



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.

Looking forward (to a low-carbon society)

Dr Josie Close

more Consultation?

- The Public, Political groups, Business Chambers, NGOs, Editorials, Articles & Letters to the Press
- Hottest June on record + Extremely poor air quality
- ACTION - not further consultation

But a target at last!

- 50-60% reduction in carbon intensity
- though no clear policy, programmes or strategies

Realities

- **BECs** – outdated + far from radical
- **New buildings** – no problem (well looked after by design & construction professionals)
- **Existing buildings** – the bulk, complicated & time-consuming but EE benefits v. high (low-hanging fruit)

CO2 reductions 50+% potential (EBPH project)

- **Barriers**
 - Supply Rules + monopolies (open grid + Smart Grid)
 - Developers no incentive for more radical designs
 - Legislation for integrated RE (solar thermal/PV/urban wind)
 - Public awareness & response (building labelling)

New roles (for HK's electric utilities)

- Demand-side management
 - Energy Service Companies (ESCO's) to accelerate energy efficiency
- On-site generation
 - Supply Rules + geographic monopolies outdated
- Open-access grid
 - Encourage a diversity of generation small & large and particularly clean technologies – renewables
 - Prepare for linking to PRD and Smart Grid benefits

NB EVs

Integrated fuel + energy

- High proportion of electricity used for cooling -
- Why is the HK China Gas company (Towngas) role not identified?
 - Dec 2008 China/HK agreement (ie government to government) for 23yrs supply of natural gas
 - Towngas operates supplies on mainland

Shenzhen/PRD links

- NDRC outline plan for PRD (includes HK and Macau) for leadership in innovative practices, smart grid and new technologies to meet low-carbon future
 - identified Shenzhen as first ECO-city
 - HK offered role but slow and hardly radical

Post 2020 (it's not far away)

- 2030-2050
 - HK should have plans + should articulate them
 - Big potential (beyond HK) for
 - design & construction professionals in low - energy buildings
 - energy and carbon audits
 - retro-fits – assessment, design/management plus operation

Actions!

- Links to Shenzhen particularly- also PRD
- Open Access Grid – necessary for smart grid
- Encourage energy entrepreneurs in generation and energy efficiency

ReGen* Lifts

- Powersaving ReGen lift (over non-regen)= 4.3kW/h (28.9%)
- Cost of ReGen = 10% (above standard) (ROI 3.23 yrs)

-

Applied to HK's 18,480 lifts (aged 20+yrs)

- Electricity saving = 1.27million kW/h per year



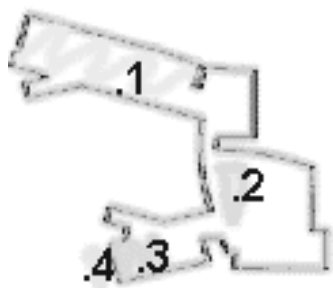
= 75,000 journeys i-MiEV
160km/16kw lithium-ion battery

(nb HK SAR/Mitsubishi MOU – 26.02.2006, sale of 30 MiEV since December 2009)

*OTIS lifts HK Demonstration (Sheung Shui) & Data - 2 June 2010

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Grid-connected BIPV at Ma Wan School HK



- 1** Monitor roof
Deck-shading
(Copper
Indium
Diselenide)
- 2** Rooflight
over Stair
(Poly-crystal-
line)
- 3** S.SE facing
Canopy
(Amorphous-
silicon)



Birds-eye view from residential tower to the south

9% of school's annual
energy demand from
40kw BIPV installation

Cost within
HK Government
construction budget

PV Rooflight seen from the Terrace,
Ma Wan School, Hong Kong, 2004:
HK Government's ArchSD + EMB +
HKU's Centre of Renewable Energy

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BIPV (not grid-connected)



No1 Peking Road, HK designed by Rocco Design Ltd
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73% reduction in building's CO₂ emissions with tower-top wind turbines.

Installation underway (12 March 2010) Strata Tower, Elephant & Castle London. "Strata 'razor' Tower, cutting edge of eco-construction"

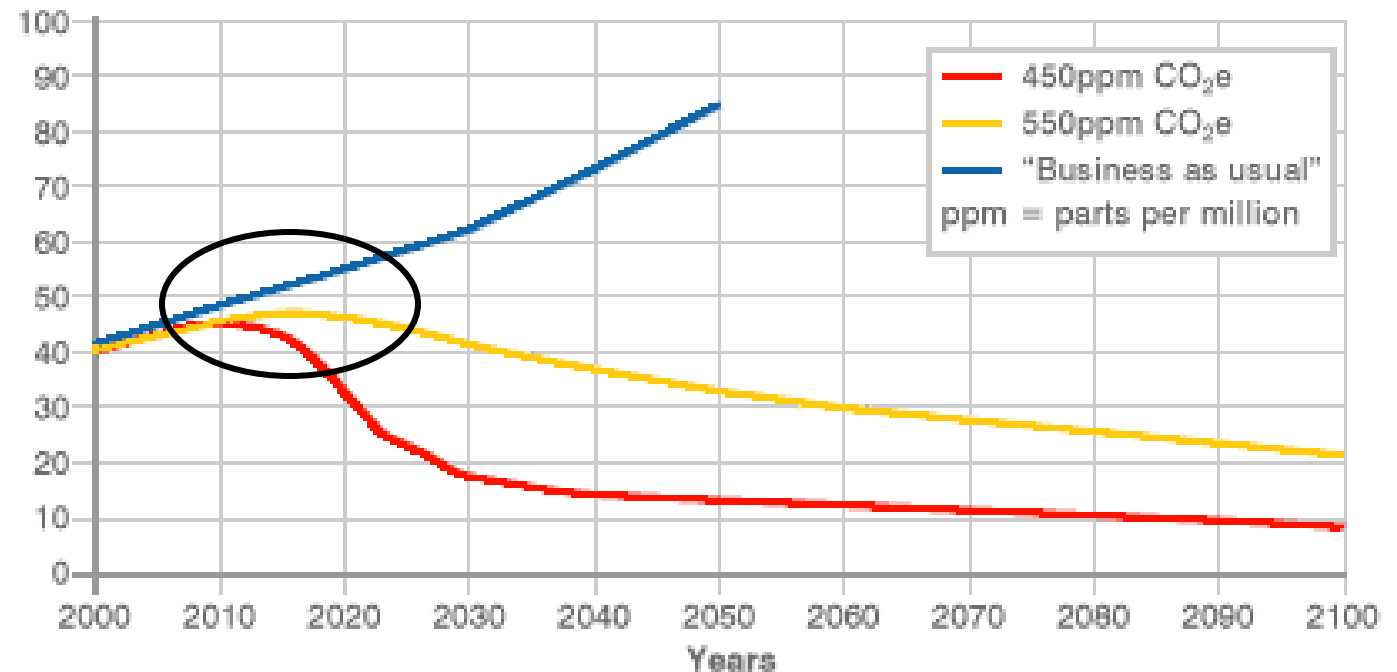
Photo credits www.guardian.co.uk

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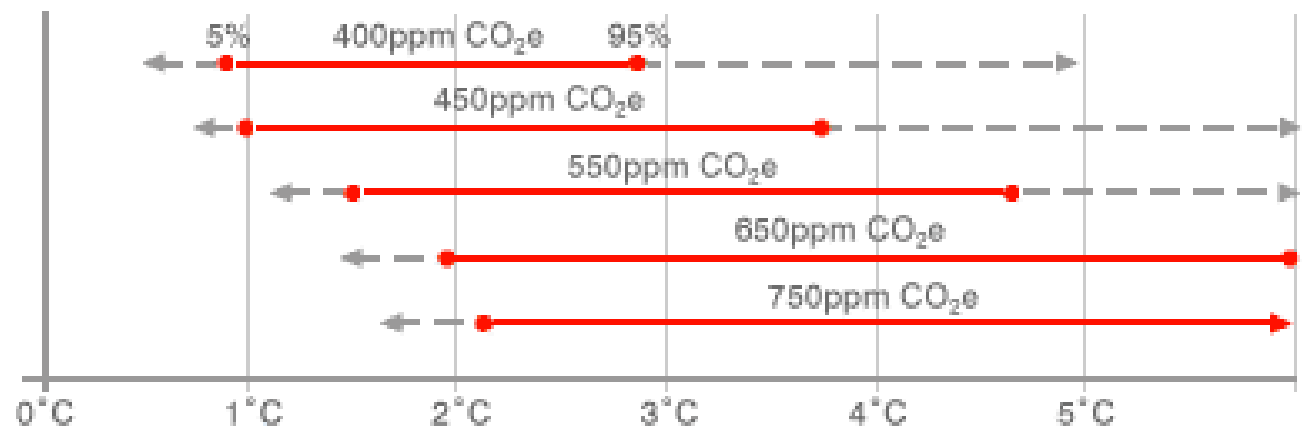
We must
make a
difference

EMISSIONS PATHS TO STABILISATION

Global Emissions (Gigatonnes of CO₂ equivalent gases per year)



Possible Temperature Change (Relative to Pre-Industrial averages)



SOURCE: Stern Review

Thank You

The full CCBF report can be downloaded from
www.climatechangebusinessforum.com

or contact

jclose@cityu.edu.hk

beckchau@polyu.edu.hk

for more information