels for motor vehicles by 2020



## 4. Turning Waste into Energy



**Construction and operation of waste-to-energy facilities and better utilisation of landfill gas as an energy source before 2020**

Development and full operation of one integrated waste management facility (IWMF), two organic waste treatment facilities (OWTFs), and one sludge treatment facility

Full utilisation of the recovered landfill gas and gas generated from waste water treatment



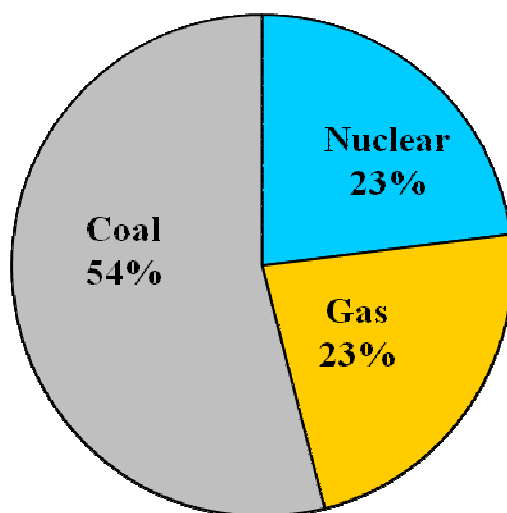
As a clean, low-carbon fuel which can help reduce GHG emissions and alleviate the pressure on our landfills



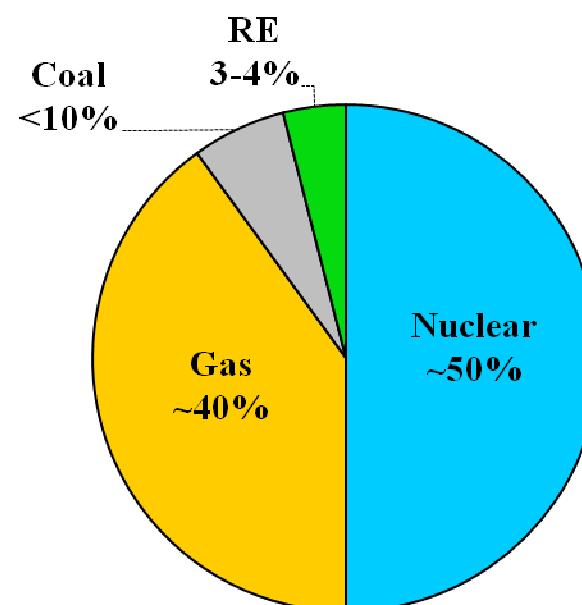


## 5. Revamping Fuel Mix for Electricity Generation

2009



2020



# **Views and comments**

## **by 10 December 2010**

