

A landscape photograph of a pond with lily pads, a house, and a rainbow. The pond is in the foreground, filled with green lily pads and some brown leaves. In the middle ground, there is a house with a green roof and white walls, surrounded by trees. A large, vibrant rainbow arches across the sky in the background. The sky is a mix of grey and blue, suggesting a recent rain.

Emissions Target

# Roadmap 2050

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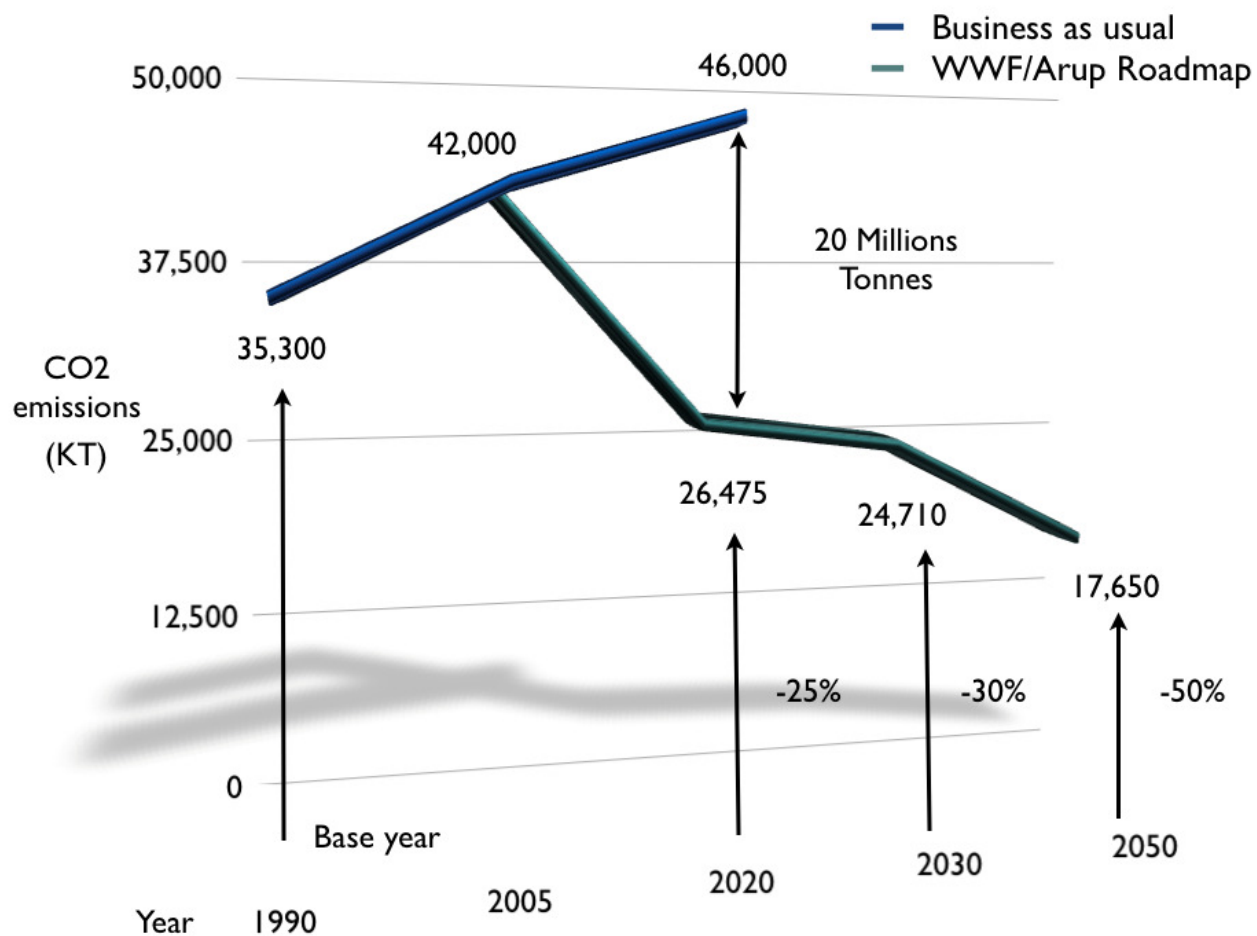
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Photo: © Bena Smith



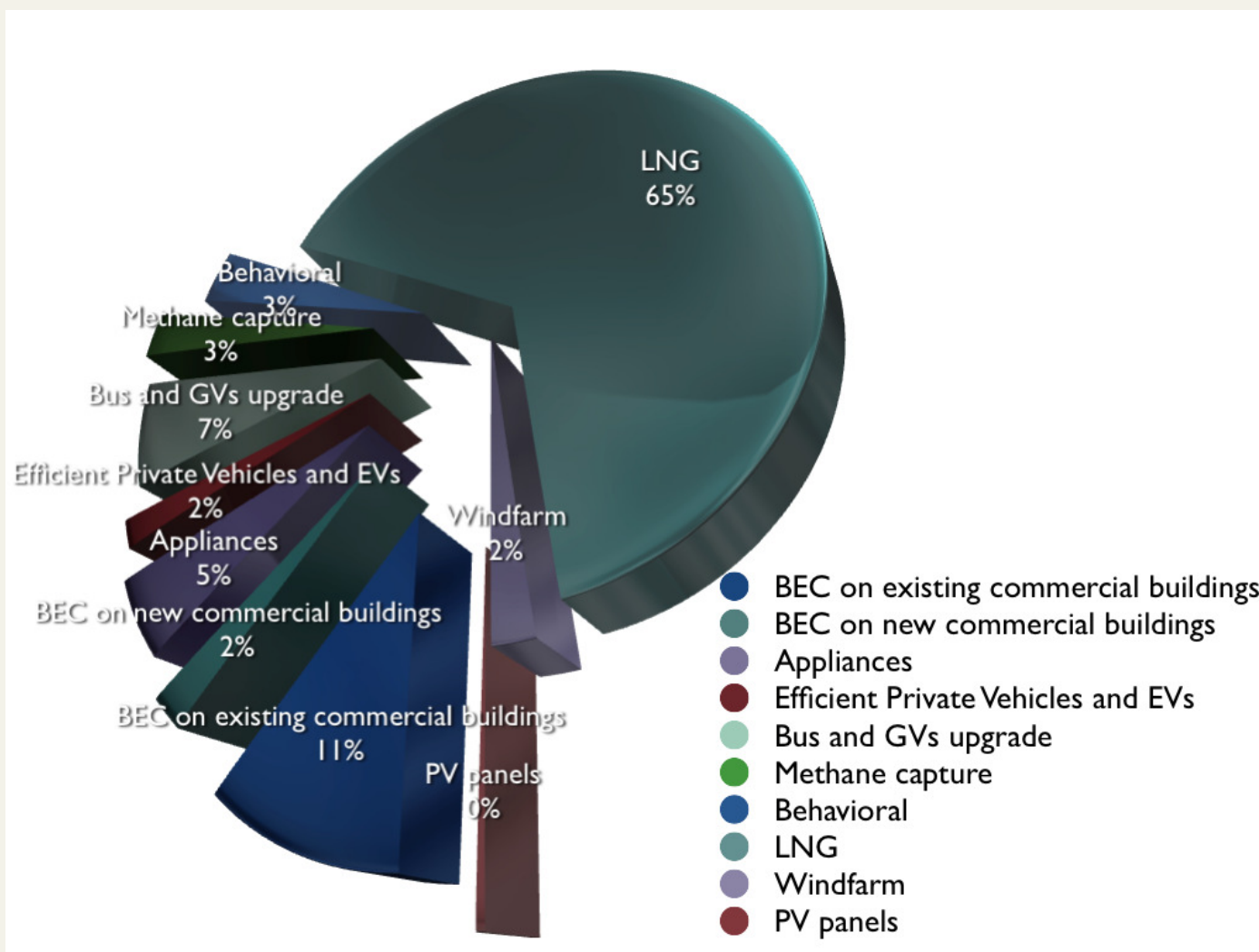


## Our Solutions





## Our Solutions – % of Reduction Amt





## Our Solutions

Sector	Action by 2020	Carbon Saving
Building	45% Penetration of BEC in Commercial Building Retrofitting 4.1 million sq meter floor area	2,640 (KT)
Building	Effectiveness of BEC (50% Carbon Reduction) Doubling BEC Standard in 10 years	



## Our Solutions

Sector	Action by 2020	Carbon Saving
Appliance	75% Penetration of Energy Efficiency Appliances	1,000(KT)
Appliance	25% improvement in efficiency of Appliances Grade 1 Mandatory Energy Labelling From 5 Categories to 7 Categories and 10 Categories: Approx. 100% residential consumption	



## Our Solutions

Sector	Action by 2020	Carbon Saving
Transport	100% Penetration of High Efficiency Cars	1,400(KT)
Transport	25% fuel efficiency improvement	
Transport	100% buses LGV upgraded	
Appliance	25% of Electric Bus HGV etc	



## Our Solutions

Sector	Action by 2020	Carbon Saving
Behavioral	Half of HK people reduce 200kg CO2	700 (KT)
Waste	70% Methane Capture	600 (KT)
Energy Mix	73% LNG	13,300 (KT)
Energy Mix	Nuclear: % remain unchanged	



## Our Solutions

Sector	Action by 2020	Carbon Saving
Renewable Energy	300 MW + 0.05% of HK area PV	500 (KT)
Total		20,140 (KT)
HK can reduce 25% Co2 emissions without increasing nuclear power		





## Comparison

	Government proposal	WWF/Arup Roadmap
Energy Mix	Nuclear 50% LNG 40%	Zero increase in Nuclear LNG 75%
Focus	Supply Side Management	Demand Side Management
Emissions Reduction	33% (2005)	37% (2005) 25% (1990)



## Initial responses to Govt's Proposal

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- WWF's own stance – (NOT Arup's position)
- Arup's different proposal – See Raymond Yau's presentation
- S.S.M. Energy Mix – Nuclear accounts for 60% of the reduction amount
- Together with Natural Gas = 80% of the targeted reduction amount
- Details of D.S.M. not available – Monetary terms / Quantitative Figures from Consultant Report
- -Endless Supply of energy – Address energy source Vs Tackle over-consumption & Waste issues, competing energy with other Chinese Cities
- Alternative Solutions



## Top priority – Energy Efficiency / DSM / Behavioral Change

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- All the sectors can contribute to carbon reduction by promoting energy efficiency : Grade A office, Buildings, Appliance, Transport, Individual
- Feasible and practical solutions include Energy Efficiency and DSM programs => Behavioral change.
- Energy efficiency and DSM programs are lower cost option compared with changing energy fuel mix.
- All of us may reduce the total cost of electricity tariff and create job opportunities



## Conclusion

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- HK can reduce 25% absolute carbon emissions by 2020 without increasing the nuclear power in fuel Mix (Percentage refers to IPCC's suggestions for developed City)
- Solutions are not limited to Nuclear, Energy Efficiency measures / DSM / Behavioral change are the keys
- DSM / Energy efficiency programs and increase LNG proportion in the fuel mix can achieve a better target (-25% absolute emissions, 1990 base)
- No intention to impose our Roadmap – Open to discussion
- Consolidate Wisdom & Practicality – E.g. Retrofit 45% commercial buildings
- Today's focus on Government's Climate Strategy & Action Agenda



# Thank you

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Presentation to xxx

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