Financial Regulation – Biased against Clean Energy and Green Infrastructure?

Discussion paper prepared by the Global Agenda Council on New Energy Architecture

January 2013

Lead author: Michael Liebreich, Chief Executive, Bloomberg New Energy Finance, United Kingdom

Disclaimer:

The views expressed in this paper do not necessarily reflect the views of the World Economic Forum or those of individual Members of the Global Agenda Council, nor their organizations.

REF180213

Much has been written about the policies required to make clean energy attractive for investors: support mechanisms that are "long, loud and legal", or that provide "TLC" (transparency, longevity and certainty). However, in many cases, even when supportive policies are in place, results have been mixed, with limited uptake unless risk-adjusted returns are extremely – some would say overly – generous.

This discussion paper identifies a number of areas in which the regulation of investment itself, rather than policy relating to underlying assets, companies or technologies, may be holding back the flow of investment.

The past decade has seen investment in clean energy grow from less than US$ 50 billion per annum to over US$ 250 billion per annum. However, for energy-related carbon emissions to peak by 2020 and then decline, this figure will still need to more than double.

The water, agriculture and transportation sectors also need to see dramatically increased investment in sustainable versus business-as-usual approaches. Yet, infrastructure investment only accounts for around 1% of the asset allocation of the average pension fund and, specifically, green infrastructure accounts for around 3% of that – a tiny proportion of assets available worldwide for investment.

Regulation of banks, insurance companies and pension funds – even the ownership structures available for different types of assets and the way that public finances are accounted for – can conspire against sustainable investment in three distinct ways. First, by dissuading investors from investing in infrastructure in general, the economy remains dependent on legacy assets, which are generally more heavily polluting than current best-of-class conventional technologies. Second, because many clean energy technologies involve heavy up-front investment but low or no running costs, any bias against capital investment is a *de facto* bias against clean energy. Third, where infrastructure investment does occur, rules governing investment may favour conventional rather than new and sustainable technologies.

The following issues are worthy of attention:

- Upcoming **Basel III rules** significantly limit the ability of banks to provide long-term, **non-recourse project finance**. While this affects the availability of capital for all infrastructure projects, wind and solar projects are particularly vulnerable because they involve high upfront capital costs, offset by lower operating costs. Basel III rules are also driving up the cost of shorter-term **construction finance** – the provision of which should surely be a core role for the banking sector. Concerns about the ability to secure longer-term, follow-on finance are driving banks to be overly restrictive about the number of projects they support.

- **Solvency II regulations** governing the need for **insurance companies** to hold capital in supposedly liquid and/or low-risk instruments like public equities and government bonds will reduce their appetite for long-term investments for which there is no public market, even though such investments have well-understood yield characteristics and a well-developed private market.

- **Pension funds** are important potential investors in clean energy projects, but rules on the **matching of assets and liabilities** tend to push trustees towards taking a highly conservative approach to asset allocation. In addition, as in the case of the United Kingdom at least, rules for calculating pension protection fund fees can penalize infrastructure investment in general.

- **Laws governing the fiduciary duties of pension fund trustees** have been interpreted as directing pension funds to adopt a narrow focus on risk-adjusted returns. Because they do not explicitly require trustees to take account of systemic risks such as climate change, or of performance on environmental, social or governance dimensions, investors have tended to avoid such analysis. In particular, no account is generally taken of the risk of write-downs to the value of fossil fuel assets if future action on climate change renders them stranded.

- In many countries, particularly the United States and Canada, there are well-developed **legal ownership structures** to enable **private investors and other asset owners** to invest in infrastructure while avoiding issues of double taxation. These include real estate investment trusts and master limited partnerships. These structures, however, tend to be limited to certain types of assets – and there is a lag in including new types like renewable energy projects, aggregated distributed generation or energy efficiency portfolios.

- **Laws governing the disclosure of risks by publicly quoted companies** generally do not require the identification of risks relating to climate, extreme weather, water or environment; yet, these can be as material as other types of risks that must be disclosed, such as legal disputes or forthcoming legislation.

– **The use of ratings agencies** as a means of protecting investors from risks may tend to disadvantage clean infrastructure investment. Rating methodologies focus on near-term quantifiable risks rather than either catastrophic one-of-a-kind events or longer-term systemic risks. The dependence on ratings agencies also acts as a particular barrier to cross-border investment in the developing world, where few countries and even fewer utilities are rated as investment-grade.

– **Public sector accounting rules** can influence the choice and level of incentive mechanisms available to policy-makers to encourage clean energy deployment. Even when there is a clear intention to support clean energy, the fact that liabilities associated with feed-in tariffs or green certificates may be included in tax or spending totals – even though the cost will, in fact, be borne by electricity consumers – puts pressure on treasury departments to limit support for clean energy.

– **Rules on state aid** can also restrict the ability of public sector banks to support new infrastructure technologies. Capital-intensive new technologies such as carbon capture and storage, marine power and second-generation biofuels require support to cross the "valley of death" and achieve initial deployment, and national development bank support for this may infringe such rules.

– On the positive side, the impact of the **Dodd-Frank law** on the US financial sector has so far proved innocuous – to the relief of those who had feared that tighter regulation could interfere with the markets for renewable energy certificates and carbon offsets.

– We conclude that there may indeed be an "investment bias" – defined as a range of factors that might restrict asset allocation to a level below what a purely economic analysis of risk and return would dictate – against clean energy and clean infrastructure more generally.

– Identifying and eliminating any such bias could result in significantly increased flows of investment to clean energy and other sectors of sustainable infrastructure. Further work is required to detail potential remedies and quantify the resulting incremental investment flows.

Members of the Global Agenda Council on New Energy Architecture

Atul Arya, Senior Vice-President, Research and Analysis, IHS, USA
Morgan Bazilian, Deputy Director. Joint Institute for Strategic Energy Analysis, USA
Sean M. Cleary, Chairman, Strategic Concepts, South Africa
Bob G. Elton, Adjunct Professor, University of British Columbia, Canada (Vice-Chair)
Arthur Hanna, Managing Director, Energy Industry, Accenture, United Kingdom
Jeremy Leggett, Chairman, Solar Century, United Kingdom
Michael Liebreich, Chief Executive, Bloomberg New Energy Finance, United Kingdom
Tatsuo Masuda, Professor, Nagoya University of Commerce and Business Graduate School, Japan
Siamak Namazi, General Manager, Access consulting Group, United Arab Emirates
Jasandra Nyker, Chief Executive Officer, BioTherm Energy, South Africa
Annetta Papadopoulos, Associate Partner, IDEO, USA
Gao Shixian, Assistant Director-General, Energy Research Institute (ERI), People's Republic of China
Leena Srivastava, Executive Director, The Energy and Research institute (TERI), India (Vice-Chair)
Daniel S. Sullivan, Commissioner, Alaska Department of Natural Resources, USA
Mauricio Tolmasquim, Chief Executive Officer, Energy Research Office (EPE), Brazil
Jeroen van der Veer, Executive Member of the Governing Board, European Institute for Innovation and Technology, Hungary (Chair)
Lorie Wigle, General Manager, Eco Technology Program Office, Intel Corporation, USA

Other Contributors

Angus McCrone, Chief Editor, Bloomberg New Energy Finance, United Kingdom
Espen Mehlum, Head of Knowledge Management, Energy Industries, World Economic Forum
Ethan Huntington, Senior Associate, Knowledge Management, World Economic Forum

Note

A forthcoming Bloomberg New Energy Finance white paper will develop these themes further
(see www.bnef.com for details).

WORLD ECONOMIC FORUM

COMMITTED TO IMPROVING THE STATE OF THE WORLD

The World Economic Forum is an independent international organization committed to improving the state of the world by engaging business, political, academic and other leaders of society to shape global, regional and industry agendas.

Incorporated as a not-for-profit foundation in 1971 and headquartered in Geneva, Switzerland, the Forum is tied to no political, partisan or national interests.

World Economic Forum
91–93 route de la Capite
CH-1223 Cologny/Geneva
Switzerland

Tel.: +41 (0) 22 869 1212
Fax: +41 (0) 22 786 2744

contact@weforum.org
www.weforum.org