



# **Energy in the international policy arena: Determining the role of multilateral institutions**

**Deepti Mahajan**

**August 2012**



# Acknowledgements

This paper was written as part of the project ‘Analyzing global, regional, and national energy governance structures’ under the Programme of Activities, Framework Agreement between the Norwegian Ministry of Foreign Affairs (MFA) and The Energy and Resources Institute (TERI), briefly referred to as the Norwegian Framework Agreement (NFA). I am grateful to Ambassador C Dasgupta, Distinguished Fellow, TERI, for review comments.

Corresponding Author, Deepti Mahajan, is an Associate Fellow at TERI, New Delhi.

**Email:** [deeptim@teri.res.in](mailto:deeptim@teri.res.in)

© TERI, 2012

## **Contact**

The Energy and Resources Institute  
Darbari Seth Block  
India Habitat Centre  
Lodhi Road  
New Delhi 110 003  
Tel: + 91 - 11- 24682100 / 41504900

# Table of Contents

Abstract.....	5
1. Energy in the international policy arena: Determining the role of multilateral institutions .....	6
2. Energy and its governance: Sector characteristics and emergent issues.....	6
2.1. Governing private goods internationally to provide a national public good .....	8
2.2. Call for effective governance.....	10
3. Energy governance: The role of institutions .....	11
3.1. Mapping energy institutions .....	14
4. Conclusion: Bringing in the lexicon of good governance .....	20
References.....	21

## **Abstract**

Growing energy trade and energy investment flows, along with the need to govern related technological, geopolitical, and environmental issues, have listed energy as a priority on the global policy agenda. As a result, a range of institutions of governance engage with energy issues today. This paper seeks to identify sector characteristics and emergent issues that underscore the importance of energy governance. It, further, provides a functional classification of energy institutions, offering a framework to understand the ‘nebulous’ area of energy governance.

With the notion of ‘energy security’ closely tied with sovereignty, and military and economic security, it is argued here that the international governance of energy is the governance of private energy goods to facilitate the provision of a public good in individual national contexts — energy security. This is not to suggest that energy governance is necessarily carried out in a zero-sum game arena. This, however, does offer an explanation for why global governance which is affiliated with equity and inclusion, is difficult to operationalize in the case of energy. Yet, the need for governance of energy at the international level is getting more and more pronounced with accelerated growth of energy trade and investment and the concomitant need for rule enforcement and redress; recognition of the transborder impacts of energy development and use; and call for increased transparency in sector operations and accountability from state and non-state actors.

Defined by areas of governance in the domain of energy, the paper sets out a functional typology of institutions: market dynamics and supply risks; trade and cross-country investments; domestic energy development and regulation; and sustainability. Having mapped the existing institutional architecture, the paper concludes with an emphasis on reform. This would include bringing new, emerging challenges under the purview of international institutions; building institutional capacity; strengthening the role of inter-governmental actors; and enhancing the responsiveness of institutions to diverse interests in a context of shared concerns.

## **1. Energy in the international policy arena: Determining the role of multilateral institutions**

The accelerated increase of transborder flows of goods, services, and people in the last century has led to greater inter-connectedness across peoples and countries, and increased ramifications of events and processes beyond national boundaries. The trans-nationalization of production and finance has further accentuated cross-country linkages, in some cases leading to the emergence of new centres of non-state authority. With economic activities straddling across borders, and markets becoming international in character, while market forces have come to occupy a salient role, even governments increasingly need to work together to manage the resultant impacts and the factors that determine these flows. Governance, therefore, has acquired a transnational character, and there has been a proliferation of international institutions established to lend a formal character to inter-state interaction, and to formulate enforceable rules or normative directives that govern this interaction.

A sector that by its inherent nature requires inter-state engagement — energy, has not remained untouched. International energy flows and their governance is not a recent phenomenon. Beginning in the 1960s, a host of energy-related international governance institutions have been established by the international community. Yet, the growing strategic importance of energy, given its scarcity value, has accelerated this trend and has, at the same time, thrown up unprecedented challenges for conventional understandings of governance. This paper seeks to delineate reasons why the governance of energy today is an important policy agenda internationally, and determine the role that energy institutions play. In mapping the energy governance space, it provides a functional classification of institutions, offering a framework to understand the rather “nebulous” idea of international energy governance.

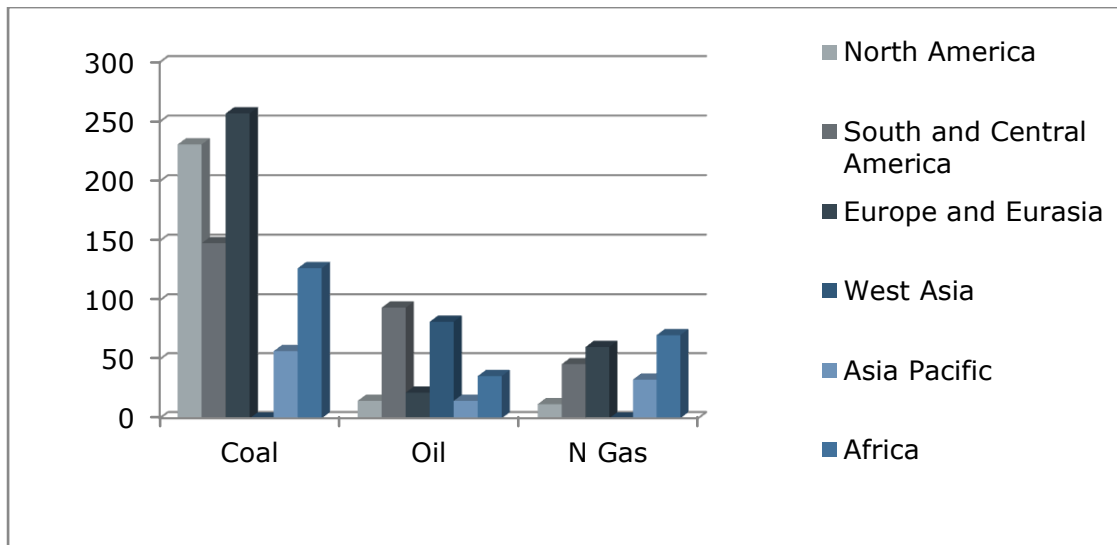
## **2. Energy and its governance: Sector characteristics and emergent issues**

Energy as a significant factor of production, with its inextricable link with growth and development, is a priority on domestic and international policy agendas today. The scramble for energy in a context of unregulated competition, without thought to collective good and recourse to collective action, can only lead both energy producers and consumers towards a downward spiral of conflict, accelerated resource depletion, and environmental degradation. At 5.6%, the year 2010 saw the highest annual increase in energy consumption in percentage terms since 1973. Notably, the use of fossil fuels increased significantly (7.6% for coal, 3.1% for oil, and 7.4% for gas), and even though the non-fossil fuel sector saw growth, its share in the world energy basket fell a little (BP, 2011). The growth in world energy consumption over the years and the geographical distribution of energy resources has also meant an increasing trade in energy goods. Given that large energy production and consumption centres do not overlap, the fulfillment of energy requirements necessarily involves international transactions. Amongst globally traded commodities, oil is the largest both in terms of volume and value. Coal trade (1083 MT in 2010) too is significant and natural gas trade is on an increase. The increase in inter-state interaction has also meant a growing impact of one country’s energy policies on another. Energy resource development policies in a country can impact its trading partners and incoming investors, and can bring to bear environmental impacts on other countries.

While historically countries tied up long-term energy contracts, the gradual increase in the importance of spot markets has lent a new character to energy markets. With regard to oil, this development followed the oil shocks of the 1970s when large oil importers realized the importance of buffering their economies against the policy actions of producer countries and political risks in this oligopolistic market. The establishment of the International Energy Agency (IEA), an energy consumers' forum comprising OECD members, and the growth of paper trading in oil, proved to be the harbingers of a liberalizing oil market (Goldthau and Witte, 2010). The growing significance of inter-play of market forces has considerably altered the face of the oil sector yet a number of attendant governance challenges remain and new ones have emerged. The control of oil flows in the markets still is a potent strategic weapon. The release of oil stocks by the IEA in the event of the Libyan crisis to temper prices provides one instance of how political decisions can divert use of strategic oil stocks for market interventions. Oil price volatility has played havoc with the global economy in the last five years. Supply concentration in politically volatile countries remains. It is expected that as non-OPEC oil production peaks, gradually output will become more concentrated in OPEC countries, "on the assumption that the necessary investment is forthcoming" (IEA, 2007).

Competition over acquisition of assets is growing globally, especially amongst the emerging economies. National energy companies are now competing with international majors in tapping investment opportunities in the upstream and downstream sectors (Selivanova, 2010). Transnational companies such as BP, Royal Dutch Shell, and Exxon-Mobil are ceding their shares of energy production to state-owned enterprises – a development attributed to the availability of better finance and technology with state-owned companies. Russia, Nigeria, and Venezuela are giving preferential treatment to domestic companies over their international rivals in granting of access to reserves. According to BP, state-controlled oil companies, today, hold about 80% of the world's estimated 1.2 trillion barrels of proven oil reserves (BP cited in Bloomberg News, 2008).

Significant governance challenges are visible with regard to other fuels too. The nature of gas trade — mainly operationalized through construction of pipelines — has limited the market's size. However, the growing demand for gas as a clean fuel, seen by economies also as a transition fuel in the move from coal and oil to renewable energy, and the spread of liquefaction technologies (to producer regions) and construction of LNG terminals (in consumer regions) has provided a boost to the market. In 2010, LNG trade increased by 21% to reach 300 bcm (IEA, 2011). These developments, again, bring up a host of governance concerns — contractual arrangements for maintenance and upkeep of pipelines, and their enforcement; dispute settlement; and safety of LNG supplies on high seas (a concern common across trade of all movable energy goods). The development of shale gas, often referred to as a "game changer" for energy markets, has triggered debates worldwide on environmental consequences of development of unconventional gas. Coal trade, while not as large in volumes as oil trade as coal resources are not as geographically concentrated (Figure 1) and most of the coal is consumed in the countries where it is produced, is significant and is on an increase as emerging economies endowed with coal turn into coal importers. Between 1985 and 2005, sea-borne trade in thermal coal has on an average increased by 8% per year while this figure for coking coal stands at 2% (World Coal Institute, 2005). As the pressure to address climate concerns mounts, the environmental costs of coal use will need to be factored into the determination of energy choices.



**Figure 1: Reserves to Production Ratio (Years), 2010**

Source: (BP, 2011)

*In the case of coal, West Asia's R/P ratio exceeds 500 years, while in the case of natural gas, the region's R/P ratio exceeds 100 years.*

With a growing market emerging in renewable energy technologies, inter-state engagement on renewable energy is also increasing considerably even though it is hampered by strong institutional and financial barriers; protection of intellectual property rights being one major area of contention between the developed and developing world. While developed country businesses believe that acquiring and enforcing intellectual property rights incentivizes innovation, increases both available finance and revenue, and protects their growing markets, there are others who contend that IP rights constrain the deployment of renewable energy technologies in developing economies (Raciti and Parsons, 2010).

Amidst this scenario of increasing global trade in energy also stand bleak figures on energy access. About 1.5 billion people across the world have no access to electricity, and nearly 3 billion rely on traditional biomass for their cooking and heating needs (AGECC, 2010). Developing countries need to expand their energy use substantially to meet the energy needs of their poor and vulnerable sections. As the need to address climate change is highlighted by visible climate impacts — variability and extreme events also affecting mostly the poor in the developing world — these countries are constrained in the choices they can make in meeting their burgeoning energy demand.

## **2.1. Governing private goods internationally to provide a national public good**

It is clear that effective governance of the energy sector is essential at the international level to facilitate energy flows and manage above mentioned dissonances. It would be instructive to clarify here the understanding of 'global governance' that informs this paper. The term 'global governance' is cited often, and in its widest interpretation has emerged as an umbrella term that recognizes a multiplicity of actors, agendas, and views on issues of global political and socio-economic concern.



According to Boughton and Bradford (2007):

The ideal of global governance is a process of cooperative leadership that brings together national governments, multilateral public agencies, and civil society to achieve commonly accepted goals. It provides strategic direction and then marshals collective energies to address global challenges. To be effective, it must be inclusive, dynamic, and able to span national and sectoral boundaries and interests.

This paper adopts an interpretation of governance close to that advanced by Boughton and Bradford (2007). However, for the purposes of this paper, the focus remains on multilateral, inter-governmental efforts geared towards consultation and collaborative action on energy concerns common across participating countries. Multilateral institutions, here, are seen as ‘instruments of governance’, a significant element of the complex governance architecture. These institutions are comprised of rules and norms, and generally also an administrative arm.

Effective energy governance and one of its significant objectives — energy security, are tied with notions of sovereignty and national interest. Considering that to meet the objective of energy security, most countries necessarily need to interact with other countries, to leverage collective strength, countries have chosen to coalesce around common interests in the energy market — producers with producers, consumers with consumers, developing with other developing countries, and so on.

In other words, one reason why global energy governance is fraught with challenges is because ‘energy security’ is not recognized as a ‘global public good’. A couple of questions emerge here: Is energy a public or a private good? Is energy security a public good? If yes, how is this public good administered? What context is this good located in — national or global?

Conventional energy sources — coal, oil, and natural gas — can all be seen as private goods. They are rivalrous, i.e., their consumption by one actor excludes another actor from simultaneous consumption and they are excludable, i.e., the owner of the good can exclude another actor from accruing its benefits. On the contrary, alternative sources of energy such as wind and the sun are public goods. However, power generated from exploiting these natural resources is both rivalrous and excludable and is a private good. A public good may, therefore, need to be transformed into a private good to make its utilization viable. The deployment of these energy forms nationally, under a framework of rules and regulations, may contribute to ‘energy security’ which can be seen as a public good in the context of the nation state. Energy security can further be understood as part of the public goods’ subset of ‘social goods’, as it is a public good that serves a social/welfare purpose.

Can the social good of energy security be extended globally? Traditionally, global public goods existed outside national boundaries, for instance the ozone layer, the oceans, etc. But increasing connections across countries have led to the recognition of global public goods/bads that are trans-boundary in nature; for instance environmental protection is a global public good while air pollution is a global public bad (Gardiner and Goulven, 2001). According to Kaul *et al.* (2003), “Global public goods are public goods with benefits—or costs, in the case of such “bads” as crime and violence—that extend across countries and regions, across rich and poor population groups, and even across generations.” The authors further link this concept with the operationalization of ‘responsible sovereignty’ whereby states are expected to act responsibly towards their citizens as well as the

international community in managing these goods. It is suggested that in order to promote responsible public policy that reflects local needs and global concerns, global public goods should be viewed, wherever possible, as national public goods that cannot be made available through domestic actions alone and require international cooperation.

However, this understanding does not hold in the case of energy security as it is closely tied with military and economic security. When nation-wide provision of a ‘national public good’ requires international engagement/cooperation that may usurp private goods available internationally to the disadvantage of another, the subject of reference cannot be seen as a global public good in the first place. The story of global energy governance is, therefore, the story of the international governance and regulation of private goods to facilitate the provision of a public good in individual national contexts. This does not imply that energy governance is necessarily carried out in a zero-sum game arena but offers merely an explanation for why global governance which is affiliated with equity and inclusion, is difficult to operationalize in the case of energy.

## **2.2. Call for effective governance**

Energy is an area of common interest to countries even though countries may bring unique ideas and interests to the table. That it has called for growing governance at the international level can be attributed to a range of factors. The strategic importance attached to energy have contributed to lack of transparency in the sector, and an increase in data and information gaps that impede accurate demand and supply forecasts in a sector where capital investments are high and are, therefore, strongly guided by long-term market trends. Disclosure of information on operations, accounts, and investment plans by national energy companies is often guided by the discretion of federal governments, and reticence in provision of information leads to inefficiencies in the market. In some instances, this also results in exacerbating corruption and unethical business practices in the sector. In a survey of national and public energy corporations conducted in 2011, Transparency International, a civil society organization that seeks to fight corruption in public spheres, found that though there was some modest improvement in reporting from the oil and gas sector, “much of the [energy] industry” performed unsatisfactorily (UPI, 2011). According to the survey findings, Russian energy company, Gazprom, and Sonangol of Angola, received the lowest score of zero and were rated least transparent.

The lack of transparency and accountability in national energy companies with a large international presence and high participation in international transactions is a matter of concern for their trading partners, both companies and governments. For instance, Gazprom’s record is of relevance for the large number of countries and companies investing in and trading with the monopoly gas player in energy-rich Russia. Many energy-surplus countries in Eurasia and Africa are characterized by elite cartels with stakes in energy trade who are in a position to intervene at whim in commercial processes to alter terms of exchange (Smith, 2010). Resource nationalism in countries has often led to disputes between investors and host governments, and even reversal of contracts (Selivanova, 2010).

The establishment of a legal framework that ensures transparency in trade and investment across countries would be one component of the agenda of global governance. In the case of trade, while the World Trade Organization (WTO) does not specifically provide for rules on energy, its provisions apply to trade in energy goods. Energy being left out of the purview of the WTO can mainly be

attributed to the opposition to its inclusion by energy-rich economies. As energy exports from these countries did not encounter market barriers abroad and regime consequences for them implied opening of domestic markets, these countries opposed attempts by the US and the European Community to start consultations on energy within the WTO during the Tokyo and Uruguay Rounds of negotiation (Selivanova, 2007). Yet the WTO concepts of non-discrimination, national treatment, and reduction of trade barriers come to bear on policymaking of energy trading countries, even though the traditional bias of the multilateral trading regime towards market access for domestic products shifts the focus away from export restrictions and investment protection (in energy equity and capital-intensive infrastructure) which are the most important issues in energy trade, oil and gas trade in particular (Selivanova, 2010). The accelerated growth of energy trade and investment is leading to the need for specialized international regimes that define the terms of engagement between states, enforce them, and provide redress in cases of breach. Along with trade, safe transit of energy goods too is a priority for trading countries. An attempt was made by the Energy Charter Treaty (ECT) of 1994 to safeguard trade, transit and investment interests but the framework has witnessed a chequered history where states have often chosen to deviate from the principles enshrined in the Treaty. The ECT dispute settlement mechanism has resolved many cases of conflict successfully, but here again, parties to the dispute need to be willing to cooperate and must bring the case to the ECT.

Also, there are distinct domestic–international linkages in the case of energy that call for a framework of governance that extends beyond borders. The development of an energy resource in one country can have physical trans-border implications. For instance, the construction of a dam for hydropower generation in an upper riparian state can result in reduced water flow in downstream countries.<sup>1</sup> Similarly, pollutants emanating from inefficient coal plants can lead to smog, acid rain, and increased prevalence of toxins in the air which can impact bordering countries. The development of nuclear energy and mineral mining in border regions raise a unique set of transnational concerns. Climate change, a global challenge with direct linkage with emission-intensive energy use, does not distinguish between polluters and non-polluters and therefore the international community has an interest in persuading countries to adopt low carbon energy options.

As markets world over get liberalized, the growing presence of rule-making and norm-creating institutions of governance provides an interesting paradox. Yet, this is akin to the expansion of the regulatory state within nation states even as forces of neo-liberalism define and re-define national processes and outcomes (Jordana and Levi-Faur, 2003). While the presence of institutions is an indicator of the need to preserve social and welfare objectives, it is also indicative of the need for a framework of engagement that allows multiple centres of authority to work in coordination with each other to fulfill individual and collective goals, in a context marked by inclusion and collective ownership.

### **3. Energy governance: The role of institutions**

The emergence of a globalized polity and economy has been witness to the formation of a number of multilateral inter-governmental arrangements, where states have chosen collective regulation over a unilateral approach (Scholte, 2002). The growing institutional architecture for global energy

---

<sup>1</sup> These concerns are usually covered by international treaties or other institutional mechanisms on sharing of river waters.

governance covers key aspects of energy development and transaction including management of short-term supply risks, financing, trading, hedging of ventures, energy investments, and trade arrangements (Goldthau and Witte, 2009). Energy institutions can go a long way in reducing transaction costs in inter-state interactions and in creating competition and a level-playing field for commercial actors. But why do international institutions develop and why do states choose to become part of an institution, submitting authority and complete sovereign control? According to Abbott and Snidal (1998), two characteristics of institutions — centralization and independence — create an inclination amongst countries to create institutions or become participating members.<sup>2</sup>

a) The centralization function

International institutions allow centralization of activities that require collective action and thus provide for their effective conduct. They facilitate communication and decision making on concerns that countries share, and emerge as a pivot around which international responses are determined and administered. The International Renewable Energy Agency (IRENA), for instance, facilitates exchange of knowledge on renewable energy development, with countries having agreed that they seek to advance renewable energy development and deployment domestically, and through international cooperation establish a sustainable energy supply system. The World Bank which provides technical and financial assistance to developing countries to ameliorate standards of living and meet development objectives, also addresses issues of energy poverty and finances development programmes that target improvement in energy access and availability of clean and safe fuels. As is the case with the World Bank, member states often employ an institution as an agent for pursuing activities perceived to be in the interest of the participating community of states.

The centralization of activities that institutions allow can also serve a defined ‘coalition of interests’, for example in the case of Organization of Petroleum Exporting Countries (OPEC) and the International Energy Agency (IEA). Even regional institutions formed to pursue cooperation in the area of energy can be subsumed in this categorization. Institutions such as the Energy Charter Treaty (ECT) (with a largely European membership) bring together countries from a specific geographical spread, but are amenable to the inclusion of extra-regional partners with affiliated interests.

Another key benefit of centralization of activities in international institutions is reduction in transaction costs. By providing relevant information to participating states and opening channels of communication, institutions reduce information costs. One of the key objectives of the International Energy Forum (IEF) is to facilitate exchange of information and dialogue amongst energy producers and consumers. REN 21 too seeks to further exchange of information and knowledge on renewable energy, and build and consolidate political will internationally for innovation in renewables and reduction in barriers to renewable energy use. Further, the existence of defined rules of engagement, over time, significantly reduce bargaining costs, and a framework for enforcement (if any), brings down enforcement costs. Institutions provide a way out of the classic prisoner’s dilemma in situations of international negotiation through the facilitation of communication. Iterative engagement helps build trust and eases the way for striking consecutive bargains.

---

<sup>2</sup> While Abbott and Snidal (1998) focus their analysis on international organizations i.e. institutions which have a defined organizational structure and administrative apparatus, their framework of analysis provides a useful tool for the study of institutions in general.

Also, significantly, inter-governmental multilateral energy institutions lend voice to weaker and vulnerable countries. While it is possible that constitutional and decision-making procedures in international institutions be weighted in favour of powerful developed countries, an institutional structure based on the sovereign equality of states, coupled with appropriate decision-making procedures, may often offset power imbalances in the international system. The United Nations Framework Convention on Climate Change (UNFCCC) is a forum where the demand for transfer of clean technologies to developing countries, and support for adaptation and mitigation action, has been highlighted by groups of developing member states. Consensus-based decision-making at the UNFCCC has lent bargaining power to small economies and island nations.

b) The independence function

Independence defines the ability of institutions to act with a degree of autonomy in a defined issue area. Once an institution is created and norms and rules are earmarked, while constituent member states can reflect on the mandate of institutions and often powerful states may be able to intervene in their functioning, the participation of an international institution as an independent/autonomous body in any international function, increases efficiency and lends legitimacy to action (Abbott and Snidal, 1998). The International Atomic Energy Agency (IAEA) — an inter-governmental arrangement that brings together political and technical resources has been accorded the ‘legitimacy’ to promote the safe and efficient use of nuclear energy across the world, and to ensure the enforcement of safety measures and safeguards in nuclear facilities of member countries. The IAEA is a watchdog for the international community that prevents the proliferation of nuclear weapons and promotes use of nuclear energy for peaceful purposes. Technical bodies such as the IAEA and the UNFCCC also have the wherewithal to bring new issues of relevance to member countries for consultation and action, and undertake independent reviews of countries’ policies. The UNFCCC reviews greenhouse gas inventories of Annex I countries. National communications submitted by both Annex I and non-Annex I countries are reviewed to assess the steps being taken by countries to mitigate climate change. The Kyoto Protocol includes monitoring and compliance procedures to ensure that countries are complying with their commitments to the UNFCCC. Similarly, the Energy Working Group of Asia Pacific Economic Cooperation (APEC) is implementing the APEC Peer Review Mechanism on Energy Efficiency (PREE) which seeks to promote information sharing within APEC on member countries’ energy efficiency performance and explore how energy efficiency plans can be better formulated and implemented.

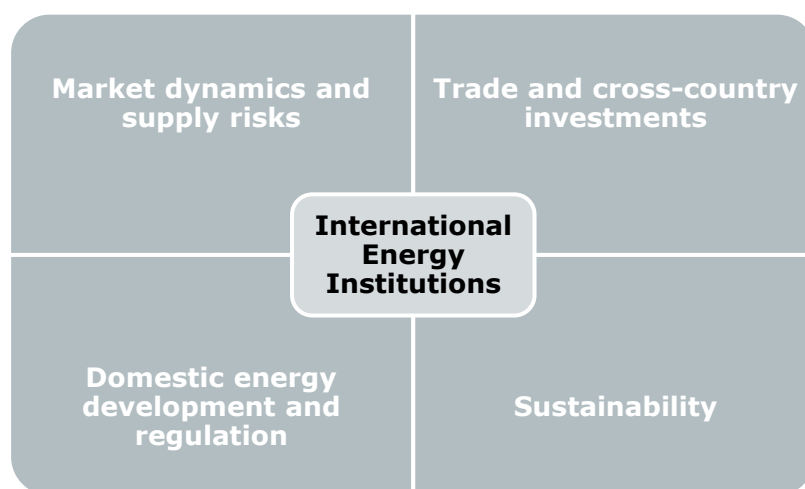
In terms of efficiency of operations, international institutions can play an important facilitative role. South East Asian economies are pursuing a regional power grid programme within the framework of the Association of South East Asian Nations (ASEAN). Under the auspices of ASEAN, the 17<sup>th</sup> ASEAN Ministers of Energy Meeting (AMEM), in coordination with the Head of ASEAN Power Utilities/Authorities (HAPUA), worked towards initiating the ASEAN Interconnection Master Plan Study, the results of which were presented at the 19<sup>th</sup> HAPUA meeting in Indonesia in 2003. Since then, countries in the region have established a number of power grid connections across borders, and new initiatives are underway.

Institutions also function as neutral arbiters in cases of conflict amongst parties. They may mediate between the parties and facilitate discussion on a mutually agreeable solution, or provide a hearing to all interested parties and issue a binding decision (Abbott and Snidal, 1998). Institutions often have the provision for constitution of ad hoc expert panels or provide for a dispute settlement mechanism. The dispute settlement mechanisms under the Energy Charter Treaty, for example, include state–state arbitration for disputes between parties to the treaty; investor–state arbitration for investment-related disputes; a special conciliation mechanism for transit-related disputes; a mechanism for trade disputes (modeled closely along the lines of the WTO and employed when one of the parties to the dispute is not a WTO member); and bilateral and multilateral non-binding mechanisms for consultation for cases related to competition and environmental protection respectively (Energy Charter, 2011).

### 3.1. Mapping energy institutions

The global governance space, today, is characterized by a number of institutions dealing with energy. While some of these institutions such as the IEA, IRENA, and IEF are solely dedicated to energy issues, many other institutions dealing with larger political and economic issues address energy as one of their areas of mandate. These institutions are varied also in terms of their size and membership. While some represent a coalition of countries with common interests in a particular energy sector issue; some bring together countries from a specific region; and some others are more broad-based in their membership and bring together countries with mutual stakes in an issue area (for instance, trade of energy, environmental protection, etc.).

International institutions may or may not involve ceding control to a supra-national authority. Institutions with legally-binding commitments may hold states accountable to their commitments. But there are many energy institutions that are best understood as consultative networks, or bodies that set normative directions for states to strive to follow. Even amongst institutions with a rule-setting function, enforcement mechanisms may widely differ from formal compliance mechanisms to voluntary implementation. Enforcement may involve sanctions, but is mostly incentive-based (Goldthau and Witte, 2010). Defined by areas of governance in the domain of energy, the following section sets out a functional classification of energy institutions (Figure 2).



**Figure 2: Functional classification of energy institutions**

a) Market dynamics and supply risks

For both large energy producers and large consumers, market failures can have significant consequences. During the last few decades, not only have energy prices risen considerably, but prices have also become extremely volatile. Volatility not only impacts importing countries by building pressure on their foreign exchange reserves, but also adversely impacts exporting countries as export earnings and investment plans are both affected. Since the supply and demand risks created for these two sets of actors are unique, there are instances where producers and consumers have created institutions to protect their interests and respond effectively to shocks. The OPEC, thus, seeks to protect the interests of crude oil exporters in a market increasingly marked by greater volatility. It has played an active role in harmonizing the oil policies of suppliers and maintaining stability in the international oil markets by ensuring regularity of supply to consumers, income to producers, and returns to industry investors. With the establishment of OPEC in 1960, the five founding countries — Iran, Iraq, Kuwait, Saudi Arabia, and Venezuela — emphasized the ‘permanent sovereignty’ of countries over their energy resources and their right to utilize them in their national interest. The group of countries expanded over time to increase to the current number of 12. Also, the group’s mandate for itself and the member countries responded to evolving markets and to the changing political climate (OPEC, 2011). During the 1970s, the Arab oil embargo and the Iranian revolution led to oil shocks that buttressed the role of OPEC countries in the international oil market. The OPEC Fund for International Development was established in 1976 and the member countries initiated development programmes within, and called for international cooperation to enhance world economic development. The 1980s saw OPEC introduce a production ceiling and quotas for member countries, at a time when there was growing realization for producer–consumer engagement for stable markets. As climate change and other environmental challenges come to occupy a place of prominence in international diplomacy, calling for reduction in use of fossil fuels, the OPEC countries have demanded a fair treatment for oil suppliers. With oil prices hitting the highest mark ever in 2008, speculation reigned, and in its recent summits, the OPEC countries have highlighted stable energy markets, sustainable development, and environment as the three guiding themes for its engagements.

Just as OPEC seeks to foreground the interests of oil producers, the International Energy Agency (IEA) is a consumer-led OECD initiative that seeks to effectively deal with supply risks. Formed in 1974 in the aftermath of the first OPEC oil embargo, the IEA requires its members to hold mandatory oil reserves equivalent to 90-days’ worth of their respective oil imports, which can be drawn upon in the event of a crisis. The founding treaty of the IEA, the International Energy Program, delineates emergency response measures for significant international oil disruptions, which are defined as times when “supplies are reduced by 7% or more to individual Member countries or to the IEA Member countries as a group”. The treaty delineates the following measures — a draw-down of oil stocks, demand restraint, fuel-switching, increase in oil production, and the sharing of available fuel supplies. Further, the Coordinated Emergency Response Measures (CERM) instituted in 1979 allows member countries to respond to actual or imminent supply disruptions that affect a less than 7% reduction. CERM measures can also be used in conjunction with other measures in cases of significant disruption. While the IEA response mechanisms are seen to enhance the energy security of its member countries, the oil stocks were recently employed by the member countries to calm volatile

markets during the crisis in Libya. This raises questions about how powerful institutions, with material and knowledge resources at their disposal, can take on unintended roles in the governance of energy globally. Also, with the movement of the energy consumption axis eastward with India and China having emerged as large energy consumers, the need for OECD consumers to work with these emerging economies is being felt strongly. The IEA member countries' share in global oil demand which stood at 75% in 1970 was reduced to 57% in 2008. China's, on the other hand, rose from 1% to 10% over the same period of time (Harks, 2010). Nevertheless, the IEA provides a good example of pooling in of country resources to achieve collective leverage in the marketplace.

While consumers and producers congregate around certain similar interests, building bridges between consumers and producers is key to effective global energy governance. The International Energy Forum (IEF), first convened by the Presidents of France and Venezuela as a ministerial meeting in the wake of the Gulf war of 1991, is one such initiative that seeks to promote open and inclusive dialogue amongst energy consumers and producers to facilitate better flow of information, and ensure that stability and sustainability are valued in energy decisions. Through its activities, it looks to develop an understanding of the importance of stable and transparent energy markets, and expansion of trade and investment in energy. With 87 countries as its members, the IEF has gradually been expanding its activities. The coordination of the Joint Oil Data Initiative (JODI) was taken over by the IEF in 2005. This initiative to compile and make available transparent and reliable oil statistics from the world over was started by six international organizations — Asia Pacific Economic Cooperation (APEC), the Statistical Office of the European Communities (Eurostat), the International Energy Agency (IEA), the Latin-American Energy Organization (OLADE), the Organization of Petroleum Exporting Countries (OPEC), and the United Nations (through the UN Statistics Division). The IEA, itself, too, holds producer–consumer expert meetings on a regular basis. Building trust and confidence between producers and consumers is one of the key objectives. The meetings focus on global resource development, demand and supply outlook, transparency in the market, finance and investment, energy security, technology, and environment (Engebretsen, 2003).

While most international engagement with regard to identifying concrete measures for management of supply risks have remained concentrated on oil, this trend may, in the future, replicate itself across other fuels as well. The recent rise in the price of traded coal, the pressure on the coal industry to move towards clean technologies, and the brunt of carbon taxation that coal industries in some countries are already facing, are indicative of a scenario where coal supplying countries may be brought together by new issues. Also, new LNG capacity is concentrated in specific geographical areas, with 80% of the 91 bcm located in Asia-Oceania region and earmarked for Asian markets (IEA, 2011). Bottlenecks in infrastructure may arise requiring inter-state engagement to ease trade flows.

#### b) Trade and cross-country investments

While energy falls under the ambit of WTO provisions as it regulates trade in commodities, a number of gaps can be identified in the implementation of these rules in the energy sector. WTO rules are mainly concerned with import barriers to trade — both tariff and non-tariff, but trade-restrictive practices on the exports end are the most critical in the energy domain. Though the WTO provides for the General Agreement on Trade in Services (GATS) — some provisions of which are of relevance to



gas transportation and power distribution — very limited commitments have been taken on by members with regard to energy services. One reason for this is the lack of a standardized definition of ‘energy services’ and the want of an agreement on how production and production-related services can be distinguished. Direct subsidies to renewable energy technologies and certain forms of environmental taxes would also run into trouble at the WTO. While GATT Article V establishes non-discriminatory freedom of transit, the unique nature of energy transit – with threat of possible interruption of supply, and limited transit capacity that may require a non-impediment clause in building of new infrastructure if established capacity is not sufficient, renders the WTO rules inadequate.

These two transit-related concerns, however, are addressed by the Energy Charter Treaty which specifically focuses on promotion of trade and investment through the protection of stakeholders’ interests. With its membership including producers, consumers, and transit states, it has the distinction of being the only international treaty that sets legal terms specifically for energy trade and investment. The ECT, interestingly, follows a ‘GATT by reference’ approach that extends WTO rules to energy trading between ECT members, bringing into this fold even non-members of the WTO. The ECT affords protection to investment, guarding investors against discrimination, expropriation, nationalization, breach of contract, damages due to war, and unjustified restriction on the transfer of funds.

Notably, a majority of energy institutions at the international level seek to promote energy trade and cross-border investments amongst participating countries. Regional groups such as South Asian Association for Regional Cooperation (SAARC), Association of South East Asian Nations (ASEAN), Asia Pacific Economic Cooperation (APEC), MERCOSUR *et al*, seek to further intra-regional trade and highlight the need to leverage economic complementarities within the region. For instance, while South Asia is an energy-deficient region as a whole, SAARC has available a large potential for trade and knowledge exchange. Nepal and Bhutan are centres of hydro-power production, and with technical assistance from neighbours, have added to their hydro-capacity in the last few decades. Bangladesh is rich in gas while India provides petroleum products to most countries in the region. There is also scope for collaborative initiatives in the area of clean energy development and alleviation of energy poverty. Similarly, MERCOSUR holds immense potential for energy cooperation; Venezuela is an important global player in the oil and gas market and Brazil has extensive experience in the development and use of biofuels. The South American region is also home to the Initiative for the Integration of South American Regional Infrastructure (IIRSA) which aims to develop transport, energy, and telecommunications infrastructure in the region.

Further, trade-affiliated concerns such as protection of energy supplies from piracy and terrorist attacks, security and maintenance of pipelines, and protection of commercial investments from arbitrary changes in host government’s investment policies, highlight the need for greater institutionalization of energy governance. Long-term contracts for gas trade may require further delineation of rules and procedures (take-or-pay clauses for instance). Piracy attacks on oil supplies at sea off the Somali coast and along the Malacca Straits have become a matter of grave concern for energy traders. In 2010, 1181 people were taken hostage along the Somali coast alone. About 760 of these people are still in captivity, while half have been released and some have died (The Economist,

2011). Some Western countries have come together to patrol the defined Maritime Security Patrol Area on the coast off Somalia. The European Union has established a mission under the European Security and Defence Policy which provides for a coordination cell (EU NAVCO) for dealing with piracy. The Indian Navy too has been playing an active role in countering piracy in the Malacca Straits. Yet, a well-defined international framework for fighting piracy, with specified rights and obligations, needs to be developed.

c) Domestic energy development and regulation

While a country enjoys sovereign control over natural resources present within its borders, the exploitation of energy resources has implications for other countries that the host country may need to recognize. Trans-boundary resources such as river waters and resources available in border areas between two countries especially present a challenge in this regard. In most such cases, bilateral or plurilateral arrangements are worked out between countries to resolve such disputes. However, when energy resource use has environmental implications that extend beyond a specific zone, multilateral institutions for governance become critical, as has been the case with climate change.

Since, today, there exist strong trade and investment ties amongst energy partners, the regulation of the energy sector in one country has a bearing on the economic terms for the other. Countries are thus cognizant of defining minimum standards of efficiency and transparency in energy sector operations. The Extractive Industries Transparency Initiative (EITI) is symptomatic of this concern. The EITI, a coalition of governments, companies and civil society, sets standards for transparency in mining activities, and the oil and gas sector. The Initiative emphasizes that public knowledge of governments' revenue and expenditure from the sector is critical for informed public debate about energy choices and management.

Transparency in governments' and countries' operations and financial dealings is crucial for the enhancement of accountability in public life, and for keeping at bay the setting in of what has popularly become known as the 'resource curse'. Often resource-rich regions, particularly those rich in non-renewable mineral resources, show poor economic development and growth indicators. This is attributed to a variety of reasons including the nature of commodity markets where these minerals are subject to high price volatility, and to the development of corrupt institutions within resource-rich countries which divert revenue streams away from public good. There have been many instances recently where communities in resource-rich regions have voiced their dissatisfaction with sharing of benefits by government-owned and private companies engaged in the business of resource extraction. In Nigeria, this sentiment has led to the development of a full-blown violent movement, Movement for the Emancipation of the Niger Delta, which has directed its anger both at the Federal Government of the country and corporations involved in the oil and gas business in Nigeria. The development of governance mechanisms that ensure transparency in the sector can help reverse the development of these extreme situations. One of the criteria that the EITI puts forth as important in implementation of its principles is that the host government develops a sustainable work plan for regular audits and public disclosure of important financial information, "with assistance from the international financial institutions where required, including measurable targets, a timetable for implementation, and an assessment of potential capacity constraints". This has a two-fold impact covering both domestic and international constituencies. First, it increases the awareness of domestic populations about the

sector's management, and in effect, fosters fair practices and prudent financial management. Second, it increases investor confidence and can play an important role in bringing in international capital into the host country's energy sector. Currently, 11 countries are compliant members of EITI and 23 are listed as candidate countries which meet the initial requirements of being a candidate, but need to implement EITI principles over a 2.5-year period to become a compliant member (EITI, 2011).

Amongst the three main pillars of the International Atomic Energy Agency's activities, nuclear verification and security, and safety, are regulatory provisions that influence how member countries manage their nuclear energy resources. The third pillar of technology transfer falls in the domain of international trade but has repercussions for members' policies on protection of intellectual property rights. As the international community's nominated nuclear inspectorate, it has the authority to enforce a strong framework of safety rules and safeguards that protects the comity of nations, its peoples and the environment from the harmful impacts of radiation and from proliferation of weapons of mass destruction. Further, easy access to clean and convenient energy for all is highlighted as an imperative by institutions such as the World Bank that offer assistance to national governments in meeting energy-related objectives. The UNDP is playing a critical role in energy poverty programmes in developing countries. It is notable, however, that regional groups in geographical areas characterized by developing countries, such as regional organizations in South and South East Asia, do not prioritize energy access as an area of common interest as much as they highlight the need for increased trade, and infrastructure development for power and transport.

#### d) Sustainability

The imperative of sustainable development has led to the emergence of a number of multilateral – global and regional – institutions that seek to facilitate collective action for protection of the environment and promote green growth initiatives. The treaty-based UNFCCC provides one of the most prominent examples of such an effort. The Kyoto Protocol lays out legally binding measures for defined parties to the Convention. However, given that there are no disincentives or sanctions for non-implementation of commitments made, the efficacy of the instrument in capping global GHG emissions remains circumspect.

In the area of sustainability, renewable energy development and improvement in energy efficiency performance of economies have emerged as important areas of intervention, and recognition of the need for global cooperation in these areas has led to the establishment of government-led multilateral initiatives. IRENA seeks to promote the use of renewable energy across the globe. It facilitates access to relevant renewable energy information, including technical and economic data, and data with regard to resource potential. It also targets wide sharing of country experiences on best practices in policy, capacity-building, and financial mechanisms. Energy demand management including initiatives for improvement in energy efficiency and movement towards low-carbon technologies in the industrial and transport sector are being promoted and assisted by institutions. Recently, at the 7<sup>th</sup> APEC Transportation Ministerial Meeting in San Francisco, the APEC Transport Ministers pledged the development of safe and sustainable transport, including green growth and innovation in the sector, and use of alternative fuels and fuel-efficient technologies. In the APEC Leaders' Declaration on Climate Change, Energy Security and Clean Development, endorsed in September 2007, APEC Leaders emphasized the importance of energy efficiency improvements and defined 'an APEC-wide

aspirational goal' of reducing energy intensity by at least 25% by 2030. Also, the Asia-Pacific Network for Energy Technology (APNet) was established to strengthen collaborative clean energy research in the region.

While the European Union members exhibit sharp differences on an external energy policy, they have been willing to accept national targets on energy efficiency improvements and renewable energy. They have adopted an EU-wide binding target of sourcing 20% of the region's energy needs from renewable sources by 2020, and affecting 20% energy savings and reducing GHG emissions by 20% by the same year. The EU's Emissions Trading Scheme, though subject to criticism for over-allocation and contribution to carbon price volatility, provides an innovative example of a regional climate policy initiative.

Clearly, institutions may straddle across these classifications, and the specific mandate of each institution would also determine the challenges it faces in affecting 'good' energy governance. For instance, though the IEA's initial objective was the initiation and maintenance of oil stocks, it has taken on a policy advisory role towards its members where it addresses uptake of clean energy, efficiency improvement, and cleaner fossil fuel technologies. In 2005, the G-8 called upon the IEA to play a role in delivering the Plan of Action on Climate Change, Clean Energy and Sustainable Development adopted at the Gleneagles Summit. Even though the implementation record of its policy recommendations does not offer a reason to celebrate, the IEA is playing an important role in developing energy indicators, databases, and tools through international collaborative efforts that could assist countries in assessing their energy sectors and devising appropriate solutions.

#### **4. Conclusion: Bringing in the lexicon of good governance**

The global governance architecture for energy, functions under structural constraints – lack of political will for cooperation; absence of enforceable rules; adherence to sovereign national interest that is focused on aggrandizement and resource acquisition; and the free rider problem, amongst others. How can energy institutions then be made more effective? An attempt to answer this question is best circumscribed in the lexicon of 'good governance', a concept that itself has gained in importance over the last few decades. Traditionally, countries saw energy governance as 'a value-blind enterprise'. The consumer countries' governments were concerned only with assured regular supply of energy at affordable prices. The producer countries emphasized appropriate pricing of energy commodities and focused on generation of revenues. Powerful international corporations were driven by profit and international financial institutions only cared about the economic viability of projects (Benner *et al.*, 2010). Towards the 1990s, however, there was recognition of a host of problems that indicated the need for governance reform and institutionalization of 'good' resource governance. Resource-rich countries such as those in West Asia showed poor economic performance and malpractices in energy business, but some others such as UK and Norway set examples of using resource revenues responsibly. This led to a widespread acceptance of the fact that 'resource curse' and 'dutch disease' are not bound to adversely impact countries reliant on mineral extractive industry but that these phenomena resulted from bad policy decisions and mismanagement of incoming revenue. This was also accompanied by international institutions' recognition of the criticality of good domestic governance for the success of economic development programs, growing concern

world-wide over corruption and unethical business practices, and the call for responsible behavior from TNCs that urged them to show respect for ethics and values of freedom and democracy (Benner *et al.*, 2010). What resulted was an intense focus on the ‘why’ and ‘how’ of energy governance. A beginning was made in the re-alignment of the objectives of energy governance along international development and public welfare. As environmental concerns gained currency, this trend got bolstered. However, these developments took place in parallel to a growing resurgence of energy competition as new players entered the global market, demanding a higher share of the world energy resources.

While this paper does not allow scope for elaboration on ‘good governance principles’ in the domain of energy, it is important to highlight need for reform. A range of energy issues that demand international engagement remain outside the purview of existing institutions. While inter-governmental initiatives such as the OPEC and ECT have been able to establish themselves as authoritative institutions, many others have remained ineffective. Even those institutions that have been able to set and implement stringent membership criteria and rules, and have held out the promise of significant nation-specific and/or global benefits (such as IEA’s mechanisms as an assurance to member countries in the case of an oil shock; and UNFCCC commitments as an assurance of states’ action to mitigate climate change and adapt to its consequences), have seen a mixed record of successes and failures. In addition, it is notable that many institutions that deal with energy at the international level are aspiration-based in their objectives and directive-based in their implementation, and therefore, do not hold member states accountable for non-action or misguided action. Institutions of energy governance are often found lacking the capacity and delegated authority (from states) to effectively govern the fluid dynamics of energy development and business. What is required at the global and regional levels is a network of energy institutions which, even though embedded in the energy realities of their constituent members focused on a certain issue area, reflect on and respond to the challenges thrown up by increasing international engagement on energy and the sector’s environmental implications.

## References

Abbott K and D Snidal. 1998. ‘Why states act through formal international organizations?’ *Journal of Conflict Resolution* 42: 3–32.

AGECC. 2010. *Energy for a sustainable future: Report and recommendations*, The Secretary General’s Advisory Group on Energy and Climate Change. Available at [http://www.un.org/millenniumgoals/pdf/AGECCsummaryreport\[1\].pdf](http://www.un.org/millenniumgoals/pdf/AGECCsummaryreport[1].pdf) (accessed 27 August 2011).

Benner T *et al.* 2010. ‘The good/bad nexus in global energy governance,’ in A Goldthau and JM Witte, eds, *Global Energy Governance: The New Rules of the Game*. Berlin: Global Public Policy Institute.

Boughton JM and CI Bradford, Jr. 2007. ‘Global Governance: New Players, New Rules,’ *Finance and Development* 44 (4). Available at <http://www.imf.org/external/pubs/ft/fandd/2007/12/boughton.htm> (accessed 21 August 2011).

BP. 2011. *BP Statistical Review of World Energy 2011*. Available at [http://www.bp.com/assets/bp\\_internet/globalbp/globalbp\\_uk\\_english/reports\\_and\\_publications/statistical\\_energy\\_review\\_2011/STAGING/local\\_assets/pdf/statistical\\_review\\_of\\_world\\_energy\\_full\\_report\\_2011.pdf](http://www.bp.com/assets/bp_internet/globalbp/globalbp_uk_english/reports_and_publications/statistical_energy_review_2011/STAGING/local_assets/pdf/statistical_review_of_world_energy_full_report_2011.pdf) (accessed 16 September 2011).

Bloomberg News. 2008. 'Big Oil share hurts as state companies seize reserves', Available at <http://articles.latimes.com/2008/jun/30/business/fi-oil30> (accessed 9 September 2011).

EITI. 2011. Website of the Extractive Industries Transparency Initiative. Available at <http://eiti.org/> (accessed 30 August 2011).

Energy Charter .2011. 'Dispute settlement', Available at <http://www.encharter.org/index.php?id=269&L=0> (accessed 2 September 2011).

Engebretsen M. 2003. 'How will the producer/consumer dialogue promote stability in global energy markets?' Available at <http://www-personal.umich.edu/~twod/oil-ns/articles/ief/IEF-oil/engebretsen-iea-ief-secretariat-hist-2003.pdf> (accessed 5 September 2011).

Gardiner R and K Goulven. 2001. 'Sustaining our global public goods', Briefing Paper, World Summit 2002, Johannesburg, Heinrich Boll Foundation. Available at <http://www.worldsummit2002.org/texts/Globalpublicgoods-briefing.pdf> (accessed 14 August 2011).

Goldthau A and JM Witte. 2009. 'Back to the future or forward to the past? Strengthening markets and rules for effective global energy governance', *International Affairs* 85(2): 373–390.

———. 2010. 'The role of rules and institutions in global energy', in A Goldthau and JM Witte, eds., *Global Energy Governance: The New Rules of the Game*. Berlin: Global Public Policy Institute.

Harks E. 2010. 'The International Energy Forum and the mitigation of oil market risks', in A Goldthau and JM Witte, eds., *Global Energy Governance: The New Rules of the Game*. Berlin: Global Public Policy Institute.

IEA. 2007. 'Executive Summary', in *World Energy Outlook: China and India Insights*. Paris: International Energy Agency.

———. 2011. 'Q&A on global liquefied natural gas markets', Available at [http://www.iea.org/index\\_info.asp?id=2067](http://www.iea.org/index_info.asp?id=2067) (accessed 15 September 2011).

Jordana, J and D Levi-Faur. 2003. 'The politics of regulation in the age of governance', in J Jordana and D Levi-Faur, eds, *The politics of regulation: Institutions and regulatory reforms for the age of governance*. Massachusetts: Edward Elgar.

Kaul I. *et al.* 2003 'Why do global public goods matter today?' in I. Kaul *et al.*, eds, *Providing global public goods: Managing globalization*. Oxford: Oxford University Press.

OPEC. 2011. Website of the Organization of Petroleum Exporting Countries. Available at [http://www.opec.org/opec\\_web/en/](http://www.opec.org/opec_web/en/) (accessed 30 August 2011).

Raciti E and N Parsons. 2010. 'Is IP standing in the way of a green planet?' Available at <http://www.renewableenergyworld.com/rea/news/article/2010/11/is-ip-standing-in-the-way-of-a-green-planet> (accessed 12 September 2011).

Scholte JA. 2002. 'Civil society and the governance of global finance', in JA Scholte and A Schnabel, *Civil society and global finance*. London: Routledge.

Selivanova, Y. 2007. *The WTO and Energy: WTO rules and agreements of relevance to the energy sector*, Issue Paper No. 1 (August), Trade and Sustainable Energy Series, International Centre for Trade and Sustainable Development.

Selivanova, Y. 2010. 'Managing the patchwork of agreements in trade and investment,' in A Goldthau and JM Witte, eds, *Global Energy Governance: The New Rules of the Game*. Berlin: Global Public Policy Institute.

Smith KC. 2010. *Lack of transparency in Russian energy trade: The risks to Europe*, Centre for Strategic and International Studies, Washington DC.

The Economist. 2011. 'At sea', 3 February 2011. Available at <http://www.economist.com/node/18070160> (accessed 10 September 2011).

UPI. 2011. 'Energy companies ranked on transparency', Available at [http://www.upi.com/Business\\_News/Energy-Resources/2011/03/01/Energy-companies-ranked-on-transparency/UPI-42651298982366/](http://www.upi.com/Business_News/Energy-Resources/2011/03/01/Energy-companies-ranked-on-transparency/UPI-42651298982366/) (accessed 29 August 2011).

World Coal Institute. 2005. *The coal resource: A comprehensive overview of coal*. Available at <http://www.worldcoal.org/resources/wca-publications/> (accessed 14 September 2011).