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The International Energy Agency

Challenges for the 21st Century

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1. Introduction

The core mission of the International Energy Agency (IEA) is to ensure the secure supply of energy for its member countries, the advanced industrial democracies. Created in the aftermath of the first major oil crisis in the 1970s, the IEA's mandate was to coordinate emergency supply measures and to improve the governance of long-term energy issues. However, the organization's basic structure and procedures have remained frozen in time since its creation even as geopolitical circumstances have changed, leaving it with waning capacity to fulfill that mandate. Confronted with new challenges and new circumstances in the 21st century, the organization must adapt to remain a relevant and effective body for policy coordination.

Two major challenges and opportunities confront the IEA. First, a successful response to energy supply shocks, such as a major oil production disruption, is dependent on the IEA's ability to coordinate effective collective action. In such circumstances it is critical that the IEA coordinate with all or most of the world's major energy consumers. Yet the world has changed considerably since the 1970s, particularly with the rise of rapidly developing economies with huge populations. In particular, some are urging the IEA to extend membership to China and India, and – for different reasons – Russia. However, as this paper will illustrate, there are significant obstacles and costs associated with extending membership and it is not at all clear whether the IEA can provide sufficient incentives to make membership attractive to these countries. Less formal and non-binding relationships with non-IEA members are likely to be a more feasible way to coordinate with China and India, although this approach likely limits the scope of cooperation.

A second challenge and opportunity for the IEA is to ensure that its policy activities during the long periods without energy supply crises are consistent with its core mission of managing crises if and when they do arrive. Currently, the IEA conducts some highly valuable policy and technical reporting activities and there is no reason that all of these should be eliminated. However, the scope of its work has expanded over time and increasingly overlaps with other organizations such as the International Renewable Energy Agency (IRENA). The IEA needs to confront the tradeoffs inherent in its agenda and be disciplined about taking on policy issues that fall within a well-defined mandate while avoiding mission creep.

This paper discusses these two challenges and analyzes potential solutions. The first section offers a brief primer on the history and organizational structure of the IEA and places the Agency in the context of other international energy institutions. Each of the following two sections focus on one of the two challenges and analyzes potential policy options. A brief summary concludes the paper.

2. Background: The IEA and its Role

A distinguishing feature of international energy institutions is the degree to which they are balkanized, based on regional and/or geopolitical memberships. The 20th century did not see the advent of a major international organization for energy with a truly global membership.[1] Instead, the existing institutions can broadly be divided into two categories: those created by and for petroleum-consuming states (e.g. the IEA) and those created by and for petroleum-exporting states (e.g. OPEC).[2]

The International Energy Agency was formed in November 1974 in response to the oil crisis of 1973-74. Originally comprising of 16 members, the IEA now includes 27 member states, all of which are also members of the Organization for Economic Cooperation and Development (OECD) (some states, such as Mexico, are members of the OECD but not of the IEA). The IEA's members are drawn from the industrialized democracies of Western Europe, North America and Asia-Pacific. Together, the members of the IEA constitute the largest bloc of energy-consuming states, accounting for 60-70% of world petroleum consumption.[3] The IEA is closely associated with, but legally distinct from, the OECD; until fairly recently, the secretariats of the two organizations shared the same building in Paris. The IEA was created under the leadership of US Secretary of State Henry Kissinger, who saw the need for states to respond collectively and decisively to threats in the international energy environment, especially in light of the Arab oil embargo of 1973. The then-existing apparatus for addressing energy issues, namely the committee structure of the OECD, was perceived as too rigid and incapable of decisive action. Accordingly, the IEA is one of the very few international organizations that is empowered to make decisions that are legally binding on its member states.[4] Specifically, the IEA has binding requirements for a national strategic oil reserve and the capacity to impose legally binding allocation decisions in the event of an international oil supply emergency. Moreover, these decisions can be made by majority vote, rather than a universal consensus, though in practice consensus is the norm.

Countries in other regions also formed regional energy organizations, namely the Latin American Energy Organization (known as OLADE, its Spanish acronym) in 1974, the Asia-Pacific Economic Cooperation Energy Working Group in 1993 and the African Energy Commission, a body of the African Union, in 2008. There is no truly global organization for energy, though recently there have been efforts to foster producer-consumer dialogue through the International Energy Forum (IEF). Still, such efforts have had a relatively minor role thus far. Moreover, unlike the IEA, none of these regional energy organizations have the authority to impose decisions that are legally binding on its members.

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[1] A possible exception to this rule is the International Atomic Energy Agency, but its mandate is focused exclusively on nuclear issues, and does not consider the crucial petroleum sector and broader energy policy.

[2] Note that the composition of the "consumer" and "exporter" states does not align perfectly with their positions in the oil market. In particular, the "consumer" coalition includes Canada and Norway, which are now significant exporters, even though they were both consuming countries in the early 1970s, when the IEA was created. OPEC does not include any net importers. It may also be noted that "exporter" is not the same as "producer": some states, such as the United States, are producers but not exporters.

[3] BP Statistical Review of World Energy, 2009. Note that this share is declining over time.

[4] R. Scott, 1994. p. 120.

The IEA has two principal functions. The first and most important is to maintain and improve systems for coping with oil supply disruptions. OECD members responded to the 1973 oil embargo with competitive behaviors such as stockpiling of oil reserves, thus exacerbating the economic costs to all. Consequently, the IEA was organized to minimize the impact of supply disruptions and to manage the response to them. Since its inception, the IEA has required its member countries to maintain a petroleum reserve equivalent to its consumption of net oil imports over a certain period of time. The reserve requirement was initially set at 60 days of imports and was then increased in the 1970s to 70 and finally to 90 days, which has remained unchanged for more than 30 years. In the instance of an international disruption to oil supply, the IEA is empowered to distribute oil allocations to its member countries (see more on this below). The organization also requires major oil companies to share information, including proprietary and classified data, which is necessary to take action in the case of an emergency. The second key function of the IEA is to act as a body for the development of policy, information sharing and technology transfer. During long periods of oil-market stability, this second function is the principal activity of the IEA.

Historically, the advanced industrial democracies also have used two other organizations to address energy issues. The first was the OECD, which at the time of the 1973-74 oil crisis was the only major institution available for consumer response. However, due to the restrictive nature of its own structure and rules, it was found to be inadequate for addressing an oil crisis, which gave rise to development of the IEA. The second organization was the G7 (now G8 and G20). Now one of the most important international bodies for economic cooperation in general, it is not well-known that the G7 was created in large part to address the economic issues arising from oil and energy supply. Originally formed as the Group of Six, the heads of state met for a high-level summit in Rambouillet, France in 1975.[5] These initial meetings were far simpler affairs than they are now, with each country allowed to bring just four individuals to the meeting, including the head of state. The summit focused on a very narrow agenda of four principal items, two of which focused on energy and related economic problems. While the G7 subsequently became a more sophisticated organization, its focus after the 1970s largely moved away from the issues of oil and energy (at least until the rise in oil prices in 2005-2008). Thus by virtue of its focus on energy issues, its institutional strength and the economic importance of its members, the IEA remains the single most important institution for energy-importing countries.

Although there are other institutions that address the coordination of energy policy, only the IEA has the responsibility of coordinating the release of the member states' strategic petroleum reserves. This has been done on two occasions. The first occurred one day before the 1991 US-Iraq war to quell fears of insufficient oil supplies in the market; the second was in response to the 2005 hurricanes in the Gulf of Mexico that destroyed oil production, distribution and refining facilities in the US states of Louisiana and Mississippi.

[5] The seventh member, Canada, was not added until 1976. In 1994, Russia was invited to join informally and was made an official member in 1997, when the group was renamed the G8.

The collective IEA actions, in both instances, ensured the continuity of oil supply and prevented oil market disruptions.[6]

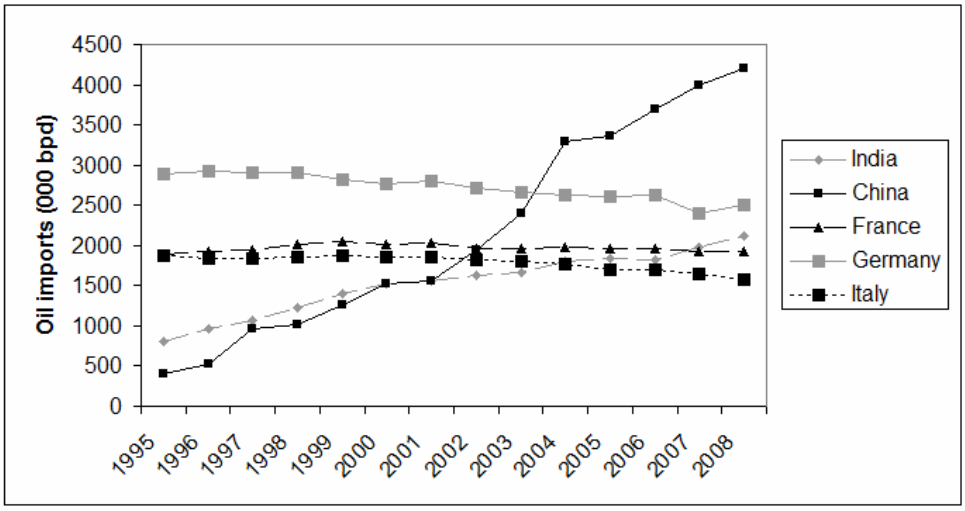
The IEA's emergency response system has evolved over time, partly in recognition of its limitations. The 1974 International Energy Program (IEP) established three core commitments for each member state: i) to maintain national oil reserves, now set at 90 days worth of net oil imports; ii) to have ready a program of demand restraint measures equal to 7% and 10% of national oil consumption; and iii) to participate in an oil allocation system if necessary in a severe emergency. The same agreement established a working definition of a supply disruption as being equal to a 7% volumetric loss of normal oil supplies for IEA member countries as a whole. However, in 1995, the IEA's Governing Board adopted a decision that gives the IEA more flexibility in identifying and responding to crises, even pre-crisis situations. This decision gave rise to the Coordinated Emergency Response Measures (CERM), through which the IEA can use its most rapid response to mitigate sub- and pre-oil crisis situations: the joint release of emergency oil stocks into the market. In addition to joint releases from national oil reserves, the IEA has a portfolio of secondary response measures, including demand restraint programs, fuel-switching and surge-production in IEA member countries such as Norway, Canada and the UK, but there are significant limitations to these options. The IEA's focus is to complement the market wherever possible, using the allocation system as a last resort.

[6] A. Florini and B. Sovacool, 2009.

3. Issue #1: Membership and Structure

The first challenge to the IEA's core mission arises from changes in the global demand for oil. In fact, the global market for energy has changed significantly since the IEA was founded in 1974. The rapid growth of developing economies, especially China and India, has transformed the demand for energy products. While in the 1970s all of the major oil importing countries were members of the OECD, China and India have changed the landscape and increased the size of the global market. For instance, in 1995 China was importing just 0.4 million barrels of oil per day; in 2008, it was importing more than 4.2 million barrels per day – more than France and Italy combined. (See Figure 1 below.) Yet China, India and other significant consumers operate outside the IEA governance framework. These changes in the global energy market may impede the IEA's ability to accomplish its core mission.

Figure 1: Oil Imports 1995-2008[7]



Specifically, in the event of a supply shock such as a major oil production disruption, the IEA would have a more limited capacity to coordinate collective action than it did in the 1970s or 1980s. As indicated above, the IEA aims to use market mechanisms as a first response and would only use import allocation as a last resort. Still, the IEA is empowered to decide how much petroleum to release from strategic reserves into the markets and, in an extreme case, how imports are allocated among its members: it can literally decide which countries get how much oil and when they receive it. This makes the IEA quite powerful in terms of distribution of oil among its members, but not necessarily in affecting (i.e., lowering) the global price. To effectively manage prices, the IEA depends on being able to move the market through releases from its members' strategic reserves and these releases have impact in proportion to their size relative to the global market. With major oil customers operating outside of the IEA framework, the organization's members could be left with significantly less control over the oil market in the event of a crisis. Consequently, the IEA has been urged to expand its membership. Some policy-

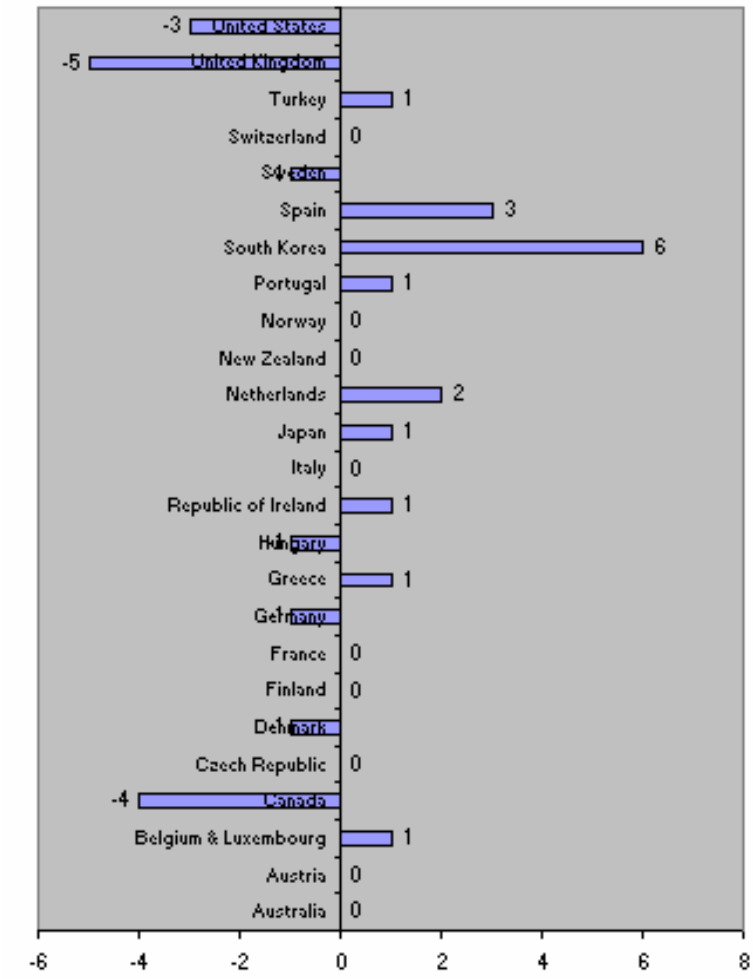
[7] BP Statistical Review of World Energy, 2009.

makers such as US Secretary of State Hillary Clinton have suggested that the IEA should consider Chinese and Indian membership for the IEA. The IEA is also being urged to consider Russia as a potential new member, for somewhat different reasons; this will be discussed separately below.

Adding to this challenge, the IEA's capacity to address supply shocks is made worse by the rigidity of its internal structure, which has changed little since the 1970s. One illustrative example of this rigidity is the distribution of votes on the Governing Board. Decisions at the IEA are typically made by consensus, but in the event of a crisis in which difficult oil supply allocation decisions must be made, voting could become critically important. The votes on the Board are distributed according to an arcane system based on the 1973 net oil imports of the member countries. Specifically, each member state is given three votes plus a number of votes based on their 1973 net oil imports. One hundred votes are allocated based on the 1973 oil imports. Because the member states' energy consumption has changed significantly over time, the voting structure would look significantly different if the votes were re-allocated based on current net oil imports. Article 62.5 and 62.6 of the 1974 Agreement on an International Energy Program (which created the IEA) envisaged regular updates of the voting structure based on changes to states' oil consumption, but the procedures in these Articles have never been used, despite several attempts in the 1990s.

The effort to re-distribute votes at the IEA is an inherently zero-sum game, in which some states would see their voting privileges reduced or diluted. Since powerful states benefit from the existing arrangements, there is little incentive for them to support reform, even without the addition of new members like China or India. Figure 2 shows the difference in votes each country would receive if the voting structure was modified to reflect the net oil consumption in 2005. While South Korea and Spain stand to benefit significantly, the United States, the United Kingdom and Canada would all lose a large number of votes. Needless to say, these latter states have little incentive to embrace institutional reform, at least among existing members. It is perhaps not surprising that reform efforts to date have failed.

Figure 2: Net change in IEA Votes, if based on 2005 oil consumption[8]



The rigidity in the IEA's voting structure is emblematic of the overall stability in its organizational structure and core rules and procedures since the 1970s. This does not mean that the IEA has remained completely static. It has expanded both its membership (from 16 members to 27) and its policy scope (especially its work on energy and the environment). Moreover, the addition of new members in the 1990s shows that it is possible for the IEA to expand. Still, the new IEA members in the 1990s were mostly Eastern European countries that were eager to join the IEA and did not demand a significant change to the status quo at the Governing Board. The same cannot necessarily be said of China and India. Indeed, if the latter countries demand significant voting rights or guarantees in the event of an energy supply emergency, their membership could significantly dilute the role of existing members.

So what are the potential solutions to this issue? There are at least two: first, the IEA could try to extend formal membership to China and India; or second, it could try to coordinate with them systematically without requiring membership.

[8] Source: author's calculations, based on oil production and consumption data from BP Statistical Review of World Energy, 2009.

Option A: Extending Full IEA Membership to New Players

The Executive Director of the IEA, Nobuo Tanaka, has publicly stated the organization's desire and even need to include China and India in IEA collaborations, with the eventual goal of making them members of the agency. Making China and India members would entail modifying the 1974 Agreement on the International Energy Program. The Obama administration has shown interest in such an outcome. Secretary of State Hillary Clinton suggested during her confirmation hearing at the Senate Foreign Relations Committee in January 2009 that the IEA should begin laying the groundwork for Chinese and Indian membership and that the State Department would support its efforts.[9]

There are, however, three major obstacles to incorporating China and India as members into the IEA. First, there are the structural obstacles to IEA membership. Currently, the bylaws of the IEA require that new members first become members of the OECD. China and India are not members of the OECD and may have little desire to become members. This is particularly true for China as the OECD requires that prospective members demonstrate commitment to certain core values, including an open market economy, democratic pluralism and respect for human rights.[10] Even if the requirement for OECD membership were removed, it is not clear what kind of role the new members would play in the organization and with what influence and voting rights. Given that membership in the IEA would impose new requirements and obligations on the country, the new member is likely to seek voting rights in the organization commensurate with its perceived contribution. Negotiations over the new member's rights and responsibilities could be difficult and require overcoming the IEA's institutional inertia, as discussed above.

A second major obstacle to expanding the IEA to include China and India is the collective action problem and the incentive for these potential members to free-ride on the efforts of the current IEA members. In business terms, it is not clear what the value proposition of the IEA is to any of these countries: i.e., what benefit does IEA membership offer? China and India currently have the opportunity to free-ride on the collective action of the IEA in the event of an energy supply shock, gaining the benefits from the organization's efforts to dampen and manage global demand without paying any of the costs. For instance, the IEA members' 90-day reserve supply of petroleum imports would help act as a buffer to any such shock, by providing an extra infusion of supply into global markets. Yet the very fact that the oil market is global means that demand is fungible: if the IEA members are releasing oil from their strategic reserves to meet their domestic demands, that means that more international oil supplies would be available to the rest of the world, including China and India. Moreover, to the extent that China and India have strategic reserves of their own, they could use or hoard them for their own purposes without needing to follow the directives of the IEA. As such, they have considerable incentive to free-ride on the collective action and reserve requirements of the IEA, without becoming members.

[9] A. Florini and B. Sovacool, 2009.

[10] OECD, 2009.

A third obstacle to IEA membership for these countries is the financial and sovereignty costs of meeting the IEA's regulations and requirements. The term "sovereignty costs" is meant to indicate the political and legal restrictions that IEA membership would place on the national government by restricting its freedom of policy choice. Perhaps the most significant of the IEA's requirements is the 90-day supply reserve of net petroleum imports. Neither China nor India currently has such reserves and they would be expensive to maintain.

India has begun the development of a strategic petroleum reserve of 37.4 million barrels, equal to approximately three weeks of its current net oil imports.[11] This falls far short of the IEA's 90-day requirement, which for India would be equal to at least 180 million barrels. Given India's growth, this is likely to be a very conservative estimate of the amount required. The cost of maintaining such a sizeable reserve is not trivial; the petroleum alone would cost USD 11 billion if the oil was obtained at USD 60 per barrel and could be much higher in the future. This does not include the construction and maintenance of the actual reserve capacity. Especially for a developing country, these costs are not inconsiderable.

The situation is somewhat different for China. According to public reports, China began construction on four strategic reserves for petroleum in 2004, which were completed in 2008.[12] Together, they total approximately 102 million barrels, or about a 30-day reserve of current net imports. In addition, China was planning an expansion to 272 million barrels, though this effort was officially suspended in 2009. Thus the government of China appears to be willing to bear at least some of the financial costs of a significant reserve and the IEA requirement of a 90-day reserve may not be too onerous. Nonetheless, the Chinese government has shrouded its development of strategic oil reserves in considerable secrecy, suggesting that it would be unwilling to have its reserves monitored and certified by the IEA. It may be even less likely to consent to having releases from those reserves coordinated by the IEA, rather than controlled entirely by the Chinese government.

Moving beyond the requirement for strategic reserves, it is not clear that China and India would be willing to pay the sovereignty costs associated with meeting the IEA's information sharing and disclosure requirements. The IEA imposes significant data and oil market reporting requirements on its members, including requirements on private energy corporations for proprietary information. Non-members are free to choose to keep this information confidential and they frequently do. Thus IEA membership would impose new restrictions and requirements on these states. In addition, the Governing Board of the IEA is one of the few international organizations empowered to impose legally binding decisions on its members and countries with historically high aversion to outside interference – such as China – might view the IEA's powers as too great a restriction on their national sovereignty.

These three obstacles to formal IEA membership for China and India are significant. Admittedly, the IEA was able to expand in the 1990s to incorporate new members, but

[11] India Strategic Petroleum Reserve Limited. http://www.isprlindia.com/.

[12] Reuters, 2008; China Economic Review, 2009.

the obstacles in those cases were much lower, as indicated above. Most of the states which joined in the 1990s were eager for IEA membership, in part because it was seen as prestigious and provided a positive signal for European business and investment audiences. The same cannot necessarily be said of China and India. These countries have less need to attract business and investment interest and they are more concerned about the costs associated with IEA membership. Thus the obstacles for formal membership ultimately may be too great to overcome. However, it is also possible to coordinate with these countries on a more limited basis.

Option B: Coordination with New Players as Non-Members

Even if China and India are not interested in becoming full members, this does not mean that the IEA cannot coordinate more systematically with these important non-members. The IEA should seek to establish a more high-profile and systematic dialogue with these energy players, particularly in regard to emergency management. The IEA regularly runs mock exercises of its Coordinated Emergency Response Measures (CERM), and observers from China and India should be encouraged to actively participate in these exercises. In the past, observers from both countries have been invited, but have not always attended, sometimes due to the travel expense.[13] The IEA countries should provide resources to ensure that delegates from those countries can attend on a regular basis.[14] Moreover, the IEA should renew its offer to hold the CERM exercises in both China and India to deepen the level of cooperation. Above all, the focus should be on building adequate communication and monitoring systems such that, in the event of a serious supply disruption, processes are already established to allow the IEA to coordinate with China and India to manage the situation.

Admittedly, a less formalized relationship with these countries has its drawbacks: in the event of a crisis, the IEA will not have the same legal authority over the actions of these countries as it does over full members.[15] It will be impossible to know how the relevant players will react to a crisis until the crisis itself arrives. Yet in truth, in the absence of a world police, the IEA's legal power cannot be enforced even on its formal members. The strength of an international organization such as the IEA is in building shared expectations about the appropriate way to handle a crisis and in establishing procedures for rapid consultation and coordination. These mechanisms could be put in place with countries like China and India even if they remain non-members. Thus a regularized, systematic relationship between the IEA and important non-members may offer many of the benefits without facing the obstacles of full membership.

Russia as a New Member of the IEA?

The IEA is also being urged by some of its members to consider extending membership to Russia. Two factors appear to motivate this initiative. First, the role of Russia has

[13] US Department of Energy official, personal interview. Note that the nominal issue of travel expense may be masking other motives for non-attendance.

[14] To their credit, Japan and the UK have done so in the past on *ad hoc* basis.

[15] An additional drawback is that it does not solve the rigidity in the IEA Governing Board voting structure highlighted above; this option simply sidesteps that issue.

changed dramatically since the IEA was founded due to the collapse of the Soviet Union and the attending transformation in geopolitical concerns. Second, and perhaps more importantly, members of the IEA are looking for ways to avoid the disputes over natural gas sales from Russia to Europe that have become common in recent years.

However, the idea of extending membership to Russia is problematic. Many of the concerns indicated above about the value of IEA membership for new members are intensified when one considers the case of Russia. Russia is a net *exporter* of petroleum and natural gas, as opposed to most members of the IEA, which are net importers. At a minimum, Russia has the incentive to free-ride on the IEA's efforts as China and India do, but Russia's interests might actually be *opposed* to demand-side management in the event of an energy supply shock. Russia stands to benefit from higher energy prices and tighter supplies, so it is especially unclear what benefit the IEA offers to Russia. Russia is also unlikely to want to require that its corporations share proprietary data about energy operations with the IEA.

Instead, the IEA could work with the EU to educate policymakers on both sides of the Russia-Europe relationship on natural gas. Russia could be made more fully aware of the risks to its reputation as a stable supplier of natural gas and the long-term costs of disruptions. European countries could be made more aware of the significant risks and costs associated with over-dependence on an insecure supply of natural gas. This effort falls naturally within the scope of the IEA's existing Standing Group on Global Energy Dialogue.

4. Issue #2: Organizational Focus and Mission

Thus far, this paper has focused on the first of the IEA's two principal functions, namely its role in preventing and managing energy supply emergencies. Yet the IEA also has a second function: to lend expertise to the development of policy and to share information among member states. This second function of the IEA exists principally because oil supply crises are rare and while the IEA requires a significant amount of human capital and technical expertise to deal with a crisis when it occurs, it necessarily has a significant amount of excess human capital during non-emergencies. In this sense, the IEA is analogous to fire-fighters: down-time and excess capacity are inevitable by-products of effective emergency response. During normal times, the IEA has an opportunity to use this human capital for policy and technical purposes: but to what end?

Since the late 1970s, the IEA has offered its expertise in three quite productive ways. First, it has offered a series of regular publications on energy topics, such as the *World Energy Outlook* and its review of individual member countries' energy policies. The *World Energy Outlook* was first published in 1977 in five year intervals, and is now published annually. It has become one of the authoritative guides to the future of global energy markets. Second, the annual reviews of national policies, conducted by the IEA for two to five of its members each year on a rotating basis, are an opportunity for the organization to educate national policy makers about the strengths and weaknesses of their policies and how they might adopt lessons learned from other IEA members.

Third, the IEA has a relatively active program of dialogue with non-IEA members, in part to promote producer-consumer dialogue and in part to share information and build technical capacity. One component of this effort is the IEA's participation in the Joint Oil Data Initiative (JODI), which was created by the International Energy Forum (IEF) to provide a single consistent source of information on oil production and consumption. Another component is the IEA's work to share with OPEC and other organizations the IEA's assumptions and modeling methodology for forecasting future demands for oil and other energy products. This information sharing is of some importance, given that OPEC and others frequently have quite divergent forecasts of future energy demand. These differences can lead to under- or over-investment in the upstream production capital. The IEA's membership is particularly concerned about under-investment for future capacity in petroleum production, which could lead to energy shortages and/or sharp spikes in the price of oil.

There is little doubt that the IEA should continue these three activities during non-emergency periods. Yet these activities do not fill the IEA's agenda. Indeed, the IEA publishes fifteen to twenty major reports per year, on a broad spectrum of subjects ranging from energy efficiency in electronics gadgets to deploying renewables to CO_2 capture and storage. The pertinent question is: what kind of organization should the IEA aim to be and with what breadth of mandate? Clearly many alternatives exist, but for illustrative purposes, two options will be considered: a broad and a narrow approach.

Option A: The IEA as a Supra-national Department of Energy

One approach is to model the IEA after national energy ministries like the US Department of Energy, except that the IEA would be focused on common problems affecting multiple member states. This would continue the IEA's rather broad scope of work or even broaden it further. Currently, the IEA is asked to provide analysis and policy advice on a wide range of energy-related topics. In part, this is due to the IEA's original mandate in 1974, which includes goals like international energy technology transfer. Moreover, the IEA is sometimes mandated by its members to work on issues that are outside of its core mission. For instance, when the G8 focused its attention on climate and energy during the 2005 Gleneagles Summit, it turned to the IEA for help. The Summit's Plan of Action asked the IEA to conduct research and analysis in a wide variety of areas: energy efficiency in buildings, appliances, transport and industry; cleaner fossil fuels; carbon capture and storage; and renewable energy. The IEA responded with a variety of publications, dialogues and policy recommendations, including its major report to the G8 in 2008. The report contained 25 energy efficiency policy recommendations and progress reports on the IEA's dialogue with Brazil, China, India, Russia and South Africa on sustainable energy policies.[16]

One advantage to this approach is that the IEA is available to provide analysis on transnational issues that might otherwise fall through the cracks. However, there are several disadvantages to this approach. First, not all of the IEA's work is clearly consistent with its core mission of managing oil supply crises. When the IEA devotes effort to topics like electronics gadgetry or the climate change impact of appliances, it is not likely to be using or reinforcing the technical expertise that it needs for its core mission. This could lead to a larger organization than necessary, potentially inefficient and less nimble in a crisis. Second, it could also lead to considerable duplication of effort with other international organizations and national departments or ministries of energy. This is particularly important given the emergence of a number of other international organizations with overlapping mandates, such as the International Renewable Energy Agency (IRENA) or the host of organizations that focus on global climate change. The overlapping mandates generate the possibility for duplicative work and reduced policy impact.

Option B: The IEA as a Lean, Mission-focused Organization

An alternative approach is to focus the IEA on issues that are consistent with its core mission. Note that this does not necessarily mean doing less than it currently is, but it would at least mean working on different issues. The IEA would identify clear criteria by which to judge whether an issue area falls within its mandate and stick to them. The foundation of these criteria should be the extent to which a given issue requires expertise that reinforces the IEA's ability to serve its core mission to prevent and manage oil supply crises. Work tasks such as continually gathering timely data on oil and energy markets, reporting on oil investment issues and analyzing global trends that affect energy security are likely to be highly complementary with the IEA's crisis management mission.

[16] A. Florini and B. Sovacool, 2009. Also see IEA, 2008.

Some but not all aspects of the global climate change challenge – those that directly affect present and future energy security – also fall into this category. Policy projects that lie far from the IEA's core mission – however worthy – would be left to other organizations, such as IRENA or the World Energy Council, and eliminated from the IEA's scope of work.

The benefit of this approach is that it would help ensure that the IEA is a lean, mission-focused organization. It also improves the likelihood that IEA members get the highest "bang for their buck" from the organization, especially in the times when it is most needed: oil supply crises. The potential drawback, however, is that some energy-related issues may not get the attention they deserve. For example, global climate change is sufficiently complex that it might make sense to have the IEA lending its technical expertise to the issue. Even so, it is not clear that the IEA's attention should be spread thinly over a wide variety of climate change issues, from appliances to carbon capture and storage (CCS).

On balance, the narrower mandate appears preferable. Still, a plausible case can be made for a broad mandate, especially if steps can be taken to mitigate the risk of overlap and inefficiency. In either case, the member states of the IEA should consider their options and provide clear guidance to the organization about what it expects.

5. Conclusion

Despite the IEA's current position as the most important international energy organization for energy-importing countries, the organization faces significant challenges and opportunities that will profoundly affect its role in the future. This paper has focused on two of these challenges: its relationship with major new players in the energy arena, especially China, India and Russia, and its role as a policy shop for international problems.

Some policymakers, including senior members of the Obama administration, have urged the IEA to extend its membership to include at least China and India; others suggest Russia as well. Yet as this paper has shown, there are at least three major obstacles to this approach. The IEA's legal and organizational structure cannot easily accommodate these new members; it is not clear what benefits IEA membership offers to the prospective members; and it is not clear that the prospective members would be willing to pay the financial and sovereignty costs associated with being IEA members. Moreover, as a net-energy exporter, Russian interests may be especially poorly aligned with the largely energy-importing countries of the IEA. For all of these reasons, incorporating China, India and Russia into the IEA will be difficult. Even among the relatively like-minded members of the OECD, it took a major oil supply disruption for the countries to create the IEA and agree to an emergency management system. In the absence of another major supply disruption, similar to the Arab oil embargo of 1973, full membership within the IEA seems unlikely for the major emerging economies.

Yet this does not mean that the IEA cannot coordinate more systematically with these important non-members, particularly in regard to emergency management. Observers from China and India could be invited to actively participate in the IEA's exercises of its Coordinated Emergency Response Measures. The focus should be on building adequate communication and monitoring systems such that, in the event of a serious supply disruption, processes are already established to allow the IEA to coordinate with China and India to manage the situation.

The IEA is a highly-regarded institution with considerable technical expertise. As an organization, it is well-positioned to play an active role in what promises to be one of the most important international policy issues of the new century: energy security. Nonetheless, it needs to confront the tradeoffs associated with a broad or narrow scope of work. The IEA member states should provide guidance to the organization to ensure that they make good use of the agency's capacity for policy analysis without compromising the core mission of managing oil supply crises.

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The International Energy Agency is an international energy forum comprised of 29 industrialized countries under the Organization for Economic Development and Cooperation (OECD). The IEA was established in 1974, in the wake of the 1973-1974 oil crisis, to help its members respond to major oil supply disruptions, a role it continues to fulfill today. IEAâ€™s mandate has expanded over time to include tracking and analyzing global key energy trends, promoting sound energy policy, and fostering multinational energy technology cooperation. As the global energy picture has changed, the IEA has sought t The International Renewable Energy Agency (IRENA) is an intergovernmental organisation supporting countries in their transition to a sustainable energy future.Â Supporting countries in their transition to a sustainable energy future. About Us. With 161 Members, IRENA plays a leading role in the energy transformation as a centre of excellence for knowledge and innovation, a global voice for renewables, a network hub and a source of advice and support for countries. More. In Focus.