Landsvirkjun

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The Energy Industry – New Business Structure

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In this presentation I will describe the global energy market with reference to Iceland, the Icelandic energy and electricity market and consider its future prospects.

Global

Despite increasing emphasis on environmental affairs in all areas, the global energy market is showing no signs of decreasing its reliance on fossil fuels as the main energy source for electricity production in the decades to come. The use of hydro which is renewable and emission free is not growing proportionally. (Pic 1)

This is not encouraging in light of how the international community intends to come to grips with global warming due to the greenhouse effect. The Kyoto Protocol from 1997, will put restrictions on CO2 emissions for developed countries during the years 2008 to 2012, based on their emissions in 1990. Iceland got recognition at Kyoto for its outstanding track record in reducing emissions prior to 1990 by being allowed to increase its emissions by 10% from 1990, more than any of the affected countries. Despite this, Iceland has as yet not become a signatory of the Protocol. Amendments are scheduled in the near future, and one unresolved issue is the proposed "Icelandic clause" in the Protocol, put forward by the Icelandic Government. It allows small economies to exclude large industrial projects from their emission quotas, if by implementing them, emission free energy resources will be harnessed with a demonstrable net reduction of emissions on a global scale. (The main argument for this clause is that imposing the quotas will entail inequality among small and large economies, since the strict quotas will make individual large-scale projects impossible for small economies due to their proportinally large impact on their total emissions.)

A positive outcome in this matter is essential for Iceland, since the contracts already made with power-intensive industries cause the country to exceed the limitations put on emissions by the Kyoto Protocol. The outcome is also important for producing positive results in the fight against the greenhouse effect, since a trend for industry to move its operations into areas not affected by the Protocol is already apparent. Thus, it can be seen that in the last 10 years, new aluminium production capacity uses coal and other fossil fuels to a much greater extent than before, thereby increasing emissions greatly. (Pic 2).

A sensible solution for this issue is therefore essential for the future development of Iceland's pollution free and sustainable energy resources. To drive home the importance of this from the global perspective, one can point out the differences in emissions due to electricity production in different countries and the effect on the choice of energy sources on the total emissions involved in aluminum production and the electricity needed depending on the energy source. (Pics 3 & 4)

Iceland

Iceland has huge natural energy resources that have been successfully utilized to make the country in practical terms self-sufficient for energy in all sectors except transport. Total primary energy use in Iceland can be broken down into geothermal heating (40%), hydro (30%) and fossil fuels for transport and industry (30%). (Pic 5)

The largest single energy source at present is geothermal energy, primarily for heating. The extent of this utilization is unique to Iceland and made it possible for the country to drastically reduce the oil bill during the oil crises in the seventies. The geothermal district heating sector is run by municipal and government utilities which are beginning to be integrated into power companies and are merging into larger units. However, geographical restrictions will always affect this development, since it is technically impossible to transport hot water and steam farther than 25-50 km. An integrated system like modern power or telecommunication systems is simply not in the picture for geothermal energy.

Landsvirkjun, or the National Power Company, is the leading electricity producer in Iceland and owns and runs the national grid. The company sells electricity to power-intensive industries and wholesale to utilities. Its share of the primary energy consumption in Iceland is on the order of 18%. Over the period 1995-1997, Landsvirkjun finalized new power sales contracts with three power-intensive industrial users, which entails a 50% increase in electricity production between 1996 and 2000. The Company is currently in the final stages of a USD 300 million investment programme to meet this new demand. (Pic 6)

As a result of foreign investment in power-intensive industries over the last three decades, about 65% of the electricity production goes to power-intensive industry and only 35% to the general market. Despite this, Icelanders have a very high level of private consumption. The high portion of power intensive industries is more due to the size of our energy resources and our policy of promoting their utilization in industry with only 15% of the potential utilized so far.

Economically harnessable electricity from hydro sources in Iceland, taking environmental factors into account, is estimated at around 30 TWh per year. It is estimated that an additional 20 TWh of electricity can be produced using geothermal power, although this figure represents only a fraction of the potential of this resource, which is generally best suited for space heating and industrial steam. (Pic 7). The total electricity production potential of Iceland is therefore around 50 TWh per year which is almost half of the electricity production in Norway. Since this potential is totally based on emission-free and renewable resources, Iceland's electricity production is more environment-friendly than that of most other nations.

Electricity Maket

The Icelandic electricity market, which is our main focus for today, is rather small by international standards in actual figures. The total turnover in 1996, including sales to power intensive industries, amounted to USD 285 million.

Despite only having an 18% share of the energy market, as I said before, Landsvirkjun nevertheless produces over 90% of the country's electricity and owns and operates the national grid. In 1998, the Company's total sales amounted to USD 130 million with total assets being around 1.3 billion dollars. Landsvirkjun is jointly owned by the Government, the City of Reykjavík and the Township of Akureyri. The players in the electricity market other than Landsvirkjun are state and municipal utilities that primarly handle distribution and sales. Many of these utilities are also involved in geothermal district heating. The two largest ones had turnovers of 105 and 68 million USD in 1998. (Pic 8)

We are watching with interest the developments in the power sector in other countries. Iceland is a party to the EEA Agreement and is as such subject to the EU directive on the electricity industry which calls for separation of generation, transmission, distribution and sales. The current political athmosphere in Iceland is clearly in favor of deregulation. However, the direction and extent of this has not yet been decided. The municipal agenda is more difficult to predict. Some municipalities seem quite keen to free capital now tied up in distribution companies, while others have expressed interest in maintaining and even increasing their stake in the sector as a whole.

Future Scenario

Deregulation

Should we look to change an industry that has been delivering competitively priced electricity to both the public and industrial markets in Iceland? The answer is, of course, that deregulation is likely to offer more choices and therefore more influence to the consumers. (Pic 9). New ways of marketing electricity to individuals and industries could be explored. We could see new entrees into the electricity sector. Such parties might enter either via new power projects or by purchasing stakes in existing players in the market. Finally, we see this as a more stimulating working environment in the industry.

What are the main benefits to be derived from deregulation compared with the current structure? (Pic 10) A study of the Icelandic power sector done by Resource Strategies Ltd., an international management consulting company, concluded that the main benefits of deregulation in Iceland were to be derived from new sources of finance into the sector and from improved investment decisions. At the same time, the study concluded that deregulation would have very limited effects on operating efficiency and thus, consumer pricing. The study further said that the potential for any significant downward movement in industry costs by removing the socio-political burdens was quite modest in Iceland's case.

It's clear that deregulation has been implemented successfully in many countries, not least in the Scandinavian region. However, there are few special challenges to be dealt with in Iceland in this respect. (Pic 11) As said before, around 65% of the electricity is sold to power intensive industries on the basis of long term contracts. And they extend as far as well into the second decade of the next century. The issues here are primarily two; The small size of the potentially competitive local market and how to price transmission to power intensive industries.

Another challenge is that hydro is the dominant source of electricity in Iceland. The issue here is high price volatility due to variation in water storage and flow of rivers, because either all or none future generation companies will have ample production possibility at each time.

Iceland has no link to the European grid as yet. This is challenging from a competition standpoint, since around 70% of the generation is located in the same river basin. As we know from Norway and Sweden, cross border trade was one of the key success factors in establishing competition on the generation side. The reason is that the biggest generation companies in the two countries, Statkraft and Vattenfall, had a dominant market share in their home markets. As we can see, geographical situation creates market dominance here in Iceland and this is unlikely to be solved without links to the outside.

I will finally mention that the electricity system in Iceland is very young, with most of the assets being constructed after 1965. Some key players, such as indeed Landsvirkjun, are heavily indebted as a result of the rapid build-up, but enjoy guarantees from their owners. Landsvirkjun for instance, primarily as a result of it's guarantee structure, has a credit rating of Aa3 from Moody's and A+ from Standard & Poor's. It's clear that guarantees will be revoked if the industry is deregulated, and this could affect the ability of the capital intensive generating industry to offer competitive electricity prices

Implementation

In view of the challenges I have now pointed out, the implementation of competition is likely to be incremental in the Icelandic market. The first step in the process would be incorporation of the electricity sector. At Landsvirkjun we are currently starting preparations for Landsvirkjun to be incorporated as early as 2002. It's furthermore likely that a holding company will be created. This holding company would own at least two subsidiaries, Landsvirkjun Generation and Landsvirkjun Transmission. The transmission in this case would consist of the transmission assets currently owned by Landsvirkjun. We are currently in the process of analysing how generation and transmission can best be separated in this respect and expect the formation of Landsvirkjun Holding to be carried out parallel to the incorporation of the company. We intend to work closely with the rating agencies to ensure that the credit quality of Landsvirkjun will not be seriously affected by the proposed changes. Competition is likely to be introduced at the margin, i.e. for new demand such as new power intensive industries. Therefore we don't see new capacity for direct competition in the existing public market being created at the outset. It is however likely to develop over time.

As said before some of Landsvirkjun's owners have expressed interest to sell their share in the Company. It is therefore likely that a public offering of some ownership stake will take place shortly following the incorporation. The IPO could be targeted towards both domestic and international markets

The distribution utilities are likely to be incorporated over the next few years as well. Since many municipalities will be eager to free up capital, a round of public offerings can be anticipated in that sector. Distribution companies are likely to continue to have monopoly status in their regions following their incorporation. It's however inevitable that the market will force out that status over a period of few years and full separation of distribution and sales will prevail.

Finally, ladies and gentlemen. As you can see, the near future holds exciting times for companies in the energy sector of Iceland. I am sure you will agree that both local and foreign investors will have interesting opportunities for taking part in the changes ahead.