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## Barriers and Incentives for Future Investment – IEA & OECD Perspective

**RD&D Needs for Energy System Climate Preparedness and Resilience Workshop Utrecht, The Netherlands 13-14 November 2013** 

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# IEA Clean Energy Investment Perspectives ETP 2012 Recommendations

Tracking Progress – RD&D Investments

## OECD Green Investment Policy Framework

### **Recommendations to Governments**

1. Create an investment climate of confidence in clean energy

2. Unlock the incredible potential of energy efficiency – "the hidden" fuel of the future

3. Accelerate innovation and public research, development and demonstration (RD&D)

ETP

2012



Every additional dollar invested in clean energy can generate 3 dollars in return.



### A portfolio of technologies is needed

#### 60 Power generation efficiency and fuel switching 3% 50 Nuclear 8% 40 End-use fuel switching 12% Gt CO2 30 End-use fuel and electricity efficiency 42% Renewables 21% 20 ■CCS 14% 10 2020 2030 2040 2009 2050 *Energy efficiency is the hidden fuel that increases energy* security and mitigates climate change.

Technology contributions to reaching the 2DS vs 6DS

icea Internationa Energy Age

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2012

### The core policy mix

## ETP 2012



Carbon price, energy efficiency policy and technology support are the backbone of a least-cost package to achieve 2DS.

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Government should create an environment in which clean energy innovation can thrive and within which policies are regularly evaluated to ensure that they are effective and efficient.

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#### Tracking Clean Energy Progress 2013 Energy RD&D: declining share but more wisely spent iea



*Energy RD&D has slipped in priority in IEA member countries.* 

# OECD work on mobilising private investment in green infrastructure



# 1. Domestic policy frameworks for green investment



2. Institutional investors and green investment



Landscape of investment financing sources for green infrastructure in OECD countries (illustrative example, varies by country)



investors

**Source**: OECD Analysis based on OECD (2012) The Role of Institutional Investors in Financing Clean Energy; G20/WB/FSB/OECD (2012) European Bank Deleveraging and Global Credit Conditions; G20/OECD (2012) The Role of Banks, Equity Markets and Institutional Investors in Long-Term Financing for Growth and Development

# \$83 trillion in assets under management by institutional investors in the OECD (2012)



Note: Book reserves not included. Pension and insurance companies' assets include assets invested in mutual funds, which may be also counted in investment funds.

(1) Public Pension Reserve Funds (PPRFs) e.g. Government Pension Fund – Norway or Unites States' Social Security Trust Fund.

(2) Other forms of institutional savings include foundations and endowment funds, non-pension fund money managed by banks, private investment partnership and other forms of institutional investors.

(3) Source: OECD Large Pension Fund Survey (2013)

Source: OECD Global Pension Statistics, Global Insurance Statistics and Institutional Investors databases, and OECD estimates.

# What are the barriers to institutional investment in green infrastructure?

- Weak, uncertain or counterproductive environmental, energy and climate policies
- Regulatory policies with unintended consequences
- A lack of suitable financial vehicles with attributes sought by institutional investors
- A shortage of objective information and

data to assess transactions and underlying

- Liquidity trade-off with connection to underlying asset and associated benefits: difficult to offer liquidity without asset disconnect, churn and leverage in fund
- Nascent green bond markets, no indices/funds, restricted access to liquid vehicles (MLPs & REITs)
  Small pipeline of projects, high transaction costs, minimum deal size and definition uncertainty
- Challenges with securitisation
- Credit and ratings issues

risks

- Historical lack of ratings data, expensive process
- Absence of monoline insurers since financial crisis

# Governments can take 7 actions to address investment barriers

- Ensure a stable and integrated policy environment
- Address market failures (including a lack of carbon pricing)
- Provide a national infrastructure road map
- Facilitate the development of appropriate financing vehicles or de-risking instruments
- Reduce the transaction costs of green investment
- Promote public-private dialogue on green investments
- Promote market transparency and improve data on infrastructure investment

# The OECD Green Investment Policy Framework



*Source:* Corfee-Morlot et al., 2012.

# Examples of relevant policies and tools

1. Strategic goal setting and policy alignment

2. Enabling policies and incentives for LCR investment

3. Financial policies and instruments

4. Harness resources and build capacity for a LCR economy

5. Promote green business and consumer behaviour

- Long-term targets (e.g. EU renewable energy targets to 2020)
- Long-term infrastructure planning (e.g. EU Trans-European Transport Network)
- Remove fossil-fuel subsidies
- Set credible explicit carbon prices (e.g. EU ETS) and implicit carbon prices (e.g. congestion charge)
- Set open and competitive markets
- Public-private partnership
- Credit enhancement (e.g. Europe 2020 Project Bond initiative)
- Loan guarantee (e.g. Loan Guarantee Instrument for TEN-T, LGTT)
- R&D subsidies
- Public awareness campaigns and education

# Work on mobilising private investment in green infrastructure



#### COUNTRY LEVEL

Assessing experience with green investment policies and instruments



### INTERNATIONAL INVESTMENTS

Achieving a level playing field for international investment in clean energy



#### SECTOR LEVEL

Mobilising investments in sustainable transport



SECTOR LEVEL Policy guidance for investments in clean energy

#### International Energy Agency Adaptation technology is needed

### Drivers for resilience building action within the electricity

industry		Generation				Transmission		Distribution			Risk Management
		Thermal	Hydro	Wind / PV	Bio	Lines	Stations	Lines	Meters		
Increase in the strength and frequency of hazards	Temperature (warm spells, heat waves)										Costs
	Precipitation (heavy rainfall, change rainfall patterns)										Reputation
	Winds										Opportunity
	Storm Surge										
	Droughts										
	Floods										
		Medium	High	Low						-	
		impact	Impact	impact							

Sources: WBCSD presentation at the 3<sup>rd</sup> Nexus Forum on Climate and Energy Security on 25 October 2013

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### Barriers and incentives for future investment -- clean energy investment / green investment

How can these findings be adapted to address the resilience issues of the energy system?



## Thank you!

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