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Working Paper Series

The Public, the Private and the Hybrid: Mapping the Governance of Energy Finance

Peter Newell

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Abstract

Finance is central to the achievement of policy goals associated with promoting energy security, tackling energy poverty and addressing climate change. Mobilising, leveraging, steering and regulating flows of public and private finance in the energy sector presents a huge governance challenge. This mapping paper provides a typology of the governance of energy finance. It aims to capture the different governance dimensions associated with (i) the *public governance of public finance* (ii) the *public governance of private finance* and (iii) the *private governance of private finance*. It is suggested that the different dimensions of governance apparent in each type in terms of rules, decision-making procedures and the distinct patterns of accountability, participation and representation manifested, reflect different mandates, political constituencies and alliances and material capabilities. It also attempts to show how the *processual* aspects of governance in this area in terms of who determines which issues of energy finance are addressed or actively neglected strongly affects the *distributional* elements of governance. This has an impact in terms of who benefits, who doesn't and why and how effective action is overall at meeting its distinct objectives.

Key words: Climate change, Energy, Finance, Governance, Private, Public.

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Abbreviations and acronyms

ADB	Asian Development Bank
APEC	Association of Petroleum Exporting Countries
APP	Asia Pacific Partnership on Clean Development and Climate
ASEAN	Association of South East Asian Countries
BASE	Basel Agency for Sustainable Energy
CCTAF	Climate Change Technical Assistance Facility
CDCP	Clean Development and Climate Program
CDM	Clean Development Mechanism
CDP	Carbon Disclosure Project
CERES	Coalition for Environmentally Responsible Economies
CFU	Carbon Finance Unit
CIF	Climate Investment Fund
COP	Conference of Parties
CTF	Clean Technology Fund
ECA	Export Credit Agency
ECGD	Export Credit Guarantee Departments
EIB	European Investment Bank
EITI	Extractive Industries Transparency Initiative
FDI	Foreign Direct Investment
GEEREF	Global Energy Efficiency and Renewable Energy Fund
GEF	Global Environment Facility
GHG	Greenhouse Gas
IEA	International Energy Agency
IFC	International Finance Corporation
IFI	International Finance Institution
IGO	Intergovernmental Organisation
IMF	International Monetary Fund
IPR	International Property Right
IRENA	International Renewable Energy Agency
JI	Joint Implementation
MBD	Multilateral Development Bank
NGO	Non-governmental Organisation
ODA	Overseas Development Assistance
OECD	Organisation for Economic Cooperation of Development
PIC	Policy and Implementation Centre
PPP	Public Private Partnership
RDMA	Regional Development Mission Asia
REEEP	Renewable Energy and Energy Efficiency Partnership
REN21	Renewable Energy Network 21
SEFI	Sustainable Energy Finance Initiative
SREP	Scaling-up Renewable Energy Programme
SWERA	Solar and Wind Energy Resource Assessment
USAID	United States Agency for International Development
UN	United Nations
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
WRI	World Resources Institute
WWF	Worldwide Fund for Nature

Introduction¹

Energy is central to all aspects of human development. Its extraction, generation, financing, distribution and consumption implicate a vast array of actors whose actions have an effect on who gains access to which type of energy and on what terms. Governance is, therefore, critical to ensuring that energy is directed towards those that need it most in an affordable and accessible way (energy poverty); that it can be supplied in a regular and predictable manner (energy security) and that it can be done in a way which minimises environmental externalities (sustainability)². Finance is critical to the achievement of each of these goals. The governance of finance in this context refers to the ensembles of actors, policy-making processes and institutional arrangements set up to steer energy finance towards the achievement of these goals (Florini & Sovacool 2009). It refers to collective acts of steering and management aimed at raising and screening, allocating and distributing finance in the form of aid and investment from the public and private sector. Power is what shapes our collective ability to realise these goals: why some win out over others and how and why the global governance of energy finance takes the form it does.

This mapping paper provides a typology of the governance of energy finance. It aims to capture the different governance dimensions associated with (i) the *public governance of public finance* (ii) the *public governance of private finance* and (iii) the *private governance of private finance*. It is suggested that the different dimensions of governance apparent in each type in terms of rules, decision-making procedures and the distinct patterns of accountability, participation and representation manifested, reflect different mandates, political constituencies and alliances and material capabilities. It is also apparent that the *processual* aspects of governance in this area in terms of who determines which issues of energy finance are addressed or actively neglected strongly affects the *distributional* elements of governance. This has an impact in terms of who benefits, who doesn't and why and how effective action is overall at meeting its distinct objectives.

It is worth noting at the outset of course that the plural and overlapping nature of the actors involved in energy governance means these categories are far from water-tight. In practice key actors are engaged in many types of energy governance and the line between public and private, in particular, is often blurred as actors perform a number of roles simultaneously, hence the emphasis here on the 'hybrid' nature of many governance arrangements. Nevertheless, in terms of key governance dynamics there are discernible differences in terms of the forms of public and private governance described below which make it worthwhile analysing them in those terms.

The landscape of energy finance has altered drastically in recent years and continues to face a series of challenges regarding sourcing of and access to finance, predictability of flows and mechanisms of distribution. As IEA (2009) note, the financial crisis has made it more uncertain whether the levels of energy investment needed to meet long term energy needs can be mobilised. The capital needed to meet projected energy demand through to 2030 amounts in cumulative terms to US\$26 trillion or US\$1.1 trillion per year (1.4% of global GDP). Half of this energy investment is needed in non-OECD countries. At the same time to stabilise concentrations of greenhouse gas (GHG) emissions at 450 ppm requires an additional investment of US\$10.5 trillion globally in the energy sector in the period 2010-2030. The energy sector in non-OECD countries would need around US\$200 billion of additional investment in clean energy and efficiency in 2020. And while mitigation costs in developing countries could reach US\$140-175 billion a year by 2030 current flows of mitigation finance averaging US\$8 billion a year to 2012 pale in comparison (World Bank 2010). Meanwhile, under most

scenarios 1.3 billion people will still lack access to electricity in 2030. The scale of the challenges is immense.

2. Public governance of public finance

Though the private sector is expected to provide the lion's share of finance for energy and climate mitigation, public financial flows also have an important role to play. This can be about 'correcting market imperfections' and targeting areas overlooked by the market as the World Bank suggests, but it can go way beyond this (World Bank 2010:258). Governance mechanisms can be used to raise, steer and distribute many types of energy and climate finance.

From research to extraction to distribution and consumption, states and public institutions are heavily involved in governing public energy finance. The public sector provides capital for large infrastructure projects. Hence although governments account for less than 15% of global economy wide investment, they largely control the underlying infrastructure investments that affect opportunities for energy efficient products, for example (World Bank 2010). In terms of the global (and regional) governance of energy *finance*, actors such as the World Bank and International Monetary Fund (IMF) have a key role to play as do regional development banks and bilateral donors. In many ways we should expect that these public Intergovernmental Organisations (IGOs) provide the strongest forms of energy governance since many have permanent secretariats, public mandates and access to state resources and direct channels of influence over the states that created them. The power they wield is clearly a function of which states fund and support them, whereby donor dominated Multilateral Development Banks (MDBs) tend to wield more power than UN organisations such as the United Nations Environment Programme (UNEP) and the Global Environment Facility (GEF), for example.

Even bodies with a secretariat and oversight of reasonably large budgets are not immune from the sort of unpredictable financing flows that afflict hybrid or private arrangements discussed below, however. For example, the availability of GEF funding is based in part on flows that are subject to change. Estimated available funding depends not only on available liquidity in the trust fund, but also on installment payments and promissory note draw downs yet to be received from donors, as well as on projections of investment income that will be realized, and on allocations of funding that can increase, decrease or be cancelled as proposals move through the project cycle. Indeed a proposal issued by the US in October 2009 would relegate the GEF's role to capacity building rather than large scale project finance (Ballesteros et al. 2009).

Evolving mandates and the challenge of coordination and coherence

The mandates of many public institutions are also rapidly evolving in relation to the changing landscape of energy finance. Many IGOs struggle with reconciling their role as institutions set up to tackle (energy) poverty and the role they now seek to secure for themselves as climate finance institutions. We see this most clearly in the case of the World Bank where despite some of the rhetoric in its Energy Strategy Paper, there is a lack of evidence of systematic mainstreaming of climate criteria into its Country Assistance Strategies and other lending portfolios (WRI 2008). This in turn raises the hugely sensitive issue of the distinction between climate finance and development finance. There is a long history in the climate negotiations, reflected in the UNFCCC and Kyoto Protocol, about climate funds being 'new and additional' to existing sources of aid and finance. The more the two areas overlap the harder it becomes to maintain these distinctions, especially with regard the World Bank's role in promoting and enabling clean energy through SREP (Scaling Up Renewable Energy Program), the Special Climate

Change Fund, which includes energy as a priority area, and the CIF (Climate Investment Funds).

The tendency among public institutions towards mission creep is driven by lack of stable and predictable supplies of funding noted above. This is most notable around climate change as more organisations seek to retain relevance and access the large sums of money available for actions on mitigation and adaptation. Competition between them for competence and authority in this field is fierce, as we have seen with the creation of International Renewable Energy Agency (IRENA) as a stand-alone agency to promote renewables, which Florini (2010) describes as a 'defeat' in terms of the IEA's ability to see off institutional competition to lead on promoting renewable energy. Hermann Scheer, general chairman of the World Council for Renewable: 'There exist international agencies for fossil and nuclear energies, but none for renewables. IRENA will close this gap' (Block, 2008).

There are also at least 20 different bilateral and multilateral funds for climate change (World Bank 2010). The proliferation of actors and initiatives and sensitivity around issues of duplication means actors have to work hard to justify their comparative advantage in a crowded market for governance services. For example, the World Bank's Clean Technology Fund (CTF) strives to 'maintain an efficient business model that does not duplicate existing procedures or lengthen the project development and approval process' (World Bank 2008a). The CTF also sets out its rationale and niche in the following way: "There is a gap in the international ODA architecture for finance to developing countries at more concessional rates than the standard MDB terms and at the scale necessary to help provide them incentives to integrate low-carbon strategies into their development plans and investment decisions" (Müller and Winkler, 2008). One issue alluded to above is the CIF's relationship to the UNFCCC's role in climate finance. To address this sensitivity the design of the CTF also includes a "sunset clause" stating that "the CTF will take necessary steps to conclude its operations once a new [UNFCCC] financial architecture is effective." (CIF, 2008: 12). Any funds remaining in the CTF once this new architecture has been established may be transferred to "another fund that has a similar objective".

That such institutions have attracted a high level of attention and advocacy, however, is testimony to the nature of their mandate as institutions stewarding public funds for public good purposes. The CIFs represent more public finance than has ever before been dedicated to climate change. But they are dwarfed by the size of the MDBs annual financing portfolios whose policy goals are altogether different. In governance terms this raises the issue of policy incoherence when the activities of one part of the World Bank undermine those of another. Civil society activists have been quick to highlight examples of seeming inconsistency in policy objectives such as the World Bank-supported US\$4.14 bn coal-powered 'Ultra Mega' 4,000 megawatt power plant in Gujarat India that will emit more carbon dioxide annually than the nation of Tunisia according to the US Department of Energy (Swan, 2008). The failure to integrate clean development objectives into mainstream energy finance lending results in contradictory policy, even within the same organisation. A WRI report found that, during the past three years, less than 30% of the World Bank's lending to the energy sector has integrated climate considerations into project decision-making. As late as 2007, more than 50% of the Bank's US\$1.8 bn energy-sector portfolio did not include climate-change considerations at all (WRI, 2008).

Seeming policy incoherence is not just a feature of global institutions for energy governance. Regional development banks such as the Asian Development Bank (ADB) and European Investment Bank (EIB), for example, have been criticised for continuing

to bank roll energy projects with widespread negative social as well as environmental consequences. For example, while the ADB has invested \$2,383 million in the clean energy development sector between 2003 and 2005 and has its own Clean Energy Program, it is at the same time increasing its support for coal-fired thermal power plants (WRI, 2008: 11). Critics such as the NGO Forum on the ADB also note that continued promotion of grid energy will make it impossible for the bank to comply with commitments in its Draft Energy Strategy Paper of May 2007, to provide rural households with greater access to energy (Withanage and Nemenzo, 2007; ADB, 2007). These examples highlight the critical role of civil society organisations in serving as watchdogs of institutions active in the area of energy finance: monitoring their funding decisions and compliance even with their own rules and procedures and posing critical questions about how they fulfill their mandate.

The Politics of Accountability

Because of their public mandates, high levels of transparency and accountability are expected of public institutions. In terms of their internal governance structures and dynamics, it is obviously more difficult to comment on the performance of newer initiatives such as IRENA, officially launched in 2009. Since governance structures take time to evolve as problems are identified and challenges raised, you would expect those institutions that both wield and manage more resources and have longer histories (such as the World Bank) to have more advanced governance systems in place.

Many, such as the World Bank's CTF, claim to 'ensure full transparency and openness in governance, oversight and evaluation processes' through the operation of a Trust Fund Committee. One way in which this is to be achieved is through the Partnership Forum to the CIFs, which includes civil society representatives, recipient governments and the UN to 'discuss the strategic direction' of the funds, though is not conferred formal decision-making power. But while some committee meetings are open to observers, CIF deliberations over budgets and work programmes and CTF discussions of investment plans are presently closed "executive sessions". Likewise, clean technology investment plans have not been publicly disclosed prior to deliberations by the trust fund committee and there were few opportunities for stakeholders to debate or influence the design parameters of the body (Ballesteros et al. 2009). Nakhooda (2009) also finds that there is limited evidence to date of engagement with stakeholders outside of government in the design of their Clean Technology Investment plans.

The governance of the various CIFs is noteworthy, however, because there are an equal number of representatives from donor governments and developing country governments on the governing committees for each of the trust funds. All the governments contributing funds to the CTF are represented on its governing trust fund committee through a process of self selection amongst interested developed countries. Direct participation does not of course necessarily imply greater influence over outcomes, especially as donor countries tend to be represented by ministries of finance and development while developing countries are more likely to be represented by less powerful ministries of environment or foreign affairs (Ballesteros et al. 2009). In terms of addressing the coordination issues between actors active in energy governance noted above, one issue is that observers from organizations such as the GEF³ and UNFCCC Secretariat, also active in the area of climate energy finance, are excluded from investment plan discussions, making it difficult to ensure that programs supported by multilateral institutions are complementary.

Inter-institutional accountability is an important part of the governance of climate energy finance. The GEF is formally accountable to and functions under the authority of

the Conference of the Parties to the climate agreements. However, in practice, the conventions have limited voice in the day-to-day governance and decision-making process of the GEF (Müller 2009). Many developing countries have also felt very little if any ownership over the GEF, which they saw as dominated by donor concerns (Young 2002; Ballesteros et al. 2009), and disregarding guidance by the UNFCCC Conference of Parties (COP). This dissatisfaction led, in a first instance to the adoption at its second meeting in Nairobi of “a one-country-one-vote” rule and majority representation for developing countries on the governing body. This was a fundamental departure from the previous arrangements for climate change funds, where donors – due to the GEF mixed voting system – had an implicit veto (Müller & Winkler 2008).

One source of accountability pressure institutions face is from civil society. Much NGO advocacy is targeted at the US Treasury that controls the purse strings of the World Bank (Fox and Brown 1998; O'Brien et al. 2000). As Nakhooda (2010) argues ‘Reputational risks are particularly material for public banks whose resource flows depend on legislatures in donor countries approving their funding requests’. As we saw above, however, the discourse on responsiveness to recipients, as part of ‘country-driven’ strategies may be in tension with responding to pressures for new forms of governance over energy finance. As Nakhooda notes, the World Bank and ADB are under pressure to reconsider the ways in which environmental and social safeguards may be creating barriers to financing infrastructure projects critical to the achievement of energy security objectives. This in turn raises a series of strategic dilemmas for activists (such as the Bretton Woods Project) demanding greater voice and voting rights for developing countries but then not liking the way that power is exercised: to demand limited participation of civil society and to articulate demands for new coal-fired power stations^{4 5}

Which publics?

There is always the question with public governance institutions about which public(s) they serve, how, and how effectively? The question is even more pertinent when we are considering the oversight of public finance for energy.

Institutions such as the World Bank have to satisfy funders *and* recipients of their projects, where notions of whose public interests are being served are more likely to differ and conflict. The dominance of US and Japanese finance in the ADB has led to accusations that the bank serves as a proxy for Japanese or US hegemony (Wan 1995). In fulfilling public mandates bestowed upon institutions by governments, such as tackling poverty in the case of the World Bank, there is frequently concern that public mandates are used to serve private ends.

This occurs not just through decisions about how to use its’ own energy finance but through the governance frameworks that institutions promote and finance. World Bank support for the reform of national energy infrastructures aims, amongst other things, to create an enabling environment for private finance (Cho and Dubash 2005). Through seemingly neutral policy advice and technical assistance, ideas are transferred and embedded that change the way energy is governed. As Nakhooda puts it, MDBs ‘have played a significant role in propagating new ‘wisdoms’ about the institutions and instruments that should govern the energy sector’ (2010). Moments of crisis provide opportunities to press for far-reaching reforms, as was seen with the promotion of electricity privatisation in the wake of East Asian financial crisis, as part of broader packages of macro-economic reform (Nakhooda 2010). Here too we see preferences and power revealed in the way power sector reform was required whereas addressing issues of sustainability and clean energy were largely optional (Tellam 2000).

Critics suggest, therefore, that energy governance in the hands of the IFIs bears all the hallmarks of neo-liberal governance in general with its emphasis on privatisation and 'open' competition, an enabling and facilitating role for the state, aimed largely at serving the needs of foreign capital. The ADB, for example, claims that market restructuring and liberalisation are central to reducing poverty and maximising growth. As part of its 'Energy Sector Re-structuring Programs' countries wishing to receive ADB loans for electricity transmission and distribution systems have to agree to un-bundle and privatise their generation, transmission and distribution assets. It is suggested 'The ADB envisions market deregulation and privatisation, especially public-private partnerships, as instrumental in achieving 'good governance' and competitive markets' (Florini & Sovacool 2009: 5245). In the latter regard, reducing risk and providing a seal of approval are key areas in which IFIs attempt to demonstrate they are adding value amid questions about the benefits of MDB public finance for projects where private sector capital is increasingly available (Nakhouda 2010). Therefore, as well as being sources of energy finance in their own right subject to MDB internal governance mechanisms⁶, MDBs also shape the governance environment in which other energy finance actors operate.

From public to private

It is important to place the role of public governance of public finance in context. Private financial flows in the energy sector increasingly outstrip those in the public sector. ODA is less than 10% the size of foreign direct investment (FDI) flows in energy sector and many governments, through processes of power sector and energy reform, have relinquished at least some control over the provision of energy policy. Yet while private finance and investment is to some extent governed by trade and investment rules, it often lies beyond the reach of systems of energy and environmental governance at the international level, such as they exist. For reasons of economic and energy security, ensuring growth while tackling energy poverty and addressing climate change, it is increasingly important that governments and international institutions are able to shape private financial flows in the energy sector. It is critical then to understand patterns of public governance of private finance in the energy sector.

3. Public governance of private finance

National policy

A key governance role of governments is to use policy tools at their disposal to create the enabling conditions to lever and improve flows of private finance. They can do this in a number of ways. Tax, regulation and use of subsidies are among the suite of tools available. Areas covered might include governance of the supply chain (content and other rules: feed-in, Non Fossil Fuel Obligations etc); and rules around inward investment and utility sector structure and regulation (power purchase agreements; planning rules etc) (Ballesteros and Hamilton 2010). Sending clear signals that are 'loud, long and legal' is key to unlocking private finance (Hamilton 2009). Loud refers to incentives that are strong enough to make a difference to bottom line investment decisions. Long, means of a duration that reflects the financing horizons of projects. Legal, which is perhaps where traditional forms of governance enter the picture, implies targets and regulatory frameworks that show that policy goals are stable and provide the basis for long-life, capital-intensive investments. Particularly with regard clean energy, government policy has a key, or as Ballesterous and Hamilton put it '*the central role*' in creating the conditions for investment, particularly from bankers since capital flows to those countries with the most favourable policy environment from a commercial point of view.

Beyond regulation, another form of public governance and financing for private investment is the use of Export Credit Agencies/Guarantee Departments (ECAs/ECGDs). These are used to provide support to private investors wanting to set up operations overseas. They help to govern risk by cushioning it and supporting investment opportunities. They allow for an important, though often under-used, opportunity to screen investments in the energy sector for their social and environmental impacts. In the UK, for example, no project has ever been denied ECGD support on environmental grounds. Yet the combined annual emissions of hydrocarbons from two ECGD supported projects, the Baku-Tbilisi-Ceyhan pipeline and the Bonny Island liquefied-natural-gas plant in Nigeria –will result in the emission of 660m tonnes of carbon dioxide, more than the entire annual output from the whole of the UK (WWF 2007). Reiterating the importance once again of civil society activism in shaping governance mechanisms in this area, groups such as Bank Watch and ECA Watch have launched several campaigns exposing the use of public funds to support large projects with damaging social and environmental impacts. As the latter put it:

'ECAs are currently the main public financiers of energy projects contributing to climate change. A significant portion of ECA project financing in developing countries is concentrated in sectors that have important implications for climate change. From 1994 through the first quarter of 1999, ECAs from Europe, Japan, Canada, and the United States supported US\$103bn in exports or investments for fossil-fuelled power generation, oil and gas development, transportation infrastructure, aircraft sales, and energy-intensive manufacturing in developing countries. Most ECAs have no formal environmental assessment policies, disclose little environmental information to the public, and do not evaluate the emissions of projects they finance.' (ECA Watch 2009)

Regional and international initiatives

There is also a key 'market-enabling' role for international public energy regimes. Once again, the boundaries between public governance of public finance and public governance of private finance are blurred. In the case of the World Bank's Carbon Finance Unit (CFU), for example, it manages carbon funds using public *and* private money in the North to purchase project-based emissions in the global south from public and private actors. The role of the CFU is market-enabling: 'to catalyze a global carbon market by reducing transaction costs, supporting sustainable development, strengthening developing country capacity and ensuring that the benefits of the carbon market reach the poorer communities of the developing world' (Kollmuss, Lazarus et al 2008).

In performing this market-enabling function IGO's can also successfully operate as *networks of networks*, bridging and brokering between different communities in the world of energy governance. Working with a variety of partners, for example, UNEP helps countries to develop and use tools for analyzing energy policies and programmes, climate change mitigation options and energy sector reforms. Technology transfer and research and development is facilitated by collaborations through a number of international networks including the *Solar and Wind Energy Resource Assessment* (SWERA), an international collaboration of more than 25 institutions to map the solar and wind energy resources in 13 developing countries. SWERA's information supports energy planning and policy development, while lowering risks for renewable energy project developers and reducing project lead times (UNEP 2009: 22).

The UNEP Energy Programme claims to be 'able to reach into difficult development areas and issues as a result of its strong and diverse working partnerships' with a range of organizations, including the Basel Agency for Sustainable Energy (BASE)⁷ and the

UNEP Risø Centre on Energy, Climate, and Sustainable Development⁸. BASE, in particular, provides UNEP with an essential link to the finance sector, particularly through UNEP's Sustainable Energy Finance Initiative (UN-Energy 2006)⁹. These and other partnerships have facilitated a number of important networks, including the *Global Network on Energy for Sustainable Development*¹⁰, which brings together centres of excellence from all regions of the world and the Renewable Energy Network for the 21st Century (REN21)¹¹, the global policy network and forum for international leadership on renewable energy.

There have also been a number of regional initiatives aimed at using public governance to *steer* private finance towards the achievement of environmental goals. These include the €3 billion *Energy Sustainability and Security of Supply Facility*, authorised in June 2007 by the Governors of the European Investment Bank or the EU *Global Energy Efficiency and Renewable Energy Fund* (GEEREF) which was designed in 2006 to support small and medium sized energy projects in order to support sustainable development in developing economies and economies in transition, which has so far dispersed €22.5 million¹². It offers loans to mobilise private investments in energy technologies¹³. The €5 million *Climate Change Technical Assistance Facility* (CCTAF) meanwhile provides advance funding for activities associated with the development of project-based carbon credits under the Joint Implementation (JI) and Clean Development (CDM) mechanisms of the Kyoto Protocol on a conditional loan basis.

At the international level in the case of UNEP, special attention is given to helping financial institutions improve their understanding of investment opportunities in the renewable energy and energy efficiency sectors. UNEP works with local banks to establish end-user financing mechanisms for renewable energy technologies and works with the international finance industry (including banks and insurance companies) to lower risks for larger projects and to break down financial barriers. It also provides advice to developing nations' governments on broad policy approaches to bolster renewable sources of energy and seeks to support the creation of an enabling environment for small- and micro-businesses in the area of renewable energy (UNEP 2006; IRENA 2008). UNEP is not a Bank, however, and therefore does not directly finance projects or companies¹⁴. Instead UNEP works to support the banking sector and other financial actors in creating new clean energy finance markets (UN-Energy 2006).

Information disclosure, reporting and transparency provide another source of international public governance *for* private energy finance. Emerging initiatives such as that of USAID and the World Bank to develop a *Clean Investment Index* which build on their 'Doing Business Index' is a form of governance in and of itself in so far as it shapes the behaviour of other public and private actors. It seeks to rank countries according to indicators of their investment 'climate', which implies a bias towards issues that are most concern to potential foreign investors. The right investment climate for capital means strong levels of international property right (IPR) protection, business and contract law, enforceability, tax regimes, access to and availability of finance (nature of capital markets), policy (energy and trade policy) and government stability (expropriation)- factors which affect investor confidence¹⁵.

Governance through partnerships

REEEP (*Renewable Energy and Energy Efficiency Partnership*) meanwhile performs a more indirect market enabling role by identifying barriers and opportunities to the up-take of renewables. This is explicit in the organisation's mission 'to contribute to the expansion of the global market for renewable energy and energy efficiency... [through a] concerted effort to create a level playing field for sustainable energy'. REEEP is an

international public-private partnership funded by governments, businesses and development banks, aimed at addressing this issue. Often described as a 'hybrid' organisation (Florini and Sovacool 2009), REEEP is focused on the development of market conditions that foster sustainable energy and energy efficiency, and works to structure policy and regulatory initiatives for clean energy. Hence it both seeks to improve the existing legal and political frameworks that govern clean energy and finance projects that can attract investors and financiers who can develop and deploy clean energy technologies in other markets. It has funded around 80 clean energy projects in developing countries to date¹⁶.

Though it has a small secretariat, REEEPs modus operandi and governance structure is different from the governance initiatives described above. Because the organisation is smaller it can be more flexible and quicker in decision-making than many IGOs. Because of the scale of funding that it oversees, REEEP also requires less oversight and process requirements than MDB project financing, for example. Lower levels of institutionalisation may, however, mean that it is easier to hold actors to account for their actions in such an environment (Florini & Sovacool 2009). It is easier to be inclusive and transparent when fewer actors are involved in making fewer decisions about less money and where implementation is largely left to partners on the ground in the countries where it works. Nevertheless it relies on voluntary funding from several governments (mainly UK and Norway) whose stability and predictability may reduce the organisations effectiveness compared with other actors in the governance of energy finance, particularly in terms of planning of future activities.

Alongside this there is REN21 which describes itself as 'a global policy network that provides a forum for international leadership on renewable energy'. Its goal is to bolster policy development for the rapid expansion of renewable energies in developing and industrialised economies. Open to a wide variety of dedicated stakeholders, REN21 connects governments, international institutions, non-governmental organisations, industry associations, and other partnerships and initiatives' (REN21, 2008). The stakeholder approach of REN21 is reflected in the governance structure whereby a steering committee of approximately 30 individuals representing different parties interested in renewable energy shape a strategy which is then implemented by the REN21 secretariat (6 staff), a small outfit overseeing a budget of around US\$1 million. In the case of both REEEP and REN21, therefore, they are small organisations with limited capacity in terms of staff and resources, heavily reliant on collaboration and partnership with other organisations and not yet able to shape energy finance on anything like the scale of other institutions discussed here (Ballesteros and Hamilton 2010).

The *Asia Pacific Partnership on Clean Development and Climate* (APP) is a public-private partnership that brings together the governments and private sectors of Australia, China, India, Japan, Korea, the United States and, since October 2007, Canada – countries that collectively account for more than half the world's economy, population and energy use (APP, 2008). Though the APP is voluntary and not legally binding, it is intended to be 'politically binding'. The APP aims to facilitate investment in clean technologies, goods and services, accelerate the sharing of energy-efficient best practices, and identify policy barriers to the diffusion of clean energy technologies. To achieve these goals it created eight public-private Task Forces for specific sectors¹⁷. The US-based Policy and Implementation Committee (PIC), comprising representatives from the partners, governs the overall framework, policies and procedures, guides the Task Forces and periodically reviews the progress of the Partnership. The Partnership is based on a highly decentralised structure, whereby a project or activity involving any two or more partners that contributes to the objectives of the partnership is eligible for inclusion¹⁸.

The Clean Development Mechanism, created by the Kyoto Protocol, is also a hybrid arrangement that provides public governance oversight of private financial transactions in order to ensure that they serve the public good of reducing GHG emissions. It is market-enabling by creating opportunities for annex 1 countries to purchase Certified Emissions Reductions in non-annex 1 countries and thereby reduce their compliance costs. Energy related projects form an increasingly large percentage of its portfolio of projects which combine public and private carbon finance for clean energy. It is estimated that some US\$95 billion in clean energy investment benefitted from the CDM over 2002-2008 (World Bank 2010). The fact that private finance is so much more significant means, however, that in terms of incentivising new investment in the RE sector it often just forms the 'icing on the cake' as Ballesteros and Hamilton (2010) put it. Its ability to govern overall flows of energy finance is very limited. Indeed, one of the greatest challenges is to target the un-governance of clean development: areas of active neglect (Pearson 2004; Newell et al 2009). As CDM Watch (2004: 7) put it: 'Any discussion about the future of the CDM must also address the fact that it, and the carbon market itself, exist on the margins of huge financial flows to carbon-intensive energy projects in the South'. The CDM is underpinned by a collaborative network structure in which state and non-state actors collaborate in a partnership arrangement. This confers on non-state actors, such as the Designated Operating Entities that validate projects, 'a variety of voluntary, self-formal and formal roles in formulating policy responses and implementing international agreements' (Streck 2004: 297). The patterns of 'delegated authority' that ensue (Green 2008) create other governance challenges in terms of collusion and accountability.

In sum we can see in this section how issues of coordination and coherence affect the public governance of private finance, as much as they do the public governance of public finance. As Ballesteros and Hamilton (2010) show, the aims and mandates and policy networks in which they operate significantly overlap and duplicate in the case of IRENA, REN21 and REEEP. Whilst this impacts on effectiveness, there may be higher demands made of public institutions governing public energy finance in terms of addressing overlaps and seemingly contradictory behaviour since it is public money at stake. On the other hand bodies such as REN21 or REEEP that are reliant on high levels of engagement and interest from the private sector if they are to achieve their goals, need to show they occupy and can effectively fill an important market niche. They also face governance challenges of coordination, coherence, competition for resources and capacity to respond to the scale of requests they receive.

It is also possible to note a tension between public governance *for* private finance as opposed to public governance *of* private finance. Many of the initiatives described here are aimed at facilitating private investment and creating the right enabling environments (though policy and use of aid) rather than regulating existing flows. For reasons of guaranteeing environmental integrity some, such as the CDM, have to set up rule based systems for approving projects and public banks clearly have screening procedures, but there is little evidence to date of initiatives at the international level, beyond the sort of voluntary initiatives described below, that seek to regulate energy finance to ensure it meets specific goals of sustainability or energy poverty for example (Sanchez 2010)¹⁹. Levering positive and new investments in clean energy is one thing, but who will regulate existing energy financing which contributes neither to tackling energy poverty, energy security or improving environmental sustainability²⁰? A transition to a more effective system of global energy governance surely requires us to do both.

4. Private governance of private finance

Private governance can take on a range of different forms. This section covers forms and practices of governance that are predominately set up by and for the private sector. Many of them, however, have public good functions; regulating quality, improving accountability, reducing GHG emissions and reducing the social and environmental impacts of infrastructural projects. They therefore potentially form an important part of the overall mosaic of global energy governance.

First, there are forms of private governance aimed at the *governance of risk* around energy finance. These can take a number of forms but include networks such as the 'Investor Network on Climate Risk'²¹ formed by a group of institutional investors to examine opportunities and strategies for investment in clean energy and climate technologies. Its 'Clean Energy Investment Working Group' involves collaboration between the Coalition for Environmentally Responsible Economies (CERES) investor network on climate risk and the Clean Energy Group. It notes:

Interested participants have been exploring ways to reduce the environmental and associated financial risks to their portfolios and to enhance long-term investment returns by looking beyond the important current conversations about climate risk to consider the possibilities of making prudent investments in appropriate clean energy and climate change-related technologies. The goal of these initial discussions will be to develop an ongoing framework within which participants can explore the risks and rewards in making investments and allocating capital to the clean energy sector and other climate-related opportunities.

These may result in coordinated action by institutional investors including the adoption of new investment policies, the creation of investment fund vehicles and partnerships with state clean energy funds. The Clean Tech Index set up by Deutsche Bank and Nasdaq in February 2010 meanwhile aims at managing risk through disclosure. It provides complete transparency about screening methods, selection criteria, securities, and sector mapping²².

Second, there are a suite of initiatives that seek to provide voluntary 'beyond compliance' regulation. This can take the form of 'quality control' or the provision of additional safeguards. The CDM Gold Standard might be an example of the former. The Gold Standard, initiated by WWF International in 2003, includes among its objectives helping to boost investment in sustainable energy projects and increasing public support for renewable energy and energy efficiency (CDM Gold Standard, 2008). Essentially it applies an extra set of screens to CDM or voluntary projects, using strict additionality criteria and certifying with Gold Standard credits only those projects in the areas of renewable, energy efficiency and methane to energy.

The Equator Principles are an example of the latter, addressing social and environmental issues in project financing through voluntary standards (Wright 2010). In June 2003, ten private banks launched a set of operational principles and standards for managing the environmental and social impacts of loans to large development projects. In terms of the relationship between the public and private governance of energy finance what is interesting is the way the banks involved chose to base the framework's environmental and social standards on the International Finance Corporation's (IFC) Safeguard Policies, creating, as Wright (2010) puts it 'an unprecedented institutional link between standards developed by and for public financial institutions and the commercial banking practices of private banks'.

The Extractive Industries Transparency Initiative (EITI) which works in the oil and gas (as well as mining) sector²³ provides another example of a form of private governance being established to address perceived gaps in public governance. In this instance the governance gap concerns the receipt and disclosure of resource revenues by government. The EITI is a coalition of governments, companies, civil society groups, investors and international organisations that encourages transparency through publishing what firms pay in tax and what governments receive through release of accounts of revenue received, overseen by civil society in resource-rich countries. This multi-stakeholder composition is reflected in the internal governance of the initiative where the EITI Board consists of members from governments, companies and civil society.

Third, there is *governance through disclosure*. The most relevant example to energy finance is the Carbon Disclosure Project (CDP). The CDP, for example, by systematizing information about investor's emissions creates the means to pressure firms to invest in renewable rather than fossil fuel energy solutions. The CDP now covers US\$57 trillion worth of assets from over 3,000 companies. The scope of private regulation is, therefore, impressive and reaches key actors not subject to other forms of governance. The CDP questionnaire and reports are public and can be accessed via the internet and responses from companies are available without restriction. The CDP operates on an essentially self-select basis however, and firms are able to choose which of their operations they include in their emissions disclosure. Indeed most companies signed up to the CDP place a disclaimer that the information they enclose does not include their activities in some developing countries. Moreover, there is no institutional control mechanism in place to monitor and verify company responses.

There are clearly then a range of private governance initiatives in or relevant to the area of energy finance. Questions remain about the range of actors and degree of financial flows that they are able to subject to governance given their voluntary nature and limited (sector and geographical) scope. They are also affected by issues of coordination that plague the other systems of governance reviewed here as competing and overlapping standards emerge to manage risk or assure quality. In the absence of sanctions and compliance measures doubts will remain about their effectiveness as a source of energy governance, but the power and significance of the actors they engage and their centrality to efforts to support energy transitions means that their efforts to steer and manage energy finance in ways and in areas that public governance mechanisms do not reach, means they should not be dismissed lightly.

5. Conclusions

The global governance of energy finance can be characterised as highly *pluralised* (involving many actors); *fragmented* (compartmentalised policy-making in discrete areas of energy policy) and *ad hoc; dispersed* (in terms of decision-making authority and across governance scales); *uneven* (some areas are subject to far more governance than others); and *unequal* (in terms of who sets the rules, who participates and who, by definition, does not). Governing, steering and managing something as complex, dispersed and deeply political as energy finance perhaps means this is inevitably the case. Indeed it would be surprising if there were strong levels of alignment and coherence around a limited number of policy goals. It would imply that power is being exercised to marginalise consideration of other objectives and interests.

Amid this landscape of fragmentation and differentiation of institutional mandates and purposes it is also worth noting, however, a degree of convergence around the necessity of leveraging private sector finance if ambitious goals around energy poverty and

sustainability, in particular, are to be realised. In earlier phases of global energy governance this was primarily driven by an ideological commitment to, and material interest in, opening up markets to private sector investment. Power sector reform programmes of one part of the World Bank (International Development Association) open the way for its private sector arm, the IFC, to set up lucrative investments with private capital. More recently, it reflects the reality that the levels of carbon and energy finance needed to ensure that future growth in demand for energy is fuelled by low carbon sources simply cannot be achieved by governments alone. Hence above and beyond the issues of duplication of initiatives (as with renewable energy), failures of coordination between institutions (such as donors), and conflicting mandates (climate versus energy security based on fossil fuels), there is evidence of a shift towards market enabling forms of governance, albeit pursued by different means (financing, partnerships etc).

At national level the embedding and adoption of market-enabling forms of governance through un-bundling, de-regulation and competition in the energy sector have brought with them extra sets of governance challenges where governments have either relinquished control or share power with private actors over areas of energy policy. This is what makes pro-active, deliberate, large-scale transitions towards different energy futures so difficult, as governments are deprived (or have been deprived) of many of the tools necessary to drive and shape those transitions in a context of neo-liberalism. What emerges by de-fault is precisely the forms of steering complex inter-dependencies and managing networks of networks that we observe in this project as the predominant way in which energy is governed globally.

It also seems that for whom and what finance is intended (as aid, investment etc) makes a big difference to how and for whom it is governed. The way the different institutions and organisations surveyed here govern energy finance clearly has to do with their overall goals. Grant resources and concessional finance often comes with donor conditions and the need for guarantees about how money will be spent. With market based mechanisms such as the CDM, governance systems reflect the fact that the aim is to facilitate the market and ensure environmental integrity rather than financial transparency. Some institutions clearly also have more of a direct impact on flows of energy finance than others. For EITI or the Equator Principles, they may generate extra costs or reduce risks. For REEEP and REN21 they may identify barriers to set up discrete projects. In terms of aid as energy finance, the World Bank and regional development banks clearly have far greater impact.

The degree of 'public-ness' of the governing institution seems to make a big difference to expectations and procedures regarding accountability (to whom, about what and how) and participation (who participates and on whose terms). The location of an institution is also important politically in terms of how it governs energy. The World Bank's location in the US and close relationship with (and dependence upon) the US Treasury creates openings and opportunities for those seeking to challenge or change the mandate of the institution. The identify of REEEP, IRENA and REN21 as European initiatives may reflect the desire by the countries that drove their creation and help to fund them (UK, France, Germany, Austria, Denmark, Spain etc) to project global leadership on efforts to tackle climate change as well as consolidate their reputation as leaders in renewables and promote their desirability as investment locations for energy finance in those areas. Likewise regional initiatives on energy through ASEAN and APEC have more traction in South-East Asia both because they are more closely aligned with regional priorities and the fact that they are imbued with higher levels of authority since they are signed off by heads of state and so give a stronger steer on the direction of policy.

Counter-intuitively, public-ness is not necessarily a good indicator of strong enforceability and implementation. Despite having access to the power, resources and authority of states, many public IGOs do not seem to wield significant direct power—perhaps because even their own members resist this in an area as sensitive as energy or because of the difficulty of directly regulating such powerful private energy providers. Direct control of finance (and the ability to grant or withhold it) and a more permanent institutional presence (such as in the case of the MDBs) means direct enforcement may be easier to achieve. It may also be the case that private forms of energy governance, because of their size (fewer members), market-oriented function and the fact they are not saddled with broader (and often conflicting) public mandates and procedural (as well as distributive) demands, may be more directly responsive to their members, more efficient decision-makers and therefore more effective actors. Questions of the legitimacy of private sources of energy governance remain, however, when compared with public institutions, particularly those part of the UN, which can claim ‘universality of participation, openness to non-state observers and relative transparency in proceedings’ (Karlsson-Vinkhuyzen 2010: 192).

There is also an interesting dynamic between formal and informal arenas of energy governance and between public and private forms of governance of energy finance. Private and hybrid forms of governance often fill perceived gaps in the provision of energy governance that meet specific regulatory (EITI, Equator Principles) or market needs (UNEP Sustainable Energy Finance Initiative (SEFI)) and by testing and charting new ground may clear the way for more globalised and institutionalised modes of governance. Likewise, informal governance processes such as the dialogues or emerging economies forum seek to move forward discussions on financing by building consensus and constructing coalitions in less openly political environments.

Some initiatives appear to be as much about reacting to a legitimacy problem as seeking to create a long-term and sustainable solution to a gap in global energy governance. Driven by a concern to project Corporate Social Responsibility or deflect criticism, initiatives such as the Equator Principles on project finance or the CDP might be seen in this light. Many others, as we have seen, take the form of market-enabling forms of governance (UNEP SEFI, APP and to a lesser extent REEEP and REN21) which seek to identify and mobilise funds for technologies, not to fill regulatory gaps. It is also the case that regimes bequeathed formal roles and mandates in relation to energy are not necessarily those that wield most direct power over energy finance; the un-governance of private energy investment being a case in point.

In such a complex terrain and in the face of new challenges and trade-offs, there will always be an element of learning by doing which will mean that some forms of governance become redundant and are ultimately dissolved or disappear from view. In the meantime the messy politics of coordination between organisations pursuing similar goals and struggling to achieve coherence between and even within organisations that hold mandates that have evolved over time and may be contradictory (as we saw in the case of the World Bank), will inevitably continue. This may be a feature of any ‘regime complex’ (Raustiala and Victor 2004) where there are overlapping and non-hierarchical institutions. But questions of how conflicts over authority and mandate are resolved reveal the power at play. Whose rules rule and who decides?

Inequities between actors and institutions in global energy governance reflect prevailing geometries of power. The imbalances between the World Bank and its regional partners, or even of initiatives such as APP, backed as they are by powerful states wishing to promote financing for particular technologies, on the one hand, and

public-private partnerships (PPPs) such as REEEP and REN21 or even international organisations such as IRENA are vast, and their impact on global energy governance incomparable. Even within particular bodies of global energy governance such as G8, there is a sense that little has been done to successfully promote clean energy, when compared with its other mandates (Kirton 2006). That this is the case is perhaps no accident in a world which is heavily, some might say, structurally dependent on the use of fossil fuels (Altvater 2006). But it does require us to be cautious in documenting and feting the undoubted boom in global governance initiatives in the area of energy, without a serious analysis of power and answers to questions about whom they serve and how.

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² As the UNFCCC puts it, "For public investment, the challenge is to shift more funds into less carbon-intensive, more climate-proof measures without sacrificing development priorities" (UNFCCC 2008).

³ As the financial mechanism of the UNFCCC, GEF allocates and disburses about \$250 million dollars per year in projects in energy efficiency, renewable energies, and sustainable transportation (www.gefweb.org). According to the GEF project database, as of 27 July 2009, the GEF has invested \$2.63 billion in 735 projects within its focal area of climate change (including the Special Climate Change Fund (SCCF) and the Least Developed Countries Fund (LDCF). A further \$16,875,237 has been secured in co-financing for these projects (www.gefonline.org; project database)).

⁴ Interview material from the World Bank, Washington DC, February 2010.

⁵ Letter to Robert Zoellick from leading LDCs about support for coal and hypocrisy of western governments seeking to veto this while pressing ahead with their own plans to do the same.

⁶ Nakhooda (2010) shows how the World Bank's Sustainable Infrastructure Action Plan, which covers of sustainable energy also places great emphasis on governance factors.

⁷ www.energy-base.org

⁸ www.uneprisoe.org

⁹ www.sefi.unep.org

¹⁰ www.gnesd.org

¹¹ www.ren21.org

¹² www.climatefundupdate.org/listing/geeref

¹³ The investment will include a broad mix of project types promoting energy efficiency and renewable energy technologies. Given the focus on developing countries and transitions economies, the emphasis will be placed on deploying technologies with a proven technical track record.

¹⁴ Though in a few instances UNEP has channelled donor support to projects through finance sector partners (UNEP, 2006)

¹⁵ Notes taken at USAID workshop on a Clean Investment Framework, COP15 Copenhagen summit, December 2009.

¹⁶ Examples include the promotion of solar water heaters in Uganda, energy efficient lighting in India and renewable energy financing in Mexico.

¹⁷ These are aluminium, buildings and appliances, cement, cleaner fossil energy, coal mining, power generation and transmission, renewable energy and distributed generation, and steel.

¹⁸ Other examples of this type include the USAID/RDMA's *ECO-Asia Clean Development and Climate Program* (CDCP) which works to catalyze policy and finance solutions for clean energy in Asia's largest developing economies through targeted technical assistance and training, regional cooperation, and knowledge sharing. In its first two years, ECO-Asia CDCP has initiated programs with partners that are expected to avoid 1.6 million metric tons of CO₂ emissions from fossil fuel consumption, equivalent to the annual CO₂ emissions from 3.1 million households. <http://usaid.eco-asia.org/programs/cdcp>

¹⁹ This is in spite of calls from the Vienna Energy Conferences for energy development goals for energy access in 2030 or for a stronger role for UN-Energy to drive an integrated and

coordinated energy agenda internationally and across the UN system (Karlsson-Vinkhuyzen 2010).

²⁰ As Karlsson-Vinkhuyzen notes (2010: 181) 'In terms of norm development, energy has been largely absent in global treaty-making'.

²¹ www.cleaninvestment.org/

²² www.nasdaq.com/aspx/company-news-story.aspx?storyid=201002101031primzonefullfeed184028&title=deutsche-bank-and-nasdaq-omx-introduce-the-db-nasdaq-omx-clean-tech-index

²³ <http://eiti.org/>

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