ENERGY ADVISORY COMMITTEE

Electricity Market Review:
Review of the Scheme of Control Agreement Arrangement

The Issue

To review the strengths and weaknesses of the existing Scheme of Control Agreement (SCA) arrangement in meeting electricity demand in Hong Kong.

Background

2. In Hong Kong, electricity supply is provided by two investor-owned power companies – The Hongkong Electric Company, Limited (HEC) and CLP Power Hong Kong Limited (CLP Power). Apart from safety regulation, the power companies are subject to financial monitoring under a SCA arrangement.

The SCA Arrangement

3. Under this arrangement, each power company has an individual Agreement (SCA) with the Government. The SCA sets out the obligations and rights of the power companies, but it is not a franchise nor does it provide exclusive rights. Under the SCA, the power companies are obliged to provide sufficient facilities to meet present and future demand for electricity, and provide reliable and safe supply of electricity at reasonable prices. For the Government, the SCAs provide the framework for monitoring the power companies' affairs to safeguard the interests of consumers.

4. Among other things, the SCAs-

(a) include an agreed basis for determining the permitted return that the shareholders of the power companies can earn each year for generating and supplying electricity;

(b) require the power companies to seek the approval of the Executive Council for certain aspects of their financial plans including projected tariff levels, and the agreement of the Government to each year's tariff; and

(c) subject the technical and financial performances of the power companies to annual auditing review conducted jointly by the Government and the power companies.

5. Each SCA runs for 15 years. The current SCAs, with provision for two interim reviews in 1997/98 and in 2003, will expire in 2008 (30 September for CLP Power and 31 December for HEC). During the interim reviews, the parties to the agreement have the right to request modifications to the SCA. Modifications, however, can only be put into effect if they are agreed to by both sides. We have since conducted the two interim reviews.

Strengths and Weaknesses of Current Regime

(A) Strengths

(a) Clearly Defined and Consistent Regulatory Regime

6. The electricity supply industry is capital intensive, involving substantial high cost investments with returns coming through over prolonged periods of time. The SCAs provide a consistent regulatory framework over a 15-year period, on the basis of which investors could, in the light of clearly defined obligations and rights, decide and make their investments according to demand. In the past 20 years (i.e. from 1983 to 2002), both power companies have made substantial investments in their supply infrastructure to meet continued growth in electricity demand.

(b) Incentive for Investment to Meet Demand and Maintain Supply Reliability

7. Permitted returns for the power companies under the current SCAs are based on average net fixed assets (ANFA), providing at once an incentive for the power companies to invest in electricity supply systems to meet growth in demand. Continued investments in generation and network facilities have been instrumental to meeting electricity demand which grew in tandem with and supported the rapid economic development in Hong Kong during the past several decades. General consumers have also been enjoying very high supply reliability level (of over 99.99%), which is among the highest in the world, and shortage in electricity supply is almost unheard of in Hong Kong.

(c) Low Cost of Financing for The Power Companies

8. The SCAs have contributed to the credit ratings enjoyed by the power companies and the enhancement of their ability to obtain large financing contracts on favourable terms. The current credit ratings of HEC and CLP Power are broadly comparable to those of the Government. This works to the benefit of the consumers as well, since finance cost is inevitably reflected in the tariff charged by the power company.

(d) Low Administrative Costs

9. The Government exercises relatively light overall control with high-level monitoring on issues pertaining to the SCA arrangement. The power companies can therefore run their day-to-day operations in accordance with company principles and commercial considerations.

10. In various parts of the world, heavy-handed regulatory control is exercised by the relevant authorities over power companies. The licensing process in the UK and Australia, and the lengthy tariff review process in some parts of the United States are some examples. Under the current SCAs, the two power companies in Hong Kong are only subject to the Tariff Review and Auditing Review on an annual basis and periodic Financial Review which covers their Financial Plans for a period of at least five years. The consequential administrative costs to both the Government and the local power companies are therefore much less.

(e) Tariff Stabilization

11. The SCAs feature various mechanisms, such as the Development Fund (DF), the fuel clause account, which serve as cushions against tariff fluctuations. The net tariff freeze of HEC in 2003 partly brought about by transfers from the DF, and that of CLP in 2004 partly brought about by a fuel clause rebate are examples of these mechanisms at work.

(B) Weaknesses

(a) Lack of Flexibility in Adjusting the Permitted Returns

12. The current SCAs provide the power companies with a permitted return of 13.5% on their average net fixed assets (ANFA) relating to the electricity business in Hong Kong, plus a further 1.5% where assets are financed by shareholders' funds.

13. These rates, considered exorbitant in the economic climate of recent years, have been the subject of much criticism. The current SCAs were signed in the early 1990s when Hong Kong experienced high inflation and political uncertainty due to the then imminent change in sovereignty. The permitted returns agreed at that time might have reflected the then projected business environment, but is considered generous in recent years. The Government had proposed to reduce the permitted return in the two interim reviews in 1997/98 and 2003, but the two power companies rejected the proposals. The permitted return rates therefore stand as they have been since 1993, as modifications to the SCAs can only be put into effect with the agreement of both sides.

14. Shortening the regulatory period might be a means to enable the rate of permitted return to better reflect the changing and/or prevailing economic environment. However, more frequent review will increase the administrative burden and create regulatory uncertainty for the power companies which might in return affect their incentives to invest.

15. We have not succeeded in the interim reviews to link tariff (which covers both the permitted return and operating costs) to economic indicators such as Consumer Price Index (CPI) under the common CPI-X type of performance-based ratemaking (PBR) regime, as is the practice overseas for regulated electricity supply services. To do this, monitoring mechanisms and performance targets would have to be in place to prevent power companies squeezing operating efficiency to maintain the permitted returns and putting supply reliability on the line.

(b) Incentive for Over-investment

16. Under the current SCAs, new infrastructure will mean additions to asset base and attract permitted return for the power companies. This allegedly has provided an impetus for the power companies to put in facilities which may not be necessary and/or fully required.

17. One means to address this shortcoming is to 'delink' return for the company from asset. A PBR regime such that return to the company is also linked to efficiency and performance targets, or a return on equity or ROE regime which uses shareholders' funds (i.e. equity) as the basis are some of such candidates. These alternatives are however not without their own limitations.

(c) Unequal sharing of Investment Risk Between Consumers and the Power Companies

18. The power companies build new plants and facilities to meet forecast demand, but the existing return earning mechanism is not directly related to the actual utilisation and performance of these assets. The current SCAs do provide for capital investments to be critically examined by the Government and its consultants, actual growth in demand might nevertheless not be as that forecast (due to unforeseen circumstances such as changes in economic development and/or load consumption pattern shifts), as a result commissioned plants and facilities might not be fully utilized. Moreover, while a mechanism is in place whereby the two power companies do not earn full return[1] on any such 'excess' capacity, consumers are nevertheless required to pay, through tariff, all other costs (e.g. depreciation, operating costs). Furthermore, the mechanism does not apply to network developments. Investment risk is therefore perceived to be largely borne by the consumers rather than the power companies.

(d) Insufficient Transparency

19. Perceptions and speculations of over-investment and unreasonable tariff increase by the power companies are largely due to the public not being apprised of demand forecasts and system development plans of the power companies — information opined to be commercially sensitive and kept strictly confidential by the power companies.

20. This concern could be addressed at least in part by more information disclosure and/or transparency enhancement, while giving due regard to factors such as commercial sensitivity and proprietorship.

[1] 40% of the mechanical and electrical equipment costs of the excess capacity will be deducted from ANFA. In the 2003 Interim Review, HEC agreed to increase such deduction rate to 50%.

(e) Lack of Mechanism for Promoting Cost Efficiency

21. The current SCAs do not include incentive for the power companies to enhance operational efficiency and/or service quality-

(a) the power companies have, on their own, initiated action to improve operational efficiency such as reduction in headcounts. These initiatives are however not related to optimising utilization of assets; and

(b) to maintain service quality and supply reliability, the focus has been on building new plants and facilities (which increases the asset base) rather than implementing system efficiency improvement measures, such as additional reserve capacity sharing, more economy power exchange, increased firm power purchase, integrated generation resources planning, etc. (which could bring benefits to consumers through tariff reduction).

22. Financial incentives, such as provision for retention of the savings achieved, might be built into the price control mechanism to provide impetus for more 'aggressive' measures.

(f) No Specific Requirements to Provide Non-discriminatory Third Party Access to Grid

23. There is no specific provision in the current SCAs that requires the power companies to provide non-discriminatory access to their power grids by third party users. There might not be an imminent need for such provision when the SCAs were signed, and indeed even as of today. The grid is nevertheless a hurdle, and non-discriminatory access is critical, to the development of alternative energy sources and entry of new players into the electricity market.

Observations

24. The SCA arrangement has been in place for regulating the electricity supply sector for almost 40 years. It has been the instrument for making available reliable and adequate supply of electricity to consumers in Hong Kong, and for providing a stable and clearly defined regulatory environment for the

two power companies to invest and operate to meet their obligations to the consumers. But the arrangement is not without drawbacks, and criticisms of the current SCAs arise from time to time.

25. In formulating the future regulatory framework for the electricity supply market in Hong Kong, further consideration should be given to see whether and how the weaknesses of the current SCA arrangement might be addressed and the strengths enhanced in the new regulatory regime.

Advice Sought

26. Members are invited to offer their views on the strengths and weaknesses of the SCA arrangement and possible improvements in these areas so that we will take this into account in preparing the options for the post 2008 regulatory regime.

Economic Development and Labour Bureau
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