

# DIREC - Feed-Back from the Finance Sessions Stream

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## Summary

Since 2004 we have seen a fundamental change in how the financial community thinks about renewables. Figure 1 shows the increasing investment in different renewable energy technologies during this period. There have been three fundamental phases to this metamorphosis:

**Phase 1** – Between 2004 and 2009 the underlying commercial drivers for renewables strengthened to the point that a number of new financial actors entered the sector for the first time.

- Venture Capitalists – increased investment nearly four times to \$1.5bn, mostly in new technology;
- Private and Public equity investors – increased investment 22 times to \$15bn, mostly in new manufacturing capacity and service infrastructure;
- Asset Finance – the combination of debt and equity used to finance new renewable generation plants increased 6.3 times to \$101bn;
- Mergers and Acquisitions – the activity of refinancing and selling existing renewables companies increased 6 times to \$58bn.

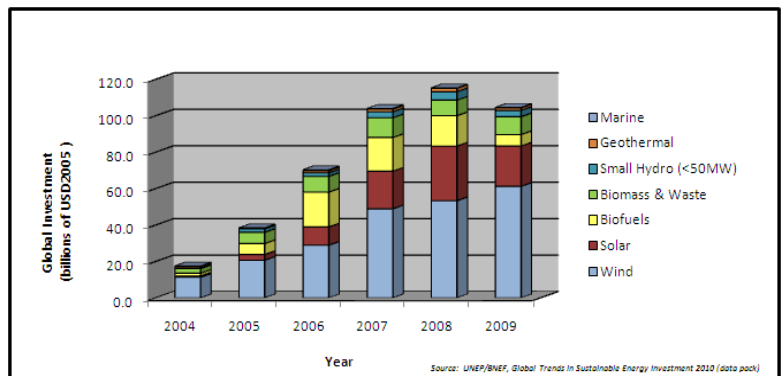


Figure 1: Global Investment in Renewable Energy

Effectively renewables mainstreamed across the finance sector during this period, possibly getting ahead of the policymakers for some years although this has now reversed once again with the onset of the financial crisis. By 2008 RE power sector investment (including large hydro) surpassed investment in fossil fueled power stations.

**Phase 2** - Financial crisis; the credit markets dry up particularly in OECD countries; Financing infrastructure projects becomes very difficult.

Globally two new financial actors step in to fill the capital gap left by the ailing commercial banks.

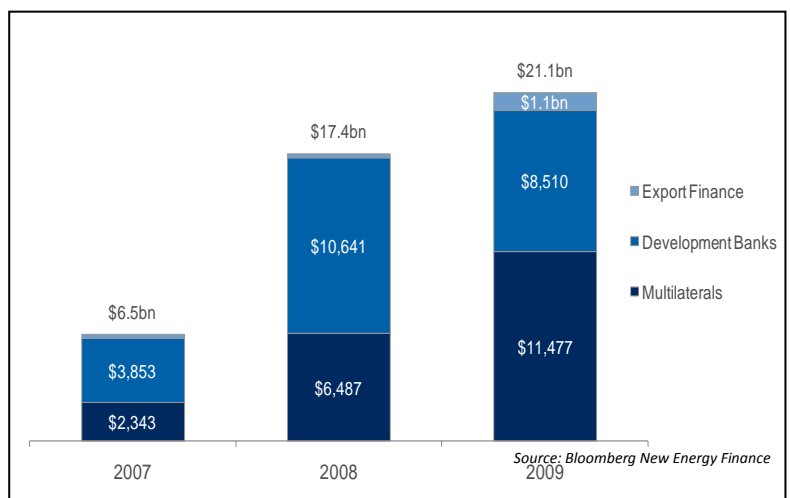


Figure 2: Multilateral Financing for Renewable Energy

- Development Banks – From 2007-2009 Multilateral development banks triple their financing to \$21bn (see Figure 2).
- Utilities open up their balance sheets.

Although the utilities in many countries had been slow to fully engage in the sector prior to the crisis, their strong balance sheets made them the only actors able to raise corporate finance for large scale renewable developments during the crisis. By 2008 the supportive policy push caught up and surpassed the investment sentiment, and since then they have been in the lead again, given a further push by the stimulus packages enacted in many countries.

**Phase 3** – The third fundamental change in investment in recent times has been the increasing shift towards emerging markets, with developing country investment increasing 12.5

times since 2004, as compared to 5 times globally. Figure 3 shows, for instance, that \$31.8 billion has been invested in renewables power sector investment annually in developing countries between 2007 and 2009, mostly in China, India and Brazil. Figure 3 also includes the IEA forecast investment requirement going forward, showing that existing levels of investment will need to triple quickly for the 450 ppm scenario to be realizable.

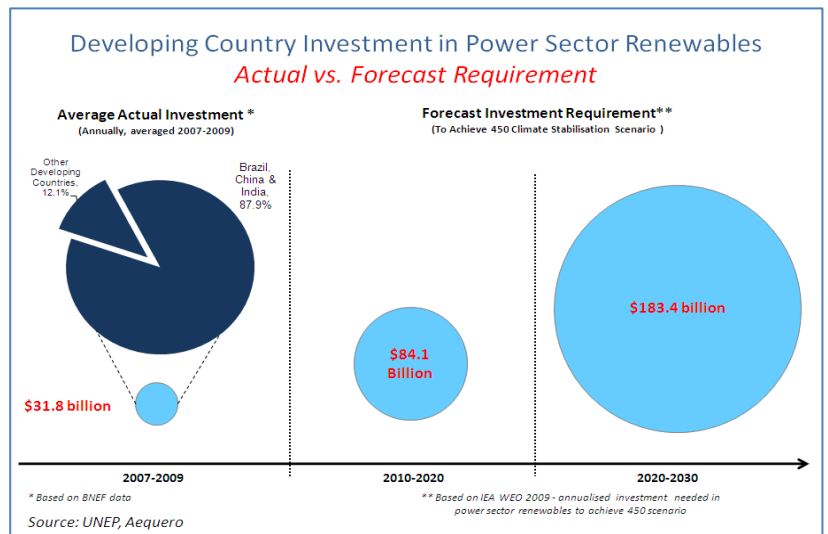


Figure 3: Developing Country Investment in Power Sector Renewables

### DIREC Session: Financing Deployment at Scale

This panel of public (IFC, ExIm Bank the US ECA and IREDA) and private financiers (HSBC, Standard Chartered Bank and IDFC Private Equity), moderated by Kirsty Hamilton (Chatham House), explored the issues surrounding financing large-scale deployment of commercially proven renewable energy technologies. Chair Rashad Kaldany, International Finance Corporation (IFC) for Asia, Eastern Europe, Middle East and North Africa, noted the challenges to renewable energy growth, including the nascence of the industry, inadequacy of grid infrastructure, unpredictability of government support, and lack of funding in local currencies. The following were the main messages raised during the session:

- Finance sector input to the first International Renewable Energy Conference in Bonn, 2004 had indicated that policies needed to be ‘loud, long and legal’ to stimulate investment.
- Today, as the focus has shifted to implementation and scale up, the finance sector is calling for RE policy to be embedded in an overall ‘investment grade’ energy framework that covers everything from planning and grid access, to PPAs and distribution regulation; with energy efficiency integration also highlighted.
- In general, tighter conditions following the financial crisis, together with other factors, mean attention remains on government regulation and support, as well the role of multilaterals and public or development finance to reduce risk and provide attractive returns.

Key global trends for private financiers, particularly the capital markets so heavily hit by financial crisis include:

- Shift in attention to emerging markets;
- The age of green stimulus in 2009 now largely replaced by that of economic austerity in many countries;
- The focus on carbon markets replaced by a stronger focus on ‘green growth’ (contributed to by a lack of clarity in the global carbon markets post-2012/Copenhagen);
- The drivers for RE investment increasingly linked to industrial and export policies, supply chain and jobs;

- investor interest in listed equities shifting from supply-side power sector to demand-side: transport e.g. electric vehicles and industrial/building efficiency expected to emerge more strongly by 2020;
- The impacts of financial regulation is also a new policy driver – shifting interest towards less risky options, leading to attention towards development of a new generation of securitized RE bonds.

The other three DIREC finance panels considered the next challenges of the industry, particularly focusing on the developing world. Although the recent finance sector engagement globally in renewables has been impressive, these sessions made clear that there is still far more work to be done to realize the sector’s potential across the developing world.

### **DIREC Session: Financing Innovation**

This panel of public (IREDA, IFC, ADB) and private investors (Aloe PE, Yes Bank, E+Co) was Moderated by Eric Usher (UNEP) and Chaired by Debashish Majumdar (IREDA). The session discussed the challenges of financing innovation, be they in terms of technologies, business models or the deployment of first mover projects on the ground. The following were some of the key messages raised:

- The challenges of being a first mover investor in the RE industry was discussed, with the acknowledgement that the full benefits are hard to capture by the private sector alone.
- Within regulated sectors such as electricity and transport, investments in innovation often benefit society more than the private actors involved due to spill-over effects.
- The sad reality that the VC industry has underperformed expectations, not only in renewables but in all sectors...financing innovation doesn’t pay off for early investors. This part of the finance sector is backing off, waiting for others to support early innovations, be they in technology development, transfer or deployment.
  - Challenges lie in identifying and addressing -
    - a. The frontiers of innovation and how to finance them
    - b. The cost & rewards of being an early mover
    - c. The Role of public finance in supporting innovation, in large part through new public/private approaches.

### **DIREC Session: Financing for Small Business and End-Users**

The session was Moderated by Richendra Van Leeuwen (UN Foundation) and included speakers from BASE, UNEP, Emprenda and Aryavart Gramin Bank. The session discussed financing small business and end-users discussed the sober reality that SMEs and their customers, often rural, make for difficult markets to finance.

- Wealth creation in rural areas is a goal for renewables that is only just beginning to be realized and much more needs to be done by both the public and private sectors. For instance in the solar markets the massive scale-up in deployment has yet to benefit those still in energy poverty, with some notable exceptions such as in Bangladesh.
- The fact this IREC is in India potentially is an inflection point for addressing this issue, since if anyone is going to take rural RE markets to scale it should be in India where all the key ingredients are available. This includes the need, the industry, the rural banks, the policy support and the entrepreneurialism needed to bring rural RE markets to scale. A lot of new initiative is coming forward now and we have high hopes that success in India can lead to success in other regions.

The panelists shared experiences on new approaches being attempted, looking to a scaling up of micro-finance and consumer credit for small scale renewables. Panelists conveyed the sense of increasingly seeing that rural lending for

RE can scale up quickly if banks see the new market opportunities that these technologies offer. Strategies that work are not simply financing programmes, but rather programmes that bring together all the key actors that must be involved.

#### **DIREC Session: New Financing Initiatives** - Initiatives to Catalyze and Scale-Up Investment in Renewable Energy

Moderated by Virginia Sonntag-O'Brien, REN21, this panel heard presentations from a number of financiers on programmes and mechanisms to encourage investment, while participants highlighted the World Economic Forum's Critical Mass project, the German Federal Ministry for the Environment's Global Renewable Investment Plan, the World Bank's Strategic Climate Fund and Clean Technology Fund, the KfW Development Bank's Global Climate Partnership Fund and Deutsche Bank's Global Energy Transfer Feed-in Tariff programme.

All panelists spoke about various new forms of public-private engagement, some specifically finance related and others looking towards policy engagement or both policy and finance. Participants reported that renewables face four major problems in terms of attracting investment, especially in developing countries: cost competitiveness, technical challenges, financial and project development constraints. The programmes and projects highlighted by the panel all focused on finding new ways to address these challenges through allocating and reducing risks, improving capital efficiency, and/or strengthening policies to encourage investment in RE or energy infrastructure more broadly.