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Information Disclosure in Global Energy Governance

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Abstract

The lack of global consensus on how to deal with complex energy governance challenges has led to the emergence of information disclosure initiatives as governance tools in and of themselves. This article assesses the effectiveness of disclosure mechanisms as tools of energy governance by looking at the motivations and desired outcomes behind a series of disclosure-based initiatives in the energy sector, namely: making energy markets work more efficiently; inducing corporations to internalize their climate change externalities; and improving democratic processes that lead to better energy governance outcomes. The disclosure initiatives assessed in this article adopt different strategies to achieve their objectives, mobilizing either users of information or holders of information, with varying effectiveness. Where pressures for secrecy exist, voluntary disclosures without formal sanctions to incentivize compliance have limited impact. Where users of information are primarily mobilized as drivers of change, the disclosures have to be easily understood to have impact; this is no easy task when it comes to the energy sector. Disclosure mechanisms that use a strategy of engagement and building of wide networks have perhaps the best potential to influence (or pressure) holders of information to change their behavior accordingly. However, disclosure mechanisms underpinned by western-influenced values of governmental transparency may not be as effective in countries that lack democratic systems.

Policy Implications

- Disclosure is not an alternative to regulation; it is a different form of regulation, one that can be carried out to some extent on a voluntary and self-regulatory basis.
- Disclosure mechanisms that aim to mobilize users of information as drivers of change have to provide information that is easily understood by them.
- Disclosure mechanisms that use a strategy of engagement and building of wide networks have the best potential to influence (or pressure) holders of information to change their behavior accordingly.
- Disclosure mechanisms underpinned by western-influenced values of governmental transparency may not be as effective in countries that lack democratic systems.

Information flows are a key component of governance in all sectors and at all levels, key to regulatory effectiveness and efficiency, governmental accountability and the curbing of corruption. So much of governance reform consists of efforts to increase those flows that one author has referred to transparency as 'the Swiss Army knife of policy tools', called for in everything from financial regulation to conflict resolution (Haufler, 2010, p. 55). Given the considerable problems with national and global-level energy governance explored throughout this special issue, it is not surprising that we find information disclosure initiatives emerging throughout the

energy sector to address various governance challenges. Notably, these initiatives are not just intended to improve existing governance systems such as regulations, but to serve as governance tools *in and of themselves*.

The emergence of such information disclosure initiatives results directly from the lack of global consensus on how to deal with complex energy governance challenges, particularly with regards to regulations on climate change and energy markets. The continued absence of clear international regulation on climate change despite the many years of negotiations, for

instance, has led to governance gaps. And geopolitical pressures to secure finite energy supplies have led to untransparent energy market practices; oil price volatility only compounds the lack of transparency in the energy market, a serious market failure (for more on this, see Dubash and Florini, this issue). Information disclosure initiatives, driven by government regulatory agencies, international organizations and/or civil society organizations, aim to fill such gaps and correct market and governance failures by providing more effective governance in the absence of organizational coherence or institutional reform in global energy governance. This is not an easy task, especially when it comes to the energy sector, where secrecy often tends to prevail.

This article discusses how disclosure mechanisms are meant to function as tools of energy governance by looking at the primary motivations and desired governance outcomes behind a series of transparency initiatives. These include: making energy markets work more efficiently; inducing corporations to internalize their climate change externalities; and improving democratic processes that lead to better energy governance outcomes. The article explores several of these initiatives to assess their effectiveness as a partial global energy governance solution to existing governance gaps and market failures. Uses of disclosure to make markets work better include the Joint Oil Data Initiative (JODI); uses of disclosure to spur corporations to internalize climate change externalities include the Global Reporting Initiative (GRI), and various carbon emissions disclosure initiatives, as well as requirements that corporations disclose climate-related risks as part of their normal reporting; and uses of disclosure to improve democratic processes for better energy governance outcomes include the Extractive Industries Transparency Initiative and the Electricity Governance Initiative.

Information disclosure as an energy governance tool

The energy sector, opaque and riddled with market and governance inefficiencies, has proven both particularly susceptible to the problems engendered by information asymmetries and particularly resistant to pressures for greater disclosure. Markets require substantial information flows to function efficiently, but the information available is never complete. Nobel Prizes in economics have been awarded for work showing the powerful effects of information asymmetries and imperfections on the functioning of markets, providing an important explanation for why markets do not necessarily clear. Participants in markets always face incomplete information on matters that are absolutely critical to the decisions they need to make – what will be the returns on various investment projects, which are the best workers

to hire, what is the quality of goods on the market? Obtaining the requisite information has costs, so that in a sense there is a market for information embedded within all other markets (Stiglitz, 2001). Often, the relevant information has the character of a public good – for it to be useful for efficient market functioning, it has to be available to all. And like all such goods, it will engender free-rider problems that imply that it will be underprovided. Thus, ensuring that sufficient information is available for energy markets to function well can require governance in the form of enforceable agreements among market participants.

Information flows are also important in improving governance processes, from the delivery of energy services to the development of robust public policies, and the curbing of governmental corruption. Information disclosure in this context entails making available government-held energy-related information so as to enable citizens to oversee and assess governmental decisions and to make informed choices, thereby empowering them. Citizens so empowered are able to provide feedback to government on proposed energy policies or reforms that would affect them; this helps improve public receptivity and increases the likelihood that the policies developed are more effective in the long run. A significant number of energy resource-rich states are poor with weak governance structures, leaving their public sectors susceptible to corruption. Information disclosure has long been touted as the sunlight that can best disinfect public sectors.

Given the lack of enforceable international agreements on energy issues, a host of disclosure initiatives are now attempting to shed new light on key energy-related data and thereby directly or indirectly change behavior. For the purposes of this article, we have identified three main motivations and desired governance outcomes that drive disclosure initiatives in the energy sector: (1) making markets work more efficiently; (2) inducing corporations to internalize negative externalities; and (3) improving democratic processes for better energy governance outcomes. Below, we examine cases in all three categories.

In the market-efficiency category, the most striking transparency initiative deals with oil markets which are notorious for their opacity. Oil price volatility and market instability, which serve neither producer nor consumer interests, are partly attributed to inadequate and inaccurate oil data and information. JODI encourages participating states to disclose information voluntarily on oil reserves, among other data, with the rationale that such disclosure serves the common interest of enabling efficient oil market functioning by making relevant data easily available. As we will show, the common interest is not necessarily sufficient to overcome incentives for continued opacity.

The failure to reach a climate change agreement has led disparate groups – for example, institutional

investors and shareholders, environmental activists and some corporations – to forge alliances geared toward the goal of inducing corporations to internalize climate change externalities. The resulting initiatives aim to regulate corporate and sometimes government behavior via targeted disclosure demands. The strategy of such disclosure-based initiatives is to mobilize enough willing and high-profile corporations to disclose relevant information, creating competitive pressures for other corporations to follow suit. The hope is that publicizing the information reported (or lack of forthcoming disclosures) by corporations through the disclosure initiatives will mobilize environmentally conscious consumers to make discerning choices that might affect business profitability. Corporations that willingly report would thus have a competitive advantage, potentially motivating other corporations to get on board. But more importantly, the process of disclosure encourages corporations to internalize their negative climate change externalities. When corporations are faced with information about their own damaging business operations and practices, they may willingly change those practices, possibly to reduce waste or to mitigate reputational risks.

Examples of such disclosure-based strategies include the GRI, which promotes voluntary guidelines for corporate sustainability reporting, and the Carbon Disclosure Project (CDP), where participating corporations can voluntarily report on their greenhouse gas (GHG) emissions, a key externality of fossil fuel-based energy systems. A more direct method of getting corporations to internalize climate change externalities is by playing the ‘shame’ card. For example, the Carbon Monitoring for Action (CARMA) independently provides estimated carbon emissions data on power plants around the world via a public database ranking the facilities according to their emissions levels. This disclosure mechanism only mobilizes the users of the disclosed information without need for engaging the holders of the information.

Disclosure initiatives aimed at improving democratic processes for better energy governance outcomes have targeted the electricity sector and the extractive industries. Disclosure initiatives with such an aim function by mobilizing citizens with information. The Electricity Governance Initiative (EGI) and the Extractive Industries Transparency Initiative (EITI) broadly aim to empower citizens by providing them with access to government-held information. The EGI aims to use disclosure about proposed electricity sector reforms to facilitate citizens’ participation in decision making by increasing their awareness of the proposed policies that could affect them, thereby creating motivation for citizens to provide feedback to the government. Under the EITI, information about payments from the extractive industries to

governments of the countries in which they operate is intended to enhance citizens’ ability to hold their government accountable.

Making oil markets more efficient

In the market-efficiency category, the most striking initiative deals with oil. The oil market is notoriously known for its untransparent practices. Instances of oil price volatility and market instability are partly attributed to inadequate and inaccurate oil data and information; because there is no enforceable mechanism that requires states to reveal their oil data, a disclosure initiative here would have to appeal to states on the basis of addressing a common need, that is, enabling efficient oil market functioning through availability of easily accessible transparent data for all market participants. JODI is driven by this rationale. But not all states are motivated to be transparent in order to ensure a stable and efficient oil market; some states may stand to gain by being untransparent, in the short term at least, as later sections will show.

Many countries have long defined ensuring national energy security as synonymous with securing uninterrupted access to oil and other fossil fuels at affordable prices. But attempts dating back to the 1970s by the oil-consuming countries to stabilize the oil market (Florini, this issue) have often failed to head off extraordinary oil price volatility. Extreme oil price fluctuations can have significant effects for the economy. Since the Second World War, oil price spikes occurred before the onset of ten of the United States’ eleven recessions (Hamilton, 2010). Oil-producing countries too have incentives in seeing stable oil prices. Unpredictable prices create uncertainty, which discourages investment in the oil industry, driving capital to sectors where the returns are higher (Naimi, 2005).

Lack of reliable and clear data on oil market supply and demand contributes to the volatility, although certainly other factors are also at play. Other reasons cited have included oil cartel-induced production limits or ‘artificial supply’ limitations caused by governmental policy (Kröger, 2006). Events such as wars, regional conflicts in or near oil-producing countries, natural disasters or oil-production accidents that seemingly threaten oil supplies can also lead to sudden oil price spikes based on fears of oil shortages (Johnson, 2008). Yet it is clear that greater transparency on oil market data could help prevent or dampen extreme oil price gyrations.

A bout of volatile oil price fluctuations in the late 1990s led to increased calls to promote transparency in oil market data at the International Energy Forum (IEF), where energy ministers meet every two years. The IEF was formed in 1991 primarily to promote dialogue between the oil-producing and consuming countries (IEF

members account for 90 per cent of the global oil and supply demand). While transparency was not an outright goal of the IEF at the time it was created, it was implicitly recognized as being necessary, in that the increased dialogue was aimed at building trust between participants on the sensitive topic of oil, thereby enhancing global energy security. And trust was impossible to achieve with a dearth of information. Nevertheless, the IEF was not regarded as a source of oil information; instead, that job went to the International Energy Agency (IEA).

However, despite the IEA's reputation as a legitimate source of reliable oil information, it has revised its oil data estimations, causing confusion among market participants. In 1999, the IEA made corrections to its numbers ranging between 7 and 20 per cent, leading one scholar to question 'whether the [oil] price panics of 1999 were partly caused by the IEA' (Tempest, 2001, p. 342). Regardless of the merits of such a viewpoint, the reality is that the IEA's oil data rely on oil data estimations from governments that are often untimely, inaccurate or secretive; such governmental information often has to be referenced to secondary sources, which necessitates IEA oil data revisions.

By the time Saudi Oil Minister Ali al-Naimi noted at the Davos World Economic Forum in February 2001 that the lack of transparency meant that there was 'no true consensus on consumption, oil stocks and production at any given time' (Khadhuri, 2005), there was already growing agreement that market stability would require greater transparency on oil data. The IEF, in partnership with six international organizations – Asia Pacific Economic Cooperation (APEC), Statistical Office of the European Communities (Eurostat), IEA, Latin American Energy Organization (OLADE), Organization of the Petroleum Exporting Countries (OPEC) and United Nations Statistics Division (UNSD) – then launched the Joint Oil Data Exercise in 2001. The oil data reporting exercise aimed to raise awareness of the need for transparency of reliable oil data among the member countries of the institutions. Member countries from these six institutions were given standardized questionnaires and asked to report on their monthly oil statistics. Within a year, the exercise had participation from over 70 countries that constituted 90 per cent of the global oil supply and demand (IEF, 2010).

The oil data reporting exercise was formalized into the Joint Oil Data Initiative to collect and disseminate reliable data on the oil market. Since 2005, the participation rate has increased to more than 90 countries, and the information is now publicly available from an online database. Emerging countries in the world economy such as China and India, which have increasing energy needs, but which fell outside the domain of the IEA and OPEC, also participated in JODI. This addition was particularly welcomed given the potential

impact of the two countries' growing energy needs on the oil markets. The data available online include participating countries' monthly data on 'production, demand, refinery intake and output, closing stock levels and stock changes across seven product categories (crude oil, LPG, gasoline, kerosene, diesel oil, fuel oil and total oil' (Laan, 2010, p. 41).

JODI fills an information gap for users. There appears to be some measure of success, in the sense that oil market players seem to be increasingly aware of JODI. For instance, according to the IEA, by 2010 more than half of JODI's online database users were 'market analysts, compared to less than a quarter two years prior' (JODI, 2010a).

But does JODI make markets more efficient? JODI is only useful when the data submitted to it by the country participants (disclosers) are timely, accurate and complete. While JODI publicized the fact that 90 countries were submitting data regularly in 2010 compared to the 60 in 2008, a closer look at a recent JODI data quality assessment for a six-month period from July to December 2009 reveals an interesting picture. Major players such as China, India and Russia were assessed a rating of 'fair' for completeness of data, meaning that they had submitted only 60 to 90 per cent of the data required by JODI (JODI, 2010b). Clearly, there is substance to the IEA complaints leveled at emerging countries like China over their lack of transparency on oil data. For instance, in its July 2010 *Oil Monthly Report*, the IEA stated that it had 'concerns about Chinese data (in terms of both quality and comprehensiveness, particularly regarding independent refining activity and stocks of crude and oil products)' (IEA, 2010). This lack of transparency is of particular concern since China is set to surpass the United States in being the world's largest energy consumer, if it has not already (Swartz and Oster, 2010).

There are also concerns over unreliable oil production-and-demand figures from large oil producers (Lynch and Baskin, 2010) which JODI appears unable to resolve. For instance, OPEC oil producers use a quota production system that is pegged to the size of their crude oil reserves – the larger the reserves a country reportedly has, the more it is allowed to produce and sell, and thus make more money (Porter, 2005). Oil reserves estimates for some OPEC countries such as Kuwait and United Arab Emirates have not changed for years. In 2006, the respected oil industry newsletter *Petroleum Intelligence Weekly* (PIW) even claimed that Kuwait had far less oil reserves (24 billion barrels of proven reserves and 24 billion barrels of non-proven reserves) than had been officially reported by the Kuwaiti government (99 billion barrels). Similarly, Saudi Arabia's reported oil reserves estimates have remained at around 260 billion barrels for over 20 years despite

producing as much as 4 billion barrels a year (Reuters, 2010). The majority of oil reserves are held by countries and major oil companies such as Shell, BP and Exxon which do not allow independent verifications of the size of their oilfields. Such uncertainty over the reliability of oil reserves data has given fuel to arguments by peak oil theorists such as Matthew Simmons that world oil reserves estimates are actually far lower than reported (Markman, 2004). Since JODI receives its data directly from the producing countries and given the controversy on reliability of the figures reported by some oil-producing countries, the JODI data inevitably will be taken with a certain degree of skepticism by their users.

Additionally, JODI has an uphill task in countering the tendency for some big oil-consuming countries to withhold information due to geopolitical concerns. For instance, China's growing needs for energy will make it particularly vulnerable to oil price volatility in the future. As part of its national energy security strategy, China's national oil companies are acquiring equity oil stakes in foreign oil assets through foreign subsidiary companies. The Chinese acquisitions activity increased significantly after the US invasion of Iraq, which was widely regarded in China as a move fueled by US desire to secure oil for its own needs (Christie et al., 2010). The Chinese national oil companies report on their activities within China, but their activities conducted under foreign subsidiaries can sometimes fall under the radar. However, the activities of the foreign subsidiaries of Chinese national oil companies outside Chinese borders will have a bearing on China's overall oil figures; in some cases some of the oil produced by foreign subsidiaries can be taken for China's own use. How well JODI can account for oil data from such activities remains to be seen. Further, as the US Commodity Futures Trading Commission (CFTC) noted, there needs to be greater transparency on oil in transit (oil that is in transit to a destination or temporarily stored at sea) data (CFTC, 2010). However, JODI excludes oil in transit data (JODI, 2010c), and this omission affects a true reflection of available oil supplies.

The accuracy of the data submitted to JODI by the smaller country participants is also in question due to capacity constraints. Lack of trained statisticians, lack of resources for data collecting and recording, or an inability to implement reliable data collection standards can affect the accuracy of data submitted even if the country participants are amenable to JODI's mission. To that end, JODI partners organize workshops to train participant countries on its standardized data collection methodologies.

In short, given the unreliable, inaccurate and incomplete data submissions by important country

participants, JODI at this point is a useful step, but not yet a fully functional disclosure mechanism making markets function efficiently.

Corporate internalization of climate change externalities

Corporate activities that harm the environment, such as the release of greenhouse gases, and the impact of climate change risks on businesses' profitability, are worrying issues for a variety of groups – environmentalists, investors and shareholders and government regulators. Such concerns have spurred such groups collaboratively to devise innovative disclosure-based methods that aim to pressure corporations into managing their climate change externalities. At a minimum, having to disclose the risks they face would raise companies' awareness and force them to consider what those risks might be and whether they should be concerned about climate policy. This process of reflection would also increase the probability for companies to take proactive measures to prepare for likely climate impacts on their businesses, easing the process of adaptation. At best, such disclosure mechanisms might induce companies to consider their own contribution to the problem in the form of company-generated emissions and/or to push their industry sector and governments to take effective large-scale action.

It is not easy to design disclosure mechanisms that can result in behavioral changes for both the users and disclosers of information. A group of researchers at Harvard have investigated multiple cases and have derived a set of good design criteria: (1) potential users of information were making less than ideal choices about a matter of public concern because they lacked information; (2) potential users of information could and would change their behavior if they had access to relevant and comprehensible information; and (3) the changed behavior of users would induce or incentivize the disclosers via market or political pressures to, in turn, change their own behavior in the direction targeted by the disclosure mechanism (Weil et al., 2006).

For this to work, the information must be made available in a form that is relevant, comprehensive and readily understood by its potential users. And those potential users must care about what is revealed. Does anyone – consumer, investor, citizen – care enough about comparing corporate GHG emissions to invest time and resources in mobilizing action in response to the disclosures? Will consumers prefer to buy products produced in less GHG-intensive ways? Will investors prefer to invest in companies whose emissions are lower than those of their competitors? Even a perfectly designed disclosure mechanism is of little value unless the

information revealed matters, a lot, to people who did not previously have access to that information, and they have the capacity to act in response.

Climate change impacts on corporations could take several forms. First, corporations might face disruptions to their labor force (e.g. from climate change-induced migration), changes in water supplies or changes in the availability of agricultural or other commodities. Second, corporations could face significant financial costs in meeting social or regulatory pressures to reduce their GHG emissions, or be held responsible for damage from previous emissions. Third, GHG-intensive corporations could face increasing competition from alternative providers using new technologies or business models. In general, corporations have not reported on how they may be affected by the need to adapt to climate change, or what steps they are taking to address such risks, if any (GRI and KPMG, 2007). However, groups such as the Coalition for Environmentally Responsible Economies (CERES), which represents both investors and environmentalists, have argued that investors and shareholders value businesses that 'prepare for and capitalize on business opportunities posed by climate change' (Cogan, 2006, p. 1).

To that end, CERES first conceived the idea of corporate disclosures on sustainability issues in 1997. It devised the GRI to develop and spread guidelines for corporate disclosures on sustainability reporting. Later, CERES drew in the United Nations Environment Programme (UNEP) as a partner; this turned the GRI into a global effort (Hill, 2007). Since its inception, the GRI has focused on spreading its guidelines for the reporting of economic, environmental and social performance (i.e. ESG reporting) of businesses, governments and NGOs.¹ To date, there are more than 1,300 businesses across the world that disclose information, on a voluntary basis, according to GRI guidelines (CERES, 2007).

The GRI is essentially a networked NGO-driven process that has been very successful in bringing together other actors. Its disclosure-based strategy involved creating a reporting framework through dialogue and engagement with a myriad of interest groups – corporations, civil society, academics and professional institutions. Corporations issue sustainability reports using the GRI standardized framework, and this information enables users (its investors, for instance) to assess a corporation's commitment and performance on sustainability issues. GRI also engages in partnerships with high-profile institutions, such as OECD and UNEP, and obtains input from governments through informal governmental advisory boards. It also participates in dialogues with organizations responsible for setting international business standards and norms such as the International Finance Corporation (IFC) and the International Organization for Standardization (ISO). Through such engagements and networks,

GRI aims to increase the adoption of ESG reporting by public regulators, moving from voluntary to mandatory. In the wake of the financial crisis, the board of GRI has explicitly called on governments to adopt policies that require corporations to do ESG reporting and to integrate them with their financial reporting (GRI, 2009). This strategy appears to be paying off. Sweden has mandated GRI reporting by state-owned companies since 2007. Denmark made nonfinancial ESG reporting mandatory on a 'comply or explain' basis in 2009, and the Singapore stock exchange issued a sustainability reporting guidance for its listed companies encouraging the adoption of GRI reporting framework in 2010, with a clear implication that such reporting would become mandatory at some point.

This NGO-driven networked approach of the GRI contrasts with other disclosure initiatives in which interest groups ask governments to make regulatory changes. Institutional investor groups, potential users of corporate nonfinancial reporting, have been instrumental in creating pressures for regulatory action on corporate climate change risk disclosures. United States Securities and Exchange Commission (SEC) rules require corporations to disclose information on material risks (i.e., likelihood that investors would find that information useful in their voting or investment decisions). However, until recently, climate change material risks were not explicitly specified in the rules. From 2007, investor groups began to pressure the SEC to provide clarification on corporate climate change risk disclosures. In January 2010, the SEC released an interpretative guidance on climate change disclosures, specifying conditions under which disclosures of climate change risks would be obligatory for businesses. The SEC specified conditions that could create material risks for businesses which included the impact of national legislation and regulation, impact of international accords, indirect consequences of regulation or business trends, and the physical impact of climate change (SEC, 2010). While the SEC guidelines were not new rules, the implication was that the SEC would now be paying more attention to climate change risks data when reviewing businesses' disclosures. As such, businesses wanting to avoid trouble with the US regulator would need to disclose climate change risks.

Several disclosure-based mechanisms explicitly aim to use information to mitigate climate change by inducing behavioral change. The CDP and CARMA, for example, aim to mobilize their potential users to push corporations to change their behavior, specifically by acknowledging and then reducing their carbon emissions. But just how effective are such strategies? As of 2009, the CDP garners carbon emissions reports (among other information) from nearly 2,500 organizations in some 60 countries. It makes these requests for information on behalf of some 534 institutional investors, which

between them have \$64 trillion under management (CDP, 2009). Because the CDP speaks on behalf of a massive pool of investors, companies take its requests for information seriously. The process that companies then undertake to assess their own carbon emissions forces them to pay attention to what they had previously thought of as a free externality, and may induce them to mitigate those emissions, either to reduce waste or to head off potential regulation. However, studies have found that the methodology used by corporations to derive emissions estimations differed and so the data compiled were often not comparable (Kolk et al., 2008; Southworth, 2009). As such, the CDP reports do not yet meet the fundamental standard of providing information that is simultaneously relevant, comprehensive and available in a form that allows the appropriate audience easily to use it to compare across disclosers. Thus, CDP disclosures may not foster pressure on corporations from consumers, investors or NGOs to constrain their GHG emissions.

Under the rubric of CARMA, the Center for Global Development, a leading policy research organization based in Washington, DC, has assembled what its website describes as 'a massive database containing information on the carbon emissions of over 50,000 power plants and 4,000 power companies worldwide'. CARMA does not ask companies to provide the data. Instead, it accesses official emissions reports in the US, Canada, the European Union and India, and also does its own estimates to cover emissions from nonreporting plants. CARMA enables its database users to rank power plants based on the carbon emissions numbers for a given geographical area, and also to make comparisons for local, regional, national and global power plants in a user-friendly format.

In this way, CARMA views its database primarily as 'a tool for citizen action' (Wheeler and Ummel, 2008, p. 1). CARMA's launching of its database received much media attention, and provoked an immediate response by activists – for instance, four days after its database release, protesters from Greenpeace occupied a coal plant in Australia after CARMA ranked Australia's power-related CO₂ emissions as being the world's highest per capita (MacDonald, 2007). CARMA's user-friendly informational database appears to be a good instrument to help spur public activism on environmentally unfriendly corporate activities. But complaints about the accuracy of CARMA's data quickly surfaced, raising questions about the validity of CARMA's estimations methodology for use in rankings of power plants. A day after CARMA's release of its database, China Light and Power (CLP) announced that CARMA's data on its power plants were inaccurate, and that emissions from a power plant it no longer operated had been included in the overall emissions tally. CLP provided its audited carbon emissions data to CARMA,

which updated its database to reflect the new information. The revised overall emissions data for CLP showed approximately a 21.7 per cent reduction from CARMA's original estimate (Wheeler and Ummel, 2007). The consulting group Performeks has also analyzed CARMA's methodology, and concluded that emissions data should not be used for ranking of power plants since they contained widespread errors (for more on this see Afsah and Ness, 2008).

Improving democratic processes

Citizens' access to governmental information is an essential part of the democratic process. However, a number of developing and energy-rich countries lack proper avenues for information flows between government and the citizenry, either because democratic systems are non-existent or the political infrastructures and capacity are too weak. Disclosure initiatives that aim to improve democratic processes for better energy governance outcomes do so by providing citizens with access to governmental information. Disclosure mechanisms to promote governmental transparency necessarily have to engage the governments themselves.

One way of improving democratic processes for better energy governance is to create avenues for citizen feedback and participation in electricity sector decision making and processes. Poverty reduction through modernization is an important objective for developing countries. Since electricity access is linked to modernization, reforms in the electricity sector are on the government agenda of most developing countries. But often electricity reforms are undertaken without adequate public information on planning and processes. And when electricity reforms are implemented by a select group of politicians, technocrats and advisers from the international financial institutions, they do not necessarily consider the social and environmental impacts of their decisions (Dubash and Williams, 2006). When there is little opportunity for citizens to provide feedback and participate in decision making on issues that impact them, policy decisions can be ineffective in the long run. For instance, electricity price increases due to reforms can disproportionately impact low-income consumers leading to discontentment, or privatization of state electricity utilities can shift the focus to making profits and supersede the need to provide energy services to rural or isolated regions.

Transparency advocates argue that such negative energy governance outcomes could be minimized or avoided if all of the stakeholders, including electricity consumers and civil society, were involved in the decision-making process through an open and transparent process because public involvement in decision making can produce substantially improved governmental

decisions (Nakhooda et al., 2007). Transparency can also help to explain the motivations behind reforms and policy changes. Open processes enable the citizenry to base their assessment of proposed electricity reforms or changes to energy services on freely available information rather than rumors or speculation, and this can form a basis for obtaining public support on difficult electricity reforms. However, for the citizenry to be able to understand and provide balanced feedback, and to scrutinize governmental decision making on electricity reforms, they first need to have access to the relevant information.

One global civil society effort to promote transparency, inclusiveness and accountability in decision making in the electricity sector is the Electricity Governance Initiative. Headed by the World Resources Institute in the US, and the Prayas Energy Group in India, the EGI brings together local civil society groups, policy makers, regulators and other electricity sector actors in developing countries. In 2004, the EGI, with inputs by NGOs and electricity sector experts, developed an indicator 'toolkit' made up of 63 research questions that aim to assess the level of good governance within a country's electricity sector. For each research question, indicator values ranging from low to high are assigned, along with analytical explanations for the assigned value. Primarily, the assessment seeks to determine whether a country's electricity sector policy and decision-making process takes into account four key components of good governance: transparency, public participation, accountability and capacity (Dixit et al., 2007). It also assesses the institutional capacity of the electricity sector to handle the identified good governance traits. Additionally, of particular consideration in the EGI assessment is how political and regulatory processes in a country affect social and environmental issues. Since 2005, local civil society groups in developing countries such as Indonesia, Thailand, the Philippines, Brazil, Central Asia and South Africa have partnered with the EGI to conduct assessments using the EGI 'toolkit'. The assessments take place in close consultation with an advisory board made up of government officials and representatives from the state or private sector utilities. By including government and private sector voices, the EGI aims to promote cross-sectoral dialogue. Based on the country assessment, the EGI then provides recommendations on how to improve electricity sector governance.

The EGI functions by forming partnerships with local civil society groups. It also directly engages the holders of information, that is, the governments. But since the EGI is not about providing information to citizens directly, it has to work on influencing (or convincing) governments of the need to adopt transparent practices in energy sector decision making. So as a disclosure mechanism, the EGI's ability to effect pressure on

governments to change is constrained when citizens are not necessarily more empowered as a result of the EGI assessments. Conceivably, local civil society groups associated with the EGI could mobilize citizens based on the results of the EGI assessment to pressurise governments for more transparency. However, the EGI partnerships are not meant to mobilize the citizenry, but rather to influence government. And since citizens are not drivers for change, EGI recommendations for increased transparency would require governmental initiation and cooperation to be implemented. But it remains to be seen on what basis governments could be convinced to change willingly without external pressures from the citizenry or political influence.

Another disclosure initiative that aims to improve democratic processes does so by empowering citizens with information so as to curb public corruption and hold government accountable. Over the past decade, both civil society groups and governments have put forward proposals for disclosure initiatives aimed at the 'extractive industries', which include key oil and natural gas components as well as mining. Oil and natural gas are buried beneath land and sea, and must be extracted before they can be burned to provide energy. The land and coastal seabed areas from which they are extracted are under the control of national governments, which either directly own the extracting firms or engage in contracts with them. Those contracts involve enormous sums of money – yet most of the relevant countries are plagued by extraordinary levels of poverty and ineffective and/or repressive governments. The phenomenon is so widespread that it has come to be called the 'resource curse' – the tendency of resource wealth to be associated with high levels of corruption and poverty.² Because extractive industries must go where the goods they wish to extract are, they often operate in weakly governed but resource-rich developing countries, where they are often accused of operating in collusion with corrupt officials. The 2008 version of the Transparency International Bribe Payer's Index ranked the oil and gas sector as third worst (out of 20) in terms of likelihood that firms would attempt to bribe public officials (Transparency International, 2008).

At the 2002 World Summit on Sustainable Development in Johannesburg, South Africa, then UK prime minister, Tony Blair, proposed that extractive industries and governments alike should publicly disclose audited statements of the payments the firms make to the governments of the countries where they operate. The resulting Extractive Industries Transparency Initiative covers oil, gas and mining. The aim of the EITI is to involve governments, firms and civil society. The idea is that firms report their taxes and payments publicly, and governments publish their accounts of taxes and payments received from the same industries, thus making it

possible to compare accounts – and not incidentally, to give citizens an understanding of the size of the revenue streams coming into their countries.

The EITI functions by engaging governments as well as companies, civil society groups, investors and international organizations in its aim to promote governmental transparency. The weight of such wide networks can be influential in attracting country participants, as well as big oil and gas companies. The EITI now boasts 28 ‘candidate’ member countries, ranging from Afghanistan to Zambia, which have met various indicators for demonstrating serious commitment to improving relevant disclosure (EITI, 2009). Such issues do not affect only developing nations – Norway is a candidate member of the EITI, and in April 2010 the United States Senate Foreign Relations Committee approved S. 2971, the Foreign Relations Authorization Act, which included policy language on extractive industry transparency.

There have been various instances of extractive companies being affected financially by consumer and activist reactions to negative publicity over unethical business dealings. So there is a vested interest for companies to abide vigilantly by EITI reporting once they sign on. But as to whether the EITI has much impact on actually reducing governmental corruption and empowering citizens to hold their governments accountable, to date there is little clear evidence.

Conclusions

The wide array of disclosure-based approaches to energy governance reflects varied efforts to grapple with the multiple and rapidly changing demands of energy governance in the context of sweeping global changes. Because of the shift to private provision of what had previously been a whole range of public goods and services, including energy, the energy sector became part of a broader debate on good governance, accountability and push for greater transparency. Transparency is called for to improve oil market efficiency and to improve democratic processes toward better energy governance outcomes. And the failure to negotiate an enforceable climate change regime has seen disclosure-based attempts to alter corporate behavior in regards to climate change externalities by means of carbon and climate change risks disclosures.

Does disclosure work? The answer depends on what disclosure initiatives are intended to accomplish, and how they are designed and implemented. The disclosure initiatives looked at in this article adopt different strategies to achieve their objectives, by mobilizing users of information and/or holders of information.

JODI mobilizes the holders of information, that is, the governments of both oil-producing and consuming countries, to provide information on their oil reserves.

Yet, we have seen considerable reluctance on the part of some governments to release data. Some states may even benefit from a less transparent system, at least in the short term. Thus, JODI’s model based on voluntary disclosures without formal sanctions to incentivize country compliance has had limited impact to date.

As a disclosure mechanism, the GRI influences change in corporations not so much by its users’ change in behavior, but rather through its strategy of engagement and building of networks with a myriad of organizations including the corporations themselves, as well as regulatory agencies. As the GRI gains legitimacy through these networks, more corporations may be influenced (or pressured) to get on board. This strategy has perhaps the best potential to increase demand incrementally for standardized GRI-styled nonfinancial reporting. The GRI continues to develop its networks. Most recently, the GRI along with the UK-based Accounting for Sustainability Project (A4S) initiated an international committee to develop a globally accepted framework for Environmental, Social and Governance (ESG) reporting that can be eventually adopted by regulators. And regulatory involvement can help create the necessary conditions that would make climate change-related disclosures a mainstream corporate practice. The US SEC’s recent interpretative guide on climate change risks disclosure will now make it difficult for public companies to argue that climate change potential impacts or impending regulations are not material to their business. The SEC signal is clear: corporate consideration of climate change risks is to be factored into public disclosures.

However, not all disclosure mechanisms that engage holders of information in order to effect change via building of networks can be similarly effective. The EITI and EGI, both initiated by western-influenced civil society actors and governments, primarily engage governments in developing countries or countries that lack democratic systems. Thus, they already face an uphill task in creating imperatives for real change simply via disclosures. And with the rise of major powers that do not share western assumptions about the inherent value of democratic norms of transparency and governmental accountability, it is not clear to what degree major initiatives such as the EITI can serve as truly global systems of energy governance.

Disclosure initiatives to alter corporate behavior – specifically, to induce companies to reduce their carbon emissions – primarily mobilize users of information, that is, investors, activists or consumers. The users of information then create pressures or incentives for corporate change in behavior: investor demands for corporate forward-looking action, consumer demands for ‘cleaner’ products and services, or reputational concerns. This type of regulation by disclosure, increasingly common in the environmental arena, has particularly demanding

design requirements. Whether instigated by civil society actors or governments, the programs to date have not satisfactorily addressed these requirements.

Greenhouse gas emissions form a particularly challenging arena for the use of disclosure-based mechanisms, both technically and politically. Initiatives that aim to help solve the climate change conundrum must be assessed in terms of what information they disclose, using what metrics, to whom, whether the form in which the information is disclosed has meaning for the targeted audience, and whether the initiative is targeting an audience likely to be able and willing to take action in response to the disclosure. To create strong demand for corporate change on the part of external forces such as consumers or investors, carbon disclosure systems would need to produce easily comparable (and largely quantitative) and easily understood data that would enable investors, consumers, governments and/or citizens to make judgments between firms and thus provide incentives for changes in firm behavior. For instance, CARMA's effectiveness as a driver of change depends on the credibility of its assessments of specific companies and power facilities. But its methodological limitations raise questions about the accuracy of CARMA's assessments. It is not clear to what degree CARMA's assessments provide incentives for those companies and facilities to alter their carbon emissions; users of CARMA would first need to be assured that the data they utilize to base their decisions on are an accurate reflection of reality. Without this assurance, user behavior would not change and, thus, corporations would not be compelled to change their own behavior accordingly, rendering CARMA's disclosure-based strategy ineffective.

To date, standards to drive user change in behavior have not been met in the carbon disclosure initiatives. It is possible that participation in the disclosure initiatives may lead to internal firm learning about alternative more climate-friendly processes that can generate equal or greater profits, but to our knowledge no studies have yet rigorously assessed internal firm responses to disclosure initiatives.

Overall, the future of disclosure-based global energy governance is hard to predict. The approach is still quite new and is experiencing significant teething pains. A plethora of initiatives has aimed to develop metrics and key performance indicators (for example, Pacific Cities Sustainability Initiative, AccountAbility, Initiative for Responsible Investment),³ although much work remains to be done.

But as the cliché 'information is power' implies, disclosure-based governance will never be a purely technocratic, apolitical exercise. Disclosure is not an alternative to regulation; it is simply a different form of regulation (albeit one that can be carried out to some extent on a voluntary and self-regulatory basis). As such, it bears all

the usual concerns about regulation – the potential for regulatory capture (who decides what will be disclosed and to whom?); the importance of ensuring a net positive public benefit (does the disclosure system bring about changes in corporate behavior that are worth the costs of the system?); and the importance of setting appropriate priorities.

Notes

1. See Brown et al., 2009, for a good overview on the GRI's rise as a leading framework for corporate sustainability reporting.
2. Although discussions of the resource curse, and initiatives that aim to turn the curse into more of a blessing, generally lump oil and gas extraction together with mining of minerals, for the purposes of this article the mining issues will be disregarded.
3. Pacific Cities Sustainability Initiative is developing a guidebook to municipal sustainability for cities of the Pacific Rim; AccountAbility has developed principles and standards that corporations can use in developing its ESG reporting and sustainable outlook; the Initiative for Responsible Investment, at Harvard University, has developed a method for identifying key performance indicators on sustainability in different sectors in 2010.

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