

Unclassified

English - Or. English

3 November 2022

**DIRECTORATE FOR FINANCIAL AND ENTERPRISE AFFAIRS
COMPETITION COMMITTEE**

Working Party No. 2 on Competition and Regulation

Competition in Energy Markets – Note by Chinese Taipei

28 November 2022

This document reproduces a written contribution from Chinese Taipei submitted for Item 3 of the 74th OECD Working Party 2 meeting on 28 November 2022.

More documents related to this discussion can be found at
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1. This paper provides an overview of the electricity and the natural gas markets in Chinese Taipei. It also illustrates perspectives of the Fair Trade Commission (hereinafter referred to as the “CTFTC”) from its enforcement actions in these markets.

1. Electricity sector in Chinese Taipei

2. A staged approach was adopted to privatize the electricity sector in Chinese Taipei. From January 1995, private sector companies were first allowed to build their own power plants. Between 1995 and 2006, the power generation market gradually opened up to private sector companies. By synergizing advantages of private businesses including funding, management and efficiency, nine independent power producers (“IPPs”) were established with lower costs and in shorter timeframes than those expected if they were established by the state-owned monopoly, i.e. Taipower. As a result, the problem of inadequate reserves was effectively resolved. Under the then-current Electricity Act, electricity generated by IPPs could be sold only to Taipower to enable it to transmit, distribute and run electricity retailing.

3. After the 2017 amendments of the Electricity Act were passed, a two-stage process of liberalizing the electricity sector was officially initiated in Chinese Taipei. The first stage focuses on ‘promotion of green energy’ and ‘separation of power plants from the grids’. ‘Promotion of green energy’ means that green energy markets including offshore wind and solar power are selected as the priority to open up to private operators. These private operators will be able to sell electricity to downstream users directly. In terms of ‘separation of power plants from the grids’, the 2017 amendments require that power transmission and distribution businesses cannot be also power generators or retailers. Cross shareholding between such businesses is also prohibited. The 2017 amendments explicitly state that state-owned Taipower has to complete divestiture of its generation and transmission/distribution business units in 6-9 years after the amendments passed, which should be no later than 2025. Establishment of a power trading platform in 2021 can be viewed as a new era with an aim of developing a contestable electricity supply chain to achieve goals of reforms in the electricity sector. The second stage will build on the outcome of the first stage of the reform. Grey energy markets, where fossil fuels are used as a power source, will not be liberalized until regulatory frameworks and relevant markets are fully fledged.

2. Natural gas sector in Chinese Taipei

4. Due to its limited deposits of natural gas, Chinese Taipei has been historically reliant on imports to meet its domestic energy demand for household use, power generation, industries and commerce. Chinese Taipei has diversified its sources of natural gas to 13 countries. Considering escalated tensions around the Taiwan Strait and the potential for natural disasters, such as typhoons, Chinese Taipei set forth regulations on the security stockpile of natural gas and continues to find additional sources to diversify risks.

5. The natural gas industry is broken down into three segments in Chinese Taipei. There is only one state-owned company, CPC Corporation (“CPC”) in the upstream and the midstream to receive, store and transmit liquefied natural gas (LNG). The downstream

segment is made up of 25 natural gas utility enterprises, including CPC. Each of the enterprises is permitted only to supply natural gas in its designated area. These designated supply areas do not overlap with each other.

3. Enforcement priorities of the CTFTC and its interaction with regulatory agencies

6. Electricity and natural gas are considered as essential necessities of daily life, which are highly regulated by sector regulatory agencies and under different laws, i.e. the Electricity Act and the Natural Gas Enterprise Act. Sector regulatory agencies have regulated most business activities ex ante, for example reviews and grants of business permissions, determination of prices and billable products/services. The CTFTC respects these regulatory rules and functions of sector regulatory agencies and will not directly intervene in price determinations in such highly regulated sectors. Nonetheless, as a competition enforcement agency, under the Fair Trade Act (“FTA”), the CTFTC has the power to review specific business conduct in individual cases to see if they may hinder market competition in order to embody the spirit of promoting competition.

7. In the electricity sector, Article 49 of the Electricity Act provides that Taipower should submit a proposal on determination and adjustment of electricity pricing to the Electricity Tariff Examination Council in the Ministry of Economic Affairs (“MOEA”) for approval. The Council comprises members from relevant government agencies, academics/experts and NGOs, and will review electricity pricing every six months. Among other things, fuel costs generally play a key role in deciding whether electricity prices need to be adjusted. Taking the second half of 2018 as an example – Taipower faced increasing cost pressures as global energy prices rose significantly. The MOEA, however, decided to freeze electricity prices to avoid overall prices increases and the occurrence of cost-push inflation. On July 1st 2022, prices of high and ultra-high voltages for large business customers and prices for households whose electricity usages exceed 100kWh, were initially approved to increase.

8. Given the wholesale electricity market has opened up to private power firms, the CTFTC’s enforcement focuses on anticompetitive business behavior (cartel conduct for example) among these private power producers. The CTFTC will use its investigative findings to analyze facts in individual cases and then at the Commissioners’ meeting, based on relevant evidence, including direct or circumstantial evidence, will determine if such behaviors violate the FTA. In the future, new anticompetitive issues may arise across power companies in different segments of the supply chain after the electricity sector is fully liberalized. These will be regularly monitored by the CTFTC and considered as its enforcement priorities.

9. With regard to the natural gas markets, Paragraph 1 of Article 45 of the Natural Gas Enterprise Act provides that “In the event of a natural gas shortage or great fluctuation in prices that might affect the steady supply of domestic natural gas or national security, the central competent authorities may carry out regulatory measures that are mandatory regarding natural gas supply and sale price.” The MOEA has the regulatory power to intervene in and monitor pricing of natural gas. Based on the formula of natural gas pricing approved by the MOEA, the price of natural gas in Chinese Taipei should rise in response to an increase in natural gas import costs when global market prices remain high. As a state-owned company, to follow the public policies of protecting households and industrial customers and stabilizing overall prices, CPC (the sole business in the upstream and midstream segments of the natural gas industry in Chinese Taipei) does not adjust the prices charged to its customers, except for a 5 per cent increase for those in the electricity sector.

10. The CTFTC's enforcement activities have focused on abuse of monopoly power since the upstream, midstream and downstream segments are monopolistic markets. In recent years, the CTFTC has received some complaints alleging that these dominant firms in the downstream markets abused their monopoly power to exclude or eliminate certain contestable businesses.

11. The CTFTC continues to make an effort to maintain transparent communications with sector regulatory agencies. To ensure trading order and consumers' interests, the CTFTC will actively share information obtained from its enforcement activities with these agencies if the information relates to a potential violation of regulatory rules, and request the regulatory agencies to exercise their discretions under respective regulations. In the cases where there seems to be an overlapping role between sector regulators and the CTFTC, the CTFTC will first ascertain the content of regulatory rules and the regulated under the rules to further clarify whether the goals of regulations and competition laws are overlapping or conflicting with each other. The CTFTC will also consult sector regulatory agencies where appropriate. Finally, the CTFTC will determine on a case-by-case basis whether the FTA is applicable to certain situations, or alternatively the CTFTC may choose to communicate with sector regulators through competition advocacy.

4. Cases

4.1. Infringement decision - nine independent power producers engaging in concerted actions

12. A Power Purchase Agreement ("PPA") signed between an independent power producers ("IPP") and Taipower sets out a purchase price formula, in which fuel costs and market interest rates are fixed, not varying with market fluctuations. In other words, an increase in fuel costs would be at the IPP's own risk while they would also benefit from lower interest rates. Since 2007, due to global fuel price hikes, the nine IPPs requested that their PPAs needed to be amended. The IPPs proposed a mechanism that fuel costs would be subject to regular adjustments. Furthermore, given market interest rates considerably have decreased at that time, Taipower also expressed that varied market interest rates should replace fixed rates in the formula. Between the second half of 2007 and the first half of 2008, both parties reached a consensus on adjustments of fuel costs and mutually agreed that their renegotiation concerning interest rates should continue. Following the IPPs' successful efforts in adjustments of fuel costs, prior to the rates renegotiations, the IPPs formed a common understanding at meetings that they would jointly refuse to participate in renegotiations with Taipower since the adjustments of market rates would put the IPPs at a disadvantage.

13. The CTFTC's investigation showed that in more than 20 meetings, the nine IPPs had reached an agreement on concerted refusal to adjust market interest rates and later acted on this refusal. The CTFTC was of a view that each of the IPPs could make its own decision on whether it would like to amend the contract terms and conditions subject to the 25-year long PPAs since the terms became adjustable and changeable following an agreed renegotiation process. Each IPP would have had an opportunity to enter into a contract with more favorable contract terms and a price-volume formula during the renegotiation process with Taipower. Based on its findings and analysis, the CTFTC concluded that the IPPs came to an understanding related to market competition, i.e. concerted refusal to adjust interest rates, which constituted concerted actions under the FTA. Significant fines were imposed on the IPPs in 2013.

14. The nine IPPs brought an action against the CTFTC's decision to the Taipei High Administrative Court ("THAC"). A salient argument in this case was: A concerted action under the FTA is required to be conducted among "competitors". The THAC, a court of first instance, revoked the CTFTC's decision as the court did not consider the IPPs as enterprises engaging in competition. This judgement was grounded on the following factual observations: 1) each of the IPPs had entered into a contract with Taipower on its own and supplied electricity under respective contracts; 2) the market interest rates that IPPs refused to renegotiate with Taipower were only applicable to the guaranteed periods. The impact was mitigated as the prices and volumes during such periods were fixed and Taipower was obligated to pay for the IPP's output under this "take or pay" contract; 3) Facilities owned and operated by each of the IPPs were located in distinct areas and electricity generated from individual facilities was only transported to Taipower's substations in each respective area.

15. The judgment was appealed to the Supreme Administrative Court ("SAC"), the court of second instance and last resort. The SAC sided with the CTFTC and remanded the case back to the THAC. However, the judgement first rendered by the THAC remained, revoking the CTFTC's decision. The CTFTC then appealed to the SAC. To be clear, the THAC determined to revoke the CTFTC's decision on this case respectively in 2014, 2017 and 2020 despite the SAC remanding its first two judgements back to the THAC. The SAC ultimately made its own judgement, affirming that the IPPs engaged in concerted actions. Based on the following reasons, the SAC concluded that the nine IPPs were considered as competitors in the relevant market:

- A relevant market defined by the CTFTC with the use of the reasonable interchangeability test was not inaccurate. Each of the IPPs generated electricity and sold it to Taipower. Given that there was only one energy network in the main island of Taiwan, the network operator, Taipower was able to transmit and distribute energy generated by any individual IPPs at times when transporting to Taipower's substations, regardless of the fact that the IPPs' facilities were operated in distinct areas. As a consequence, through its energy network, Taipower could easily transmit and distribute electricity supplied by the IPPs to any and every area in the island. The geographic market in this case was thus defined as the main island of Taiwan. The transmission area clause agreed in the PPA was not relevant to market definition. But considered as a delineation of contractual obligations. The purpose of the clause aimed to clarify the ownership of power facilities around Taipower's substations and who should be responsible for maintenance. Electricity meters installed in substations were also used to calculate the total amount of electricity transmitted.
- Purchase rates that Taipower was required to pay under the contract varied, depending on guaranteed periods and non-guaranteed periods. The rates for both periods were indeed an integral part of the contract terms and conditions. The former related to market interest rates and the latter subject to fuel costs. The average price per unit of electricity paid by Taipower to an IPP, amounting to the total payment amount of the two periods divided by the total volume of power purchased. That is to say, the final price would be determined by the combined supplies and demands of the two different periods. The price rates and trade volumes of both periods were inseparable from the calculation of the final price. The two periods should not be considered as two distinct markets.
- In the case where individual IPPs supplied energy in compliance with environmental protections and safety requirements, the total volume that Taipower could utilize and transmit was contingent on each IPP's energy rate. Since the

energy rate was a determinant of the price rates during non-guaranteed periods, each IPP could compete with each other for trading opportunities to sell electricity it generated by offering a more favorable energy rate.

- Notwithstanding the 25-year long PPA, the nine IPPs and Taipower successfully amended the contract terms with regard to the fuel cost adjustment mechanism in 2007. This evidently suggested that both parties to the PPA were able to renegotiate the terms and conditions. Before the volumes of actual purchases and the average prices were going to be set, individual IPPs still had abilities to independently decide or exercise influence over their volumes and prices. Furthermore, the proportions of individual IPPs' sunk costs to fixed costs and their potential return were diffident from each other. Given that an IPP might not be necessarily align with the interests of the other IPPs, each IPP would act autonomously and decide whether it would amend the contract term regarding the purchase/sale rate during the term of the PPA or wait until it expired.

4.2. Non- infringement decision - three natural gas utility enterprises attempted to reduce competition in the market for the downstream pipelines of gas meters

16. The CTFTC received a complaint alleging that three natural gas utility enterprises (“NGUs”) postponed reviewing gas piping layouts and quoting processes regarding the downstream pipelines of gas meters without justification when they delegated the installation of the downstream pipelines of gas meters to certain public natural gas conduits installation enterprises (“NGCLs”), which might prevent them from competing in the market for the downstream pipelines of gas meters.

17. Gas transmission and distribution pipelines between NGUs and end users include transmission pipelines, the upstream pipelines of gas meters and the downstream pipelines of gas meters. The transmission pipelines refer to those built for natural gas transportation through roads, bridges, rivers, parks, utility tunnels, culverts, embankments or other lands. The upstream pipelines of gas meters refer to those running between the point of connection to the transmission pipelines and the inlets to gas meters installed at properties. The downstream pipelines of gas meters refers to those connecting the outlets of the gas meters with the end of branches, for example water heaters or gas stove connectors in homes. Under the Natural Gas Enterprise Act, installing the upstream pipelines of gas meters should be exclusively undertaken by NGUs while either NGUs or NGCLs are allowed to install the downstream pipelines of gas meters. The market for the downstream pipelines of gas meters is therefore considered a contestable market. However, NGCLs are required to obtain NGUs' approvals for their gas piping layouts prior to installation and NGUs have the right to inspect and accept the work when completed.

18. The CTFTC found that each NGU supplying services with regard to the downstream pipelines of gas meters in its designated geographic area met the requirement of a monopoly in terms of market shares and turnovers and thus had a dominant position to exclude competition. Given that NGUs were obligated to review NGCLs gas piping layouts prior to installation and to inspect and accept the work when completed for the purpose of fulfilling gas safety goals under the Natural Gas Enterprise Act, the CTFTC took these regulatory requirements into consideration when assessing the alleged behaviors. When competing with others in the relevant market, NGUs' behaviors would constitute a violation of the FTA only if evidence clearly shows that the behaviors were highly reprehensible.

19. The CTFTC inquired with all key stakeholders, including companies associated with the market and end users, and consulted the MOEA, the competent authority in charge

of the Natural Gas Enterprise Act. It found that the complaint related to different practices: where the NGUs were assessing actual situations and contemplating whether it was safe to deliver gas; and where NGUs actively engaged property owners and provided quotations to compete for business opportunities after their rivals (the NGCLs) had submitted their applications for installation of the downstream pipelines of gas meters. The investigations showed that a general intent of excluding competitors could not be proven in this case. Property owners were able to choose between NGUs and NGCLs based on quotations. In terms of delays in review processes, the investigation findings revealed that they could be related to incomplete applications, or installations occurring without permission. Local governmental agencies had launched their own investigations and would explore the possibility of shortening the period of the review process to prevent similar conflicts.

20. The CTFTC concluded that end users had rights to choose services for the downstream pipelines of gas meters among three NGUs and NGCLs on the basis of their quotations. The alleged behaviors where the three NGUs attempted to attract trading opportunities were not exclusionary and as a result was not treated as a contravention of the FTA.

4.3. Merger notifications concerning offshore wind power

21. The Government has taken the following proactive approaches to achieve its policy goal of a “nuclear-free homeland” in Chinese Taipei. On July 27, 2015, the Government set specific targets for renewable energy generation growth. In 2017, the amendments of the Electricity Act signified the start of liberalizing the green energy generation sectors. The Government announced that it plans to generate 20 per cent of its energy from renewable energy by 2025. Offshore wind power is the generation of electricity through wind farms installed at sea. In comparison to onshore wind power, offshore wind turbines can generate more electricity due to faster wind speeds. Considering its geographic characteristics as an island, one of the targets is to reach 5.5 GW of offshore wind energy capacity by 2025, which has attracted companies to enter into this sector. In this context, the CTFTC has received nearly 10 merger notification filed by offshore wind energy operators since 2017.

22. To enter into the offshore wind market, these mergers generally occurred in the form of joint ventures with the aim of establishing new business entities. The parties to the mergers included state-owned enterprises, private companies and foreign companies, involving transfers of practical experiences in operation and management, funding and skills. The parties to the mergers were existing incumbents across different sectors, for example, electricity operators, electric cable companies, port operating companies, shipbuilding companies, steel producers and financial businesses. Accordingly, the merger notifications covered various types of mergers, i.e. horizontal, vertical and conglomerate mergers.

23. When reviewing the above mergers, the CTFTC followed its merger guidelines to assess competitive effects of different merger types. A general or simplified procedure would be adopted, which was subject to the market shares of the merging parties and the impact of the mergers on the green energy sectors. A few of these mergers were viewed as extraterritorial mergers without direct, substantial and reasonably foreseeable effects on the domestic markets. The CTFTC had no jurisdiction over such mergers. Considering the green energy markets in Chinese Taipei were at early stages of liberalization, and promotion of eco-friendly green power aligned with the above-mentioned policy goal of a “nuclear-free homeland”, the CTFTC would take into account how much more green power generation capacity could be created as a result of the proposed mergers. The CTFTC did

not find that any of the mergers had effects or likely effects of substantially lessening competition and none of these mergers were challenged by the CTFTC.

5. Conclusion

24. Regulated industries are not equivalent to the absence of competition. Certain levels of competition can be observed in the regulated energy markets. In such dynamic environments, the development and structures of the markets will inevitably be influenced by the market players' behaviors. In this regard, by means of competition law enforcement and competition advocacy, the CTFTC continues to identify unnecessary regulatory restraints or competition-distorting rules so as to seek the right balance between competition and regulation. The FTA is also applicable to business behaviors in the regulated markets to safeguard and promote competition.

25. There have been few cases where the CTFTC found anti-competitive practices in violation of the FTA as the electricity sector is moving toward further liberalization, and limited competition in the natural gas markets due to regulatory rules and market structures. The CTFTC acknowledges the importance of industrial policies and envisions itself as a collaborator in partnership with regulators. While doing so, the CTFTC will not only work with regulators to monitor and assess the markets, but also seek procompetitive remedies to minimize the impact of business practices that are harmful to industrial transformation and development.