

**For information on
23 November 2015**

Legislative Council Panel on Economic Development

Future Development of the Electricity Market

PURPOSE

This paper informs Members of the views received during the public consultation on the future development of the electricity market conducted from 31 March to 30 June 2015.

BACKGROUND

2. Electricity in Hong Kong has all along been provided by two privately-owned power companies, viz. the CLP Power Hong Kong Limited and Castle Peak Power Company Limited (referred to collectively as CLP), and The Hongkong Electric Company, Limited (HKE). The regulation of the two power companies has been exercised through the Scheme of Control Agreements (SCAs). The SCAs do not give the power companies any exclusive rights to provide electricity in Hong Kong. Rather, they set out the rights and obligations of the power companies, and the returns for shareholders of the power companies and the arrangements by which the Government monitors the electricity-related financial affairs of CLP and HKE, and their reliability and environmental performance in providing electricity.

3. The current SCAs between the Government and the two power companies will expire in 2018. Following a review of the electricity market conducted with regard to the four energy policy objectives of safety, reliability, affordability and environmental performance, and the goal to introduce competition to the electricity market when the requisite market conditions are present, the Administration launched a three-month public consultation on 31 March 2015 to solicit public's views on the future development of the electricity market. The consultation document has set out an analysis of the market readiness to introduce competition and the preparatory work required to pave the way to introduce competition. We have also proposed possible options to

improve the current regulatory arrangements, and laid out our plans to implement the fuel mix for electricity generation in 2020 having regard to the views received during a separate public consultation conducted earlier on the subject.

4. To encourage the public and stakeholders to provide their views, radio and TV APIs were launched and advertisements were placed on newspapers, MTR stations and social media etc. to publicise the consultation. Over 25 engagement and consultation sessions were held with various stakeholder groups, including the academia, chambers of commerce, professional bodies, think tanks, political parties, green groups, Legislative Council Panel on Economic Development and advisory bodies. A public forum was held on 23 June 2015.

5. A standard response form setting out the consultation questions (see **Annex**) was included in the consultation document.

SUBMISSIONS RECEIVED

6. We received a total of 15 762 submissions, of which 15 496 were from individuals and 266 were from organisations. Among these submissions, 5 381 submissions were submitted in response to the online campaigns organised by the World Wild Fund Hong Kong and Friends of the Earth. These submissions were in different template formats as published on their websites, and the views therein concerned mainly the regulation of the electricity market, development of Renewable Energy (RE) and distributed power generation, as well as promotion of energy saving and carbon reduction etc.

KEY FINDINGS

7. The consultation document put forward questions on various major issues regarding (a) introduction of competition, (b) future regulatory framework and possible areas for improvement, and (c) the development of RE and demand side management (DSM). The key findings are set out in the ensuing paragraphs.

Competition

8. On the importance of choice, the majority of the respondents¹ considered that currently the power supply in Hong Kong was reliable and safe at affordable price, and they did not see a need for introducing competition for the sake of bringing in choices. Some respondents considered that while choice had its merits, the requisite conditions for introducing competition were not present at this stage. Noting that overseas experience had shown that introducing competition delivered mixed results and might not necessarily reduce the tariff level, some reckoned that the Government should study the issue carefully before introducing competition to Hong Kong's electricity market. While recognising the importance of choice, some respondents considered that reliability and safety of electricity supply were of utmost importance and competition should be introduced only if it brings benefits to consumers without compromising these two important objectives. Some respondents considered that choice was important to enable users to select the supplier who could best suit their needs.

9. As regards the objectives of introducing competition, over half of them were of the view that reliability and affordability were the key objectives for introduction of competition. Around one-fourth of the respondents considered that safety should be achieved through introducing competition. Other objectives suggested to be achieved included improving environmental performance, enhancing customer satisfaction, achieving fairness, allowing consumer choices and promoting the adoption of RE.

10. Political parties, statutory bodies and green groups were generally more supportive of the introduction of competition. Some criticised the lack of progress on this front, and advocated segregation of generation and transmission & distribution (T&D) and other preparatory work be pursued in order to introduce competition. While some supported a gradual change in the current system, there was also a suggestion that competition should be introduced in 2023 and an independent advisory body established to oversee the process. A number of respondents considered that competition should be introduced at the generation level. Some green groups reckoned that the lack of competition had discouraged the use of cleaner energy.

11. The business sector was in general less positive about the

¹ Unless otherwise stated, the quantifier refers to those respondents who gave views on the issue.

introduction of competition. Many private corporations considered that the performance of the power companies had been satisfactory and did not see the need to introduce competition to bring in choices. Quoting overseas experiences, some were skeptical about the benefits of introducing competition and cautioned that it should not be pursued at the expenses of other energy policy objectives. Some considered that choices could be introduced within the existing regulatory regime through providing consumers with different tariff and payment plans. These views were shared by some academics.

12. CLP considered that the benefits of competition had yet to be proven and more detailed analysis was needed. It noted that there were other ways to introduce choices within the existing regulatory framework, such as by providing different tariff options to customers. HKE considered that the prerequisites for introducing effective competition were not present due to insufficient market size and scarce land supply.

Regulatory Arrangement

13. On the regulatory arrangement, almost all respondents considered that the current contractual arrangement by SCAs had generally worked well and allowed us to achieve the energy policy objectives. The same view was echoed by various stakeholders, including the academia, business sector and professional bodies, as well as the two existing power companies. However, there was also a view that legislation should be introduced to set up a licensing regime to facilitate separation of generation and transmission businesses in future.

14. About half of the respondents considered that improvements should be made in respect of such areas as the level of permitted rate of return (RoR), mechanism to promote energy saving, promotion of distributed RE, monitoring of power companies' investments and carbon reduction etc.. Similar comments were made by various groups of stakeholders, including political parties, green groups and academics. More specifically, some respondents noted that the current SCAs allowed the two power companies only to earn a return from their RE investment but provided no incentive to small-scale distributed RE generators. Some respondents commented that the SCAs did not set out the terms of grid access arrangements for distributed RE producers. Some respondents considered that improvements should be made to monitor the investment of the two power companies to avoid over-investment in generating units, resulting in excessive reserve capacity and high tariff. Some noted that the current mechanism to encourage promotion of

energy saving by power companies was not effective. Some respondents remarked that the current regime did not help facilitate the introduction of competition and lacked transparency. Some suggested that an independent advisory body should be established to regulate the electricity market, while some suggested that consumers should be represented in the regulation and development of electricity market.

15. HKE did not see a need to make any unnecessary changes to the current SCA regime, while CLP in principle supported that the current contractual arrangement should be maintained but accepted that changes needed to be considered to facilitate more RE, energy efficiency and DSM.

Future Contractual Arrangement

16. Various views on the key features of a future contractual arrangement between the Government and the power companies are set out below.

(i) Duration

17. The majority of the respondents agreed that the duration of the future contractual arrangement should be maintained at ten years, with an option exercisable by the Government to extend for five more years. They reckoned that this duration had struck a right balance between the need to allow long-term planning by the power companies and the need to maintain flexibility for introducing possible changes to the electricity market in future.

18. Some respondents considered that the duration of the SCAs should be lengthened, in order to provide more certainty to attract investment in upkeeping supply security. CLP considered that the duration of the new SCA should be similar to the current one and should be in the order of 15 years. HKE considered that 15 years was the most appropriate duration, and that a ten-year term was insufficient to allow effective planning. Only a small number of respondents considered that the duration of the SCAs should be shortened, so as to allow flexibility for making timely adjustment to the contractual terms having regard to market conditions and for introducing competition.

(ii) RoR

19. Views were divided on the level of return that should be

allowed for the power companies in the future regulatory arrangement. While more than half of the submissions supported maintaining the RoR at the current level of 9.99% to provide the necessary incentive to the power companies to make investment, many stakeholders, including some political parties, academics, statutory bodies, advisory bodies, suggested that the RoR should be lowered in view of the low-interest rate environment and the low business risks of the power companies' investment. Among those who held such views, some considered the range of 6% to 8% mentioned in the consultation paper about right, while some suggested a level between 8% and 9.99%. A relatively small number of respondents suggested a rate below 6%.

20. The business sector generally considered it important to provide a reasonable return to the power companies to attract capital investment, with some suggesting that the level of RoR should be considered together with other terms of the new contract. They considered that the RoR should be sufficiently high to attract investment but not excessive, and urged the Government to balance the interest of investors and the wider community. A few business chambers, however, suggested that there was room for reducing the RoR.

21. Apart from the appropriate level, some respondents commented on the need to have an objective basis to set the RoR, and asked for more information on the methodology for determining the rate. There were a few suggestions on how the RoR should be set, e.g. pegging the RoR with inflation or Hong Kong Inter-bank Offered Rate, reviewing the RoR periodically and pegging the RoR with the power companies' performance in promoting DSM.

22. CLP was of the view that the appropriate level of RoR could only be set when there were clearer ideas about other elements in the new regulatory arrangement. HKE considered that the 9.99% RoR should be maintained, noting that setting the RoR too low would discourage capital investment and affect supply reliability.

(iii) Fuel Cost Arrangement and Tariff Approval Mechanism

23. The majority of the respondents considered that the current fuel cost arrangement appropriate and should be maintained. The business sector generally supported the current arrangement on the ground that the high volatility of fuel cost was beyond the control of the power companies. CLP held the same view, while HKE noted that the pass-through arrangement was the industry norm, that the current Fuel

Clause Recovery Account was an effective cushion to buffer fuel cost impacts on consumers, and that the fuel component of the electricity tariff was already subject to rigorous scrutiny.

24. Some political parties and professional bodies considered that the current pass-through arrangement might not be effective in encouraging the two power companies to exercise prudence in fuel sourcing and fuel price forecasting. They reckoned that the Government should enhance its monitoring role on fuel cost estimation and fuel procurement by the power companies. There were also calls for the power companies to diversify their fuel sources to enable more stable fuel price, and enhance transparency on fuel cost data.

25. On tariff approval mechanism, while many respondents considered that the current mechanism had worked well and should be maintained, some political parties supported the Government's proposal of extending the Executive Council (ExCo)'s tariff approval to fuel cost. Some business chambers were of the view that the present tariff approval mechanism was rigorous enough to ensure the power companies could not raise tariff without proper approval. Both power companies considered the current tariff approval mechanism effective in safeguarding consumers' interest. They had reservation on the Government's tariff approval proposal as this might undermine their ability to raise capital for their future investment, and hence consumers' interest.

26. On the other hand, some political parties, professional bodies and think tanks suggested that the tariff approval mechanism should be tightened, such as by setting up an independent authority to regulate the tariff level or extending the tariff approval by the ExCo to cover not only basic tariff and but also the net tariff.

(iv) Incentive and Penalty Scheme

27. The majority of the respondents supported the current incentive and penalty scheme, which they reckoned had enabled a reliable and safe electricity supply. Some respondents suggested that the thresholds for the incentives and penalties should be raised. Some commented that as the need to achieve reliability, operational efficiency and customer services was ingrained in the power companies' culture, it was not necessary to provide incentives to this end while the penalties for failing to achieve the required standards should be retained. There was also a view that the incentive arrangement for achieving emission target for

HKE should be removed as the one for CLP. Some suggested that more incentives should be provided to the power companies to encourage better environmental performance.

28. CLP noted that arrangements should be in place to encourage better performance by the power companies, and was prepared to explore refinements to the existing regime. HKE considered that the current incentive and penalty scheme was well designed, and that any proposed improvements had to be considered on the premises that the targets were reasonable and achievable.

Promotion of RE

29. Around half of the respondents supported further development of RE despite its higher tariff implications. Many considered that RE should be developed by the power companies to achieve economy of scale but did not indicate whether they were willing to accept the higher tariff implications. Some did not support further development of RE, on the ground that there was limited potential to develop RE in Hong Kong due to geographical limitations. Given the high capital costs, they considered it not cost effective to promote RE. Among those who were prepared to pay more to use more RE and had indicated a specific amount, most indicated that they were prepared to pay up to 5% more or 5% to 10% more.

30. As regards the specific measures to promote RE, a substantial number of submissions considered that clear terms on grid access should be set out in the future contractual arrangement to encourage development of RE by small-scale distributed generators. Some respondents considered that the existing voluntary grid access arrangements had proved to be ineffective, and suggested that mandatory clauses in relation to grid access and power back-up arrangements should be set out in the future contractual arrangement. There were also respondents suggesting Feed-in-Tariff (FIT) or net-metering.

31. Most of the stakeholder groups, including some political parties, advisory bodies, green groups, professional bodies, and academics etc. supported further development of RE. Some academics and professional groups recognised that the potential of developing RE in Hong Kong might be limited and considered that waste-to-energy should be pursued. Some held the view that the cost for developing RE should not be wholly borne by consumers, and suggested that incentives or subsidies should be provided by the Government.

32. Some academics considered that the current 11% of RoR for RE assets was too generous and suggested that the same RoR should be adopted for both RE and non-RE assets. Some considered that FIT was not fair as the cost incurred by RE generation had to be shared by all electricity users. Some green groups, however, considered that rewarding RE through net-metering instead of FIT was not fair, as it did not recognise the higher capital cost and longer payback period of developing RE.

33. CLP considered that there were constraints to develop large-scale RE projects, and supported further development of smaller distributed RE systems. It was prepared to explore FIT and net-metering and facilitate grid connection of distributed RE facilities. HKE was of the view that there was very limited potential for developing distributed RE generation, which would unlikely be economically justified without subsidies or incentives. It considered that commercial scale RE system was the only pragmatic way to promote RE. It considered FIT would entail cross-subsidisation while net-metering was not cost-effective.

Promotion of DSM

34. On DSM, there was a clear consensus that the future contractual arrangement should be crafted to better help promote energy saving and conservation. Many respondents suggested that a specific energy saving target should be set for the power companies in the incentive and penalty scheme. Some suggested pegging part of the rate of return allowed for the power companies with their performance in promoting energy saving and reducing energy consumption. The idea of setting up an Energy Efficiency Fund to subsidise the implementation of energy saving measures by consumers was also floated by some respondents, though their suggested sources of funding varied. Some advocated the implementation of smart metering to enable consumers to better understand their consumption patterns.

35. Various stakeholder groups emphasised the importance to encourage DSM. In a joint submission, several green groups proposed setting for power companies energy saving targets in terms of total consumption and maximum demand, and implementing the targets through an incentive and penalty scheme. Some academics and advisory bodies made similar suggestions.

36. Many political parties, business organisations and professional groups advocated the promotion of energy saving. Some of them suggested that emphasis should be put on promoting green features in buildings, and some proposed subsidising the installation of energy efficient equipment. While some noted that it would be more effective for third parties rather than the power companies to drive DSM, some opined that the Government should play a facilitating role in the promotion of DSM in the private sector by providing financial incentives. Some proposed that the tariff structure could be reviewed to help reduce energy consumption or peak demand, but there were dissenting views as to whether progressive rate should be adopted by the commercial users as with residential users. Those opposing the idea considered that commercial consumers already had a strong incentive to save energy in order to cut down their operating cost, and it would be unfair to those which had to use more electricity by the nature of their businesses. Some opined that Time-of-Use tariff, coupled with the implementation of smart metering, could help achieve energy reduction.

37. CLP said it was prepared to step up its efforts on promoting energy efficiency, including installing smart meters. HKE had reservation on the cost effectiveness of smart metering due to its tariff implications, and suggested that further study on the matter was warranted.

OTHER COMMENTS

38. Apart from responding to the six questions set out in the consultation paper, some respondents commented on other areas. Noting that power companies, as public utilities, should bear more social responsibility, some respondents suggested that power companies should provide concessionary tariff to the underprivileged and install independent meters for sub-divided unit tenants to help avoid abusive charging by their landlords. Some suggested that an appropriate mechanism should be put in place for approving disposal of fixed assets by the power companies, while some considered that the stranded costs provision in the SCAs should be removed to facilitate introduction of competition in future.

39. On the future fuel mix, some advocated that we should import more nuclear energy from the Mainland while some argued that Hong Kong should stop importing nuclear power from the Mainland altogether. Some submissions from political parties and professional bodies

suggested that the reserve capacity of the two power companies were on the high side as compared with other overseas power utilities, and should be reduced.

WAY FORWARD

40. Taking into account the views collated in the public consultation, we will work out specific proposals on the future contractual arrangement and commence negotiation with the power companies.

**Environment Bureau
November 2015**

**Public Consultation on
the Future Development of the Electricity Market**

Consultation Questions

Question 1

How important is choice to you in respect of the supply of electricity?
What objectives do you consider should be achieved through introducing competition to the electricity market?

Question 2

To what extent do you think the current contractual arrangement by SCAs has allowed us to achieve the energy policy objectives of safety, reliability, affordability and environmental protection, and what problems do you see with this regulatory approach?

Question 3

What is your view on the following areas in the future contractual arrangement (if any) between the Government and the power companies?

- (a) duration
- (b) permitted rate of return
- (c) tariff approval mechanism
- (d) fuel cost arrangement
- (e) incentive and penalty scheme relating to the performance of the power companies.

What other improvements would you suggest?

Question 4

Should Hong Kong further promote renewable energy despite its higher tariff implications; and if so, about how much (in terms of percentage of your electricity bill) are you prepared to pay?

Question 5

What specific requirements would you suggest to be set out in the future contractual arrangement (if any) between the Government and the power

companies to encourage the promotion of demand side management and renewable energy by the power companies?

Question 6

Do you have any other comments and suggestions?