

Contentions and Future Outlook of Green Power Certification in Japan

Shinichi Nakakuki

Researcher

Environment Group, Second Research Department

Introduction

Approaches to promote the introduction of power generation using renewable energy can be categorized by the political approaches taken by the government and voluntary approaches led by the private sector. Specific examples of the political approaches include a forced system for purchasing the power generated from renewable energy and the Renewable Portfolio Standards (RPS) system that obligates electrical power suppliers to use renewable energy^{*1} for more than a certain percentage of electric energy sold.^{*2} On the other hand, the approaches led by the private sector include, for example, *green pricing*, in which electrical power suppliers offer tariffs at relatively expensive prices for individual customers who want to purchase generated power (*green power*) from renewable energy power plants, and the *green power certification system*, wherein added environmental values inherent in green power is certified and committed to certificates for use in transactions.

The systems described above have the characteristic features that the former approaches by the policy-making entities were usually implemented in the form of restrictions on suppliers in most cases, while the latter approaches consisted of choices made by customers (hereinafter such approaches will be generically referred to as the “green power systems” in this paper).

To make the green power systems work effectively, the assurance of reliability is mandatory, in addition to public awareness of the economic value of green power. Regarding green power certification, which plays an important role in the green power systems, the author will examine the important points for implementing green power certification, a voluntary approach in Japan, as well as the outlook and problems of certification currently faced by the private sector while referring to practical cases of implementation in various countries.

*1 Although renewable energy is defined somewhat differently from nation to nation, the IEA (International Energy Agency) defines it to include: hydropower (including large-scale hydropower, except for power generated by the pumped storage type plant), geothermal energy, photovoltaic energy, solar thermal energy, tidal energy, wave energy, ocean thermal energy conversion, wind energy, biomass energy, biogas, biofuels, and municipal biogenic waste.

*2 Regarding the outline and major contentions, etc. of the RPS system, refer also to “Contentions of Japan’s measures for introducing renewable energy—Effects, impacts and problems of the Japanese version RPS system,” which also appears in this publication.

1. Background of Establishment of Green Power System

The green power system, a supportive measure for distributing renewable energy to the demand side includes specific approaches, such as green pricing, the green power certification and trading system, and the green power fund, and it is assumed that the background to the establishment of these approaches had been influenced by a series of consumer activities called *green consumerism*.

Green consumerism is a concept where consumers are aware of their part in environmental degradation and try to mitigate their role in a mass-consumption society. Consumer awareness is brought about by the realization that a consumption-oriented society is based on mass production and mass disposal, which in turn has created the problem of environmental degradation and resource depletion due to excessive use of the Earth's natural resources and concomitant generation of a massive amount of waste.^{*3} Green consumers tend to purchase commodities that reduce the environmental load, even if the commodities are relatively expensive, and are thus positioned to encourage change in the environmental aspects of business behavior.

Affected by such movements as green consumerism, companies have expanded recycling activities, developed products using recyclable materials, and offered catalogs listing environmentally friendly consumer products. The power generation market is no exception. A consumer movement has been growing to purchase electricity from power sources that generate less of an environmental load, even at the cost of additional charges for electric power. The green power system satisfies such consumer requirements.^{*4}

2. Major Green Power Systems

2-1 Green Pricing and Green Marketers in the United States

In the United States, the concept of *green marketing* was established as an extension of green consumerism.

Green power marketing implies the development and marketing of relatively expensive electricity generated by using renewable energy as the “electric power merchandise” intended for use by consumers willing to pay (WTP) additional charges.^{*5} In this respect, market research into

^{*3} Zeimukeiri Kyokai Co., Ltd., “Concept of Environmental Rating—Stakeholders in Environmental Rating and Evaluation Theory,” April 2002.

^{*4} In general, it is considered that the green power system started with the green pricing, which was initiated in 1993 in the United States, as described in the next chapter. However, in Sweden, the concept that power generation technologies to be used are determined according to customer requirements was already introduced around the end of the 1980s.

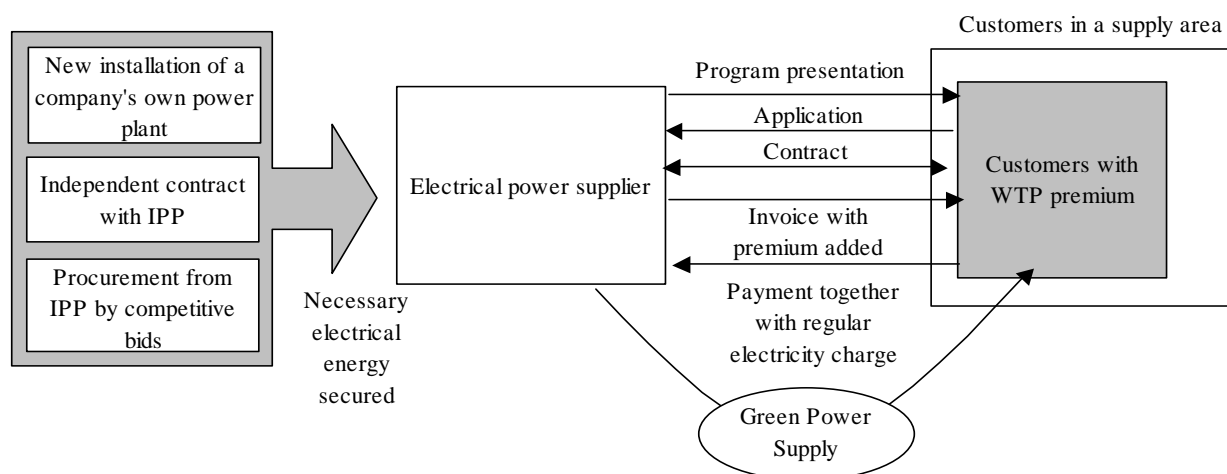
^{*5} Hiroki Kudo[0], “Current Status of the Introduction of Green Power Marketing in US and the ture,” Briefing Paper for the 357th Regular Research Debriefing Session of The Institute of Energy Economics, Japan, October 1999.

what sorts of power sources consumers intend to use and to what extent they can afford to pay extra costs constitutes important factors. The distribution of electricity generated by specific power sources at different price premiums (tariffs) is generally called green pricing.

The nature of green power marketing differs slightly depending on whether it is executed by an electric power company operating under governmental restrictions or by a newcomer in a deregulated market. In the former case, there is a tendency that, due to the concept of emphasizing positive relationships with local residents, the electric power company and local residents jointly support and develop the renewable energy power plant built in the community. In this case, profits do not come first. Green power marketing is used by the existing electric power company to emphasize community-based relationships and win customers.^{*6} On the other hand, in a liberalized market, new traders advocate the green pricing system as their primary marketing strategy to secure customers, and such traders are called green power marketers. In order to deal with all the optional requirements of customers, green power marketers not only develop new power sources of their own, but also procure green power through spot cash trades from IPPs (Independent Power Producers) via ISOs (Independent System Operators) or PXs (Power Exchanges).

The green pricing under a restricted environment was established in 1993 by a few electric power companies in the United States, while it is generally accepted that green power marketers originated when local power distribution companies entered the market following the deregulation of electric utilities in the State of California in 1998. Fig. 2-1 illustrates the structure of the green pricing system.

Fig. 2-1 Structure of Green Pricing System



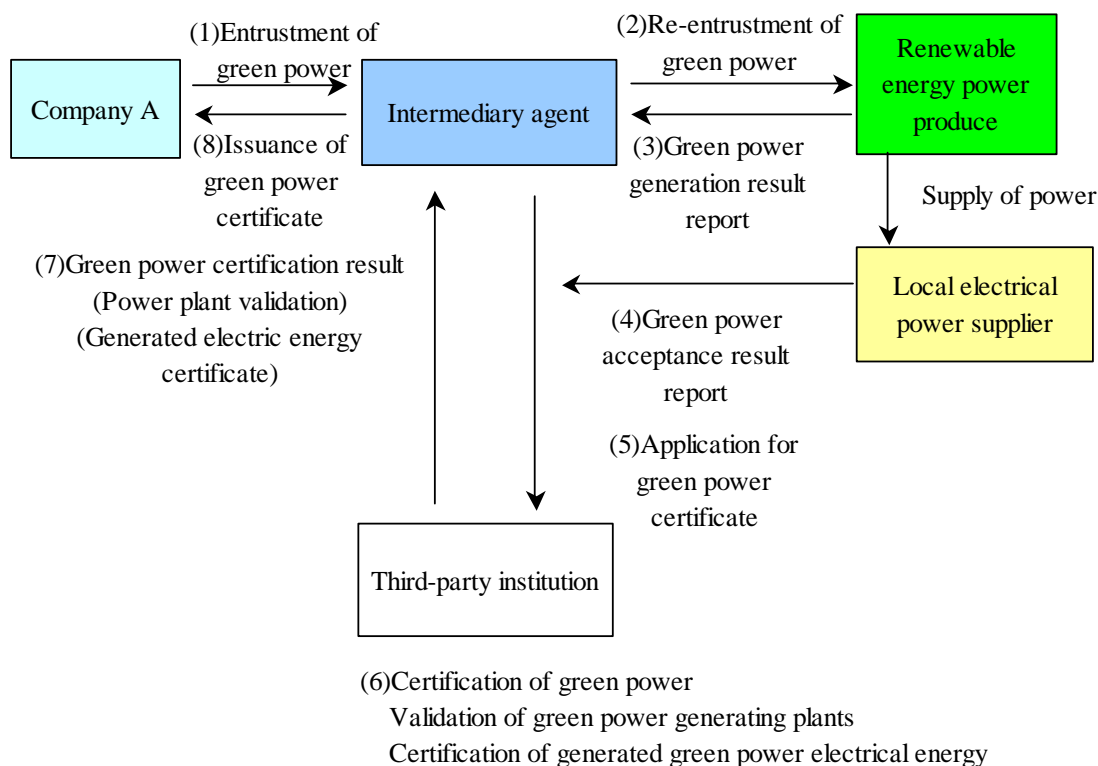
Source: Hiroki Kudo, "Current Status of the Introduction of Green Power Marketing in US and the Future," Briefing Paper for the 357th Regular Research Debriefing Session of The Institute of Energy Economics, Japan, October 1999.

^{*6} Fukumi Akari, Overseas Power Survey Report No. 193, "Dissemination and Supportive Systems of Renewable Energy in Europe and Actions Taken by Electrical Power Suppliers," August 2000.

2-2 Green Power Certification and Trading System

The green power certification and trading system aims to classify and divide the electric power generated at renewable energy power plants into physical electricity and added environmental value, thus making the latter tradable like financial commodities. Demand for green power certification can be divided into that generated under legal obligations from the government and that brought about voluntarily by companies. The former is typically represented by the RPS system prevalent in countries including UK, Australia, Sweden, Italy, Belgium, and Japan. While the latter case is represented by a system implemented by the SEDA (an institution of the State of New South Wales) since April 1997 in Australia, a system implemented in Japan by private traders since November 2001, and a system implemented by an organization called RECS, which is an organization of electrical power suppliers, major oil companies, governmental institutions, and others, in various countries in Europe, in addition to the system initiated in 1997 by EnergieNed, whose membership includes power distribution suppliers in the Netherlands and implemented at the national level since 2001. Here in this paper, the green power certification and trading system implemented in Japan will be referred to, and the outline of the system is described (Fig. 2-2).

Fig. 2-2 Structure of the Green Power Certification and Trading System



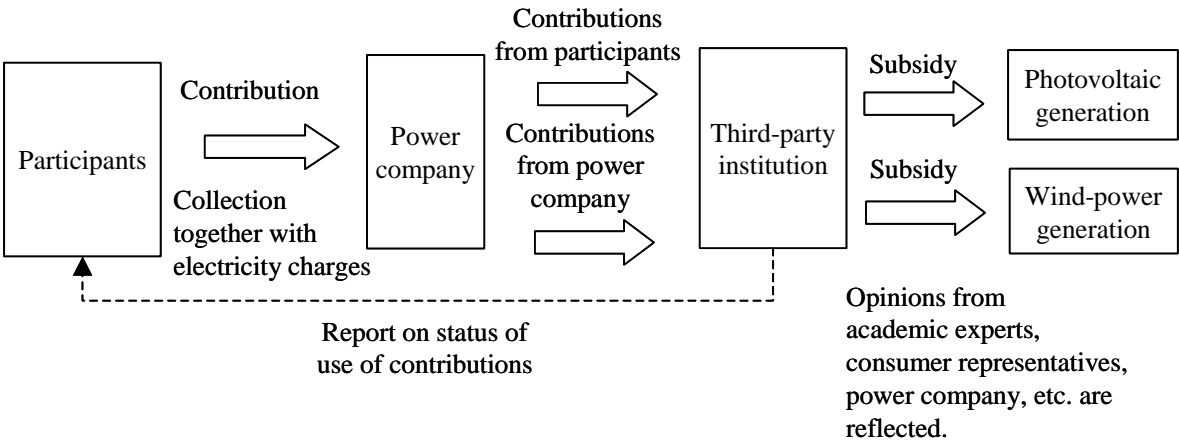
Company A wishes to purchase green power and entrusts power generation from green power to an intermediate agency. The intermediate agency enter into a power generation entrustment agreement with a green power producer and pays a premium in addition to the electricity value to the electricity producer. In general, the value of the electricity itself is purchased by a local electric power company that has a connection with a regular system for an amount equivalent to the discretionary cost (which differs depending on the season or time zone). Green power generated by the power producer is certified for reliability by a third-party institution, and the intermediate agency contracts for the certified power and sells the power to Company A in the form of a certificate. Company A is deemed to have purchased the green power by purchasing the green certificate. Consequently, the company is able to use the power for voluntary environmental measures, including CO2 reduction, to improve the corporate image, and to secure their right to include the certification on their environmental report.

2-3 Green Power Fund

The green power fund was established primarily by donations and contributions from consumers and the general public, and it subsidizes renewable energy power generation projects. There are a variety of methods for raising funds. Money is collected by adding an amount to the regular electric fee as a percentage of that charge (provided that in this case, however, the green pricing may be itemized) or a fixed amount is collected monthly (Fig. 2-3).

The principal management body must function transparently since funds are from an unspecified number of consumers and citizens, and because eligible projects, such as wind power and photovoltaic generation, easily win approval for the subsidy from the participants. This system has been implemented mainly in the Netherlands and Japan.

Fig. 2-3 Structure of the Green Power Fund (in Japan)

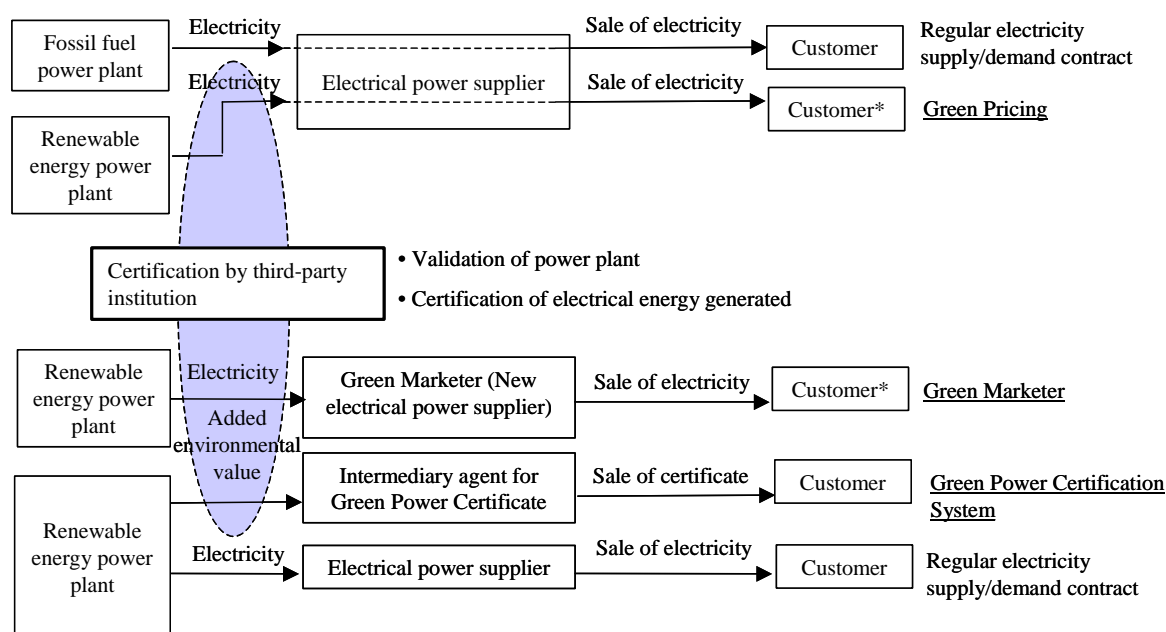


Source: Information prepared from various documents.

3. What is green power certification?

As described previously, since green power is not different from electricity generated from fossil fuels in terms of such characteristics as voltage and frequency once it flows into a power system, it is not possible to distinguish the difference between the sources of electricity. In this connection, to increase the public awareness of renewable energy, some sort of guarantee or official certification concerning the origin of green renewable energy or past achievements of the green power generation will be required.^{*7} Behaviors to guarantee the origin of renewable energy or grant official certification are collectively referred to as “Green Power Certification” (Fig. 3-1).

Fig. 3-1 Major Relationship between the Green Power System and Green Power Certification



Notes:

- 1) Renewable energy power plants supply electricity throughout the system, and it does not mean that electricity from such a power plant is supplied to customers of such electricity. Instead, the customers contribute to the introduction of renewable energy power generation as a whole, and thus, they shoulder the financial burden for the introduction.
- 2) Although not shown in the figure, green power certification may be granted not only to electrical power suppliers, but also to companies that are large consumers and purchase electricity from renewable energy sources, as well as to the products manufactured by those companies.

Source: Information prepared from various documents.

^{*7} Without such official certification, fraudulent conduct is possible, and the sense of mistrust resulting from such conduct would interfere in the purchase of green power. The DOE (Department of Energy, USA) reported reliability and quality as higher priorities for the factors most needed for successful green pricing in their “Green Pricing Resource Guide, February 1997.”

In order to implement green power certification, the respective certifying authority must validate whether the power plant conforms to the stipulated standards.

Here, the point as to whether a structure that enables objective and assured measurement of past achievements of power generation has been established or not is also included in the validation requirements. Next, whether or not green power was actually supplied is verified. Finally, certification is granted when a series of requirements are judged to have been satisfied. The green power certification was initiated in 1998 triggered by the deregulation of electric utilities in the State of California. Today, it is implemented in almost all countries that have the green power system.

Of course, strict adherence to the established standards must be demanded in the green power certification system itself, but it would never be completed within a closed system. It is desirable that the green power certification system should be encouraged to match other systems for further enhancement through eventual supplementation. In this section, the author will present some contentions that are assumed to be important in studying green power certification and will describe each of the contentions.

3-1 Certifying Institutes

Organizations that provide green power certification are expected to be staffed by personnel with a high degree of professionalism and to be third-party neutral organizations. Therefore, generally they comprise academic experts and members from NGOs, consumer groups, and certification organizations.

As for entities to which the organizations belong, governmental and private ones are possible, but the situation depends on the type of system with which the respective entities are going to secure reliability.

Actually, when examining typical certification organizations in various countries, the CRS (Center for Resource Solutions), which offers a green pricing certification program in the United States, is a not-for-profit non-governmental organization (NGO). The SSNC (Swedish Society for Nature Conservation), which has been involved in environmental certification in power demand and supply contracts since the fall of 1995 in Sweden, is also an NGO. In Germany, three certification organizations with some differences between them exist independently, offering activities based on their own characteristics.^{*8} In Australia, the SEDA (Sustainable Energy Development Authority), a state government institution of the State of New South Wales had implemented green power certification during the initial stage, but thereafter, six state

^{*8} More specifically, they are VdTUeV (Association of Technical Supervising Societies) in Germany, which is relatively pro-industrial; the Green Power Label Association established under the leadership of environmental NGOs; and Energy Vision, which is supported by both environmental NGOs and scientific research institutions and is generally considered to have intermediate characteristics of the industry and environmental NGOs.

government institutions (Green Power National Accreditation Steering Group) jointly execute certification under the leadership of the SEDA. In the Netherlands, EnergieNed (an association comprising power distribution companies) implemented certification at the time of the test phase in the private sector from 1998 to 2000. Following that, the system was transferred to a national-level certification system in January 2001. TenneT, which is a national power system management company in the Netherlands, is currently designated as the certification organization.

3-2 Certification Requirements

Green power certification is understood as a series of procedures, and the item that finally receives verification for certification is the electrical energy generated, or kilowatt hours. In the initial stage, if an official certificate is given verifying the adequacy of the power plant as a renewable energy power plant in terms of kilowatt hours, then it is possible to assume that the electric power generated by the power plant is green power, thus enabling efficient execution of subsequent procedures. The awarding of an official certificate verifying the adequacy of the power plant is called *validation*.

There are two major factors that constitute validation. The first factor is the requirements for a power plant itself, and the second factor is the requirements that ensure accurate verification of past achievements of power generation. Specific examples of the former factor are assumed to include the following requirements:

- (1) The power plant concerned uses a power generation system that has less of an impact on the environment;
- (2) Existing plants that are difficult to maintain without additional fund injections;
- (3) No new environmental degradation is likely to be caused by the construction of the power plant concerned;
- (4) Appropriate agreements from local authorities and local residents have been obtained;
- (5) The power plant is capable of disclosing the necessary information as requested by certification organizations; and
- (6) The power generation system is in compliance with all applicable related laws and regulations.

On the other hand, the latter factor is assumed to include such requirements as a monitoring system capable of complementing the past achievements of power generation. Another procedure required for executing the certification is the verification of past achievements (results) of power generation. The term “verification” used here should not only confirm the kilowatt hours generated, but also verify the absence of redundant issuance of certificates and circulation of false certificates. The procedure is closely related to the double counting problem described in the

next section and constitutes a very important point.

4. Major Contentions in Green Power Certification

Table 4-1 summarizes the major contentions in green power certification. In this section, the author will briefly describe some contentions that are assumed to be important in terms of certification procedures.

4-1 Contentions Concerning Power Generation System

Green power systems in many countries refer to such renewable energy as wind power, photovoltaic power, solar energy, geothermal energy, biomass, hydraulic energy, and tidal/wave energy for eligible sources. This is because it is considered that the value of renewable energy is in the reduction in CO₂ emissions, conversion to non-exhaustible energy, or further reductions in environmental risks including atmospheric contamination. Among such values, however, to what extent the requirements are covered differs country by country depending on the situation or concept of values of each country; and consequently, they provide for different definitions of renewable energy.

In the case of the Green-e Certification Program offered by CRS (Center for Resource Solutions) in the United States, they stipulate the eligible power sources to be photovoltaic power, wind power, geothermal energy, biomass and small-scale hydraulic power, and at least 50% of the electric power is supplied from such power sources. In addition, regarding energy other than renewable energy, they stipulate the requirement that the amount of gaseous emissions generated from such energy must be equivalent or less than the amount of gas discharged from conventional power generation structures. It should be noted that, regarding biomass, slight differences are observed among states or areas.

In the environment certification standards (SSNC 1995) by the Swedish Society for Nature Conservation, household waste and pete are not deemed to be applicable items. While regarding hydraulic power generation, they do not provide for any restrictions according to the size based on the concept that environmental destruction per unit of hydraulic power generation remains unchanged despite its size.

Table 4-1 Major Contentions in Green Power Certification

Intended Object	Contention	Specific Example of Requirement	Background Concept
Power Plant	Whether the generation system impacts less on the environment or not.	<ul style="list-style-type: none"> The plant shall be a renewable energy power plant. The scope is slightly different depending on the country. 	<ul style="list-style-type: none"> Provision of judgment criteria to individuals/organizations that are willing to shoulder additional costs for power plants that have added environmental value, such as reduction in CO2 emissions, conversion to non-exhaustible energy, and reduction in environmental risks.
	Whether the construction of the power plant concerned is likely to cause new environmental damage or not.	<ul style="list-style-type: none"> Impact statements on atmospheric contamination, etc. Statements of impacts on biodiversity, soil, and ecosystems. 	
	Whether the plant obtained public consensus or not.	<ul style="list-style-type: none"> Implementation of explanatory meetings intended for local authorities and local residents. 	
	Additionality Requirement (1): Whether the plant requires additional financial support or not.	<ul style="list-style-type: none"> New plants constructed in the reference year and thereafter. Existing plants that are difficult to maintain without additional fund injections. 	<p>A concept to classify existing and new plants and promote the expansion of the latter.</p>
Electric Energy Generated	Whether the amount of power as per the applied amount is actually generated or not.	<ul style="list-style-type: none"> Common opinions between two parties with conflicting interests. Measurements by an independent third party. 	<ul style="list-style-type: none"> Securing the reliability of products.
	Additionality Requirement (2): Whether existing plant is effectively utilized or not.	<p>With the electric energy generated in the reference year as the base, power is generated in an amount exceeding the base electric energy.</p>	<ul style="list-style-type: none"> A concept to encourage the utilization ratio of existing plants.
	Additionality Requirement (3): Whether the electric energy applied for is supported by other plans or not.	<ul style="list-style-type: none"> The energy is not purchased by an electric power company for the purpose of achieving the RPS obligations. The energy is not counted for energy usage for qualified reduction in subject plants under the Law Concerning the Rational Use of Energy. The energy does not qualify for the surplus power preferential buyback menu of an electric power company. 	<ul style="list-style-type: none"> Issues on the entities to which added environmental values should belong.
Consumer Protection	Double counting, such as double sales or double usage, is not implemented.	<ul style="list-style-type: none"> Checks are implemented wherein double sales or double usage of the added environmental value is not and will not be implemented. 	<ul style="list-style-type: none"> Issues on the entities to which added environmental values should belong. Securing the reliability of products.

4-2 Contentions Concerning Additionality Requirement

The *additionality requirement* is a concept that was originally established in Europe for the purpose of classifying renewable energy power plants and focusing on the expansion of those plants for which facility depreciation was well advanced and new renewable energy power plants were to be additionally constructed. In many cases, the additionality requirement is handled as existing/new construction issues in general, but various other types of additionality exist.

Typical cases of such additional requirements include the following:

- (1) A specific reference year is determined, and only the plants constructed in that year and thereafter shall be eligible;
- (2) A specific reference year is determined, and the electrical energy that is increased by expansion or improvement of the plants executed in that year and thereafter shall be eligible;
- (3) The electrical energy generated in a specific reference year is designated as the baseline, and only the electrical energy exceeding the baseline shall be eligible; and
- (4) For example, with a co-combustion power generation system using biomass and fossil fuels, it shall be provided that the biomass portion shall be increased by X% annually in and after a specific reference year.

Other than the above, there is also a concept for an additionality requirement in terms of an institutional viewpoint that plants financially supported by other systems (including those based on the national regulations, as well as those voluntarily implemented by the private sector) shall not be approved as eligible.

4-3 Double Counting Issue^{*9}

As stated earlier, green power involves such values as reduction in CO₂ emissions, conversion to non-exhaustible energy, and reduction in environmental risks including atmospheric contamination, but it is considered that all such values will belong to customers who paid environmental premiums unless otherwise specified. Therefore, when performing a green power certification, it is necessary to verify not only the “greenness” and reliability of past records of power generation of the plant concerned, but also to verify whether the (part or entire) added environmental values of electric power for which a certification is applied already belong to different entities (regarding this point, it is also important as a concept to make an ex-post evaluation).

When added environmental values offered by identical electricity generated by a power

^{*9} Refer to “Regulator’s Handbook On Tradable Renewable Certificates,” Center for Resource Solutions, May 2003. <http://crs2.net/handbook/>

plant belong to two or more customers, the situation is called “double counting.” Since the double counting falls within the double collection of values, it shall not be approved for any cases (Fig. 4-1).

Fig. 4-1 Specific example of double counting

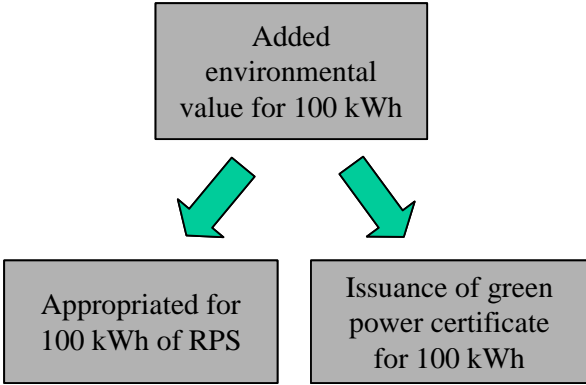
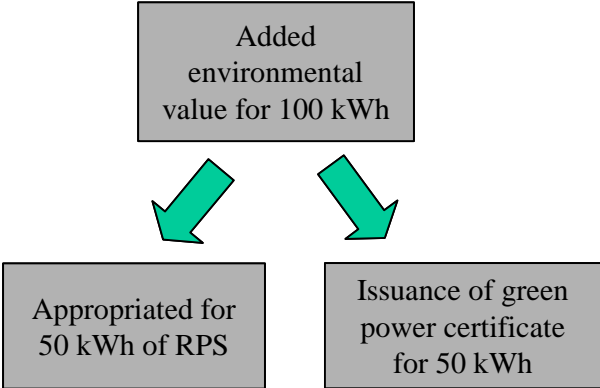


Fig. 4-2 A Case not falling within the definition of double counting



On the other hand, Fig. 4-2 shows a case where, for a power plant capable of generating power of 100 kWh during a certain period, an electric power company contractually stipulates the purchased electric power to be 50 kWh in advance to fulfill the RPS obligations, and an application is made for the certification for the purpose of issuing a green power certificate. In this case, the green power is not deemed double counting, and the certificate can be granted.

Other than the above, a case where an entity sells a green power certificate that has been used to different entities or uses the certificate for two or more intentions is assumed to be *double usage* and is also classified in a broad sense as double counting. In the Netherlands, however, ascribing of costs used by electric power companies to achieve the RPS requirements to consumers is exceptionally approved.*¹⁰

*¹⁰ It is likely, however, that the issue is due to circumstances inherent in the RPS system in the Netherlands. More specifically, in the case of the Netherlands, they do not employ the style of allocation of obligations to electric power suppliers, but they

4-4 Other Requirements

In the case of the Green-e Certification Program by the CRS in the United States, the following requirements for electrical power suppliers are added:

- (1) Disclose information regarding electricity sold on occupation ratios and types of renewable energy power sources;
- (2) Disclose information that enables easy comparison of charging systems of their menu and contract periods;
- (3) Receive an audit on the Green-e at the frequency of once every two years to verify that fraudulent practices are not conducted; and
- (4) Receive an annual audit to determine whether the renewable energy power is procured in an amount sufficient to satisfy customer requirements.

Furthermore, in the case of the SSNC 1995 in Sweden, the regulation stipulates the following basic requirements:

- (1) Electric energy generated from renewable energy by an electric power supplier and the consumption by customers should be well balanced on an annual basis;
- (2) The power plant generating such energy should satisfy the additional environmental standards; and
- (3) The electric power supplier should have received an audit conducted by the SSNC and the government every year.

The regulation also stipulates the following additional standards:

- (4) Consumption of non-renewable energy to be used for the power supply should not exceed 10% of the total electricity generated by the power plant;
- (5) Hydraulic power plant constructed in 1996 and thereafter should be excluded; and
- (6) Ash generated from a biomass power plant should be returned to the soil.

5. Outline and the Future Outlook of Green Power Certification in Japan

5-1 Outline of the Council

Green Power Certification in Japan commenced in November 2001 by the GPCCJ (Green

insistently adopt the style to supply power as required by customers. Therefore, it may be possible that they authorize a shift in costs.

Power Certification Council Japan).^{*11}

The main membership of GPCCJ comprise academic experts, environmental NGOs, and representatives from local authorities, as well as specialists in the field of renewable energy, with participation of renewable energy power producers, intermediate agencies, and users of renewable energy as observers. The GPCCJ is involved in the creation of validation criteria for renewable energy power plants and green power validation criteria, as well as the quarterly certification of generated electrical energy. As understood from the fact that the Council comprises a variety of stakeholders, the GPCCJ features execution of certifications while considering a balance in terms of such factors as businesses, environmental preservation activities, and user profits.

The GPCCJ stipulates that power generating systems eligible for certification are systems of wind power, solar energy, biomass, hydraulic power, geothermal energy, and fossil fuel/biomass co-combustion^{*12}, and they have already created certification criteria regarding power generation from wind power, photovoltaic power, and hydraulic power, as well as biogas out of biomass, and organic lignocellulosic biomass from wood. Good examples of features of the GPCCJ certification include the certification granted for electricity generated and consumed at home if certain requirements are satisfied, and that, when considering additional requirements, the criteria are not based on the classification of new/existing installations, but rather a judgment is made as to whether the trading behavior of the green power certificate constitutes a major factor in the construction or maintenance of the plant.^{*13}

5-2 Past Certification Results

Since the commencement of certification in November 2001, the GPCCJ has validated three wind power plants totaling 23,550 kWh, and certified cumulative electric energy generated as approximately 35,360,000 kWh at the end of the year 2002. Validations are examined in committee meetings by considering such factors as reports concerning impacts to ambient environment, availability of orientation meetings to local residents, and observation of related laws and regulations. Furthermore, electrical energy certifications are conducted through quarterly verifications that data from power producers coincides with that of local electric power suppliers, which receive the electric power.

*11 <http://eneken.ieej.or.jp/greenpower/>

*12 Power generation in which the missing rate of fossil fuel as an auxiliary fuel is within about 40% in equivalent calorific value is called biomass power generation, and the fossil fuel/biomass co-combustion power generation implies other types of the above-stated power generation. However, the point as to whether the power plant occupation rate of fossil fuel is 99% and that of biomass is 1% can be deemed as a renewable energy power plant is currently under examination.

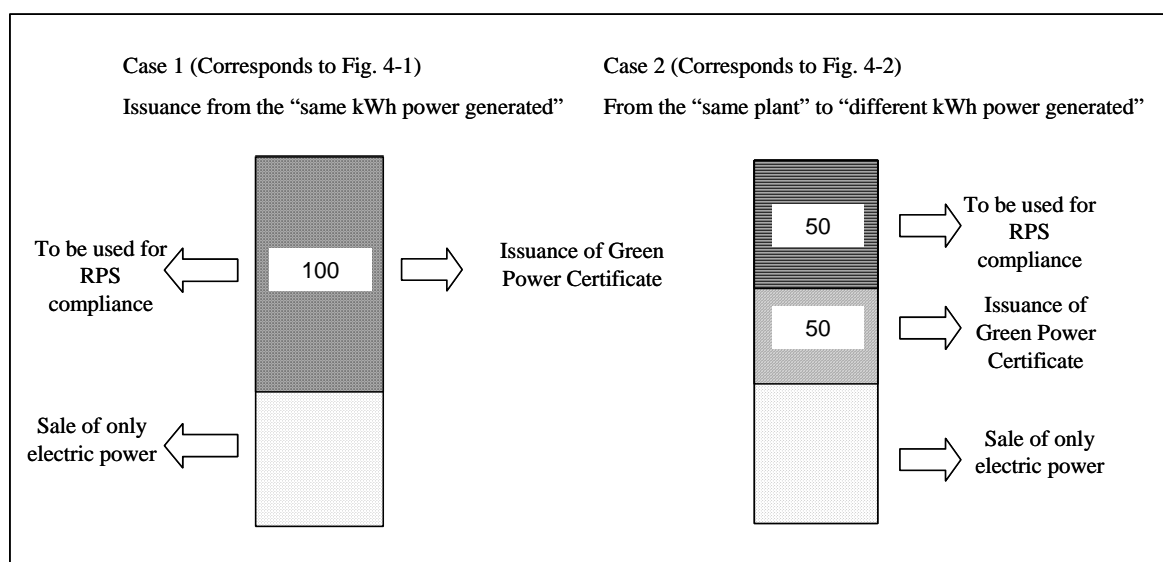
*13 For browsing further validation/certification criteria, refer to:
<http://eneken.ieej.or.jp/greenpower/03.html>

5-3 Relationship with Other Political Measures (the RPS Law, etc.)

Following the enforcement of the Special Measures Law concerning the Use of New Energy, etc. by Electric Utilities (RPS Law) in April 2003, the GPCCJ stipulated the relationship between Green Power Certification and the RPS Law for the time being as follows (See Fig. 5-1 below):

In the figure, Case 1 assumes a case where an application for certification is made for electricity, from the “same kWh power generated,” that is stipulated as an eligible item for issuing an RPS credit under the RPS Law, but the GPCCJ states that, principally, they will not grant the certificate in this case because they deem the case falls within the double counting of the environment premium as described earlier in Fig. 4-1.

Fig. 5-1 Relationship Between Green Power Certification and RPS in Japan



Source: Information based on Documents for The 4th Committee Meeting 2002 of GPCCJ, Tetsunari IIDA, March 2003

In Case 2, electricity generated from the “same plant” is divided into two portions of “different kWh power generated”; a portion thereof is designated as electricity is eligible for the issuance of an RPS credit referred to in the RPS Law, and the application for certification is made on the remaining portion. This is same as the case described in Fig. 4-2, except that granting of the green power certificate should be possible only when the electric energy purchased by the electric power company, by paying the premium, is determined between the electric power company, which is the obligatory party under the RPS Law, and the power producer for the generated electricity exceeding such determined amount. Provided that, however, for a case where a major part of the electrical energy generated by the power producer is purchased by using the RPS quota (e.g., when the amount to be used for observing the RPS requirements is 90 instead of 50), the point as to whether the green power certificate covering the

surplus portion can be a major factor in terms of the construction, maintenance, or management of the power plant concerned is likely to be an issue of discussion in the future.

In the future, the GPCCJ plans to make further studies on measures to deal with the RPS Law while observing the management results of the RPS Law, but there was a consensus in discussions among participants that any certification activities likely to give rise to a misunderstanding among the general public should be avoided for the time being.

5-4 Future Outlook for Japan's Green Power Certification System

As seen from examples in other countries, it is assumed that, in the future, there will be situations that require green power certification in various aspects also in Japan. For example, when electric power companies provide customers with green pricing menus in the future and if traders think it necessary to have certificates for the menus or if a certain power plant is going to be subsidized with contributions from citizens just like the green power fund, the certificate is likely to be required as material to judge which entity is appropriate as a management partner. Furthermore, companies that have a plan to purchase power from IPPs (Independent Power Producers) that have renewable energy power plants would seek certificates for the power they purchase for their PR activities. To further enhance the certification system in accordance with the expansion of public needs and achieve reliability and acceptability, the following two points would be important.

The first point is that certification institutions should remain independent. As needs for green power certification grow, participation of certification organizations that have achieved satisfactory results in other fields might occur as a matter of course. When this occurs, deployment of certification services by some unique certification organizations, as is the case in Germany, would lead to vitalization of the entire certification system. In each case, however, it is essential that respective certification organizations remain independent also in the financial aspects and execute highly transparent organizational operations. In this connection, the GPCCJ, for example, is studying an organizational system that allows unique and easy access by traders in a broad range of fields by introducing methods of collecting application commissions, charging at metered rates, and membership systems in the future.^{*14}

The second point relates to issues related to the matching of green power certification with other energy/environmental measures. This includes not only matching other domestic systems described in the previous section (the RPS Law, etc.), but also linkage with similar overseas systems. In the case of a group called RECS (Renewable Certificate System), which was established in 1999 jointly by electrical power suppliers, major oil companies, and governmental institutions, etc. in various countries in Europe, as a result of their positive approaches to the

^{*14} At this moment, partly because the GPCCJ is in the start-up period, the maintenance and management of the organization is covered by a trust fund from traders that are involved in transaction services of green power certificates.

European Commission, the group is being approved as the core certification organization for the “Renewable Energy Directive” in Europe.^{*15} In addition, with the RPS Law implemented in May 2003 in Sweden, the policy is to approve, in addition to the certificates approved by certification organizations in Sweden, the certificates issued by the RECS that are also appropriable to obligations.^{*16} Such a mechanism may further encourage transnational companies and organizations to participate in the system. Although the green power system was originally implemented by voluntary approaches by customers, the system would further strengthen such customers’ incentives by achieving compatibility with various other measures. Furthermore, with regard to the certification service itself, judgment criteria that are common worldwide through preparation of guidelines are likely to be established.

Conclusion

In the second phase of the Outline Concerning the Promotion of Measures to Cope with Global Warming, or in the year 2005 and thereafter, it is likely that countermeasures against global warming will be enhanced, and concerns toward renewable energy in Japan are expected to grow as the actions progress.

Approaches to promote renewable energy can be sorted into political approaches intended for suppliers and voluntary approaches intended for customers. In particular, for the latter approaches, such effects as awareness raising and choice by customers can be expected as measures for energy and global warming intended for customers.

On the other hand, since differences in products cannot be acknowledged according to power sources, it is very important to secure the reliability of products to encourage the purchase of renewable energy among consumers in the future. In this connection, green power certification will play a significant role in supporting the future development of green power systems and energy/environmental policies in Japan; and therefore, it is required to further improve the environment enabling certification services with enhanced transparency for acceptance by the public.

*15 The “EU Renewable Energy Directive” officially announced by the European Commission in September 2001 stipulates that the governments of respective member nations must introduce a certification system of renewable energy power generation by October 2003. However, movements to designate the RECS as the alternative certification system have been observed in various countries.

*16 Refer to: Swedish Energy Agency, “Electricity Certificates in Sweden”, January 2003.
[http://www.stem.se/web/bibshop_eng.nsf/FilAtkomst/ElcertEng.pdf/\\$FILE/ElcertEng.pdf?OpenElement](http://www.stem.se/web/bibshop_eng.nsf/FilAtkomst/ElcertEng.pdf/$FILE/ElcertEng.pdf?OpenElement)

<References/Source Materials>

[1]

Institute for Sustainable Energy Policies; Studies on the Process Formation of Consensus in Society and International Consonance toward the “Green Power System” Certification, March 2001.

[2]

Hiroki Kudo, “Current Status of the Introduction of Green Power Marketing in US and the Future,” Briefing Paper for the 357th Regular Research Debriefing Session of The Institute of Energy Economics, Japan, October 1999.

[3]

Center for Resource Solutions, “Regulator’s Handbook On Tradable Renewable Certificates,” May 2003.

[4]

Fumiki Akari, Overseas Power Survey Report No. 193, “Dissemination and Supportive Systems of Renewable Energy in Europe and Actions Taken by Electrical Power Suppliers,” August 2000.

For further information, contact: ieej-info@ky.ieej.or.jp