Lessons from EU Green Finance

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UK Green Investment Bank Commission 2010

"Some argue that good government policies and waiting for the financial market to return to 'normal' after the credit crunch will be enough to deliver the necessary investment.

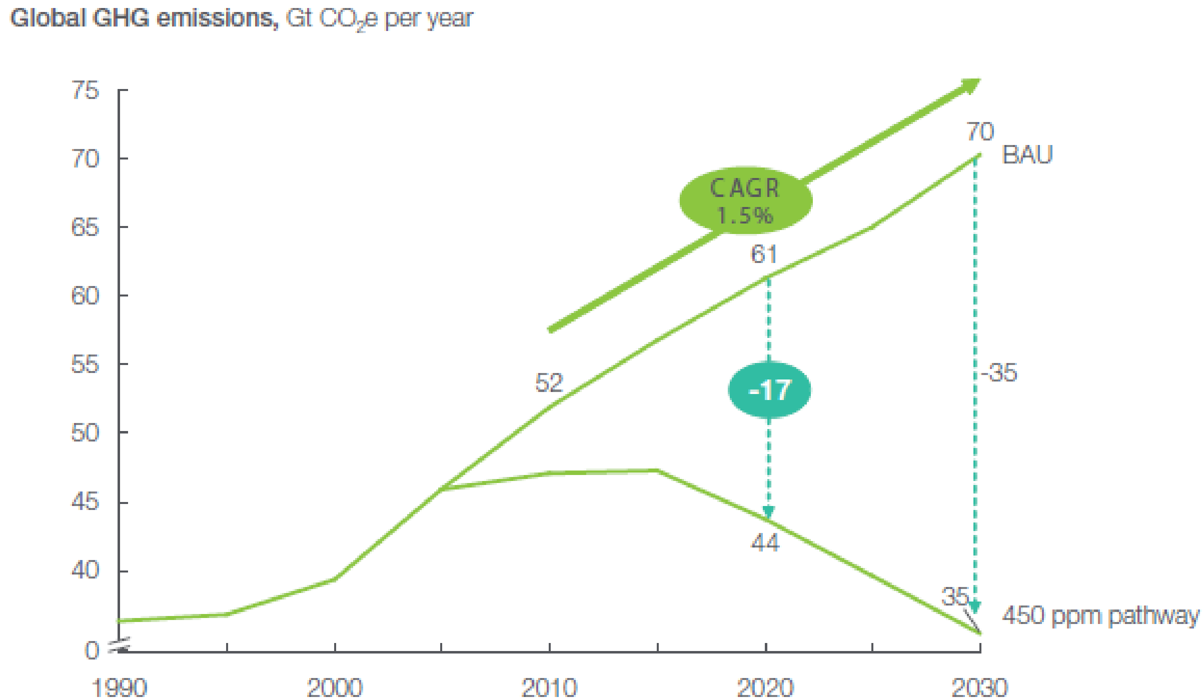
We disagree.

Even a return to the 'old normal', which is not likely would not accommodate the unprecedented scale, urgency and nature of the challenge. The only sensible plan ... is to act now to facilitate the required investment needed to safeguard our future."

Outline

- What is the Green Investment Challenge?
- European Green Finance Experience
  - European Investment Bank
  - KfW
  - UK Green Investment Bank
- Questions for China?

Scale and pace of the global transition



Source: McKinsey Global Greenhouse Gas Abatement Cost Curve v2.0; den Elzen, M.G.J. and M. Meinshausen, 2006: Multi-gas emission pathways for meeting the EU 2°C climate target; IEA World Economic Outlook 2007; Project Catalyst analysis

The IEA estimates around \$1.7tr pa is needed globally to meet the 2°C target

2030 Investment Challenge

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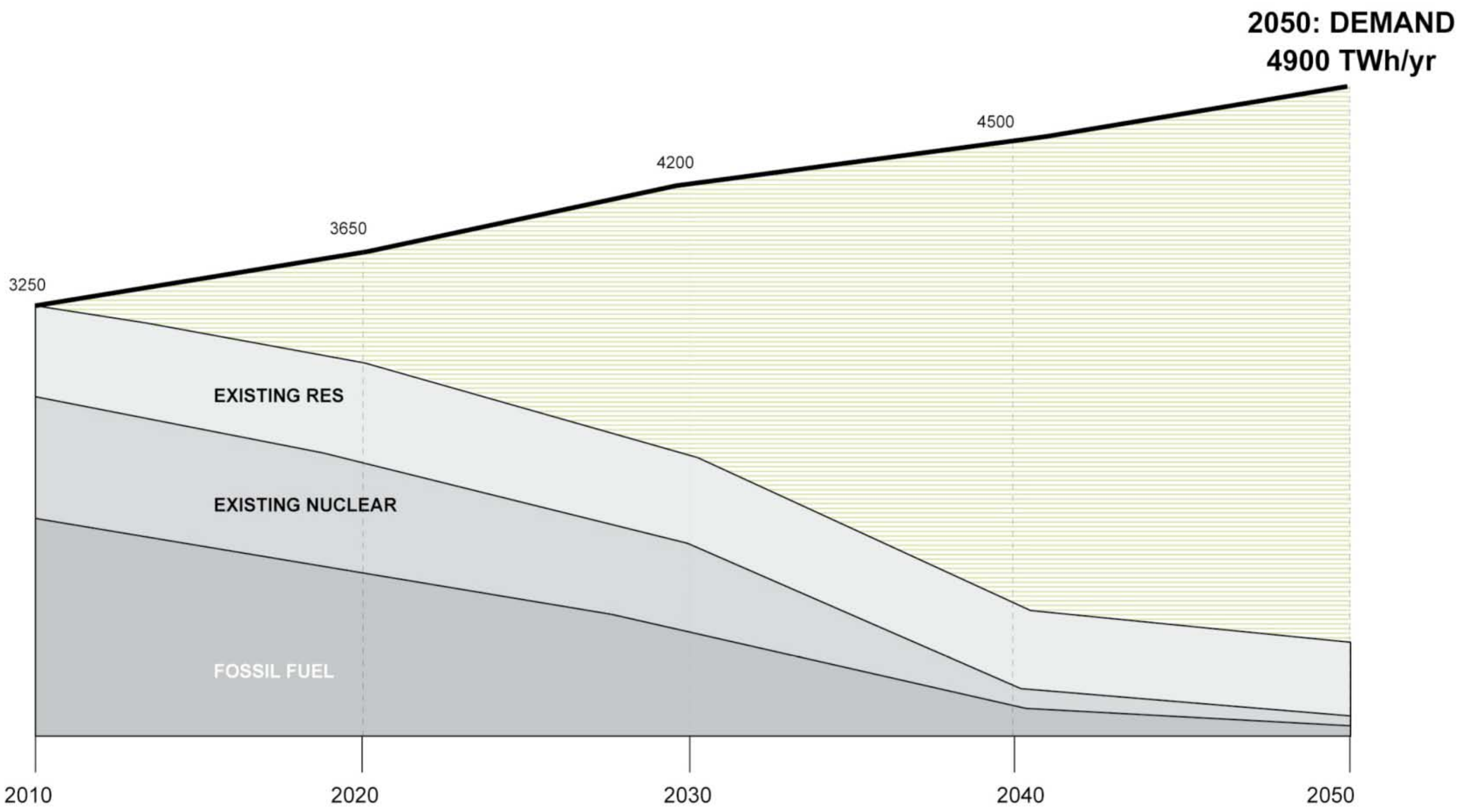
- <2C requires $10 trillion in additional energy investment to 2030
- Shifting $26 trillion from high to low carbon energy investment
- $145 trillion in infrastructure investment to 2030 needs to be made low carbon, resource efficient and climate resilient
- Doubling rate of global technology diffusion
- New investment in G20 economies mainly low carbon from 2020?

Meeting this scale and pace requires transformational changes to public and private sector financial architecture

UK Low Carbon and Resilient Pathway

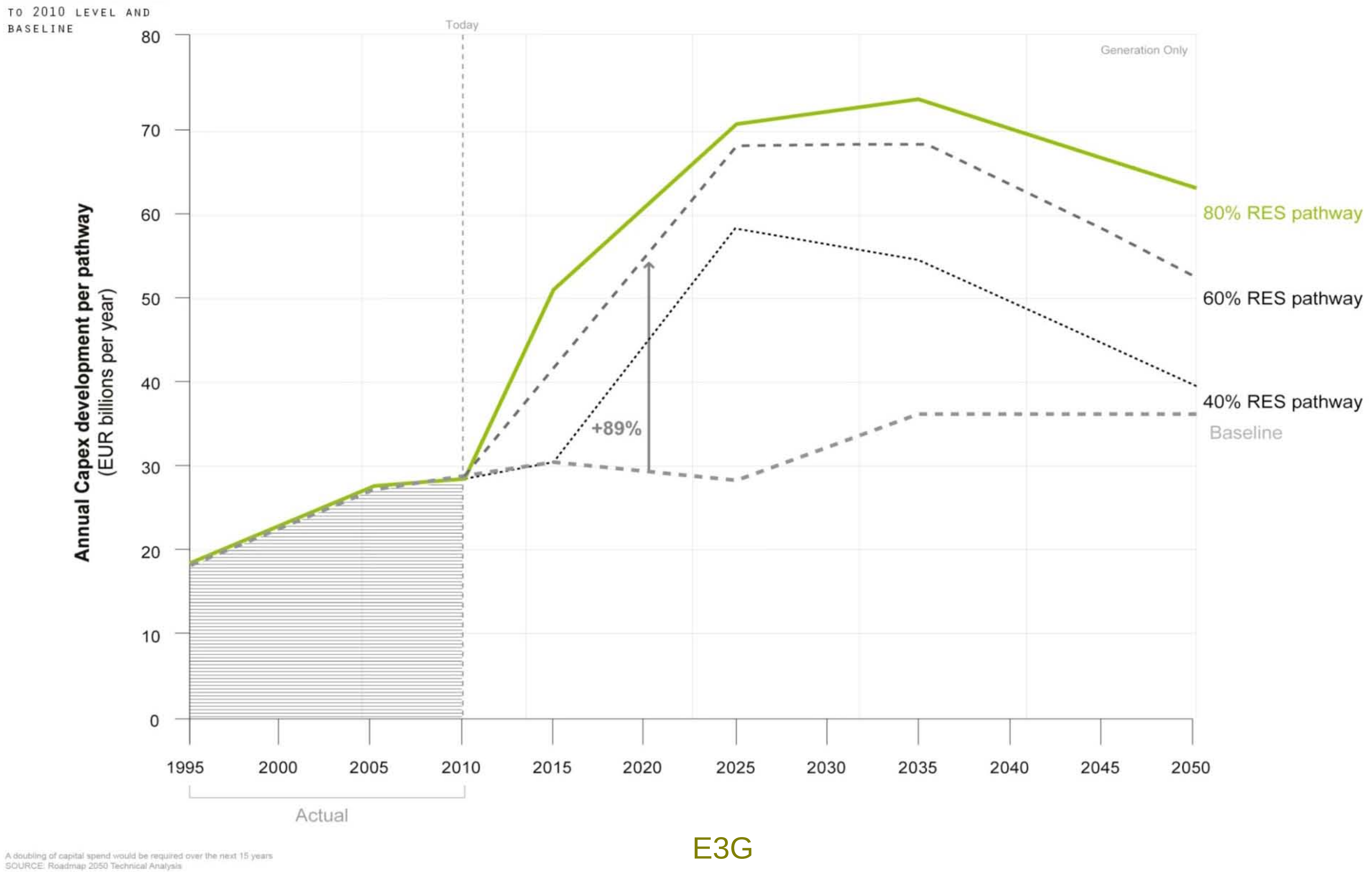
- 80-95% domestic CO_2 reductions by 2050
- Legally binding CO_2 budgets set to 2027
- 30% renewables in power sector by 2020
- Zero carbon power sector by 2030 (50g/Kwh)
- Refurbish all 25m homes by 2030
- Zero carbon new housing from 2016
- 70% infrastructure investment to 2030 is low carbon
- All new infrastructure to be resilient to 4C

Europe's Low Carbon Electricity Gap



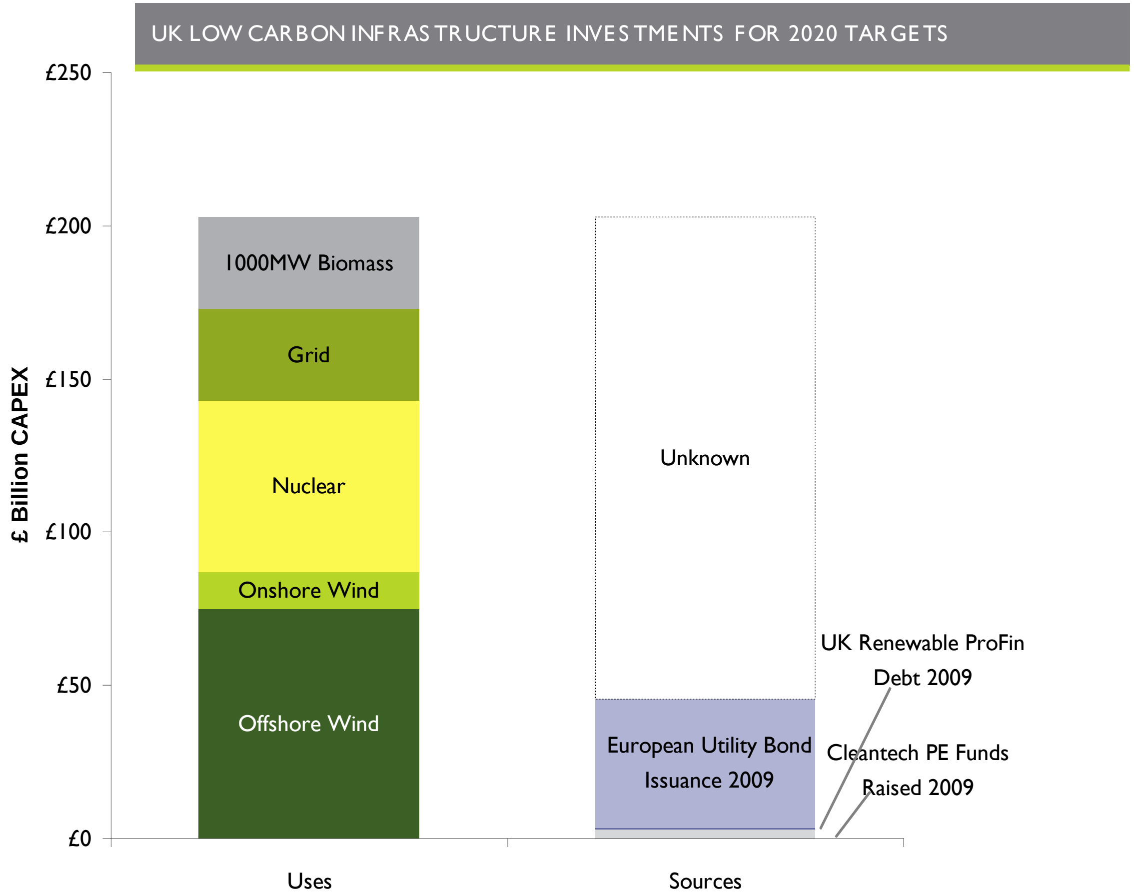
Source: EU Roadmap 2050

EU Power Sector Investment Pulse



Where will the investment come from?

UK needs £40-50bn pa economy wide investment compared to historic levels at £6-7bn



We can continue to raise rewards … or focus on lowering risk

Finance Challenges

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- **Front-Loaded Finance**: upfront investment in efficiency, RES etc needed to displace long term fossil fuel purchases. Strains capacity of financial system especially in post-crisis climate.
- **Managing Risk**: low carbon investment has higher political, technology, novelty and policy risks. Investors perceptions amplify low carbon risk and downplay high carbon risk.
- **Integration**: regulatory reforms needed to integrate low carbon and climate resilience into on-going infrastructure investment in cities, industrial clusters, electricity and gas grids.

Private sector finance will not flow to right investments without direct public finance interventions and regulatory/market reforms to reduce risk

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The EU energy investment landscape is changing

We are moving from a period of optimising the operation of existing energy assets

To a period of investment in asset replacement, decarbonisation, ICT innovation

Lower risk → Higher risk

And from investment in lower capex better understood assets with higher running costs

To investment in higher capex, less well tested assets with lower running costs

Broader financial regulation critically impacts green finance

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Post-Crisis Financial Regulation has reduced investment sources:

- Capital requirements on Banks have increased
- Solvency II regulation has reduced ability of pensions funds to invest in long dated illiquid assets
- Public accounting rules for PPPs and guarantees are unclear

Market liberalisation rules can have perverse impacts:

- European State Aid rules have limited role of UK GIB and other public banks in some areas (e.g. guarantees)
- State Aid rules may limit ability to blend different sources of public finance e.g. Grants, loans and guarantees

European Investment Bank

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- Public bank - shareholders are European countries – works to support the objectives of the European Union
- Lends on “commercial” terms with €480 billion in loans; raises capital from bond markets
- 30% of lending in 2012 to low carbon projects
- Innovation in: green bonds, project bonds, blended funds to develop pipelines of smaller and riskier projects; energy secuirty
- Energy Policy Review 2013 – 60% low carbon lending target? New rules to assess risks of gas and coal projects? Greater focus on energy efficiency, SMEs and smart technology?

Retains AAA status while focusing on high social value areas

KfW Bankengruppe

- Central public bank with €390bn of on-lending. KfW can provide initial debt funding up to 90% to enable critical projects to be started.
- KfW advises Government to ensure regulation supports optimum low carbon investment
- Germany plans to provide €5bn of investment support for offshore wind, financed from EU ETS payments and channeled via KfW
- Using blended subsidy/grant programmes KfW helps >100,000 homeowners to retrofit their properties each year and raise energy efficiency standards
- 200,000 new jobs created each year as a result of its energy efficiency programme alone

KfW takes an active role in supporting German policy development

Lack of an existing UK public bank gave space for designing the GIB “bottom-up”

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Most European countries have public infrastructure banks aimed at delivering strategic national outcomes

Caixa Geral Depositos	Portugal	€7.16bn	X17 leverage
KfW Bankegruppe	Germany	€13.1bn	X31 leverage
CDC	France	€23.5bn	X10 leverage
ICO	Spain	2.38	X22 leverage

UK Green Investment Bank

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- Independent public bank with government shareholder
- Limited to investments which meet “green purposes” as defined in statute
- £3 billion in capital but borrowing powers postponed to at least 2015 – estimated leverage of £15bn investment
- Developing range of innovative products for offshore wind, waste, energy efficiency and biomass
- Debate on further role on technology support

GIB lacks scale but is a focus for finance innovation

The GIB: a new model of enduring public-private partnership

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Provide banking facilities in times of constraint

- Debt provision
- Equity co-investment
- Purchase and securitise project finance loans

Coinvest in first of a kind initiatives

- First loss debt
- Provide blended grant/debt finance
- Loan guarantees

Provide technical advice

- Specialist in low carbon technologies
- Advice to Government on policy design
- Business advice to small projects

The Green Investment Bank will have a dynamic and evolving role

Financial Recovery

→ 2014?

Scaling-Up

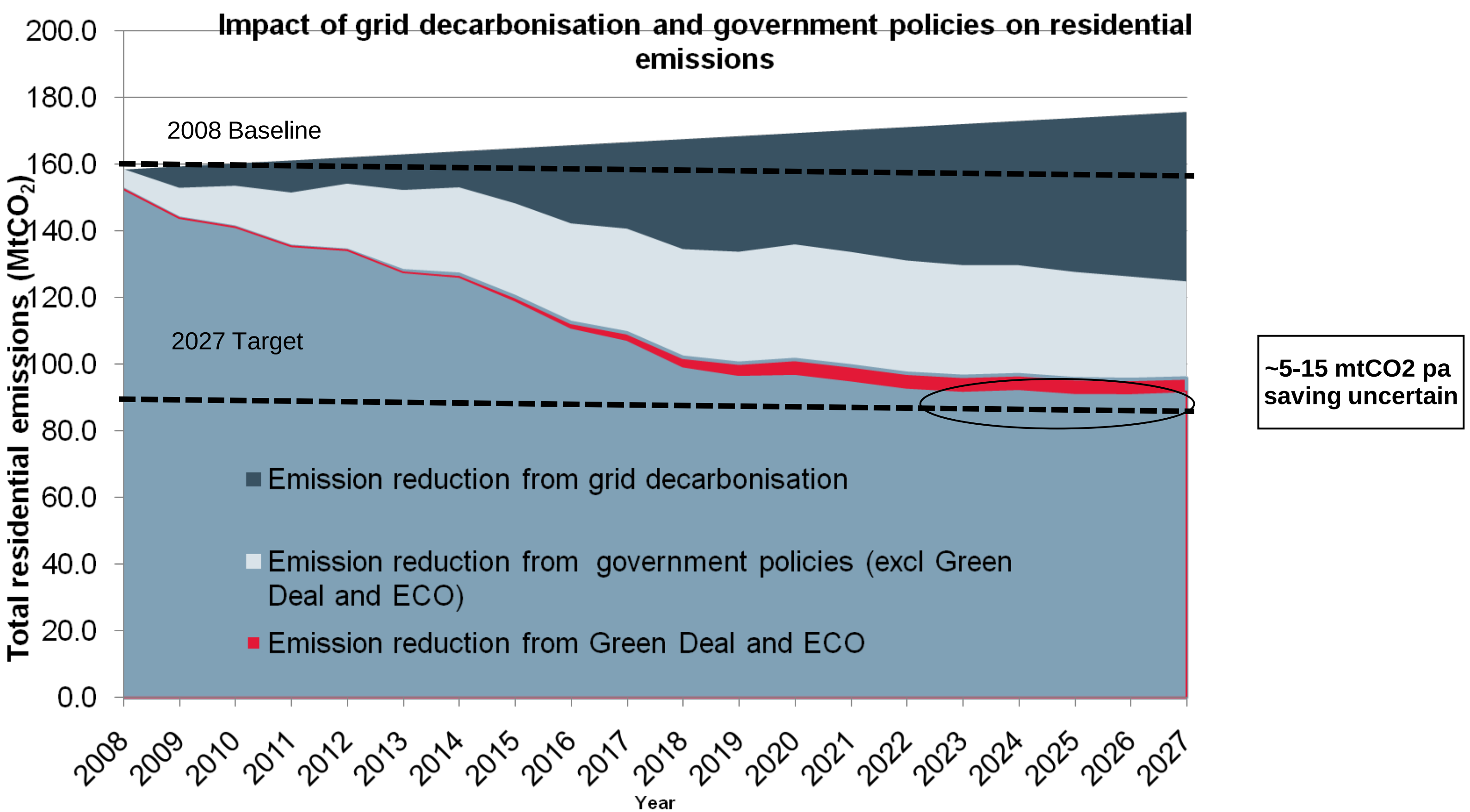
→ 2018?

Mainstreaming

→ 2025?

Different issues at each stage

Example: scaling up UK energy efficiency in buildings through a stronger "Green Deal"



Source: 2011 Analysis by Camco for Transform UK

The GIB has a critical and dynamic role to play in maturing Green Deal finance

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Upfront capital for first Green Deal loans → Proof of concept and retail market capacity building

Securitise existing loans → Familiarise capital markets with new Green Deal securities

Step back → Mainstreaming

Loans warehoused through the new non-profit Green Deal Finance Company

Key Lessons from Europe

- Even without the financial crisis Europe would be facing a green investment problem
- Green investment is still seen as too risky and risks of high carbon investment are under-priced.
- Europe has yet to create conditions where available private domestic assets are flowing into long run infrastructure investment.
- Public balance sheets cannot be the solution. Waiting for the private sector is too slow and uncertain.
- Need creative regulation (financial, energy market and infrastructure) and public banks to deliver scale, innovative and clean investment

Public banks as high value innovators

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Critical friend

- Governments need help with ensuring financial regulation is fit for purpose
- And whether energy regulation is fit for purpose to help with financing needs

Confidence building

- Public banks have a role to play in risk-sharing to move markets faster:
  - Addressing technology risk
  - Addressing policy risk
  - Addressing strategic risk - along with market reforms

Serving wider societal needs

- So far the debate has been about co-investment - should public banks be developing insurance subsidiaries too?
- But smaller projects – EE, RE, waste – need access to capital. Harder work but higher value investments too

Addressing market capacity limits

- Demise of securitisation markets and monoline
- Can public banks play an honest broker role and bring back some of these functions?
- EU Projects bonds a great start. Should public banks play the major role in other strategically significant sectors e.g. RES?
- Direct co-investment with institutional investors?

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China is different?

"Both developed and developing countries are facing the dual challenge of deteriorating or inadequate infrastructure and a shortage of fiscal funds. The question of how to take comprehensive measures in the coming years to meet the challenge has thus become a common problem for governments....

This situation requires China to innovate its infrastructure financing model, drawing on international experience, further broadening financial channels and continuing reforms in its financial industry"

January 2013

Xiao Gang is chairman of the Board of Directors, Bank of China

(Now Chairman of CSRC)

GIB or GIB functions?

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- **GIB functions are replicable** but not necessarily the institutional wrapper
  - All countries will need to develop tools for political risk management, policy advisory role, stimulating private-sector competition and innovation, instruments to leverage public-private synergies
  - Institutional settings are context-specific and countries may decide to establish a low-carbon unit within their existing development bank(s)

- **Elements of the UK Low Carbon Transition Plan, which underpins the case for a GIB, are potentially replicable abroad**
  - UK experience in setting a long-term plan with time-bound priorities. Often the question is not the what (creating the plan) but the how (how to get started, how to manage trade-offs).
  - Some countries including China are using experience already – understanding financing issues is part of this process.

Developing countries are at critical stage in infrastructure development making critical that capital and investment can be directed to sustainable areas

Key questions

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- What are the key financial system gaps in the Chinese green investment landscape?
- How should the particular challenges of green finance inform the focus and direction of on-going financial sector reforms in China?
- Does the need for fast financial innovation strengthen the case for stand-alone green banks in China?
- Can the links between financial sector and policy makers be strengthened to ensure regulatory reform in “investment grade” from the beginning?

A Final Thought

If the main argument for the GIB in the UK was the need for financial scale; is the main argument for a GIB in China the need for financial innovation?

Thank You and Additional Material

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- E3G Report on EU Low Carbon Financing Reform
  http://www.e3g.org/programmes/europe-articles/financing-the-decarbonisation-of-european-infrastructure/

- E3G research on low carbon public finance in 6 EU countries
  http://www.e3g.org/programmes/systems-articles/european-perspectives-on-the-challenges-of-financing-low-carbon-investment/

Design and research papers on the UK GIB

http://www.e3g.org/programmes/systems-articles/green-investment-bank/

http://www.transformuk.org/en/greeninvestmentbank/

http://webarchive.nationalarchives.gov.uk/20121017180846/http://www.bis.gov.uk/policies/business-sectors/green-economy/gib