Financing innovation in renewable energy

Article  (Published Version)


This version is available from Sussex Research Online: http://sro.sussex.ac.uk/59895/

This document is made available in accordance with publisher policies and may differ from the published version or from the version of record. If you wish to cite this item you are advised to consult the publisher’s version. Please see the URL above for details on accessing the published version.

Copyright and reuse:
Sussex Research Online is a digital repository of the research output of the University.

Copyright and all moral rights to the version of the paper presented here belong to the individual author(s) and/or other copyright owners. To the extent reasonable and practicable, the material made available in SRO has been checked for eligibility before being made available.

Copies of full text items generally can be reproduced, displayed or performed and given to third parties in any format or medium for personal research or study, educational, or not-for-profit purposes without prior permission or charge, provided that the authors, title and full bibliographic details are credited, a hyperlink and/or URL is given for the original metadata page and the content is not changed in any way.
Global new investment in green energy technologies hit $329 billion in 2015 says Bloomberg New Energy Finance. That's a good thing right? Well, not necessarily. Knowledge is always partial, and despite impressive breadth of data gathering, some fundamentals remain unclear. That's where Mariana Mazzucato and Gregor Semieniuk came in, organising a special workshop on Financing Innovation in Renewable Energy hosted by Bloomberg NEF which asked, who is doing what, where and when?

The answers offered at the workshop, or occasionally the lack of them, pose serious research and policy challenges.

First, with regard to the data itself: what goes into the data, what does not, and who are the data collectors? As researchers and analysts we cannot always get the numbers and stakes that underlie investment deals. Sometimes this is cultural, as some countries are reluctant to disclose data. This means trends in the categories of investment, especially with organisations like the China Development Bank, are very hard to get at.

Second, what does the data already collated tell us about the financing of green energy in 2016? We know we have an issue following on from Basel III, a set of banking regulations which aimed to bring about more stability within the banking sector. Long-term, patient capital is now more difficult to raise. We see this in other sectors, such as green technology. The venture capitalists too have shorter exit windows.
So what does this do for the renewable energy industry? And do these two factors mean the development banks have to take a bigger role? If so, how is the public market creation agenda going to emerge to let this happen?

In terms of finance, renewable technologies have two important characteristics. They are highly sensitive to the cost of capital and are highly sensitive to policy. The former suggests that the European interest rate regime of the last few years was a perfect opportunity to deliver growth. The latter tells us it’s a “perfectly missed opportunity”.

The UK is an exemplar here. The coalition government most definitely did not fix the renewables roof while the sun was shining. Not only has this situation regressed under the current incumbents, it looks like they’ve knocked down the walls of the house to boot. Furthermore, despite the headline figures, it would seem from some of the discussion at the workshop, green energy finance is in less than robust health. According to a senior executive at one large financial player, utilities are walking wounded, commercial banks are in trouble, public funding is locked within the vault of austerity, and markets are our only hope. In other words, the pension funds and ‘yield-cos’, companies formed to own operating assets that produce a predictable cash flow, and other institutional investors looking for long-term yields are key potential investors in renewable energy.

Yet, these funds are significantly under-invested in green energy. Only 1-3% of pension fund assets are invested directly in infrastructure, and here lies an opportunity. But these investors are not motivated, and it’s up to renewables boosters to transform their assets into a suitably attractive product.

Here then is the substantive issue of the day. How is the direction of development in the green energy sector set, and what role does finance have in this? This issue was addressed by Gregor Šemieniuk at the workshop who reminded us that:

1. A) Finance is not neutral. Who finances what may impact direction and pace of renewable scale-up.
2. B) But we don’t know much about sources or destination of finance, and
3. C) The biggest part, asset finance, is just a “green bar” and we never know about who is financing it.

Much emphasis has been on how public policies effect finance flows, but the actors are not distinguished between public and private, or institutional types. We’re simply unsure about what their motivations for investing are. This brings us to directionality, and à la Andy Stirling’s 2007 contribution, the appropriate question follows: why do some energy infrastructures get funded and some do not?

To date, both investors and civil society advocates of renewables have explicitly privileged speed of scale-up over alternative considerations, such as distribution of benefits. Yet as lead renewable technologies such as onshore wind and solar PV gain cost of production parity with fossil production, we have some serious choices to make about whether there is a role for public market creation, how it is financed and how costs and benefits are distributed.

In other words, it may be time to reframe the policy prescriptions to move beyond addressing merely urgency and scale. The alternative course of action discussed in the previous paragraph sees the promotion of renewables as a type of game playing, wrapping assets up in attractive packages for institutional investors. And we have evidence
from the great crash of 2008 that the financialisation of fixed assets – in that case people’s homes – does not always end well.

Bring together a large enough cohort of researchers, and a workshop will always produce more questions than answers. This was no different and a number of future challenges were substantiated. There is a significant challenge of governance levels. Can we afford to apply only national policy to global issues? Solar PV and wind in particular are now global industries with global value chains. So, how should a country like the UK identify where to make interventions? For example, if you are ‘UK PLC’, should interventions be made only at home, or also abroad? This is both a policy and research challenge.

We might also usefully ask what the mechanisms are by which flows of finance enter countries, particular developing countries. For example India’s Prime Minister Narendra Modi’s alliance of industry and 120 nations investing in solar energy made waves at COP21. It was a big deal, but how will the finance on this work? Conversely, we might ask, who benefits from a feed-in tariff introduced in Germany, the UK or Ireland, and where are they? This question gets to the heart of directionality issues. Who makes the decisions, where are they located, and what is the distribution of costs and benefits?

Cian O’Donovan is a Research Fellow and co-ordinator of the Nexus Network at the Science Policy Research Unit (SPRU). He tweets at twitter.com/cian

Login to post comments   Original article
Latest Comments

**Geoff**, the oil industry is not alone complaining about unfair prices. The...
March 7, 2016 by **RickEngebritson**

**Clayton**, according to your source: http://www.sibleyguides.com/...
March 7, 2016 by **BobMeinetz**

**Bruce**, what independently-confirmable evidence do you have that the problem has...
March 7, 2016 by **BobMeinetz**

**Clayton**, what exactly is "anecdotal" about video? I'm not sympathetic nor...
March 7, 2016 by **BobMeinetz**

**Nathan** - absolutely. Many ways it could be used. What to do with too much cheap...
March 7, 2016 by **BobMeinetz**

**With power-to-fuel synthesis as a dispatchable load, and baseload electricity,**...
March 7, 2016 by **Nathan Wilson**
News: Solar Plus Storage Goes Small, and Big
March 2, 2016 by Lexie Briggs

Crescent Dunes Concentrating Solar Plant Begins Producing Electricity
March 5, 2016 by U.S. EIA: Today in Energy

Wind Top New Power Capacity Source in Europe
Advisory Panel

About the panel

Scott Edward Anderson is a consultant, blogger, and media commentator who blogs at The Green Skeptic. More »

Christine Hertzog is a consultant, author, and a professional explainer focused on Smart Grid. More »

Elias Hinckley is a strategic advisor on energy finance and energy policy to investors, energy companies and governments More »

Gary Hunt Gary is an Executive-in-Residence at Deloitte Investments with extensive experience in the energy & utility industries. More »

Jesse Jenkins is a graduate student and researcher at MIT with expertise in energy technology, policy, and innovation. More »

Jim Pierobon helps trade associations/NGOs, government agencies and companies communicate about cleaner energy solutions. More »

Geoffrey Styles is Managing Director of GSW Strategy Group, LLC and an award-winning blogger. More »

Webcasts & Podcasts

The Energy Collective

The Utility of the Future [PODCAST]
Who Will Build Tomorrow's Grid? Smart Grid & the Expertise Challenge [Webcast Recording]
Hydro and Ocean Power: Untapped Renewable Resources? [WEBCAST]
Germany's Clean Energy Push: What Can the World Learn? Webcast Recording
Webinar Replay: Gone With The Wind? Understanding Grid Resiliency
Webinar Replay: Can Shale Gas Global?