

# ROADMAP TO A LOW-CARBON WORLD

## Third Workshop of the Japan-UK Low Carbon Society (LCS) Joint Research Project

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# LCS PROJECT: OBJECTIVES

- Identifying and understanding the necessity for deep cuts in greenhouse gas (GHG) emissions toward 2050
- Reviewing country-level GHG emissions scenario studies in developed and developing countries.
- Formulating win-win strategies to align sustainable development and climate objectives
- Studying methodologies to achieve LCS – visions, pathways modelling the future society, technological, institutional, behavioural); financial mechanisms
- Identifying gaps between goals and the current reality
- Sharing best practices and information; identifying opportunities for cooperation



# WHAT IS A LOW CARBON SOCIETY?

- Takes actions that are compatible with the principles of sustainable development, ensuring that the development needs of all groups within society are met
- Makes an equitable contribution towards the global effort to stabilise atmospheric concentration of carbon dioxide and other greenhouse gases at a level that will avoid dangerous climate change through deep cuts in global emissions
- Demonstrates high levels of energy efficiency and uses low carbon energy sources and production technologies
- Adopts patterns of consumption and behaviour that are consistent with low level of greenhouse gas emissions



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# LOW CARBON SOCIETY TIMELINE

- February 2006 – announced by Environment Minister Yuriko Koike and British Ambassador Graham Fry in Tokyo
- June 2006: *First* Low Carbon Society Symposium and Workshop, Tokyo
- December 2006: Low Carbon Society Modelling Workshop, Oxford
- June 2007: *Second* Low Carbon Society Symposium and Workshop, London
- February 2008: *Third* Low Carbon Society Symposium and Workshop, Tokyo
- June 2008: Publication of modelling work in ***Climate Policy***
- ***something on G8?***



# THE LCS PROJECT NARRATIVE

- Workshop 1
  - Why do we need low carbon societies?
  - Can they be achieved?
  - Are they compatible with sustainable development?
- Workshop 2
  - What are the options for achieving low carbon societies (concrete examples)?
  - What needs to be done?
- Workshop 3
  - Key findings and policy recommendations
  - Dialogue with stakeholders



# CONCLUSIONS: WORKSHOP 1

- Climate change represents a significant threat. Urgent action is needed to reduce global GHG emissions significantly
- It is technically and economically feasible to achieve deep cuts in GHG emissions by 2050 – as much as 60-80 per cent in developed countries. The costs of transitioning to low-carbon societies are far less than costs associated with inaction.
- A wide range of stakeholders – from government; business; and civil society need to be engaged in finding solutions.
- Creating visions of low-carbon societies can help to educate and motivate people and organisations



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# LCS MODELLING ACTIVITY

- an innovative comparative modelling process
- strong developing country participation
- emphasis on long-term deep reductions in CO<sub>2</sub> and other GHGs
- complementary model runs based on common LCS scenarios undertaken by ten national teams
  - Base case: Existing model base cases linked to IPCC scenarios or country-level forecasts
  - Carbon price: A forecasting run to ascertain the impact of a relatively modest carbon price signal
  - Carbon plus: a 50% global reduction in GHG emissions by 2050 to match the 2007 G8 summit statement



# MODELLING ACTIVITIES

Team	Model	Scope	Technique
Barker (UK)	E3MG	Global	Top-down
Jiang (China)	IPAC	Global	Hybrid
Akimoto (Japan)	DNE21	Global	Bottom-up
Remme (Germany)	TIMES	Global	Bottom-up
Edmonds (US)	MiniCam	Global	Bottom-up
Bataille (Canada)	CIMS	National	Hybrid simulation
Fujino (Japan)	Linked models	National	Hybrid
Strachan (UK)	MARKAL- Macro	National	Hybrid
Shrestha (Thailand)	AIM	National	Bottom-up
Shukla (India)	MARKAL	National	Bottom-up





# MODELLING CONCLUSIONS

- LCS scenarios are technologically feasible.
- Clear and early target setting across all economic activities is needed.
- LCS will entail significant socio-economic changes.
- Sustained action in terms of R&D and technology diffusion is needed
- Carbon capture and storage (CCS) is a key technology in most low carbon portfolios.
- Developing countries face an immense challenge to achieve LCS in light of economic growth requirements.
- International technological co-operation is required, as is flexible burden sharing under international emissions trading regimes



# CONCLUSIONS: WORKSHOP 2

- International action will require bold and innovative measures:
  - long-term policy signals for business through strengthened carbon pricing
  - Enhanced RD&D
  - Mobilising investment resources for developing countries
  - Well designed strategies linked to sustainable development can deliver significant co-benefits
- Changes in human behaviour and lifestyle can contribute to low-carbon societies. Consumers must have the opportunity to make low-carbon choices.
- Existing technologies can make a major contribution to carbon emission reductions. Emerging technologies must also contribute significantly in the medium to long term.
- A significant share of GHG emissions is due to cities. Existing city-level initiatives show that effective action can be undertaken.



# KEY THEMES FOR THE THIRD WORKSHOP

- Behaviour
  - Behaviour change and its impact on delivering LCSs.
- Investment
  - Financing the transition to LCSs
- Opportunities and Barriers
  - Identifying possible negative impacts and impediments to achieving LCSs
  - exploring ways of overcoming them
- Sustainable Development
  - Aligning LCSs with sustainable development



# WORKSHOP AGENDA

- TO BE ADDED



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# THIRD WORKSHOP AND SYMPOSIUM: EXPECTATIONS

- Policy Implementation Roadmap to be delivered to the G8 Japan process
- Executive Summary and Workshop Report – including summaries of discussions and conclusions of the Workshop and Symposium
- Compilation of visions of LCS from both developing and developed countries





# Japan-UK Low Carbon Society Project

[2050.nies.go.jp](http://2050.nies.go.jp)



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