# Achieving Low-Carbon Societies: Common Challenges -

## - Activities of the International Research Network for Low Carbon Societies (LCS-RNet) -

Report of the LCS-RNet 4th Annual Meeting in Oxford: *Key Findings of the Oxford Meeting*

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# Report of the LCS-RNet 4th Annual Meeting in Oxford: Key Findings of the Oxford Meeting

## How to maintain momentum towards a low-carbon society (LCS) while taking full account of current social and economic background.

- **Technology development and behaviour change**
- **Climate finance and green growth**
- **Coordinating national and sub-national policies and the value of carbon**
- **Science-policy interaction for the low-carbon transition**
- **International collaboration to enhance low-carbon activities**


17-18, September 2012

# Key Findings - 1 -

## Technology development and behaviour change

Accelerated innovation is required to enhance technology deployment from both demand and supply sides in energy system.

- Accelerated innovation, cost reduction, appropriate arrangements for risk-sharing and the enhancement of local benefits will be key factors in public acceptance and successful deployment.
- Decarbonising energy supply is not sufficient in itself if ambitious climate targets are to be met. A transformation of the energy system is needed which must include effective strategies to promote energy efficiency and savings, as well as innovative approaches that integrate energy supply and demand.
- Conventional energy policies have promoted energy security by focusing on sources of supply. More attention is now being paid to energy demand reduction through energy saving and energy efficiency. Progress is beginning to be made in areas such as policy design, lifestyle change and accelerated technology development.
- Recent behavioural research provides some evidence that people are willing and able to change the way they consume energy. The Fukushima accident has triggered both behaviour change and discussions on energy sector reform in Japan. Increased social awareness and corresponding political pressure could be a trigger for similar developments in other countries.

## "Policies to boost supply and demand sides reforms are in progress"

# The flagship policies (Case of UK)

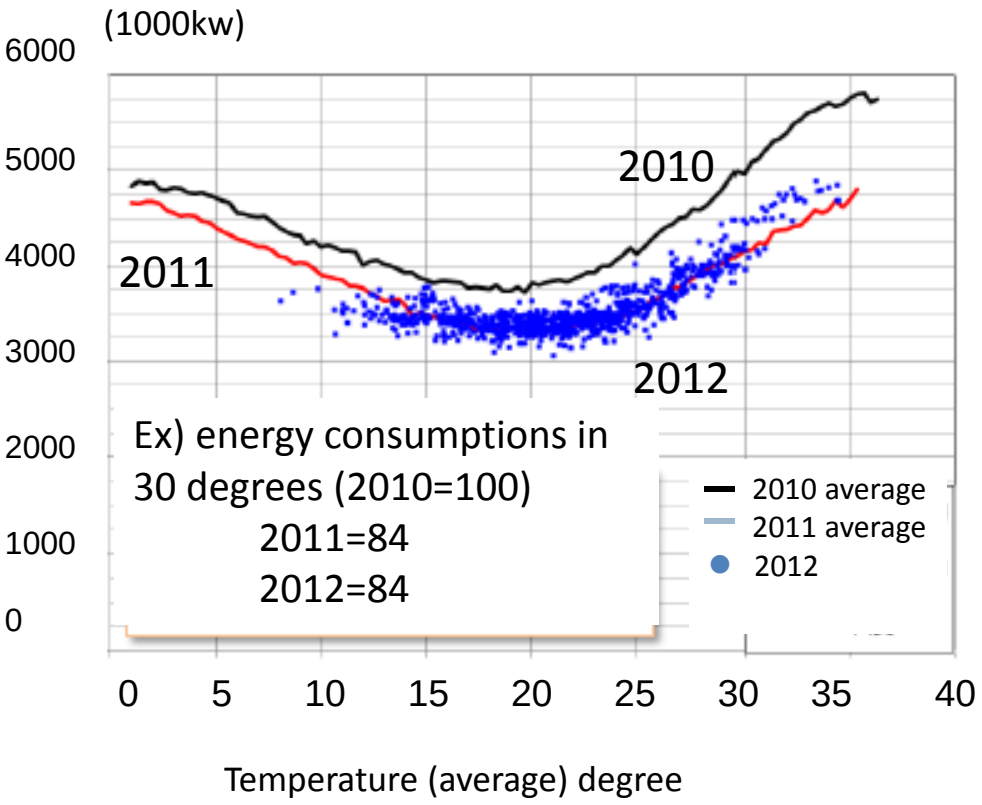
- Supply side: Electricity Market Reform
  - Carbon Price Floor (Treasury led)
  - Feed-in Tariff with Contracts for Difference (CfDs) to replace Renewables Obligation
  - Capacity Mechanism
  - Emissions Performance Standard
- Demand side: Green Deal for consumers
  - The ***Green Deal*** financial mechanism eliminates the need to pay upfront for energy efficiency measures and instead provides reassurances that the cost of the measures should be covered by savings on the electricity bill (the "Golden Rule")
  - The new ***Energy Company Obligation*** will integrate with the Green Deal, allowing supplier subsidy and Green Deal Finance to come together into one seamless offer to the consumer ("difficult" energy efficiency measures, lower income customers)



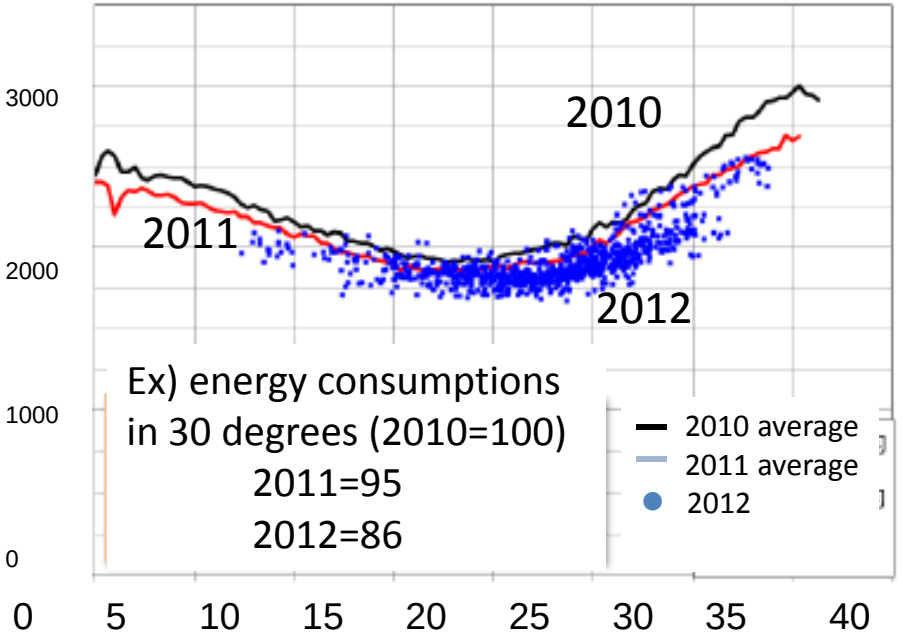
source: Jim Skea

# Post-Fukushima Japan: Response to power deficiency

Energy consumption in **Tokyo electric power company** (9am-21pm)




Energy consumption in **Kansai electric power company** (9am-21pm)




*Presentation by the Center for Low Carbon Society Strategy, the Japan Science and Technology Agency (JST), July 2012*

Source: Mori

# *Key Findings - 2 -*

## Climate finance and green growth

Green growth policies can foster an LCS. A key challenge is to mobilise private capital to energy system transformation technologies.

- Confronted with current financial constraints, OECD countries can facilitate economic recovery through green growth policies that will also foster LCS. Green growth policies in developing countries can be used to enhance the low-carbon investments that will support economic activity associated with the growth of domestic demand.
- A key challenge is to mobilise private capital to meet the up-front costs associated with capital intensive energy system transformation technologies. Policies that de-risk investment in low-carbon technologies could help to draw in funds from new sources, including from pension funds which necessarily take a long-term view. New forms of "citizens financing" (cooperatives, local banks and municipally owned utilities) can help to drive the process from bottom up.

# OECD Green Growth Strategy

*www.oecd.org/greengrowth*

## *A different kind of growth is needed*

Not just about recovery – a core economic strategy that leads to **a different way of thinking about development.**

## *Green growth at the **urban** scale*

- A need to rethink for new sources of urban growth
- The presence of policy complementarities at the local level
- Urban development could address social issues and inclusive growth in a more direct way

Source: Joaquim Oliveira Martins

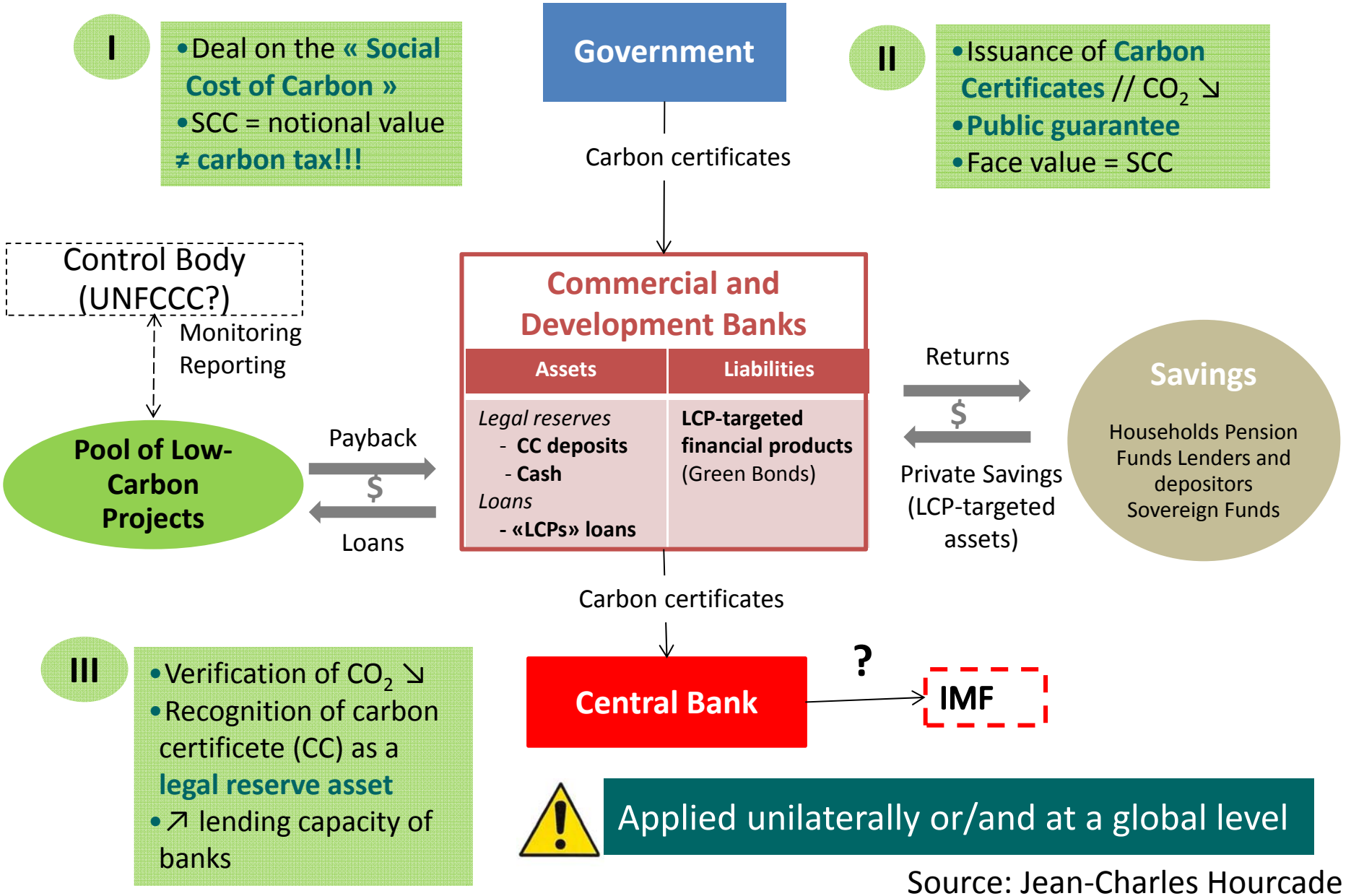
# Key Findings - 3 -

## Coordinating national and sub-national policies and the value of carbon

Establishing a value of carbon could promote investment in low-carbon projects. New regional emissions market could start.

- Establishing a value for carbon through innovative financial mechanisms such as the development of carbon budgeting systems or setting a "social value for carbon" could promote investment in low-carbon projects at both the national and local levels. Finance mobilised through specific climate-related international mechanisms such as the Global Climate Fund can also be used to support the transition toward low-carbon development pathways.
- In the ideal world, there would be a global price for carbon. However, many political obstacles stand in the way. The obstacles include different perspectives on equity between north and south and competitiveness questions affecting countries in the north. New regional emissions markets could start to address the problem of carbon leakage associated with unilateral policies.
- Boundaries between jurisdictions are multiple and complex and there is a need for strong networks for exchanging resources and transferring knowledge and technologies. The integration of cities within regional markets is important for the development of new business opportunities.

# Sketching a Climate-Friendly Financial Architecture




Source: Jean-Charles Hourcade

# *Key Findings - 4 -*

## Science-policy interaction for the low-carbon transition

The regular and timely provision of scientific evidence can facilitate policy making and reduce risks of climate change.

- Scientific evidence has contributed to the policymaking process and underpinned LCS policies in a number of countries. By exchanging knowledge and science-into-policy success stories, lessons can be learned which take account of national specificities in terms of norms, perceptions, history, and institutional arrangements.
- The Fukushima accident highlights the importance of reviewing technology costs and rigorously identifying and managing risks. The promotion of evidence-based understanding will clarify the way in which risks can be managed and mitigated.

# Science-policy interaction for the low-carbon transition

The UKERC Technology and Policy Assessment (TPA) has been able to:

- Address controversies and resolve misunderstandings (e.g. Intermittency report: An Assessment of the Evidence on the costs and impacts of intermittent generation on the British electricity network.)
- Draw attention to important, but sometimes overlooked, issues (e.g. Rebound effect report: An Assessment of the evidence for economy-wide energy savings from improved energy efficiency)
- Inform the debate around continuing uncertainties and disagreements (e.g. Global Oil Depletion and Biomass reports)

Source: Heptonstall

- Science side: Establish scientific integrity. Participate more actively in decision-making process with independent and neutral expertise
- Policy side: Respect scientific results. More reasonably institutionalize science-policy relation

Source: NIshioka

# *Key Findings - 5 -*

## International collaboration to enhance low-carbon activities

Cooperation between developed and developing countries can promote climate policies and assist in planning processes.

- Many developing countries are making progress through the initiation of planning, implementation and assessment mechanisms for climate and energy policymaking, urban planning processes and the establishment of policies and systems for managing forests.

- More effective cooperation between developed and developing countries can be promoted through knowledge-based networks. Partnerships between funding agencies, the research community, businesses and governments, coupled with a global dialogue amongst relevant stakeholders, can help to narrow knowledge gaps and stimulate green growth.

# Progresses in Asia

- Malaysia committed a voluntary reduction up to 40% in terms of emission intensity of GDP by the year 2020 compared to 2005 levels. Iskandar Regional Development Agency, Malaysia, proposed blueprints that promote an LCS

  Source: HO

- Thailand is not obligated in GHG mitigation; but to show an intention of being the main supporter for GHG mitigation in the South East Asia. Thailand is ready for the coming strategies in the proposed NAMAs. Source: Limmeechokchai

- Indonesia committed a target of 26% reduction to BaU during next 10 years; 41% with international support. Strategies of LULUCF sectors include the establishment of forest management unit, introducing mandatory forest certification systems and introducing emission caps.

  Source: Boer

# Next steps

- Knowledge sharing in relation to policy in timely manner through meetings, web site, bilateral information exchange etc.
  - Recognition of increasing importance of LCS concept
- More stakeholders' involvement
  - Aligning with funders and NGOs, introducing more joint activities
  - More interactions with policy makers
- Expansion of low-carbon related topics
  - Paradigm shift under uncertainty of global economy
  - Paradigm shift of energy system
  - Global low carbon governance
  - Socio-economic / behavioral science
- Expanding network beyond G8 countries, including G20 etc.
  - Low Carbon Asia Research Network (LoCARNet)

**Thank you very much.**

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**http://lcs-rnet.org**