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Reorganization of the Non-Fossil Fuel Energy Certificates Trading Market

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Non-fossil fuel energy certificates ("NFCs") have been representing all of the non-fossil fuel value generated from all non-fossil power sources (regardless of whether FIT or Non-FIT) since April 2020, and the market/bilateral trading volume of NFCs has been rapidly increasing. Since then, the trading market of NFCs (the "NFC Market") on the Japan Electric Power Exchange (the "JEPX") has been reorganized, and auctions on the renewable energy value trading market (the "REV Market") have been held starting on November 19, 2021. In this newsletter, we briefly explain these amendments to the operation of the NFC Market.

1. Current Status and Challenges of the NFC Market

(1) Previous Trading Status

NFCs have been acquired and utilized mainly by electricity retailers so that they can (i) count the certificates against their non-fossil fuel power source ratio under the *Act on the Promotion of Use of Non-fossil Energy Sources and Effective Use of Fossil Energy Materials by Energy Suppliers* (the "Energy Supply Act")[1], (ii) subtract them from the adjusted emission factor under the *Act on Promotion of Global Warming Countermeasures* (the "Global Warming Countermeasures Act")[2], and (iii) promote

[1] Under the Energy Supply Act, electricity retailers which provided 500 million kWh or more in the previous fiscal year must provide a minimum ratio of the electricity they provide to the consumer, i.e., in terms of the percentage of (i) the amount of electricity generated from non-fossil power sources set against (ii) the total amount of electricity provided by the electricity retailer to the consumer (Article 5, Paragraph 1 of the Energy Supply Act). If said measure of non-fossil energy source is deemed significantly insufficient, the Minister of Economy, Trade, and Industry may issue a recommendation to the electricity retailer. If such energy retailer fails to take proper measures according to said recommendations without any justifiable reason, it may be subject to administrative action (Article 8, Paragraph 1 and Paragraph 2 of the Energy Supply Act).

[2] Under the Global Warming Countermeasures Act, any person who emits significantly large volumes of greenhouse gases in conjunction with their business activities ("Specified Emitters") must report their calculated greenhouse gas emission amounts to the government, the details of which will be disclosed to the public (Article 26, Paragraph 1, Article 28, Paragraph 1, and Article 29, Paragraph 1 and Paragraph 4 of the Global Warming Countermeasures Act). Said Specified Emitters must calculate and report, as a part of their calculated greenhouse gas emission amounts, the product

and appeal the environmental value to the consumers when selling the electricity.

Feed-In Tariff (“FIT”) non-fossil fuel energy certificates (“FIT NFCs”) have been traded on the NFC Market since May 2018. Non-FIT non-fossil fuel energy certificates ("Non-FIT NFCs") have been traded on the NFC Market on the JEPX since November 2020.

Bilateral transactions of Non-FIT NFCs started in April 2020, and their transaction volume has been increasing[3]. To secure creditworthiness for Non-FIT NFCs, governmental certification for (i) the relevant electrical equipment, and (ii) the amount of electricity generated therefrom, is one of the requirements for Non-FIT NFCs to be eligible, and all Non-FIT NFCs are administered and managed under the JEPX account management system to prevent double-counting with the non-fossil fuel energy value, which is not certified as above. In detail, even in the case of bilateral transactions, electricity generators must report to the JEPX (through the certification organization delegated by the government (i.e., Nihon Unisys, Ltd. as of the date of this newsletter) the following information on their bilateral transactions: (i) the number of Non-FIT NFCs and (ii) the buyer (i.e., the electricity retailer) to which the electrical generator has provided the Non-FIT NFCs. The number of Non-FIT NFCs is reflected in the balance of such electricity retailers’ certificate accounts under the JEPX account management system (please note that the bilateral transaction of Non-FIT NFCs must be made between the electricity generators and the electricity retailers under the current scheme; therefore, this mechanism does not apply to so-called “Corporate Power Purchase Agreements”, in which the electricity generators directly provide electricity to the consumers). Typical trading is to sell both electricity and Non-FIT NFCs to an electricity retailer, but it is also possible under the system for the electricity generators to sell each of the electricity and the Non-FIT NFCs to different electricity retailers on a bilateral basis.

(2) Increasing Requests on Consumer-Side

On the other hand, in light of the recent global trend toward decarbonizing society, the consumer-side has been placing greater value on environmental activities and on efforts toward low carbonization as a business strategy. Also, more and more companies have been promoting their efforts by (i) calling for their supply chains’ to strive for decarbonization, or (ii) joining cross-sectional efforts such as RE100.

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of (i) the amount of electricity that the electricity retailers have provided to the Specified Emitters, multiplied by (ii) a factor which (a) shows the volume of carbon dioxide emitted by each of the electricity retailers, and (b) is has been publicly disclosed by the Minister of Environment and the Minister of Economy, Trade and Industry (Article 26, Paragraph 3 of the Global Warming Countermeasures Act and Article 7, Paragraph 1, Item 1 A(2) and B(2) of the Order for Enforcement of the Global Warming Countermeasures Act). This factor consists of the basic emission factor and the adjusted emission factor, and the NFCs acquired by said electricity retailers are taken into account in calculating their adjusted emission factor. The framework for such calculation, report and disclosure of greenhouse gas emissions is detailed in our newsletter “Overview of the Revised Act on the Promotion of Global Warming Countermeasures and its Practical Impact”, published in our June 2021 issue.

[3] In fiscal 2020, approximately 20 billion kWh of NFCs, both FIT NFCs and Non-FIT NFCs, were traded on the market. It is reported that Non-FIT NFCs for at least approximately 16 billion kWh were separately traded on a bilateral basis as of April 2021. In previous market trading, purchase offers were concentrated on Non-FIT NFCs, the agreed market price of which has been ranging from 0.90 JPY/kWh to 1.20 JPY/kWh, which is lower than that of FIT NFCs. Meanwhile, the volume of total sale offers has exceeded significantly that of total purchase offers in the market transaction of FIT NFCs, the minimum bidding price of which has been set at 1.30 JPY/kWh.

Under these circumstances, there have been increasing requests from the consumer-side such as (i) the direct purchase of the NFCs by consumers, (ii) the reduction of acquisition costs for NFCs, and (iii) the tracking of the non fossil-fuel energy's respective power sources. In light of this trend, Hiroshi Kajiyama, in his former capacity as Minister of Economy, Trade and Industry, directed "the establishment of an environment in which the value of carbon-free electric power is properly evaluated and consumers can access carbon-free electric power"[4], and since then a reorganization of the NFC Market has been discussed and embarked upon.

2. Reorganization of the NFC Market

The Working Group (*seido kento sagyo bukai*) for Systematic Review, under the Electricity and Gas Strategic Policy Subcommittee, has been principally tasked with discussing the reorganization of the NFC Market. As of the date of this newsletter, public comments on the Sixth Interim Report have been published[5], and the details of the reorganization of the NFC market are briefly explained below.

(1) "Renewable Energy Value Trading Market" and "Market for Achieving Energy Supply Act Obligations"

As we have discussed, the NFCs can be divided into FIT NFCs and Non-FIT NFCs[6], which are generated from FIT power sources and Non-Fit power sources, respectively. Both kinds of certificate have been separately traded in the NFC Market.

Since the reorganization, the NFC Market is separated into the Renewable Energy Value Trading Market (the "REV Market") and the Market for Achieving Energy Supply Act Obligations (the "ESA Market"). FIT NFCs are traded in the REV Market, and Non-FIT NFCs are traded in the ESA Market. Moreover, electricity retailers will be able to use only Non-FIT NFCs to achieve their target under the Energy Supply Act.

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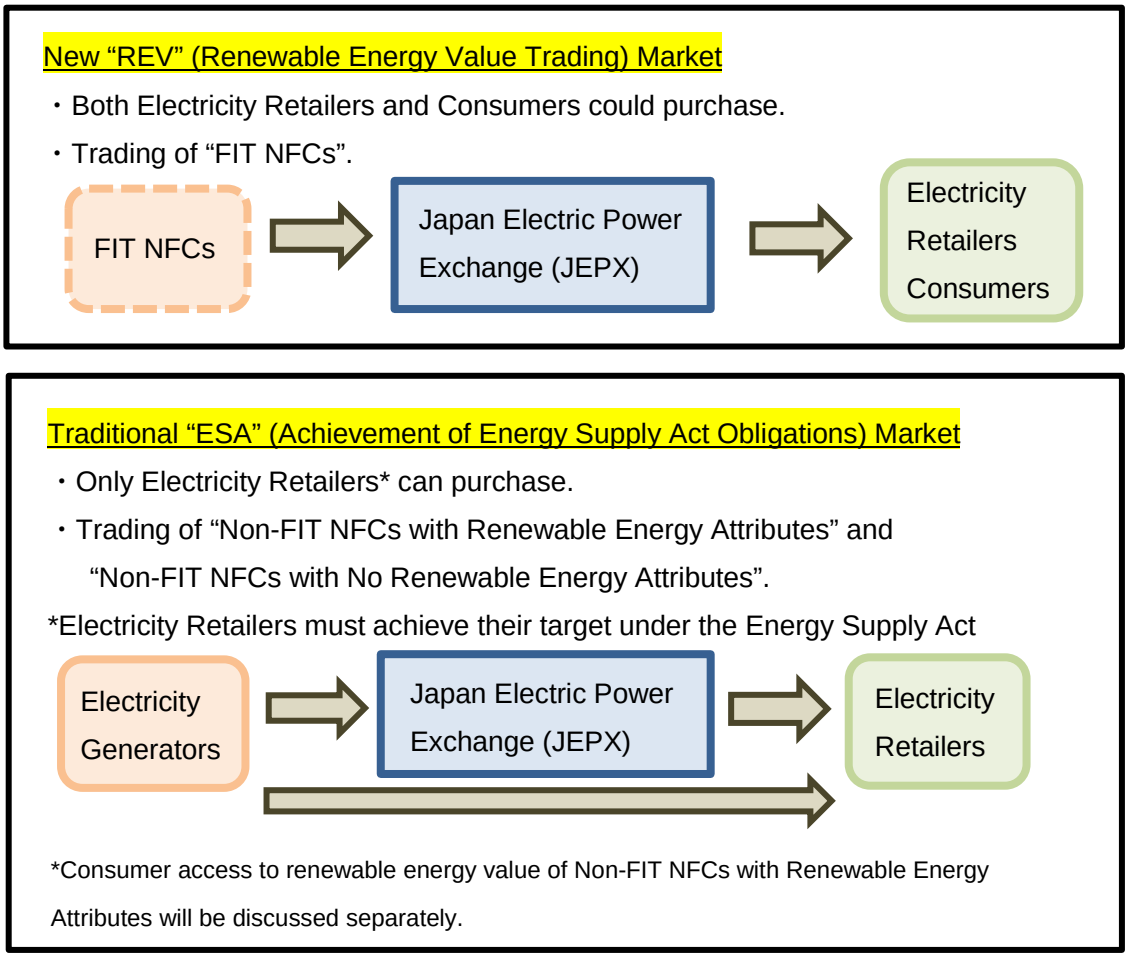
[4] Opening statement at a press conference after a cabinet meeting on January 15, 2021 (https://www.meti.go.jp/speeches/kaiken/2020/20210115001.html)

[5] https://public-comment.e-gov.go.jp/servlet/Public?CLASSNAME=PCM1040&id=620221020&Mode=1

[6] Non-FIT NFCs consist of (i) "Non-FIT NFCs with Renewable Energy Attributes", the non-fossil fuel energy value of which is generated from post-FIT power sources, non-FIT power sources and large-scale hydroelectric power; and (ii) "Non-FIT NFCs with no Renewable Energy Attributes", the non-fossil fuel energy value of which is generated from nuclear power.



(2) Overview of REV Market

A. Trading System and Price Determination Mechanism

As before, in the REV Market dealing with the FIT NFCs, under the Expense Sharing Coordinating Organization (*hiyo futan chosei kikan*) (the "ESCB"), constituted under the *Act on Special Measures Concerning Procurement of Electricity from Renewable Energy Sources by Electricity Utilities*, offers for sale and the proceeds from said sales of the FIT NFCs are used to reduce FIT surcharges.

As was also the case for the previous mechanism, prices are determined by way of multiple price auctions. An auction will be held four times annually.

B. Minimum Price (0.3 JPY/kWh, Tentatively)

The minimum price of FIT NFCs was set at 1.3 JPY/kWh prior to this reorganization, but the consumer-side has been increasingly advocating for a reduction in the FIT NFCs' market price in line with Non-FIT NFCs' price levels.

It is difficult to set a bid price because the seller of FIT NFCs is only notionally the ESCB. Moreover, if the value of FIT NFCs is significantly impaired, the return to customers (i.e., the reduction on the amount of FIT surcharges) may be also reduced. Considering the above, a minimum price of FIT NFCs itself

continues to exist, but it is tentatively set at 0.3 JPY/kWh. A maximum price is not set.

C. Requirements of Eligible Consumers

The REV Market allows both consumers and electricity retailers and/or general electricity T&D operators to directly participate in trading. However, to ensure their reasonable creditworthiness as market participants in exchanges, customers are required to be qualified as "Non-Fossil Fuel Energy Value Trading Members" by the JEPX[7] if they wish to participate in the REV Market.

After the recent reorganization, the JEPX revised its Non-Fossil Fuel Energy Value Trading Membership Rules (“Membership Rules”) and Non-Fossil Fuel Energy Credit Trading Rules (“Trading Rules”) as of October 27, 2021 to allow Japanese corporations to participate in the market as Non-Fossil Fuel Energy Value Trading Members (Article 2, Item 4 of the Membership Rules). Instead of requesting that members have a certain amount of net assets, creditworthiness will be assessed by confirming their financial soundness based on income and expenditure plans, balance sheets, and profit and loss statements, etc.[8]

D. Brokers and their Requirements

Consumers can directly participate in the REV Market, but they have to bear certain costs, including (i) costs to obtain participatory qualification in the market, (ii) annual membership fees, and (iii) transaction fees to be charged for each trade. Also, there is a risk that consumers will not be able to procure the necessary amount of FIT NFCs at a satisfactorily low price in the auctions held four times a year. For these reasons, the number of consumers who will participate in market trading is likely to be limited. Therefore, to improve consumer convenience, brokers ("FIT NFCs Brokers") are expected to be involved in the trading, mediating between the REV Market and consumers who wish to acquire FIT NFCs.

Specifically, FIT NFC Brokers themselves (i) assume the role of party to trading in the REV Market, (ii) purchase the FIT NFCs either (a) based on an entrustment agreement with consumers as their clients, or (b) by their own initiative, and (iii) sell them to others. Electricity retailers are concurrently able to provide such FIT NFC Broker services.

Requirements for participating in trading as an FIT NFC Broker are as outlined below[9].

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[7] Companies that have already been trading members of the JEPX can obtain trading qualifications only by submitting a dedicated application form (Article 1 of the Supplementary Provisions to the Membership Rules).

[8] Members are required to separately pay 110,000 JPY (tax inclusive) as an enrollment fee, and 120,000 JPY (tax free) as an annual membership fee for the first year of membership (Article 5, Paragraph 1 of the Membership Rules).

[9] Article 8, etc. of the Trading Rules. The table below has been adapted from p.11 of the “Explanatory Material for Business Operators Engaging in the Sale of Non-Fossil Certificates with Tracking Scheme (for Participants in the Initial Verification (Consumers/Brokers)”, prepared by the Agency for Natural Resources and Energy, which has been uploaded on the website of Nihon Unisys, Ltd., to which matters related to the tracking scheme of the NFCs has been outsourced.

Overview of Eligibility Requirements for FIT NFC Brokers

Definition	**Persons who (i) assume the role of party to trading, (ii) purchase certificates either (a) based on an entrustment agreement with consumers as their clients, or (b) by their own initiative, and (iii) sell them to others.**	
Requirements for Membership	Qualification	**Japanese corporations**
	Asset Requirements	・ Filing of documents describing (i) the purpose of using the exchange and (ii) income and the applicant's expenditure plans ・ Filing of an implementation plan for a brokerage business ・ Filing of the applicant's balance sheet and profit and loss statements for the most recent fiscal year
	Others	**If the brokerage business is newly implemented or ceases to be implemented**, the FIT NFC Broker must file an implementation plan and receive confirmation from the exchange.
Disciplinary Rules	Scope of Trading	・ Provider: **the REV Market only*** ・ Purchaser: **Japanese domestic corporations only*** *Provisional policy until the market matures
	Explanation to Consumers	・ Basic disciplinary rules are set in accordance with the principle of good faith of the JEPX*. ・ In addition, FIT NFC Brokers shall explain to consumers the details of the value of renewable energy and its transactional market trends and prices before trading. ・ If a consumer so request after a trade, the FIT NFC Broker must cooperate in verifying that such consumer has valid rights to renewable energy value. *The broker must not engage in unfair transactions, in careless or negligent transactions or entrustments, etc.
Obligations	Recording Obligations	If the FIT NFC Broker sells the FIT NFCs (i.e., effects a transfer of the FIT NFCs to others, such as (i) by sale to electricity retailers or consumers, or (ii) by sale to consumers together with the provision of electricity), **it must maintain the transaction records in a form specified by the exchange**.
	Reporting Obligations	・ **The FIT NFC Broker must submit transaction records to the exchange within a month after they complete the FIT NFCs' transaction.** ・ The exchange may request the FIT NFC Broker to submit its records, as necessary.

It should be noted that if participants in the market violate the Membership Rules or the Trading Rules, the JEPX may immediately notify them to that effect and cause them to stop trading. Moreover, such participants are subject to (i) a penalty of up to 100 million JPY, (ii) a suspension or restriction of trading of up to six months, or (iii) a dismissal from the membership in the market.

E. Reconsideration of Interim Target of 2021 under the Energy Supply Act

Although the recent reorganization enables consumers to acquire FIT NFCs directly, electricity retailers may also acquire FIT NFCs as before. However, this reorganization prohibits FIT NFCs from being taken into account in calculating the non-fossil power source ratio under the Energy Supply Act.

Under the Energy Supply Act, electricity retailers who provide electricity at a volume of 500 million kWh or more must aim to achieve a given required ratio of (i) the electricity generated from non-fossil power sources in relation to (ii) the electricity provided by the electricity retailer. This ratio is currently set at a goal of 44% or higher, by 2030.[10] Since 2020, the national government has set an interim target for respective electricity retailers[11]. Due to the reorganization, the interim target for fiscal 2021 was revised by deducting an amount equivalent to the amount of FIT NFCs, which are currently offered on the market and available to consumers as well as to the electricity retailers, and the target ratio of external procurement[12] has been set at 5%.

(3) Overview of ESA Market

A. Trading System and Price Determination Mechanism

Similar to Non-FIT NFCs in the previous market, Non-FIT NFCs in the ESA Market are traded by way of allowing each electricity generator with Non-FIT non-fossil power sources to make a bid as a seller in the ESA market.

Also, as with the previous mechanism, the price is determined by way of a single price auction, which is held four times annually.

B. Minimum Price and Maximum Price (Tentatively set at 0.6 JPY/kWh and 1.3 JPY/kWh)

The minimum price is tentatively set at 0.6 JPY/kWh for a limited period, so that the gap of the trading price level between that found under the current system and that found under the new system will not impair the ability of either the electricity generators or the electricity retailers to foresee operating costs.

As touched on in the text above, electricity retailers will be able to use only Non-FIT NFCs to achieve the target under the Energy Supply Act. Further, most of the Non-FIT NFCs will be provided by relatively large power sources (e.g., by large-scale hydroelectric power sources and by nuclear power) owned by major electricity utilities (i.e., by former general electricity utilities), and the supply of Non-FIT NFCs may be unstable due to unplanned outages of the power sources, which may result in spikes in their trading price. In light of these factors, the maximum price of Non-FIT NFCs was also reviewed and set at 1.3 JPY/kWh, regardless of their nature as “Non-FIT NFCs with Renewable Energy Attributes” or as “Non-FIT NFCs with No Renewable Energy Attributes”.[13]

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[10] METI Notification No.130 of 2017.

[11] https://www.enecho.meti.go.jp/category/electricity_and_gas/electric/nonfossil/koudokahou/200309a.html

[12] The non-fossil power source ratio expected to be achieved through obtaining NFCs from outside the company or group. In order to ensure the fairness among electricity retailers, the maximum amount of the NFCs procured from within a company or group is set for electricity retailers which (or any group company of which) has non-fossil power sources.

[13] The maximum price is set at 1.3 JPY/kWh since the minimum price of current FIT NFCs (1.3 JPY/kWh) substantially functions as the maximum price of Non-FIT NFCs.

C. Monitoring by the Electricity and Gas Market Surveillance Commission (the "EGC")

As described above, electricity retailers will be able to use only Non-FIT NFCs to achieve the target under the Energy Supply Act, and the number of electricity generators that have the power sources providing Non-FIT NFCs and that have the ability to sell Non-FIT NFCs is very limited; therefore, it is a matter of concern that the bidding behavior of sellers may significantly affect the price formation of Non-FIT NFCs in the ESA Market. Therefore, such behavior will be subject to EGC monitoring.

Although specific measures and methods of monitoring will be the subject of discussion of the EGC, it is expected that (i) former general electricity utilities and Electric Power Development Co., Ltd., will be generally subject to such monitoring, and both (ii) (a) market trading and bilateral trading will be monitored for holding off or unreasonable price setting, and (b) intra-company or intra-group trading will be monitored for discrimination (i.e., lack of equal-footing) between actors inside and outside of the company's group, as well as for unjustifiable internal support.

3. Tracking of Non-fossil Fuel Energy Certificates

Many companies wish to participate in RE100, which encourages companies to procure 100% of the electricity necessary for their business activities from renewable energy sources. RE100 accepts NFCs if the attributes of the power sources from which the non-fossil fuel energy value is generated is guaranteed by a tracking mechanism.[14]

The existing NFCs do not guarantee the attributes of the power sources. As the number of corporations wishing to participate in RE100 increases, consumers have been requesting that trackable NFCs become more available.

The Sixth Interim Report mentions that the government aims to ensure that FIT NFCs acquire the quality of “power source certificates” in the future, which will (i) link the certificates to specific power sources and generating areas, and (ii) be traded by given type of power source. In addition to institutionalizing the ongoing pilot tracking system[15], the government will (i) analyze the relationships among (a) the tracking system, (b) the retailer offtake scheme and specified wholesale supply of renewable energy under FIT structure, and (c) the electricity retailers' contracting practices when they procure electricity from specific power sources, as well as (ii) soon thereafter deepen said analysis.

Moreover, the existing pilot tracking verification of FIT NFCs will be implemented without requiring the consent of the electricity generators, and thus all FIT power sources the electricity of which is purchased under the FIT scheme will become trackable.

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[14] Non-FIT NFCs are considered acceptable for RE100 as long as they are procured, sold and provided together with electricity based on the bilateral trading between the electricity generators and the electricity retailers. (p. 7 of materials for participants of the 35th meeting of the Working Group for Systematic Review 3-1, “Setting of the Standard Interim Target under the Energy Supply Act”).

[15] Pilot tracking verification of the FIT NFCs has been implemented since August, 2019. Also, pilot tracking verification of “Non-FIT NFCs with Renewable Energy Attributes” has been conducted since August, 2021. This pilot tracking verification is implemented at the level of electricity retailers and electricity generators who have applied for participation in the pilot program and have satisfied certain requirements. Please see:https://www.enecho.meti.go.jp/category/electricity_and_gas/electric/nonfossil/page/20210726.html

4. Conclusion

Although the above overview presents the reader with an outline of the reorganization of the NFC Market, details such as pricing matters are still tentative and may change in accordance with practical and business trends. It is necessary to pay continuing attention to (i) the trends of upcoming trading in each of the markets, and (ii) the status of adjustments to the system based on such trends.

Consumers will consider acquiring FIT NFCs by directly entering the REV Market or through FIT NFC Brokers. In particular, consumers who wish to participate in RE100 or to achieve their targets should be aware of the timing for the introduction of trackable NFCs and related systems. Furthermore, it is important to take cognizance of the fact that consumers are still not able to directly acquire Non-FIT NFCs, either through market trading or bilateral trading, even after the reorganization. Importantly, however, in response to the public comments made in relation to the Fifth Interim Report, access to NFCs must be improved and, therefore, a scheme which allows direct access to Non-FIT NFCS for consumers is likely to be introduced in the near future.

If electricity generators are subject to the EGC monitoring, they will need (i) to pay special attention to EGC discussions involving monitoring measures and practices, and (ii) to analyze the nature of trading conditions for Non-FIT NFCs in the market and for bilateral trading within and outside the company group. We have omitted this issue in the present newsletter, but it is also worth noting that there have been discussions in the Working Group for Systematic Review on the use of proceeds from the sale of NFCs[16].

Since electricity retailers have traditionally been involved in market transactions, unlike general consumers, they will have more opportunities to consider participating in an FIT NFC Broker's business. Therefore, electricity retailers will need to pay continuing attention to the status of discussions on interim targets set under the Energy Supply Act, and on discussions related to the introduction of a system of trackable NFCs, a development that is being eagerly anticipated by consumers[17].

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[16] p.18 and thereafter of the Fifth Interim Report. Specifically, criteria will be established to determine whether said proceeds will contribute to the maintenance and expansion of kW/kWh of non-fossil power sources, such as allowing for increasing the amount of power (kWh) generated at existing non-fossil fuel power plant facilities.

[17] In addition, the difference between the minimum price in the market for FIT NFCs and Non-FIT NFCs (0.3 JPY/kWh) can be considered equivalent to the value uniquely belonging to Non-FIT NFCs (i.e., countable against the ratio of non-fossil power sources under the Energy Supply Act). Since electricity retailers (as opposed to consumers) are presently the sole beneficiaries of this value, it will be also discussed (i) *whether* such portion may be passed on to the consumers, and (ii) *how* such portion should be passed on to the customers (if any) (see p. 8 of the Sixth Interim Report).

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