



**Strategies to finance large-scale deployment
of renewable energy projects - an economic
development and infrastructure approach**
FINANCE-RE

A dialogue with financiers

17 April 2012, 13.00-17.45 hrs
DECC, 55 Whitehall Place, London, UK



Welcome



IEA-RETD welcomes you to the workshop on Financing Large-Scale Deployment of Renewables

www.iea-retd.org

Programme

13.00 hrs	Opening by the workshop moderator
13.10 hrs	Introduction to the workshop, objectives and outlook by Matthew Kennedy, co-chair IEA-RETD
13.25 hrs	Introduction round
13.45 hrs	Presentation of the FINANCE-RE report
14.00 hrs	First round of discussions on the main conclusions and recommendations of the report
15.00 hrs	Coffee and tea break
15.30 hrs	Three presentations of new public finance policies and measures and the risk-to-reward ratio
16.00 hrs	Second round of discussions on the new public finance policies and measures and the risk-to-reward ratio
17.00 hrs	Wrap up, next steps, back to the expectations
17.45 hrs	Closure
18.00 hrs	Drinks and diner

Opening by the workshop moderator

- Having a dialogue together:
 - Jointly raise questions and let the questions live for some time
 - Build on what others bring in (yes, in stead of but)
 - Jointly create new views, new approaches
 - And - and in stead of or – or
 - Value free (everything is true, everything is not true)
- Atmosphere: open, learning, exchange

A dialogue on what?

3 reasons why we asked you to be here today

1. Test the findings of the FINANCE-RE report with you. Are the recommendations shared? What is missing? What is viewed differently? What are the priority recommendations of the financing sector?
 - According to our judgment an important topic and important report
 - We look for possible bridges between public and private sector
2. Find out what (additional) obstacles the financing sector face with respect to financing renewables.
3. Jointly formulate the concrete needs of the financing sector in terms of government policies and measures (against the limitation of currently depleted government budgets).

Introduction to the workshop, objectives and outlook by Matthew Kennedy, co-chair IEA-RETD

- Main objectives of today:
 1. Identify the challenges and obstacles the financing sector currently face with respect to financing renewable energy
 2. Explore the financial instruments, public policies and associated measures that may be introduced to enhance the deployment of renewable energy technology in the short term
- How this feeds into the IEA-RETD processes?
 - Policy focused platform, 9 member countries
 - Mission: accelerate the large scale deployment of renewable energies
 - Approach: studies (science based), communicate messages to policy makers and other stakeholders, bridge function
 - FINANCE-RE report history and outlook: outreach, testing of findings, need for follow-up (study to develop a set of concrete policies and measures to attract private sector finance to the RET sector in detail (roadmap level) and task group on finance)

Introduction to the workshop, objectives and outlook by Matthew Kennedy, co-chair IEA-RETD

- IEA represented by different persons:
 - IEA-RETD, implementing agreement, MS representatives (CA, FR, GE, IR, NO, NL)
 - IEA-ETP, Energy Technology Policy Division, Cecilia Tam
 - Energy Technology Perspective, presenting energy scenarios and strategies to 2050, finance section, ETP 2012 will be published this summer
 - Workshops with industry and finance sector
 - IEA-RED, Renewable Energy Division, Michael Waldron
 - IEA's first Medium-Term Renewable Energy Market Report to be published in July 2012, finance chapter

Introduction to the workshop, objectives and outlook by Matthew Kennedy, co-chair IEA-RETD cont'd

- Expected outcome of the workshop
 - Insight in what governments can do to improve the risk-to-reward ratio (seen as a mayor challenge in the FINANCE-RE report). What exactly needs to be done by governments to *'reduce investor risks and create a stable investment environment, so a diverse range of private investors can obtain safe and predictable returns and thereby make trillions of dollars in capital available for major infrastructure investments'*.
 - Rough insight on how a possible roadmap for the development of new public finance measure (GIB, green bonds, loan guarantees, others) could look like
 - Defined next steps, preferably in cooperation with the workshop participants

Introduction to the workshop, objectives and outlook by Matthew Kennedy, co-chair IEA-RETD cont'd

- To us the workshop would be a success if:
 - We can create an atmosphere where we can openly share experiences and views, and learn from each other
 - We get the real key issues in financing renewables and possible ways to address them on the table:
 - What are the biggest issues in implementation?
 - What main challenges are faced in taking the initiatives forward?
 - What specific public finance interventions are required to address the gaps in private finance?
 - What is the reality of public finance tools? How do they fit in (institutionally) in the context of policy objectives?
 - We would have a couple of concrete policy recommendations or suggestions for studies leading to policy recommendations by the end of the day

Introduction round of workshop participants

1. Who am I?
 2. What motivated me to participate?
 3. What do I expect from the workshop?
- Optional: is there a concrete experience in financing renewables you want to share? Either a successful one or an experience that disappointed you, or both.

Structure of the presentation

1. Start with the background of the study
2. Messages of the Executive Summary
3. Take-Away Themes from Report
4. Conclusions
5. Focus of the workshop

1. Background of the study

- Rational IEA-RETD: get more insight in what is needed now to attract substantial financial flows to the renewable energy sector? What to do now in order to make miles?
 - Scale aspect -> massive -> how can we scale-up?
 - Time aspect -> short run -> how can we speed-up?
- Aimed for a provocative report
- Carried out by the Clean Energy Group (US)
 - Lewis Milford, Ross Tyler and Jessica Morey
- Released in December 2011
- Title: Strategies to finance large-scale deployment of renewable energy projects - an economic development and infrastructure approach
- Available at: <http://iea-rettd.org/archives/publications/finance-re>



2. Messages of the Executive Summary

A free interpretation of the ES resulted in the following messages:

1. Money is there
2. Continue existing support mechanisms but combine them with **new public finance measures**
3. Underlying message of the report: think broad, think integrated
4. Governments should keep addressing market failures
5. Fundamental task for governments: **improve the risk-to-reward ratio**
6. A call for a changes of perspective
 - Treat RET as economic development strategy, and
 - See RET as a 50-plus year infrastructure building exercise
7. Four kinds of targeted public and private approaches recommended

2. ES: Money is there

- Needed: US\$600-700 billion per year (IPCC SRREN)
- Looks feasible: 1% GDP + US corporations have US\$1.8 trillion on balance sheets
 - **Q1: is it perceived as feasible?**
- Challenge: investors are in “wait and see” mode
 - **Q2: is this recognised?**
- Challenge: additional new financial sources needed
 - **Q3: how to tap those sources?**

2. ES: Money is there

What are the potential sources:

- Pension funds: P8 Groups with USD \$3.5 trillion
- Sovereign Funds: top 10 with USD \$3.8 trillion
- Insurance Funds: potentially could be tapped with tax credit incentives
- Profitable Corporations: making use of Tax Equity Incentives, e.g. Google
 - **Q4: are sources overlooked?**

2. ES: Continue existing support mechanisms but combine them with new public finance measures

- It is not that we don't know how to support RET
- No need to abandon the proven mechanisms
- However, to date, existing mechanisms have failed to sufficiently reduce the risk-to-reward ratio enough for the game-changing investment levels needed for the future
 - **Q5: if you want to scale up the RTR ratio should go down, is this the pushpin?**
- **Solution: combining existing support mechanisms with new public finance measures**
 - **Q6: would you please share your thoughts here as it will be a focus theme this afternoon?**

2. ES: Underlying message of the report: think broad, think integrated

- The financing challenge is only one part of a massive technological transition needed to shift the global economy away from its dependence on high-carbon energy
- In order to solve the finance problem, policymakers must consider taking a host of non-finance as well as finance-based actions as a package of integrated solutions
- To be successful, new financial mechanisms must be structured to reduce the burden on highly leveraged public-sector budgets while providing sufficient returns to conventional private-sector investors. The plan to achieve this over the next few years must be an integrated one. It must bring together economic development, finance, innovation and energy policies.

2. ES: Governments should keep addressing market failures

- Complicating the financing problem:
 - carbon and other emissions are mostly un-priced
 - innovation is hindered through “spillover effects”
 - infrastructure is a public good with reduced incentives for private investment
 - intermittent renewable energy requires complementary investments in energy storage and related technologies to make deployment of renewable power economical at-scale
 - **Q7: although important, we hope you don't mind that we don't want to go too much in detail on the barriers this afternoon?**

2. ES: Governments should keep addressing market failures

- Perceived cost disadvantage to fossil fuel technologies
- Limitations of existing transmission grids
- Matching funding sources to risk-to-reward profiles along the renewable energy continuum
- Real world economic recessions and national deficits
- Embedded institutional relationships supporting incumbent fossil fuel technologies and potential to “lock-out” renewable energy technologies
- Uncertainty over long-term policies
- Large upfront asset costs
- Restricted lending by banks
- High transaction costs
- Inflated costs to cover unknown or risk contingencies
- Burdening with additional costs from interconnections and construction facilities (e.g., vessels for offshore wind)

2. ES: Fundamental task for governments: improve the risk-to-reward ratio

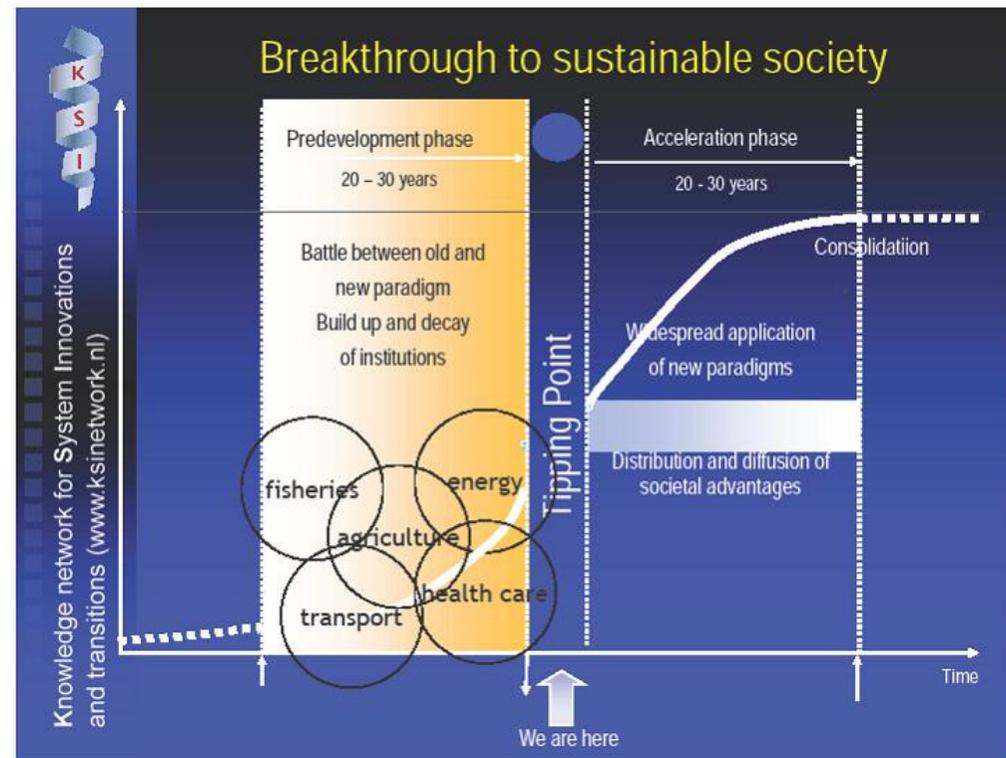
- From an investor's perspective in this environment, financing clean energy technology means more risk, higher capital costs, longer timeframes, and uncertain rewards
- New renewable energy technologies compete the entrenched infrastructure from incumbent fossil fuel system
- **A fundamental task for public finance and policy is to improve the clean energy investment risk-to-reward ratio needed to entice private investors**
 - **Q7: what would you advise governments to do?**

2. ES: A call for a changes of perspective: treat RET as economic development strategy

- Clean energy is no longer simply an environmental strategy. It is now an economic development strategy gaining interest across the globe, one that could help lift the world out of the economic downturn or, in the case of countries unaffected by it, provide a new market strategy for growth and poverty alleviation.
- In line with historical successes in these other areas, it would put economic development at the forefront for developing national clean energy infrastructure approaches. This contrasts with many current strategies that see economic development merely as a secondary benefit from deployment of clean renewable energy projects. Seen in this different way, a national clean energy, economic development initiative will require the integration of finance, innovation, and policy.

2. ES: A call for a changes of perspective: see RET as a 50-plus year infrastructure building exercise

The major task for governments and the private sector is to conceive of the clean energy challenge as an infrastructure-building exercise for the next thirty to fifty years



2. ES: Four kinds of targeted public and private approaches recommended

Overarching Recommendation

- Consideration given to strategies that reflect the following goals:
 - Recast public support around a new, national, economic development initiative
 - Design policies to improve the risk-to-reward ratio in new energy infrastructure
- Four areas: (1) Economic Development, (2) Financial Innovation, (3) Innovation Strategies, (4) Enabling Energy Policies

2. ES: Four kinds of targeted public and private approaches recommended

4 examples

Economic Development

Renewable energy industry support

Financial Innovation

Green Investment Bank
Green Bonds

Innovation Strategies

Public-private networks for accelerated and leveraged R&D, e.g., Marie Curie EU FP7, UK Carbon Trust Wind Accelerator, and US SEMATECH

Enabling Energy Policies

Adopt a combination of either or both national or sub-national feed-in tariffs (FITs) or national tax credit schemes, combined with mandatory renewable procurement for utilities

3. Take-Away Themes from Report

- Existing finance mechanisms alone will not attract huge quantities of needed new investment capital
- Need to access new capital by reducing risk-to-reward ratio, showing potential profit to investors
- New approaches needed to:
 1. Combine support mechanisms with new financial products, possibly under management of national infrastructure bank
 2. Bring together job creation, finance, innovation, and policies for energy security, national economic recovery, and sustained competitiveness
 - **Q8: do you agree new capital and new policy approaches are key in addressing the finance challenge?**

4. Conclusion

- This is the time to apply the critical knowledge gained over the last two decades in order to attract step-change finance for the accelerated large-scale deployment of renewable energy projects
 - **Q9: can we ask you to share your critical knowledge?**
- Need to consider it as national/regional, long-term, infra-structure building exercises vs. series of un-related individual large projects
- Public leaders tempted with cut-backs might consider alternative of policies and institutions to increase public-funding leverage to target and unleash the large pools of private capital
- The suite of policies should align and integrate strategies for creating a new renewable energy infrastructure and a robust economy with long-term job generation, improved and lower cost technologies, better climate, energy security, and raised national competitiveness

5. Focus of the workshop

1. 50 page report -> 5 hours dialogue
2. We need to make choices
3. Our proposal is to concentrate today on the **new public finance measures and the necessary improvement of the risk-to-reward ratio:**
 - Is it shared that something new is needed?
 - How could it look like?
 - Are the GIB, green bonds and loan guarantees the most promising new financing instruments? Or something else?
 - Etc.
- During the first round of discussions other topics like market failures, existing policies, broader economic development strategies, etc can be discussed as well
- **Thank you for your attention!**

First round of discussions on the main conclusions and recommendations of the report

1. Are the recommendations shared? What is missing? What is viewed differently? What are the priority recommendations of the finance sector?
2. What are the main barriers financiers face with respect to finance? Are there additional barriers that have not been identified?
3. What are the concrete needs of the financing sector in terms of government policies and measures?

Three presentations of new public finance policies and measures and the risk-to-reward ratio



Bruce Duguid
Department for Business,
Innovation & Skills, Green
Investment Bank Team, UK



Sean Kidney
Chair, Climate Bonds Initiative, UK



Ross Tyler
Clean Energy Group, USA

Second round of discussions on the new public finance policies and measures and the risk-to-reward ratio

General

- Is it shared that new policies and measures are needed?
- How could new public finance policies and measures look like?
- Are the GIB, green bonds and loan guarantees the most promising new financing instruments? Or something else?

Instruments specific

- What are the real challenges in implementation?
- What key issues need to be addressed?
- What is seen as concrete actions for governments (general, or, if possible, country specific)?

Wrap up, next steps, back to the expectations

- Expectations on forehand:
 - Insight in what governments can do to improve the risk-to-reward ratio
 - Rough insight in a possible roadmap
 - Defined next steps, preferably in cooperation with the workshop participants
- Explore the need for follow-up on FINANCE-RE, e.g.
 - Study to develop a set of concrete policies and measures to attract private sector finance to the RET sector in detail (roadmap level) -> what should be in the ToR?
 - Task group on finance -> is there interest? Would it add value?
 - Other?

Thank you!



Thank you all for being here this afternoon!

You can always contact us



If you wake up tomorrow with something you wanted to mention today, please get in touch



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Please join us for drinks and diner

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