Can energy sector engagement in emerging market economies contribute to Iceland´s economic growth or will it further deepen its economic crisis?

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Abstract

The Icelandic economy has been hit hard by the global financial crisis. Better utilization of natural resources and know-how could possibly be one growth area for Iceland, including in the hydropower and geothermal energy sectors. The private sector can play an important role here and some Icelandic companies are already getting engaged in emerging market economies. Such engagement can be rewarding for the Icelandic economy and the host country, but there are also risks, especially since investments in the energy sector tend to be large, capital intensive and long-term. Some of those risks can be mitigated by working in partnership with international companies/consortiums, international financial institutions, bilateral development agencies, etc. This article discusses Public-Private Partnerships and Build-Operate-Transfer projects conceptually. Those arrangements are complicated and time consuming to implement, but if well prepared, they can offer a fair and a sustainable sharing of the risks and rewards of utilizing renewable energy resources in emerging markets. In addition to the specific case of Iceland, the discussion in this article could also be relevant to other small states who intend to engage in capital intensive sectors in emerging market economies.

Keywords: Public-Private Partnerships (PPPs), Build-Operate-Transfer (BOT) projects, cross border investments, renewable energy, International Financial Institutions (IFIs).

Introduction

The Icelandic economy has been hit hard by the global financial crisis that started in 2008. This was a sudden storm. In 2007 the world experienced unprecedented economic growth, abundant capital and risk premiums were low. What started as financial difficulties in the mortgage market in the United States grew into a global financial crisis of unprecedented proportions. In 2008 the world economy went into a crisis. In early October 2008 the three largest commercial banks in Iceland, representing about 85 percent of total banking assets, all collapsed.

The global crisis was not the only reason for the fall of the Icelandic banking system. Mistakes had also been made locally, both within the public and private sector, and the banking system had expanded its operations excessively abroad. Currently the Icelandic economy is recovering and the banking system is being restructured. The next few years in Iceland will be uncertain. What is certain, however, is that 2009 is a difficult year and full recovery will take years of troubled navigation.

In November 2008 the government of Iceland requested a Stand-by Arrangement with the IMF. While the IMF certainly did not downplay the seriousness of the economic crisis in Iceland in its assessment, it did also recognize in a press release that Iceland´s long-term growth prospects remained favorable buttressed by its strong fundamentals of a highly educated labor force, a favorable investment climate, and rich natural resource endowment (IMF 2008). Several experts, including leading scholars like Harvard professors Michel Porter and Christian Ketels, have also expressed optimism on Iceland´s recovery and pointed to its human capital and rich natural resources (Porter and Ketels 2008).

In spite of the current difficulties in Iceland, disengagement from international trade and investment can hardly be considered a viable option. Natural resources, technical skills and know-how are still valuable. Any economic growth needs to be export lead. Using capital well will be imperative.

One important area where Iceland processes both natural resources and valuable technical skills are in the geothermal and hydroelectric power energy sectors. The world is increasingly concerned about climate change and many nations wish to increase their use of renewable energy resources. Iceland has been participating in the international dialogue on renewable energy. An example of this is the Nordic-IFC Symposium titled: “Global Climate Change – Financing Private Sector Opportunities in Developing Countries” that took place in April 2008 (Nordic-IFC Symposium 2008). During the Nordic-IFC symposium public-private partnerships (PPPs) were specifically discussed. Iceland led the discussion on geothermal energy at the symposium. Icelandic companies have also been exploring opportunities in selling their skills and investing in developing and emerging markets[i] in Asia, Africa, America and in Europe.

While it certainly makes sense for Icelandic experts and firms to think carefully about how they can best use their skills and know-how, cross border investment and engagement can also be risky, and sometimes dangerous, especially in developing countries. The already troubled Icelandic economy does not need additional financial problems. Investments in emerging markets need careful balancing between risks and rewards. Risk mitigation will be necessary, for example,

in partnership with international companies, host governments and international and bilateral institutions.

This article will discuss those issues and is organized as follows: After the brief discussion above about the current financial crisis and possible opportunities for the private sector in renewable energy in emerging markets, the paper will discuss Public-Private Partnerships and Build-Operate -Transfer projects conceptually. It will focus on the institutional issues, the role of the different partners, the contract arrangements, as well as the risks and rewards offered by such arrangements. It will then focus on risk mitigation instruments that IFIs offer to the private sector as well as risk sharing with host governments. The case of Nam Theun 2 (NT2), a landmark hydropower project in Lao, will then be discussed, as it demonstrates clearly how the public and the private sector can work together and share the risks and rewards for a major energy investment in a developing country with low creditworthiness. The Nam Theun 2 case is a good example of how to make use of funding and risk management instruments of IFIs and how IFIs form partnerships with the host governments, the private sector and other bilateral and multilateral institutions. Finally the paper will discuss some examples of Icelandic private sector involvement in the energy sector in emerging markets and draw some conclusions about what options might be most suitable for the Icelandic private sector in the future, and what should be avoided. Icelandic companies have explored and are exploring opportunities to invest with IFIs in emerging markets and developing countries in the geothermal sector. Unfortunately those cases cannot be analyzed here as they are at a pre-feasibility or a feasibility study level and the information is confidential at least until financial close of the projects.

Cross border investments in infrastructure via Public-Private Partnerships

Public-Private Partnerships (PPPs) in infrastructure can be a feasible venue to fund infrastructure development and to increase the efficiency of public service delivery. Infrastructure projects in the energy sector are often capital intensive and have long repayment periods. The needs for improved infrastructure in the world are vast. This is especially true for developing and emerging market countries. The public sector alone cannot provide sufficient capital and needs the private sector to help fill the funding gap. According to the Asian Development Bank “Only the private sector can provide the trillions of dollars needed in the foreseeable future.” (Asian Development Bank 2008). One way for the private sector to engage in such projects is through Public-Private Partnerships. There are many different definitions for PPPs. One definition is “any public sector service provided partially or wholly by the private sector” (see Delmon 2009, 601). Another definition of a PPP is “the transfer to the private sector of investment projects that traditionally have been executed or financed by the public sector” (World Bank 2008b, 93). By forming a PPP the public and the private sectors can share the risks and the rewards of an infrastructure project.

PPP schemes and modalities - Build-Operate-Transfer Projects (BOTs)

To engage in cooperation, the public and the private sector can employ several different schemes including the so called BOT, i.e. Build-Operate-Transfer (IMF 2004). In BOT projects the private sector is responsible for financing, constructing and operating the project. Under this arrangement

the host country grants a concession, i.e. the right to a private firm to undertake a public sector project and operate it over an agreed period of time. When the concession expiries the project is transferred back to the party granting the concession. For a comprehensive discussion on BOTs see Jeffrey Delmon´s outstanding book on Private Sector Investment in Infrastructure (Delmon 2009).

The partners involved in a BOT are: the project company that undertakes the project, the host government, the lenders and guarantors, the construction contractor, the operator, the offtake purchaser and the input supplier. The project company uses the income from the project to service debt of the project and to pay return to its investors (i.e. the equity contributors to the project company). The lenders to a BOT project would, for example, be commercial banks, international financial institutions (IFIs), bilateral agencies (BLAs) and export credit agencies (ECAs). The IFIs and the ECAs could also serve as guarantors e.g. for payment to the lenders. Lenders would be keen to manage their risks (i.e. only take measurable and measured risks) and would receive a fixed margin on their loan whereas the shareholders (i.e. the equity holders in the project company) maximize the profits on their equity investment. In addition to obtaining funding for the project, the project company procures the design and coordinates the construction and operation of the project in accordance with the requirements of the concession agreement. Project company shareholders often include firms with construction and operation experience, and with offtake purchase capabilities (Delmon 2009, p. 98). The offtake purchase agreement secures the project payment stream. The offtake purchaser will be looking for a guaranteed long-term output from the project. The credit risk associated with the offtake purchaser will be of particular concern to the project company and the lenders. This is where guarantees from the host governments or IFIs, including the World Bank, become important.

Allocation of Public-Private Partnership risks

Critical to the design of PPPs is the way risks are allocated between the partners in the PPP. A general principle is that risk should fall on the party that is more able to do something about it.

Risks in PPP tend to be allocated on the basis of commercial and negotiating strength. The stronger party will allocate risk that it does not want to bear to the weaker party. Efficient allocation of risk will generally result in a more successful and profitable project and will benefit each of the parties involved (Delmon 2009).

In order to minimize the market risk from the project company and the project lenders an offtake purchase agreement, or in the case of a power project, a power purchase agreement, may be made. This is to create a secure payment stream which will be an important basis for financing the project. The offtake purchaser may also be the grantor, or a government entity such as a public utility, in which case the offtake purchase agreement and the concession agreement may be one and the same document (Delmon 2009).

The lenders will want the project risks to be allocated to project participants, i.e. the construction contractor and the operator and not the project company who is their debtor.

The project company will enter into a contract with the construction contractor in order to divest its obligations to the grantor to design, build, test and commission the project.

Completion risk for the project should be allocated to the construction contractor. In the case of a turnkey project, completion and performance risk should be on the construction contractor.

If the main risks are associated with poor management of the service, shifting the risk to the operator could provide the right incentives to make sure that the project delivers.

If the risks are related to changes in policies, then the government should bear the risk. This is because the project company will not generally be able to manage political risk. The project company will ask the government to bear those risks not necessarily to demand a compensation at a future date, but to pressure the government to avoid such risks and to minimize the probability that such risks occur.

The host government and risk mitigation

A typical problem in developing countries and emerging market economies is the limited scope for cost recovery. Costumers often have a limited ability to pay for the services rendered and the government is in a weak position to force them to do so. This may result in a diminished interest from private investors. One solution is for the government to offer a guarantee to the private investor. But what should the government guarantee? Should it guarantee a minimum rate of return for the investment? Here the government needs to be careful as this guarantee represents a contingent liability for the government and a poorly designed PPP can become a source of liability for the government.

If the main risks are associated with poor management of infrastructure service, shifting the risk to the investor could provide better incentives to make sure that the project delivers. But this would not be accomplished if the government guarantees the revenue of the private sector.

International Financial Institutions (IFIs) and risk mitigation

PPP infrastructure projects are typically large, capital intensive and long-term, about 10 to 25 years. It can therefore be feasible for partners to combine private capital, donor support (including IFIs) and public funds in a PPP project. A well designed policy and institutional framework for PPPs offers the opportunity to leverage and combine all three sources of financing and expertise, without crowding out the private investment.

IFIs offer a number of instruments that can be useful for Public-Private Partnerships.[ii] Among the financial products and services that the IFIs offer are: (i) equity financing and/or loans for projects, (ii) guarantee/insurance against political risk (non-commercial risk), (iii) technical assistance and (iv) information and advisory services.

Among the IFIs active in this area are: (i) the World Bank Group http://www.worldbank.org/, (ii) the European Bank for Reconstruction and Development http://www.ebrd.org/, (iii) the Asian Development Bank http://www.adb.org/, (iv) Inter-American Development Bank http://www.iadb.org/, and (v) the African Development Bank http://www.afdb.org/.

Key risk issues can be categorized as: political, breach of contract by a government entity, market risk and default risk.[iii] Risk mitigation products can attract new financing resources, reduce costs of capital, and extend maturities by providing coverage for risks that the

market is unable or unwilling to bare (Delmon 2009). Those products can attract more private capital to invest in infrastructure. Examples of guarantee products provided by the World Bank are IBRD/IDA partial risk guarantees (PRGs) and IBRD partial credit guarantees (PCGs), IFC partial credit guarantees and MIGA political risk insurance. Those risk mitigation instruments allow investors to be compensated in the case of certain adverse events. This reduces the risk and thus the project costs.

These IFIs can have an important impact on the risk allocation and financing used in a project they participate in. As mentioned above the credit risk associated with the offtake purchaser will be of particular concern to the project company and the lenders. If the government is unreliable in relation to its policies, then it can also be unreliable in relation to the guarantees that it offers. This is one example where guarantees from IFIs can be critical. IBRD/IDA can cover breach by a government entity of a contractual obligation.

Nam Theun 2 – a landmark cross border BOT/BOOT PPP energy project

The Nam Theun 2 (NT2) project is a hydropower project under construction in Lao.[iv] It is an excellent example on how the public and the private sector can form a partnership and construct a major infrastructure project in the energy sector in a developing country with limited creditworthiness with the support from international financial institutions. NT2´s commercial operations are planned to start March 2010. Its estimated costs were US$1.25 million at financial close (excluding contingencies), equity 28 percent (US$350 million) and 72 percent debt (US$900 million).

The NT2 hydropower project is being implemented by the Nam Theun 2 Power Company Limited (NTPC). The shareholders (equity holders) of NTPC are**:** Electricite de France International (EDFI) of France (35%), Italian-Thai Development Public Company Limited (ITD) of Thailand (15%), Electricity Generating Public Company Limited (EGCO) of Thailand (25%) and Lao Holding State Enterprise (LHSE) (25%).

Several institutions provided loans to NTPC and/or guarantees to the private sector lenders: (i) Multilateral institutions including the World Bank Group's, IDA and MIGA, (ii) bilateral agencies, and (iii) export credit agencies (ECAs). A consortium of 16 commercial banks supported the project.

The shareholders agreement (SA) signed by EDFI, GOL, EGCO, and ITD sets out the rights and obligations of the shareholders, provides for the objective, establishment, management, and operation of the project company, NTPC, and agrees on the Articles of Association of NTPC. The SA has duration of 45 years from signing (World Bank 2005). In the concession agreement (CA) the Government of Lao granted NTPC a concession to develop, own, finance, construct, and operate the hydroelectric plant and related facilities, and to transfer the project to GOL at the end of the concession period, i.e. after 25 years (World Bank 2005).

NT2 is the largest ever foreign investment in Lao and was the Asia Power Deal of the Year 2005. The project will be with an electric generating capacity of 1070 megawatts. 995 MW of the power will be for export to Thailand and 75 MW will be for domestic use in Lao. The

power purchase agreements (PPA) are between NTPC and the Electricity Generating Authority of Thailand (EGAT), and NTPC and Electricite du Laos (EDL).

Head Construction Contract (HCC) was signed between NTPC and EDFI (the head contractor). It is a turnkey, price-capped engineering, procurement and construction contract (World Bank 2005). The subcontractors are ITD of Thailand, Nishmatsu Contracting Company of Japan, General Electric of the USA and Mitsubishi-Sumitomo Electric of Japan. The head contractor and the subcontractors are all reputable international companies.

International financial institutions played an instrumental role in making this project possible. In fact, the international dollar lenders to the project informed the NTPC that without political risk mitigation they would not be able to lend to the project. The Government of Lao requested the World Bank Group to provide risk mitigation to support the international lending package (World Bank 2005). IFI guarantees were thus key in lowering the project's risk profile sufficiently to attract the commercial financing needed.

Political risk guarantees were provided by MIGA (World Bank) and Asian Development Bank, AsDB). IDA (World Bank) also provided a partial risk guarantee (PRG). NT2 PRG is the first IDA guarantee to support hydropower development and is also the first project to use a mix of IDA, MIGA and AsDB guarantees. Debt guarantees were provided from IDA, MIGA and AsDB supporting about US$126 million of private financing. Direct loans from IFIs were about US$144 million provided to NTPC (World Bank 2005).

Loans were also provided by AsDB, European Investment Bank (EIB), Nordic Investment Bank (NIB), Agence Francaise de Developpement (AFD), Proparco and the Export-Import Bank of Thailand. IDA and AFD also provided grants.

Nine International Commercial Banks[v] and seven Thai commercial Banks[vi] helped fund the project. In addition to this the NT2 project received export credit agency (ECA) support from COFACE of France, Exportkreditnamnden (EKN) of Sweden and Guarantee Institute for Export Credits (GIEK) of Norway.

The Nam Theun 2 project can be viewed as a test case for infrastructure development. It is an excellent demonstration of what is possible if the public and private sectors, supported by international financial institutions, team up and join their forces. This project, which is the world's largest private sector cross-border power project financing, and the largest private sector hydropower project financing, would probably be too large for participation from Icelandic firms, except if they provided technical assistance or advisory services, or maybe participated as sub-contractors. Lessons learned from this landmark project that the World Bank Group intends to publish would nevertheless be a valuable study for all companies who intend to participate in infrastructure projects in developing and emerging market economies.

Iceland and the need for partnership with IFIs in developing and emerging market economies

As can be seen from the Nam Theun 2 case and several other projects IFIs play an important role in developing countries and emerging market economies, not just by lending to projects and through equity investments, but also by mobilizing further private sector funding, including from

commercial banks. They can also access host country governments at the highest level in the event of a political dispute. In the case of Lao and NT2 the World Bank, for example, has an ongoing poverty reduction support program (PRSP) dialogue with the government. Such dialogue includes a discussion and negotiation in a number of policy reform areas. The variety of guarantee instruments developed by IFIs to reduce political risks also encourage the private sector to engage in developing countries.

The World Bank Group consists of five institutions: (i) The International Bank for Reconstruction and Development (IBRD), (ii) the International Development Association (IDA), (iii) the International Finance Corporation (IFC), (iv) the Multilateral Investment Guarantee Agency (MIGA) and (v) The International Centre for Settlement of Investment Disputes (ICSID). Emerging market economy countries would hesitate to take measures that would negatively affect projects that the MIGA is involved in because of the concern that it could adversely affect their relationship with the IDA and/or the IBRD and possible credit and/or a loan (West 1999). If disputes do arise, the MIGA's leverage with host governments frequently enables it to resolve differences to the mutual satisfaction of all parties.

Some Icelandic companies are already preparing investments in the geothermal sector in developing countries and emerging market economies. However, those investments looked at during this study are in the pre-feasibility and feasibility stage and the information provided is confidential and unfortunately cannot be published.

If an Icelandic company invests in the energy sector in an emerging market economy under a Public-Private Partnership using the BOT scheme, one could imagine that the company would want to become a sponsor and equity holder in the project company. In this case it would probably need to assemble a consortium of investors who would also become shareholders and provide equity to the project company. The consortium could, for example, include private investors, IFIs (for example the IFC), and possibly the host government. The consortium would then need to find lenders for the project that could include international private commercial banks. IFIs could also, as in the case of Nam Theun 2, provide debt guarantees to support private financing for the project as well as a direct loan to the project company. Furthermore IFIs could provide guarantees for the credit risk associated with the offtake purchaser since this risk is often of particular concern to the project company and the lenders.

In addition to this, one could also imagine that Icelandic companies, with their technical skills and know-how, would want to become a contractor (or a subcontractor) and an operator for an energy project. Providing technical assistance via consulting services is yet another area that Icelandic companies have been involved with and might want to explore further.

The services that IFIs offer in managing risks in emerging markets might be more relevant to Icelandic investors now than they were prior to the international financial crisis and the banking crisis in Iceland. This is especially the case with investments in the energy sector where projects are often large, capital intensive and long-term. If an Icelandic company invests in the energy sector in an emerging market economy, it must consider a long-term horizon to receive sufficient return on its investment. The investment contains a higher degree of risk, simply because the company remains exposed to risk for a long period of time. In addition to this,

geothermal energy, a sector that several Icelandic companies have been getting involved with, is often located in developing countries which tend to be more risky for investors than developed countries. The profitability of such investments can be influenced by the decisions of the host governments during the lifetime of the projects. This is one important reason for Icelandic companies to work in partnership with IFIs as part of their risk-management strategy.

A small state like Iceland needs strong partners when engaging in long-term capital intensive investments in risky markets. In some cases, the Icelandic government has weak diplomatic ties with emerging markets economies in which Icelandic companies are planning to invest, and in many cases it does not have embassies in those countries. In the event of a dispute, a small country like Iceland does not have the same leverage as large states and partnership with IFIs could therefore be of advantage. Partnership with IFIs could reduce risks both for the private sector and the government of Iceland. After the collapse of the three largest commercial banks in Iceland there is also a need to rebuild trust, domestically as well as internationally, and cooperation with reputable IFIs could help in that process. Through partnership with IFIs Icelandic firms could also potentially learn valuable lessons on project preparation and management in emerging markets and improve their risk management profile.

The government has devoted limited funding and few human resources towards its relationship with IFIs and Iceland is not a member of key IFIs like the regional development banks, AsDB, AfDB and IDB. When Icelandic companies invest abroad their choice of partners is thus limited. This can weaken their bargaining position vis-à-vis the IFIs that Iceland is a member of. The government should at minimum conduct a feasibility study that would carefully access the costs and benefits of membership in the regional development banks, particularly in the regions where Icelandic companies are most active. In this context cooperation with the other Nordic and the Baltic countries could be useful as has been done at the World Bank Group and at the European Bank for Reconstruction and Development.

The government of Iceland could consider devoting more funds to provide technical assistance and know-how transfer to emerging markets. This could be done through trust funds both within multilateral organizations, as well as bilaterally. Greater use could thus be made of Icelandic experts to cooperate with the IFIs as consultants and for Icelandic firms to prepare cross border investments.

The services of IFIs are not a free lunch and therefore costs of their financial products and services (loans, advisory services, guarantees, etc) must be weighed against the potential benefits. Limited information is available about the terms of loans, equity investments, and costs of insurances and guarantees that private sector projects get from institutions like for example the IFC. This information is confidential between the investors and the IFC unless the private partner chooses to make it public.

Some examples of Icelandic energy sector cooperation with IFIs

So far, only a small number of Icelandic companies have attempted to work in partnership with IFIs in emerging market economies. Icelandic energy companies are beginning to show an interest in the services offered by the IFC. One example of this was Enex (http://www.enex.is/).

Enex's local experience in the geothermal and hydropower field spans nearly four decades. The company was founded in 1969 by several Icelandic geothermal and engineering companies which, collectively, had several decades of experience in the development of geothermal energy and hydropower. In 2001, the company changed its name to Enex and reshaped its main objectives. Its focus shifted toward designing, constructing, operating and financing power plants, both geothermal and hydropower. Since then, Enex expanded its operations into developing new projects and technical solutions in the geothermal energy sector. Enex worked on projects in emerging market economies including China, Hungary, El Salvador and Slovakia (Enex, 2008a). According to its website, some cooperation had already taken place with the World Bank. For example in 2006 the World Bank (Geo Fund) approved a USD 3.7 million Geological Risk Insurance for Enex's Hungarian Geothermal Project (Enex, 2006a). In 2004 Enex worked as a consultant to the World Bank's ECA Region on restructuring the Geotermia Podhalanska geothermal power plant in Zakopane, Poland. (Enex, 2008b). Finally, Enex sought funding from the IFC for a geothermal district project in Xianyang China (Enex, 2006b).

Early this year the two largest owners of Enex, Geysir Green Energy and Reykjavík Energy Invests reached an agreement on the split-up of the company (Geysir has held 70 percent of Enex and REI 26 percent). (Reykjavík Energy Invest 2009).

Reykjavík Energy Invest (REI) (http://www.rei.is/) and Geysir Green Energy (http://www.geysirgreenenergy.com/), are involved in energy projects in emerging markets. Reykjavík Energy Invest provides information on its website on projects that are in various stages of development in Djibouti, Philippines and Indonesia (Reykjavík Energy Invest, 2008) and Geysir Green Energy is involved, e.g., in operations in the Philippines and in China (Geysir Green Energy, 2008).

Recently the IFC and Reykjavík Energy Invest signed an agreement for joint exploration and development of geothermal resources in Djibouti in Africa that will help address the country's power shortage and reduce carbon emissions. This is the first project to be funded by IFC InfraVentures, a new US$100 million fund that will help develop infrastructure in the world's poorest countries. IFC InfraVentures addresses major constraints to private investment in infrastructure projects, including a lack of funds and experienced professionals. It will provide early stage risk capital, feasibility studies, and support on developing financial models and project structures that are commercially viable and able to more rapidly complete financing (IFC 2008).

For the Djibouti project, IFC InfraVentures will provide 35 percent of the exploration costs, including full feasibility studies and exploration drilling for the geothermal plant. IFC InfraVentures' contribution is capped at $4 million. IFC InfraVentures will also work with Reykjavik Energy Invest to implement environmental and social standards and mobilize financing from other investors. The two organizations are assembling a consortium of project participants to secure additional funds. This project is a good example of a partnership between an Icelandic company and a private sector arm of an international financial institution in the energy sector. However, Reykjavík Energy Invest is not a typical private sector company. REI is the international business development and investment arm of Reykjavík Energy.

According to the IFC a lack of a reliable, secure, and low-cost energy supply is a key barrier to Djibouti's business development, and demand will continue growing rapidly. IFC InfraVentures' investment will help produce at least 50 megawatts of additional power to address demand. The project will help reduce carbon emissions by using geothermal generation as an alternative to diesel power (IFC 2008).

Country selection for projects with Icelandic engagement

It is clear that the demand for electricity will grow in the coming years and decades and most of that increase will be in emerging markets. It is expected that world electricity demand will double through 2030, with the largest increase coming from developing countries (see e.g. Tooman, 2004). It has also been estimated that by 2025 developing Asia will consume 2.5 times as much electricity as in 2001. Foreign investment is needed to meet this demand. It is thus understandable that Icelandic firms are eager to get involved in this sector and their know-how and technical skills can hardly be questioned.

When Icelandic companies get involved in emerging markets they must manage their risks properly. Working with IFIs is one way of reducing those risks. But there is no guarantee that IFIs will want to work with Icelandic companies in all cases. IFIs tend to be risk averse and at least some Icelandic companies have weak balance sheets after the international financial crisis and the fall of all the major Icelandic banks. In addition to this REI is 100% owned by a public utility and one of the largest shareholders of Geysir Green Energy, Glacier Renewable Energy Fund (40% share), was managed by one of the private banks, Glitnir Bank, that is now Íslandsbanki and is owned by the government of Iceland. While private investors can take risks with their own capital such risks should not be taken by public companies who will send the bill for any losses to the taxpayer in the end.

As stated above Reykjavík Energy Invest (REI) [vii] (http://www.rei.is/) and Geysir Green Energy (http://www.geysirgreenenergy.com/) have been getting involved in energy projects in Asia and Africa. REI in Djibouti, Philippines and Indonesia (Reykjavík Energy Invest, 2008) and Geysir Green Energy is involved, e.g., in projects in the Philippines and in China (Geysir Green Energy, 2008). What does the World Bank Group say about the investment and business climate of those countries? The World Bank Group issues a Doing Business report[viii] yearly that evaluates the business and investment climate in most countries of the world and the 2009 report for example ranked 181 countries on the ease of doing business. The countries that Icelandic energy companies are planning investments in are ranked in the following way on the overall ease of doing business: Djibouti 153, Indonesia 129 and the Philippines 140. According to this ranking, those are note exactly ideal places for firms seeking a favorable business and investment climate. More specifically on protecting investors, Djibouti is ranked number 177. On starting a business Indonesia is ranked number 171 and the Philippines number 155 (World Bank 2008a). On a Corruption Perception Index those countries rank in the following way out of 180 countries: Djibouti 102, Indonesia 126 and Philippines 141 (Transparency International 2009).

While there certainly are energy resources to be utilized in those countries and investment opportunities that could potentially be profitable and mutually beneficial for Icelandic

companies and the host country, there are also pitfalls to avoid, and risks that need to properly be taken into account, and risk mitigation sought when possible and feasible. This is especially important for firms from small states.

When preparing this article the author interviewed and exchanged emails with several staff members of the Icelandic companies involved. It remains entirely unclear if the IFC or any other IFI has made a commitment to support the investment projects in those countries with equity contributions, loans or guarantees. If this is true those companies could be taking excessive risks and employing an investment strategy that is aggressive and unjustified particularly in the case of REI where the owners of the company are public. High up-front development costs should also be avoided by the Icelandic partner unless the host government and the other partners, including IFIs, have formally committed themselves to a fair cost sharing. Icelandic companies, especially those with any government ownership, should avoid making commitments, spending large amounts on feasibility studies and initiating investments without having firm commitment from the host governments and the IFI partners.

Conclusions

Iceland is currently recovering from an economic crisis. Ahead are years of troubled navigation. In spite of the difficulties disengagement from international trade and investment can hardly be considered a viable option. Iceland has a well educated work force and rich natural resource endowment. Any economic growth needs to be export lead. Using capital well will be imperative.

Several Icelandic companies have been exploring opportunities in the energy sector in developing countries and emerging market economies. This can be rewarding for them as well as for partners in the host country, but cross border investment and engagement can also be risky, and sometimes dangerous, especially in developing countries with low creditworthiness and unstable political environments.

This article discussed Public-Private Partnerships and Build-Operate-Transfer projects conceptually. Those arrangements are complicated and time consuming to implement, but if well prepared, they can offer a fair and a sustainable sharing of the risks and rewards of utilizing renewable energy resources in emerging markets. Good preparation, efficient risk allocation, and reliable partners are key to success of such projects. Structuring of finance can be time consuming.

Information about PPP BOTs is not easy to find since those projects are with private sector participation and limited information is often disclosed. The Nam Theun 2 case discussed in this article, however, is a good example of how to make use of funding and risk management instruments of IFIs and how they form partnerships with the host government and the private sector. For NT2 guarantees provided by IFIs where key in lowering the project's risk profile sufficiently to attract the commercial financing needed. Thus the NT2 project is an excellent demonstration of what is possible if the public and private sectors, supported by international financial institutions, combine their forces.

Some Icelandic companies are already planning investments in the geothermal sector. Those investments looked at during this study are in the pre-feasibility and feasibility stage and the information provided is confidential and cannot be published. However the author of this article whishes to emphasize that Icelandic companies should avoid high up-front development costs in the preparation of such projects without a fair sharing of those costs and a firm commitment from the host government and the other partners involved, including the IFIs. The credit risk associated with the offtake purchaser should, for example, be of particular concern to the project company and the lenders. This is where guarantees from the host governments and IFIs, including the World Bank, become important. If risks are not allocated fairly in the beginning the stronger party will allocate risk that it does not want to bear to the weaker party, in this case the Icelandic company that has already invested in the preparation.

One reason for the current financial crisis in Iceland are mistakes made by the government. The Icelandic government has done a poor job in conducting the relationships with the private sector arms of the IFIs that Iceland is a member of (the World Bank and EBRD). Furthermore Iceland is not a member of the regional development banks AsDB, AfDB and IDB. When Icelandic companies invest abroad their choice of partners is thus limited. This can weaken their bargaining position vis-à-vis the IFIs that Iceland is a member of. The government should at minimum conduct a feasibility study that would carefully access the costs and benefits of membership in the regional development banks, particularly in the regions where Icelandic companies are most active. In this context cooperation with the other Nordic and the Baltic countries could be useful as has been done at the World Bank Group and at the European Bank for Reconstruction and Development.

Risk mitigation products offered by the IFIs can attract new financing resources, reduce costs of capital, and extend maturities by providing coverage for risks that the market is unable or unwilling to take. Limited information is available about the terms of loans, equity investments, and costs of insurances and guarantees that private sector projects get from institutions like, for example, the IFC. This information is confidential between the investors and the IFC unless the private partner chooses to make it public. However, the services of IFIs are not a free lunch and therefore the private sector partner must carefully analyze the costs of their financial products and services (loans, advisory services, guarantees, etc). Those costs must then be weighed against the potential benefits from the services provided.

Endnotes

[i] When the term emerging markets is used in this article it means countries with low or middle income according to the World Bank (see e.g. International Finance Corporation, 2006). This article thus uses a broad definition for emerging markets. If one looks at several popular textbooks in international economics and business one can find several different definitions. Michael R. Czinkota, Ilkka A. Ronkainen and Michael H. Moffet define it as economies that are "only gradually becoming integrated into the global economy." (Czinkota, Ronkainen and Moffet, 2005, p. 284). Alan M. Rugman and Simon Collinson define emerging markets as economies "marked by their rapid economic growth and changing involvement in the global economy" (Rugman and Collinson, 2006, p. 568). John J. Wild, Kenneth L. Wild and Jerry C. Y. Han define emerging markets as "Newly industrialized countries plus those with the potential to become newly industrialized" (Wild, Wild and Han, 2008, p. 473), and finally, John D. Daniels, Lee H. Radebaugh and Daniel P. Sullivan define emerging countries as "Low- and middle income country. Also known as developing country." (Daniels, Radebaugh and Sullivan, 2007, p. 749).

[ii] In addition to those services IFIs often engage in a policy dialogue with the governments of emerging market economies to improve economic policy and management. This includes reforms to improve the business and investment climate for the private sector, to promote business activities, and to encourage foreign direct investment. IFIs also provide loans and credits to various government-led projects in developing countries and emerging markets that are subject to international competitive bidding. This allows private sector firms to participate in the bidding process and potentially to benefit from those public sector projects supported by the IFIs.

[iii] For an excellent overview of World Bank Risk Mitigation Products, see Jeffrey Delmon Chapter 7 (Delmon 2009).

[iv] The Word Bank IDA has labeled the Nam Theun 2 project as a BOT project but World Bank MIGA as a BOOT arrangement (World Bank 2005, MIGA 2006).

[v] The international commercial banks were: ANZ Bank, BNP Paribas, Bank of Tokyo Mitsubishi, Calyon, Fortis Bank, ING, KBC, SG and Standard Chartered.

[vi] The Tahi commercial banks were: Bangkok Bank, Bank of Ayudhya, KASIKORNBANK, Krung Thai Bank, Siam Ciry Bank, Siam Commercial Bank and Thai Military Bank.

[vii] Recently the IFC and Reykjavík Energy Invest signed an agreement for joint exploration and development of geothermal resources in Djibouti in Africa that will help address the country's power shortage and reduce carbon emissions (International Finance Corporation 2008). However, Reykjavík Energy Invest in not a typical private sector company. REI is the international business development and investment arm of Reykjavík Energy.

[viii] The Doing Business team has developed 10 indicators to assess the business and investment climate in countries. The 2009 Doing Business report included 181 countries. An extensive database has been developed and several research papers have been written and published to strengthen the methodology used. All this and more is available on the doing business website www.doingbusiness.org. Clearly this work can be useful for those companies who intend to invest in emerging market economies and want to know where the business and investment climate is getting better.

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