

Power and Business

Electricity in Hong Kong is supplied and distributed by two private power companies under the government’s scheme of control. Looking ahead, the Administration has invited views from the community particularly on future fuel mix, supply and demand, competition and continuation of the scheme of control. Given the importance of electricity supply to business and to livelihood, and the impact on the economy of any policy change, ICC-HK has offered comments on the Administration’s consultation papers.

On Future Fuel Mix for Electricity Generation

Purpose

The first consultation aims to facilitate planning for the necessary infrastructure to meet future electricity demand when existing coal-fuel generating units start to retire from 2017, and to achieve environmental targets for 2020.

In this regard, the Paper proposes two Options:

FUEL MIX		IMPORT		NATURAL GAS	COAL (& RE)
		NUCLEAR (DBNPS)	GRID PURCHASE		
Existing (2012)		23%	0	22%	55%
Option 1	Importing more electricity through purchase from the Mainland power grid	20%	30%	40%	10%
		Total : 50%			
Option 2	Using more natural gas for local generation	20%	-	60%	20%

Guiding Policy Objectives

According to the Paper, the government’s policy objectives of power supply are safety, reliability, affordability and environmental performance, but pursuit of any one or more of these objectives may be conflicting with one another. It is mentioned that efficiency and the future regulatory framework for the post-2018 electricity market are also important considerations. The issues under discussion are reliability, affordability and environmental performance.

Reliability

Hong Kong's stable electricity supply over the years by the power companies and under the government's regulation can be said as unparalleled. The cost of electricity to consumers is low compared to many rival cities. Also, a reason contributing to this is, power is supplied from local generation and transmitted direct to the user, particularly given Hong Kong is a small territory. Even in the case of nuclear power from the Daya Bay nuclear power plant, electricity is transmitted to Hong Kong through a dedicated supply line. To import 30% of power Hong Kong requires from an external grid, as Option 1 suggests, in this case China South Power Grid Co Ltd (CSG), will change the picture as problems can be foreseen to arise. The CSG grid covers 5 provinces in China Mainland and its extensive aerial coverage will be a factor reducing stability / reliability of supply. A significant portion of power generated for CSG is from hydroelectricity in the South West of the Mainland, dependent on rainfall and subject to climatic change. CSG is already encountering power supply shortage and instability for its Mainland customers. With the anticipated growth of the Mainland economy, urbanization and the Central Government's policy emphasis on consumption, plus rising quality of living, it can be inferred that the Mainland's demand for electricity will increase substantially. CSG provides the majority share of grid electricity to Macau, and according to information available, it has been pointed out by senior staff of Macau's electricity company that Macau's electricity supply is less stable than Hong Kong's, although prices have risen a few times in recent years. It is on the other hand, reported that the Macau authorities responded that incidents of interruption in 2014 were due to Macau's own transmission lines, following concern about the news relayed to Macau expressed by CSG. Given such contradicting information, it is clear more information would have to be provided to the public who are concerned about stability of power if grid power would be supplied by CSG. Meanwhile, one should consider that Macau's electricity demand is smaller than and different from Hong Kong's, and the gravity of a power failure could be much more serious for Hong Kong. Technical issues such as grid matching between CSG and strengthening Hong Kong's reserve power capacity necessitated by importing external grid power have to be studied too.

Environmental Consideration

Obviously importing instead of generating power in Hong Kong will reduce domestically produced pollution. The story however, does not end there. The main fuel of power generation in the Mainland, including CSG, is coal. As Hong Kong imports more grid power from CSG, CSG will have to burn more coal. In other words, the result will be not only more pollution in the Mainland, as we shift our responsibility of supplying power to CSG, but also Hong Kong may likely face more pollution than using gas ourselves to

generate electricity, as wind will bring polluted air to Hong Kong from the Greater Pearl River Delta. Moreover, shifting power generation from Hong Kong to the Mainland will not improve overall carbon levels, a major concern for environmental sustainability. It has been pointed out that the provision of hydroelectricity - building and operating the plant - need not be environmentally friendly, and that applies to the case of CSG. Safety of additional nuclear power generated nearby Hong Kong will be a public concern. While the Central Government's policy is to cut pollution including reducing coal as fuel, it is not clear the extent or the timeframe when clean fuel will be extensively used. Overall, therefore, Option 1 does not meet Hong Kong's environmental objectives.

Cost and Price

The Paper states that "the price difference between the 2 Options is not substantial", but admits that "the unit cost of imported grid electricity will roughly double the unit generation cost over the 5 years from 2008-2012". Without details being available, it is difficult to accept the proposition and the assumptions behind. The huge cost of grid electricity infrastructure to be incurred because of connecting to the CSG grid raises the question whether money could be better spent. Moreover, importing grid electricity will necessitate appropriate local reserve capacity which may incur cost by the power companies.

It is said that Hong Kong's requirement is only about 2% of CSG's total supply. As CSG grows in capacity, this percentage will drop over time. We hope it is not, as mentioned by a senior government official, because CSG will have surplus grid power by 2020 that Hong Kong will have to buy from them. On the other hand, we are concerned about Hong Kong's negotiating ability with CSG in reaching a purchase-sale agreement. Moreover, CSG is a Mainland government body, and it may be appreciated that the priority of power supply is to provide accessible supply to Mainland customers at State set prices. If Mainland policy in future is to allow market forces play, Hong Kong as a small customer of CSG will have a difficult task to negotiate a deal. Finally as the exchange value of RMB rises against the Hong Kong dollar, Hong Kong will face a bigger price increase. The past years have already witnessed the Hong Kong dollar devaluating versus the RMB, a cause of steady inflation and higher cost of living in Hong Kong.

Demand and the Economy

The growth in electricity demand in Hong Kong nowadays is much lower than the industrialization day years ago. The Paper's estimate of an average annual growth rate of 1 - 2 % to 50 billion kilo-watt hours in 2023 needs clarification. The intention to import grid power has to be looked at in this light. With improved technology and energy saving, growth in demand may slow down even more.

Further, the substantial infrastructure investment required under Option 1 to transmit grid power from CSG to Hong Kong can instead be deployed to strengthen Hong Kong's efficiency and service in power supply to the benefit of Hong Kong consumers. In addition, generating additional power in Hong Kong is local investment producing a multiplier effect beneficial to the Hong Kong economy, whereas importing grid power is a constant net outflow of hard currency from Hong Kong. Finally, at a time when the government stresses the importance of innovation and technology, it is puzzling that Hong Kong should undervalue its own power generation competence, and limit opportunities for its talents in related technician trades and professions.

Methodology

The Paper seeks views on the future fuel mix. However, importing grid electricity is not a matter of changing fuel mix, but is importing a finished product. Option 1 therefore goes beyond the terms of reference.

It is reported that CSG and the consultants engaged in the study in question were formerly of the same Mainland governmental organization. Although they are now separate entities, the linkage does raise questions about the impartiality of the works of the consultants.

Open Market and Control

The Paper talks about bringing in competition. Competition is not absolute, but depends on the nature of competition and the market environment. There are industries which could be better run as regulated monopoly for the consumer and for minimizing economic waste. In the electricity market, experience elsewhere shows that competition does not necessarily benefit the consumer in terms of cost. If Option 1 were chosen, that is importing grid electricity from CSG, one might pose the legitimate question how the government would regulate an external provider of power in the interest of the consumer.

To go further when the Administration talks about competition, it is not clear that it refers to competition in the fuel market, the power generation market or the power transmission market. For the purpose of this exercise, the government should take steps or should have taken steps, to identify more sources of gas supply. While the prices of different fuels are bound to fluctuate for economic or political reasons, new discoveries and technological advancement will in the long term stabilize price in the international market. Thus Option 2 allows great flexibility for Hong Kong in fuel supply and generation capability against which the government will proceed to the 2018 review.

If it is the intention to separate electricity distribution from generation, is the Administration going to open up the distribution market for competition? If distribution right is awarded by open tender, there will be only one grid company buying electricity from power generation companies. Thus, another monopoly will be created which the government still has to regulate. If the grid company is a party outside Hong Kong, the government will have to face the issue how to regulate an external party, probably a Mainland governmental body, and how the Administration's intervention in negotiations to buy and to manage external power supply will achieve a satisfactory conclusion. Or is the Administration thinking of nationalizing electricity distribution? In any case, we consider that the Administration should not deal with the future electricity market within the context of the present fuel mix consultation exercise, without a full public consultation separately. In any case, Hong Kong's generation capability has to be taken into account before importing grid power should be contemplated.

Given the foregoing considerations, and looking ahead of future opportunities, Option 1 is not the choice. The government shall examine the issues further for the long term without relinquishing the question of importing power supply, but to consider separately fuel mix as claimed in the Paper on the one hand, and the electricity supply market on the other.

On The Future Development of the Electricity Market

The development of the electricity market is dependent on a number of variables, not the least is the growth of the Hong Kong economy in future. It will be helpful if the Administration can provide economic forecast up to 2028 when the new scheme of control will end. For the time being therefore, we can only prudently guesstimate that economic growth in the coming years will be slow, and continue to be low in energy intensity. Electricity generation on the other hand is a contributor to economic growth and employment; therefore, it should not be substituted with electricity import which is a leakage in economic terms, unless local power generation should become uncompetitive. In consideration of this, we believe two issues should be studied; firstly, the optimum rate of local electricity generation versus import, and secondly how the government will facilitate the competitiveness of local power generation. In this connection, import should also include power supply from Daya Bay Nuclear Power Station.

Throughout the Consultation Paper, stress is placed on introducing competition in the electricity market. Presumably the intention is to give more choices to consumers. Electricity is a homogenous good, and if there is to be competition, this will relate to price or customer service. In Hong Kong large scale competition is unlikely unless the

government allows electricity import on a grand scale. Local distributed renewable energy could be considered to be a form of competition, but the scale is likely to be insignificant. On the other hand, the four guiding principles of electricity supply set out in this and the previous Papers are most important and how competition will further these deserve careful study. If under current regulatory control, Hong Kong has achieved the desired results, we would have to question why the Administration insists on bringing in external competition. Similarly, what choice could be given to the consumer if his need is satisfied under the regulatory regime. Competition is not an absolute value and imperfect competition can be a disservice to the consumer. It may be more beneficial to the community to have effectively regulated power supply than to create open competition. Particularly Hong Kong is a small territory, and the sort of competition elsewhere may not be applicable here. Therefore, the regulatory framework in the form of the scheme of control is preferred, and should continue. If refinement can further advance the objectives of the four guiding principles, it will be even better. At the same time, the future scheme of control should take into account the following:

- a) attractiveness to investors, having regard to worldwide oversupply of liquidity, weak demand and uncertainty of interest rates;
- b) attractiveness to quality management of power providers;
- c) the need of consumers in respect of the 4 principles, and
- d) government facilitation to sourcing competitive supply of natural gas.

With regard to fuel mix, reverting to 60% natural gas as suggested in the earlier Consultation Paper will still provide the flexibility sought in the Paper. Renewable energy will play only a small part in fuel mix and displacement of coal is only a question of time. Moreover, the Administration would have to study the ramifications of renewable energy in the grid and how imported electricity will deliver through the grid. Meanwhile, all the power supply of Daya Bay Nuclear Power Station may be sold to Hong Kong.

We fully support demand side management provided the measures are reasonable, practical and not harassing to the consumer. In this connection, the Administration should attend to extensive and huge neon signs and lighting which according to many add up to light pollution.