

IEEJ: March 2009



# Overview of the Green Power Certification System

17<sup>th</sup> June, 2008

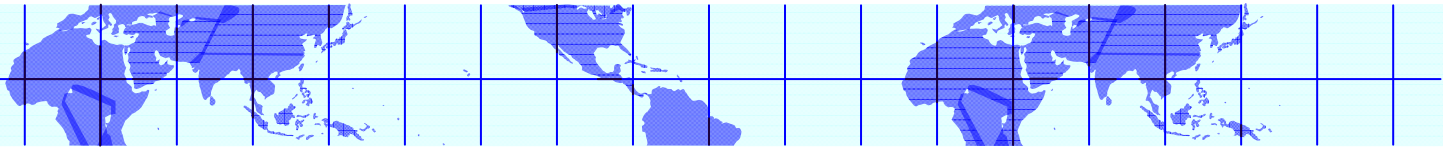
Junichi Ogasawara

The Green Energy Certification Center  
The Institute of Energy Economics, Japan

# 1. What is the Green Power Certification System?

## (1) Purpose

- To help companies, local governments and other organizations which find it difficult to have their own green power generation facilities, contribute to environmental conservation measures by purchasing green values through the Green Power Certification System.
- By allowing power generators to sell their green values, to encourage the further construction of facilities for economical green power generation, and furthermore contribute to the expansion of green power usage in Japan.
- ⌘ Green Power: Energy produced from renewable or non-polluting and non-hazardous technologies such as wind power plants, geothermal power plants, solar-cells.

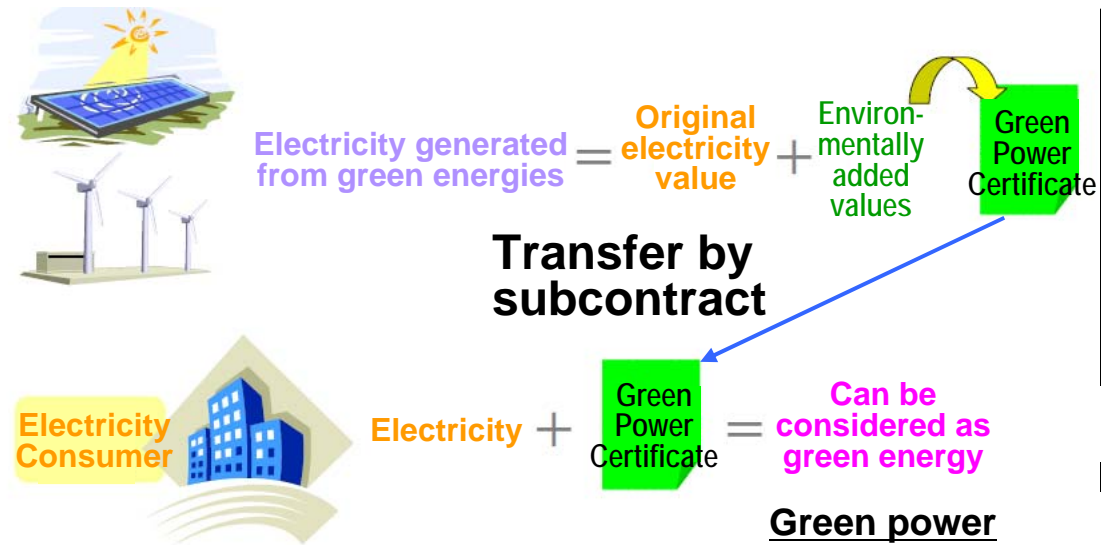


# 1. What is the Green Power Certification System?

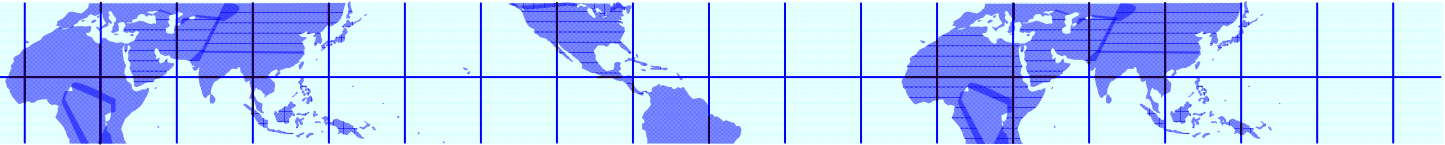
## (2) Overview ①

- The Green Power Certification System aims to translate the other value of electricity generated from natural energies, including energy conservation (reduction of fossil fuel consumption) and reduction of CO2 emissions (these values are called Green Power Added Values), into the form of "Green Power Certificate," to allow companies and other organizations to use these values, as one of their voluntary energy conservation and environmental conservation measures.

- In this system, if an organization which doesn't have its own power generation facilities purchases the Green Power Added Value = Green Power Certificate, **the electricity consumed by this organization can be considered as being generated by natural energies.**

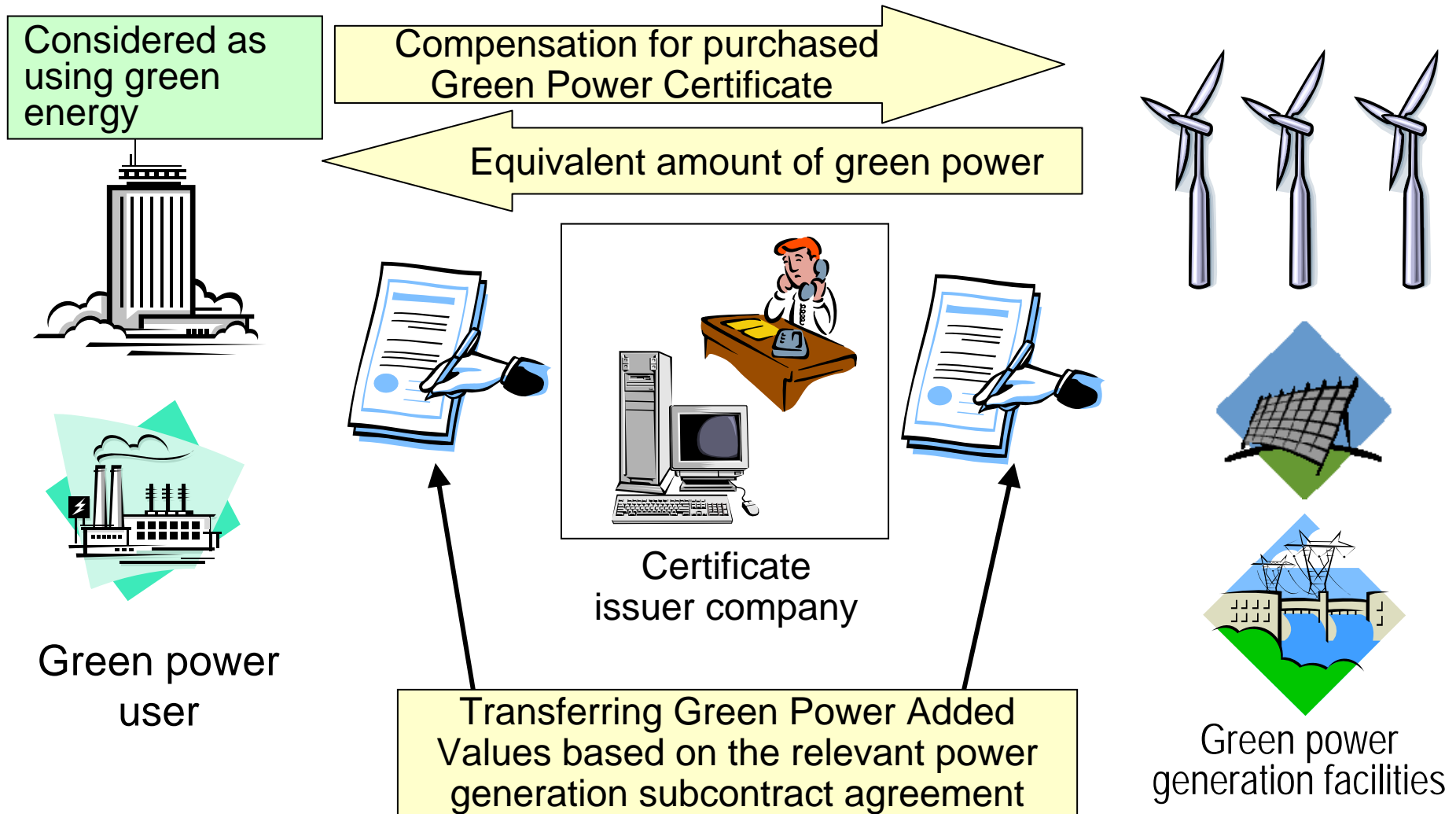


(Source) Reference materials for Green Energy Usage Expansion Working Group (the 1st meeting), New Energy Subcommittee of the Advisory Committee on Natural Resources and Energy



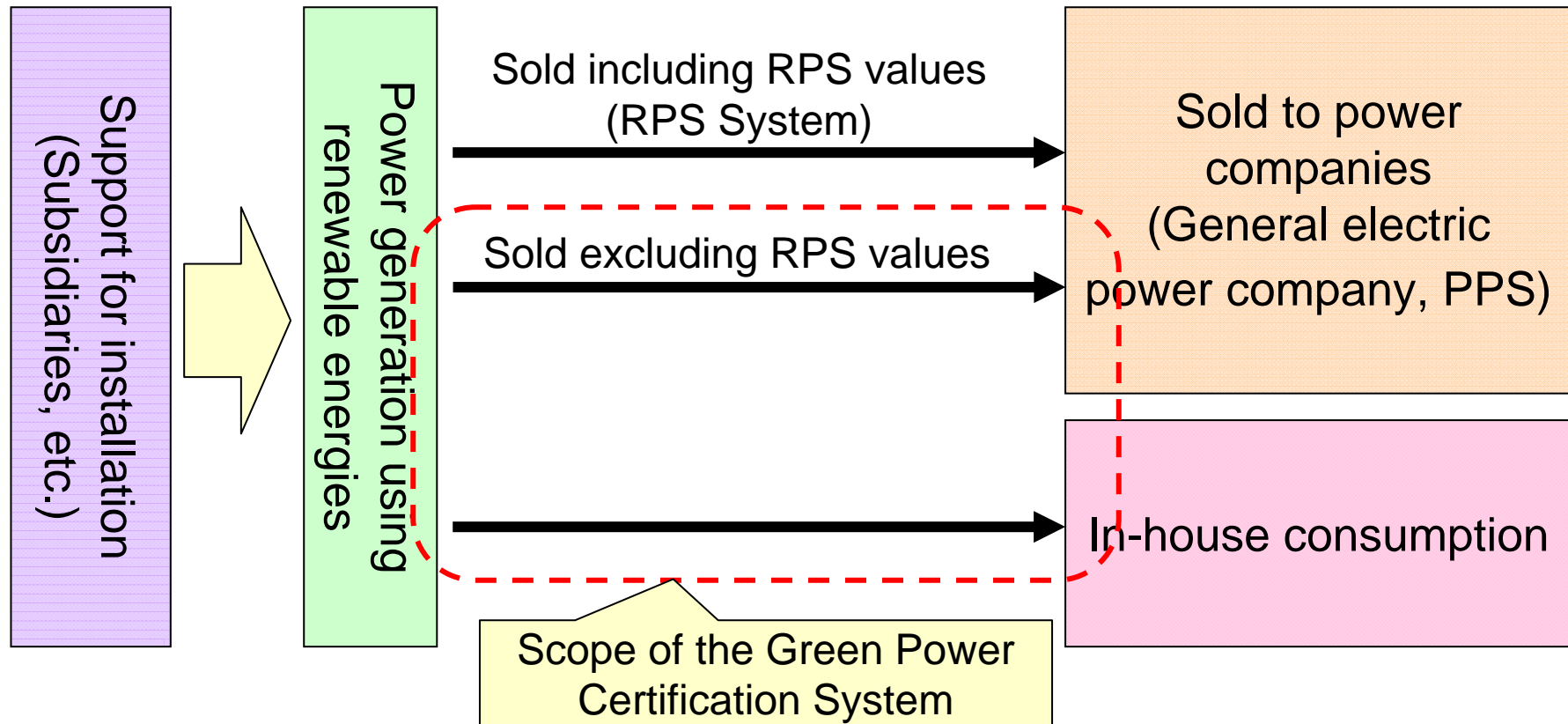
# 1. What is the Green Power Certification System?

## (2) Overview ②

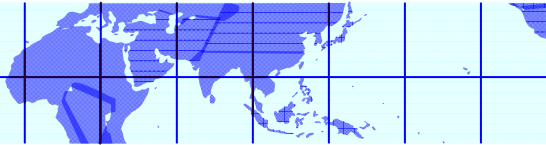


# 1. What is the Green Power Certification System?

## (3) Expansion of Green Power Certificate and Renewable Energies Power Generation



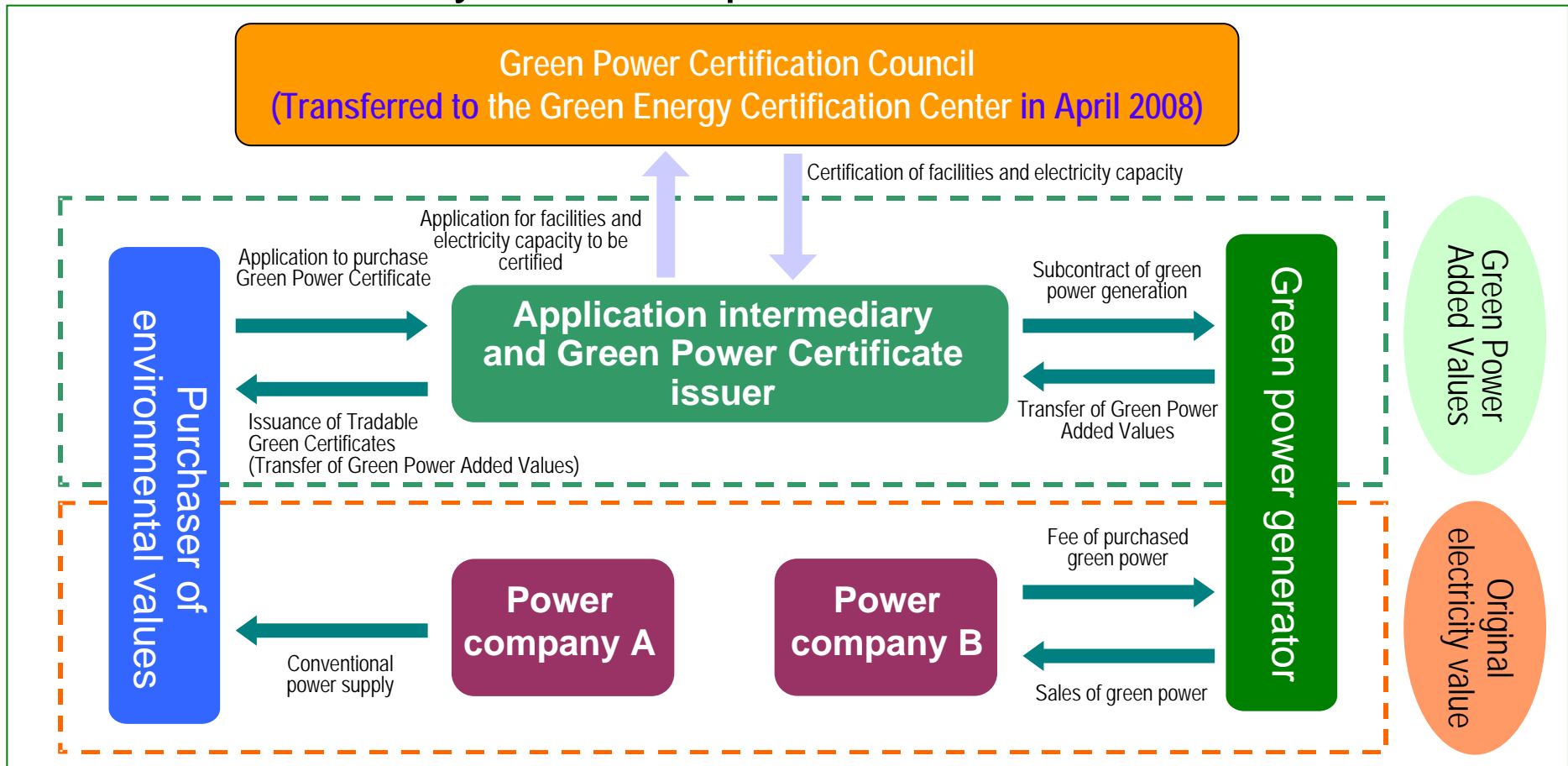
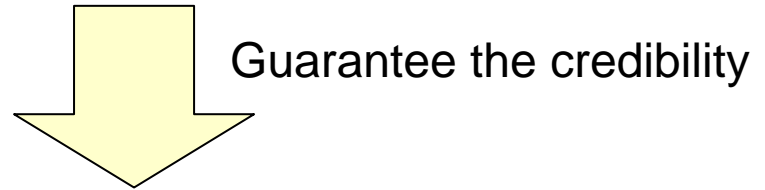
- The Green Power Certification System supports according to the actual power amount, not in the installation stage of power generation facilities using renewable energies.



**Guidelines for Green Power Certificate issued by the Agency for Natural Resources and Energy (established in June 2008)**

# 1. What is the Green Power Certification System?

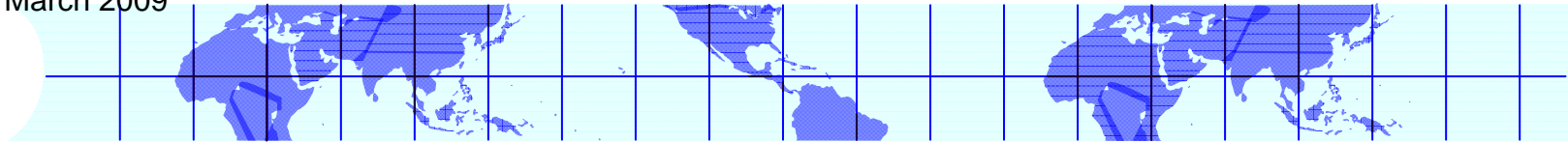
## (4) Overview of the Green Power Certification System in Japan



# 1. What is the Green Power Certification System?

## (5) History of Green Power Certification System

- November 2000: The Japan Natural Energy Company Limited announced a plan for commercialized Green Power Certificate , the first as a private company in Japan.
- June 2001: The “**Green Power Certification Council**” (an independent organization) was established as a third party certification organization.
- February 2008: The “**Green Energy Usage Expansion Working Group**” was established under the control of the New Energy Subcommittee of the Advisory Committee on Natural Resources and Energy, within the Ministry of Economy, Trade and Industry. The working group aimed to discuss the further promotion of Green Power Certificate .
- April 2008: The “**Green Energy Certification Center**” (an affiliated organization of the **Institute of Energy Economics, Japan**) was established in order to promote the further expansion of green power usage and broadly discuss not only electricity but also heat.
- June 2008: The Green Energy Usage Expansion Working Group submitted a report (the establishment of expansion measures and the Guidelines for Green Power Certificate ), and the inaugural meeting of the **Green Energy Partnership** (Chairperson: President Chubachi of Sony Corporation) was held.
- July 2008: A **Green Energy Promotion Week** campaign was performed on the occasion of the Toyako G8 Summit (as a cooperative action).
- August 2008: The fundamental policy for **Tradable Green Heat Certificates for Solar Heat** was approved by the “Study Team on Tradable Green Heat Certificates for the Expansion of Solar Heat Usage” of the Tokyo Metropolitan Government.

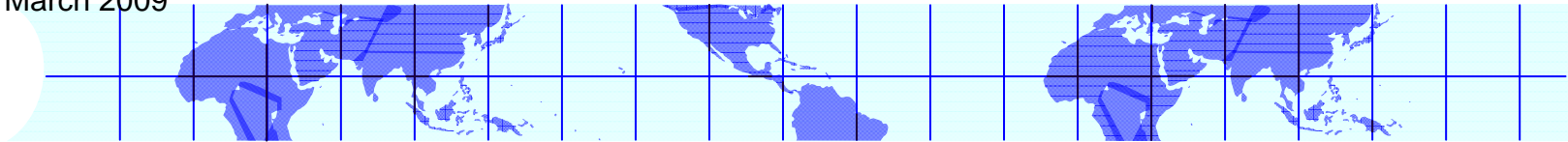


## 2. How is the Green Power Certification System Operated?

### (1) Overview

- In the system, a third party organization certifies the “Green Power Capacity” indicated in Green Power Certificate to facilitate economic transactions.
- **Step 1**
  - ✦ Accreditation of green power generation facilities: Checking whether ① the facilities have appropriate capabilities to generate green power; and ② the green power generation capacity can be accurately measured and calculated.
- **Step 2**
  - ✦ Certification of the green power amount: Checking whether the green power amount is correctly and accurately calculated by the methods defined in the facilities certification step.





## 2. How is the Green Power Certification System Operated?

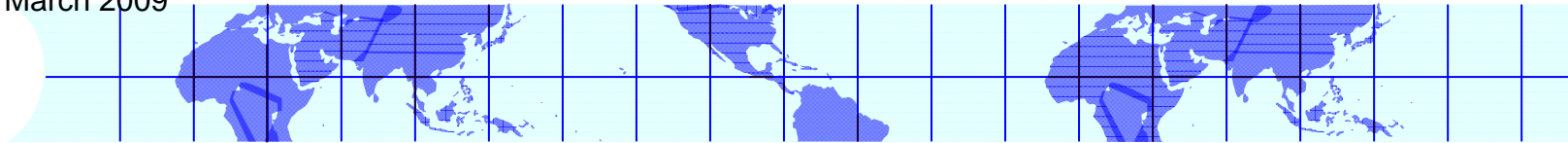
### (2) Related Documents

#### The Green Energy Certification Center

- **Regulations of the Green Energy Certification Center:** Organizational rules, roles, etc. for committees in the Certification Center
- **Green Power Certification Standards:** Stipulates the definition and basic policy for the certification by the Certification Center
- **Green Power Certification Standards Instruction Manual:** Stipulates the details of the Certification Standards
- **Administrative Manual for Green Power Certification:** Stipulates the administrative procedures of the certification by the Certification Center
- **Guidelines for Representations and Other Styles:** Stipulates the representations which owners, power generators, and Green Power Certificate issuers can use
- **Cost Rules:** Stipulates how the costs involved in operating the Certification Center are shared

#### Green Energy Usage Expansion Working Group, New Energy Subcommittee

- **Guidelines for Green Power Certificate :** Defines how the expected Green Power Certification System should be, based on the perspectives of increasing equality, transparency and reliability; protecting consumers' interests; and other considerations

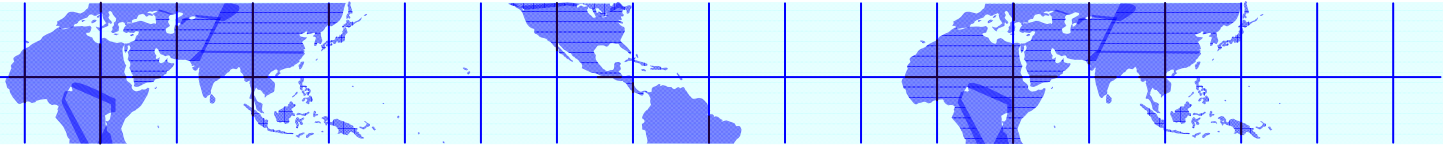


## 2. How is the Green Power Certification System Operated?

### [Reference] Guidelines for Green Power Certificate

Chapter	Items
Chapter 1: General Rules	Positioning and Definition of the Guidelines
Chapter 2: Rules Concerning Certification Organizations	Requirements of certification organizations, Duties of certification organizations, Information provision from certificate issuer organizations, Information disclosure, Preservation of documents, Prohibition of duplicated certification, Unified marks
Chapter 3: Accreditation of Power Generation Facilities	Requirements of accreditation, Issuance of accreditations, Changes of accreditations, Formulation of accreditation standards
Chapter 4: Certification of Equivalent Green Power Amounts	Requirements of certification, Issuance of certificates for equivalent green power amounts, Formulation of certification standards, Management of equivalent green power amounts
Chapter 5: Certificate Issuer Organizations	Detail styles of Green Power Certificate , Changes of accreditations, Information disclosure, Information provision to Green Power Certificate receivers, Prohibition of duplicated issuance of Green Power Certificate , Report from Green Power Certificate receivers to certification organizations
Chapter 6: Owners of Equivalent Green Power Amounts	Notes concerning representations for equivalent green power amounts
Chapter 7: Green Power Generators and Other Relevant Parties	Green power generators, Organizations purchasing electricity from green power generators

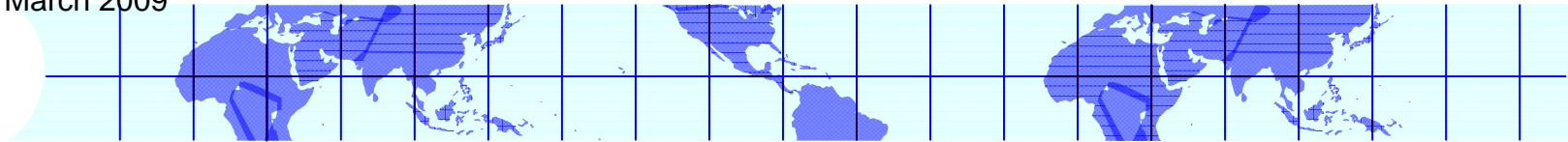
- Adopted in the Green Energy Usage Expansion Working Group, New Energy Subcommittee of the Advisory Committee on Natural Resources and Energy in June 2008
- These guidelines defines how the expected Green Power Certification System should be, from the perspectives of increasing equality, transparency and reliability; protecting consumers' interests; and other considerations, concerning Green Power Certification Systems voluntarily promoted by private sectors.



## 2. How is the Green Power Certification System Operated?

### (3) Power Generation Facilities to Be Accredited as Having Appropriate Capabilities to Generate Green Power

- Power generation facilities to be accredited as generating green powers by the Green Energy Certification Center, should satisfy the **Green Power Certification Standards** and their **Instruction Manual**.
- Factors (requirements) consisting of “green power values” focused on by the Green Energy Certification Center include **“the reduction of CO2 emissions,” “the conversion of renewable energy” and “the mitigation of environmental risks such as air pollution.”**
- A justification for **additional** business is needed (the existence of certificate trading encourages the construction and maintenance of facilities, and contributes to the increase of green power generation capacity).
- Currently, specific power generation methods include the following six types: **“wind power generation,” “solar power generation,” “biomass power generation,” “hydropower generation (no volume limitation),” “geothermal power generation” and “fossil fuel and biomass co-combustion power generation.”**



## 2. How is the Green Power Certification System Operated?

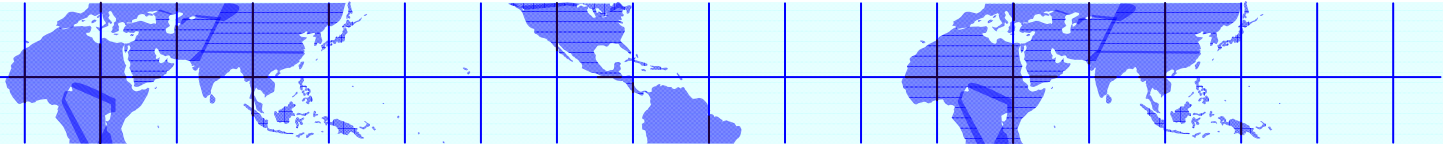
### (4) Characteristics and Points to Be Considered

#### ■ **Duplicated counting with the RPS System** is prohibited

- ✦ Facilities can be accredited in both systems.
- ✦ The equivalent amount for the RPS System cannot be included in the power generation capacity.
- ✦ For the RPS counted amount, a RPS deduction notification form should be submitted.

#### ■ The power generation capacity which is **generated and consumed by its own organization** can be included

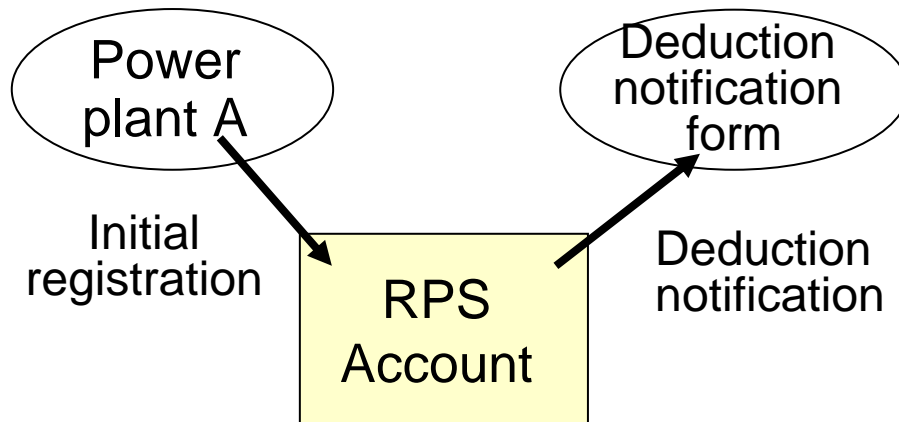
- ✦ Segmentation from the RPS System should be considered, while increasing the power generation capacity
- ✦ Identification of the technological qualification (definition and deduction of power generation accessories) and submission of credible evidence are needed.



## 2. How is the Green Power Certification System Operated?

### (5) RPS Deduction Notification

- For RPS targeted facilities, firstly the equivalent electricity capacity, e.g. new energies, should be registered in the RPS Account, whereupon the deduction notification should then be submitted.
- When applying for the green power amount, the organization must submit this RPS notification in order to confirm that there is no duplicate counting with the RPS System.



様式第7 (第8条関係)  
新エネルギー等電気相当量の減量又は増量届出書

\_\_\_\_\_年 月 日

経済産業大臣 殿

届出者 (ふりがな) \_\_\_\_\_  
住所 (〒) \_\_\_\_\_  
(ふりがな) \_\_\_\_\_  
氏名 \_\_\_\_\_ 印  
(法人にあつては名称及び代表者の氏名)  
事業者ID \_\_\_\_\_  
(事業者IDが発行されている事業者は記載すること)

電気事業者による新エネルギー等の利用に関する特別措置法施行規則第8条第1項の規定により、新エネルギー等電気相当量の減量又は増量の記録をしたいので、次のとおり届け出ます。

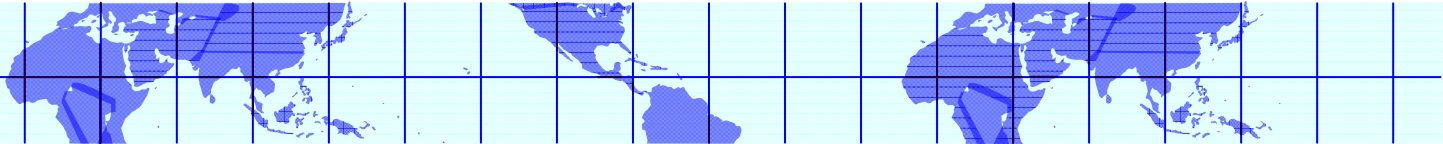
減量又は増量の別(注1) 増量・減量

<新エネルギー等電気相当量を減量する事業者>  
事業者種別 \_\_\_\_\_ 下記種別から選択し、記号を記入すること。  
B:新エネルギー等発電事業者、G:一般電気事業者、S:特定電気事業者、P:特定規模電気事業者  
事業者名 \_\_\_\_\_ 事業者ID \_\_\_\_\_  
代表者名 \_\_\_\_\_

<新エネルギー等電気相当量を増量する事業者>  
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代表者名 \_\_\_\_\_

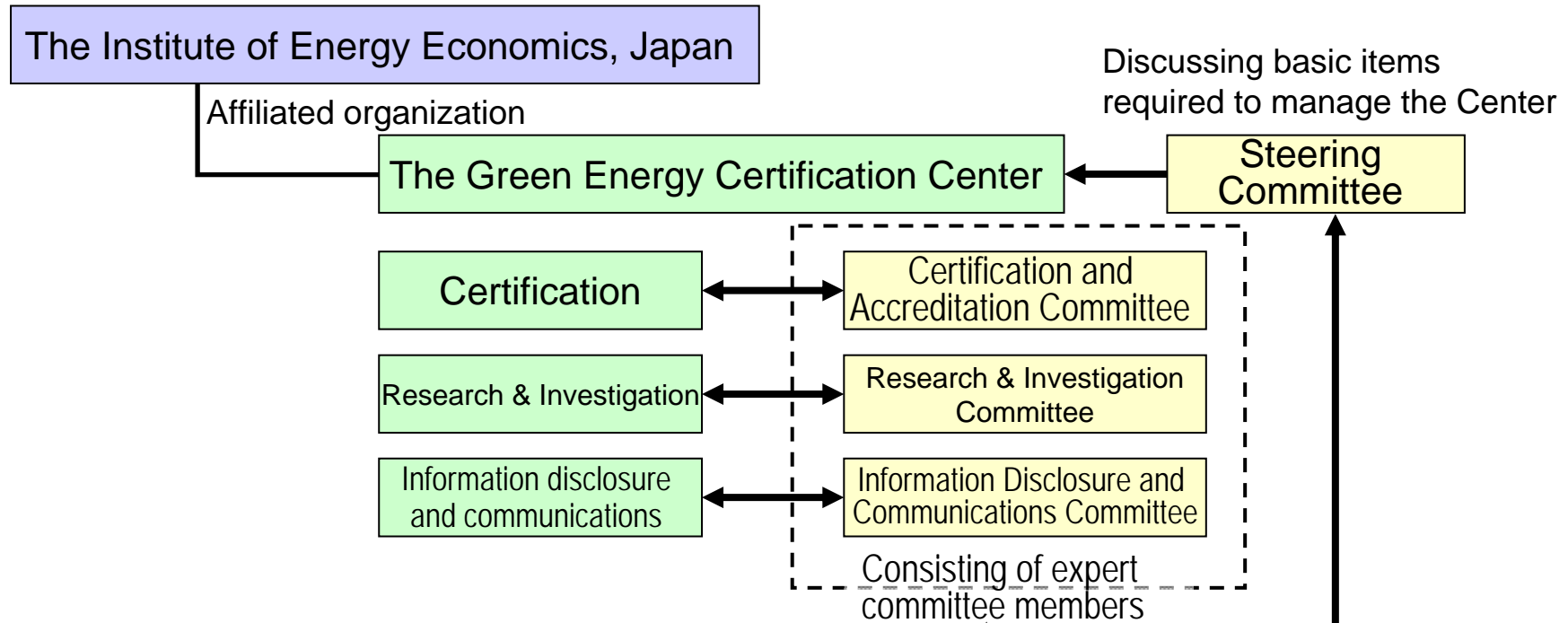
新エネルギー等電気相当量の増減量(注2)

届出内容		備考
新エネルギー等電気相当量増減量 (1000kWh)		
新エネルギー等電気相当量価格 (円/1000kWh)		



## 2. How is the Green Power Certification System Operated?

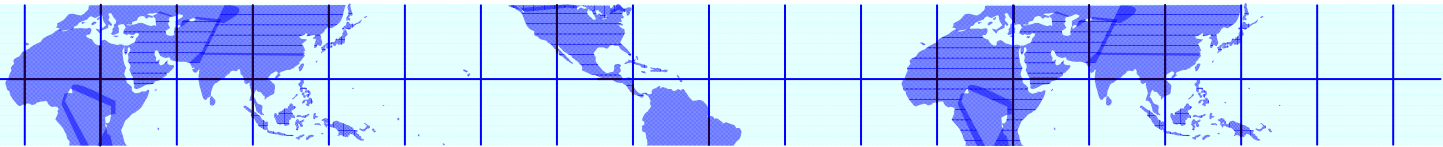
### (6) The Green Energy Certification Center as a Third Party Certification Organization



**The Center is pursuing activities based on the fundamental philosophy of “ensuring equality, neutrality, transparency, politically correct treatment and sustainability.”**

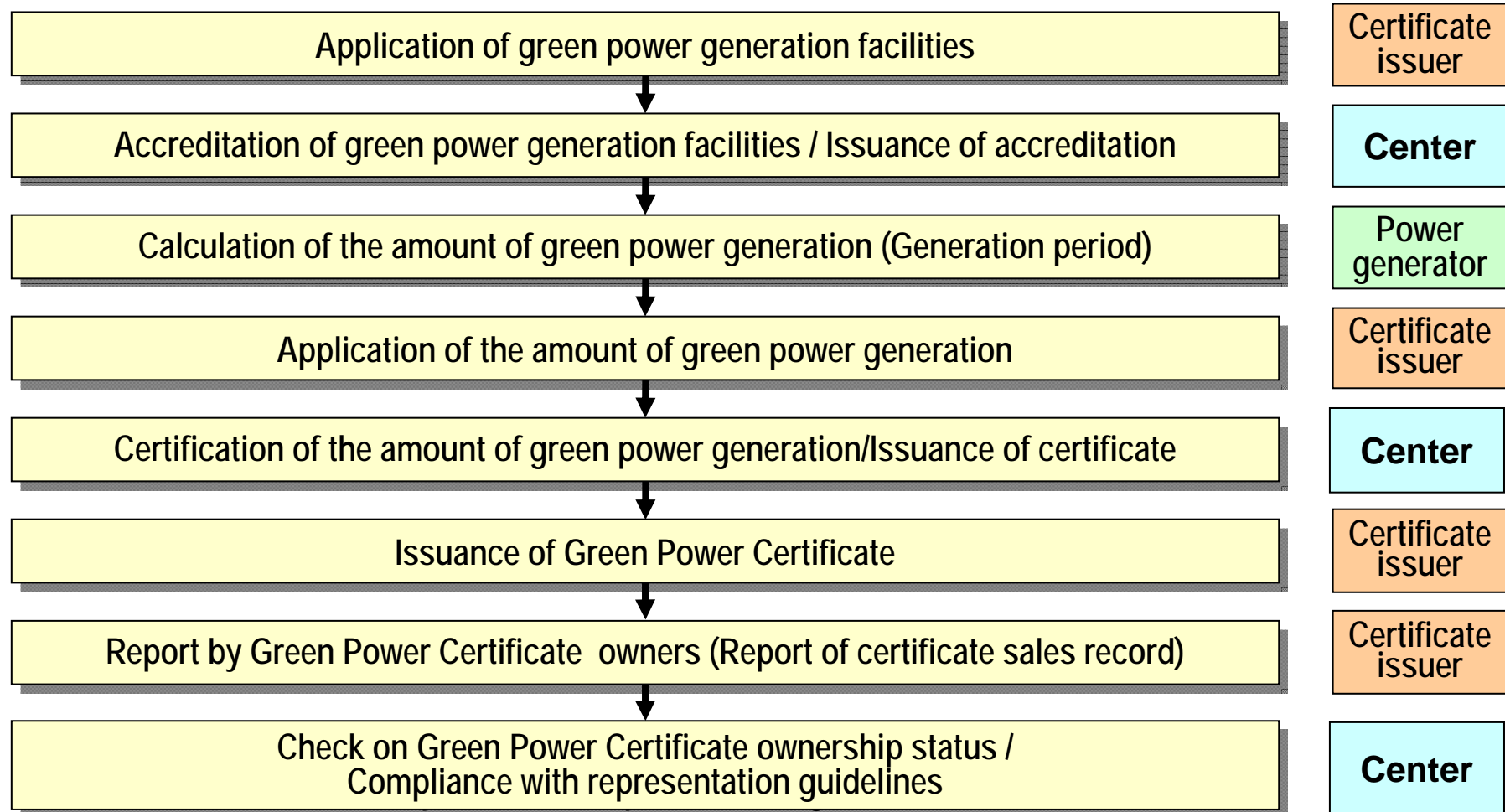
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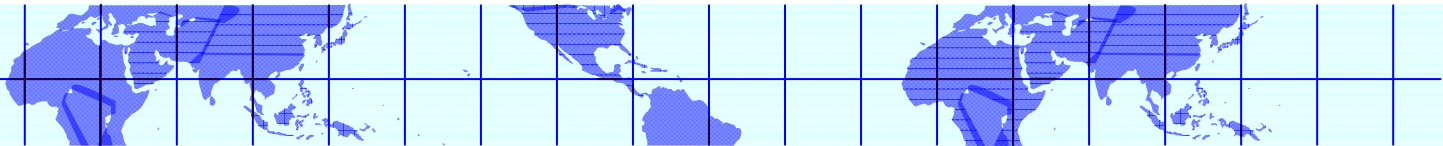
Members of the Steering Committee and expert committee members are selected mainly from academic experts and other professionals except for stakeholders.  
 (The perspective of ensuring neutrality for standard establishment and certification)



## 2. How is the Green Power Certification System Operated?

### (7) Flow of Certification Procedure

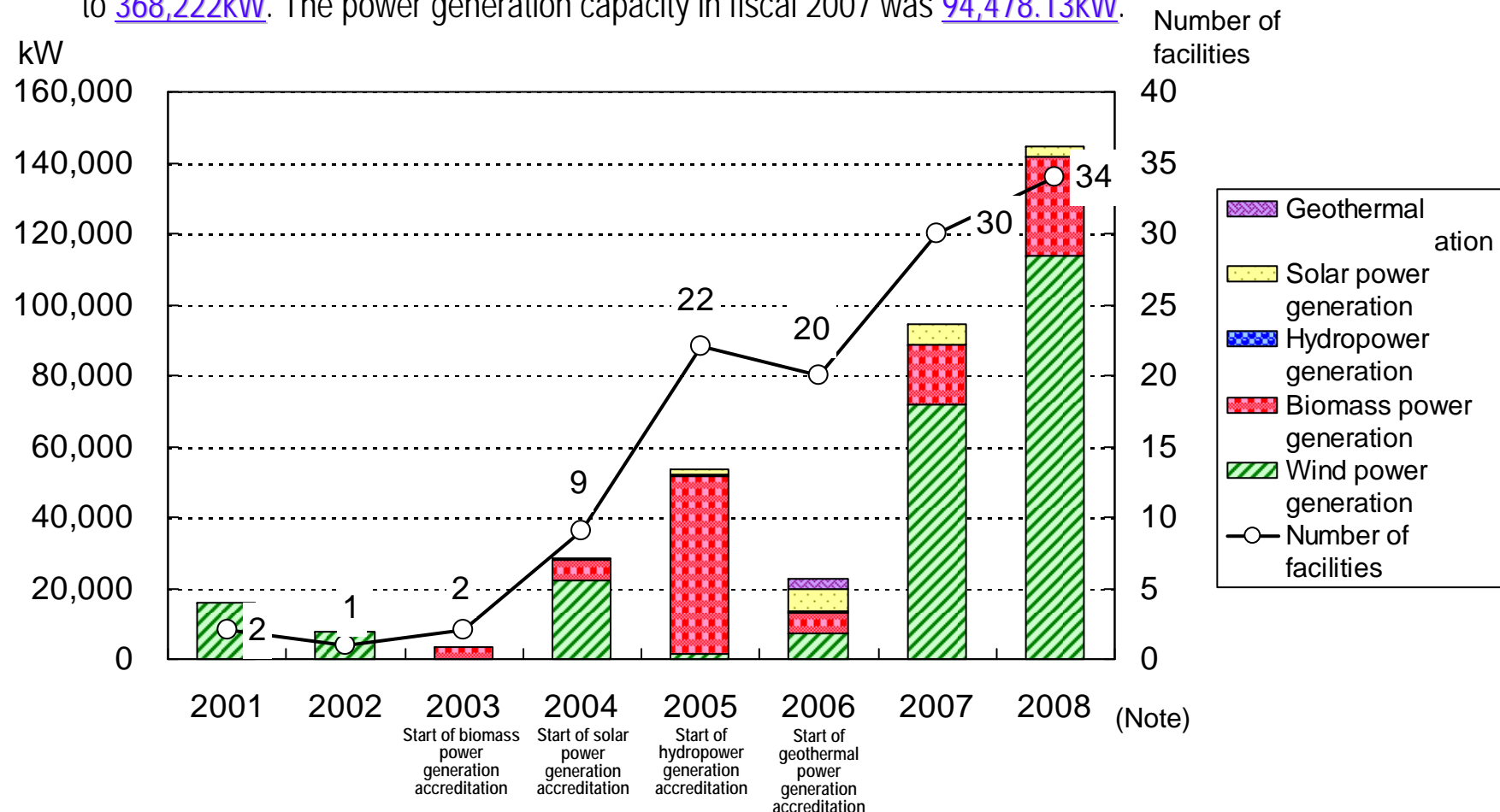




## 2. How is the Green Power Certification System Operated?

### (8) Status of Facility Accreditation Numbers

- As of December 31, 2008, the total number of green power generation facilities accredited by the Green Energy Certification Center had increased to 121, and the total power generation capacity of these facilities, to 368,222kW. The power generation capacity in fiscal 2007 was 94,478.13kW.



(Note) The values of fiscal 2008 are calculated from the data as of September 30, 2008

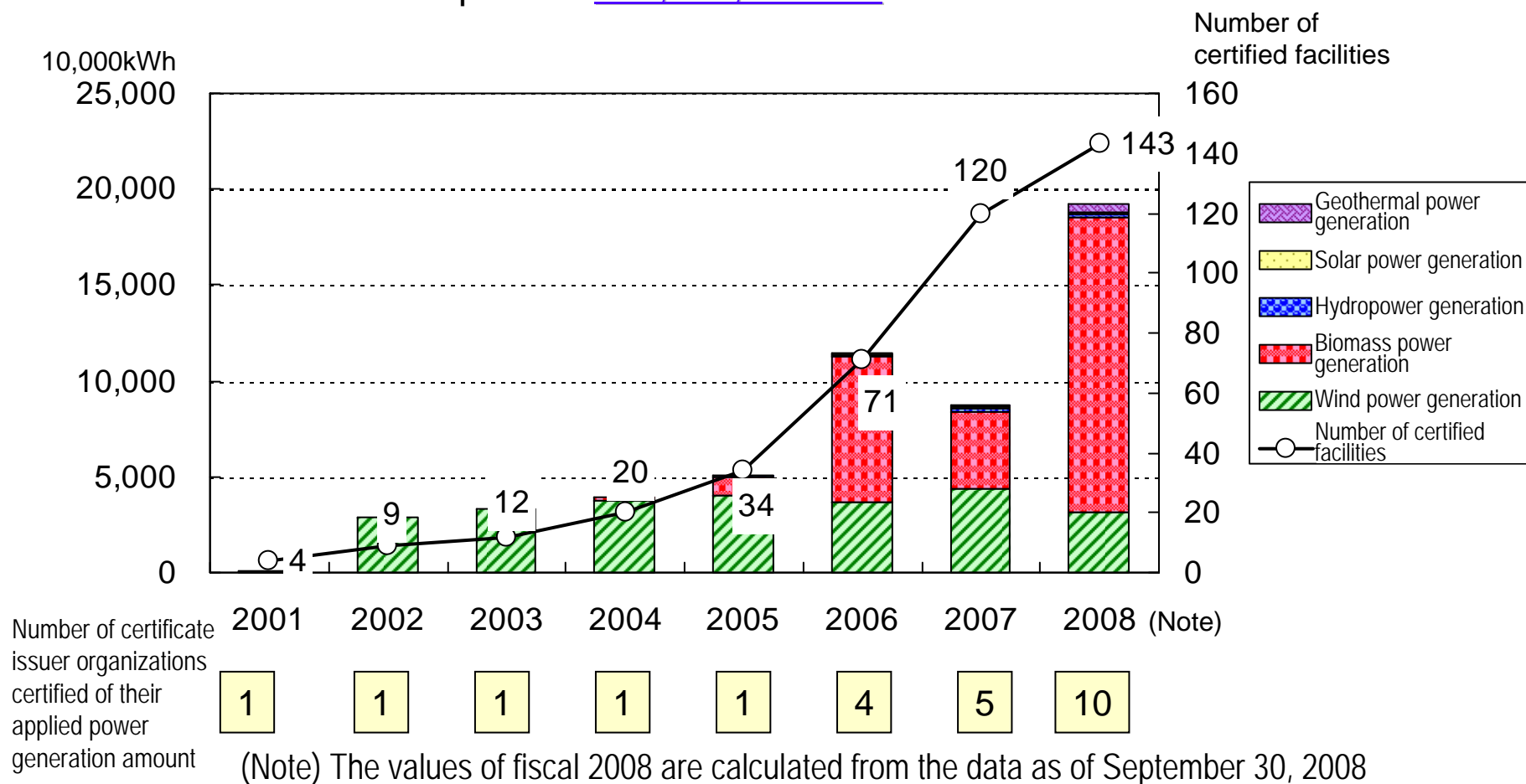




## 2. How is the Green Power Certification System Operated?

### (9) Record of Power Generation Amount Certification

- The certified power generation amount was 87,370,000kWh in fiscal 2007, and this had increased to a record peak of 192,120,000kWh as of the end of December 2008.





### 3. The Status of Green Power Certificate Businesses

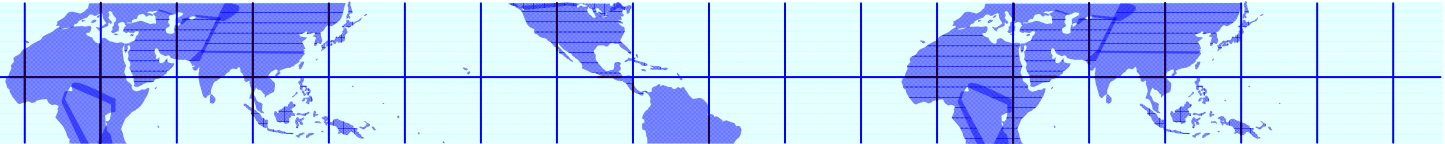
#### (1) Certificate Issuer Organizations

- The status of application intermediaries and Green Power Certificate issuer organizations

As of December 2008, the number of companies and organizations registered in the Green Energy Certification Center as application intermediaries is 21 and the specific names are as follows:

- ◆ Japan Natural Energy Company Limited
- ◆ Energy Green, Inc.
- ◆ NPO PV Owner NETwork Japan
- ◆ SUMMIT ENERGY CORPORATION
- ◆ ENESERVE CORPORATION
- ◆ Environmental Protection Group,  
SHARP CORPORATION
- ◆ Specified NPO Green City
- ◆ NTT FACILITIES, INC.
- ◆ Next Energy and Resources Co., Ltd.
- ◆ Marubeni Corporation
- ◆ Japan Wind Development Co., Ltd.
- ◆ Universal Home, Inc.
- ◆ Unlimited intermediate corporation  
Environmental Network Kagoshima
- ◆ Rising Corporation
- ◆ Maeda Road Construction Co.,Ltd
- ◆ Tsuru City
- ◆ Sumitomo Joint Electric power Co., Ltd
- ◆ Ecosystem Japan Co.,Ltd
- ◆ Specified NPO Natural Energy and Environment  
Association
- ◆ DIC Japan Co., Ltd
- ◆ Matsuyama City

(Note) Underlined organizations were previously certified of their applied power generation amount (organizations which can issue Green Power Certificate )



### 3. The Status of Tradable Green Certificate Businesses

#### (2) Marks of Certification Organizations and Marks of Each Organization

Existing Green Power Certificate issuer organizations

Japan Natural Energy Company Limited



Energy Green, Inc.



SUMMIT ENERGY CORPORATION



PVNet



Certificate issuer organizations sell Green Power Certificate with their own brands

Certification Organization Mark



The Green Energy Certification Center

Unified Green Energy Mark



ENESERVE CORPORATION

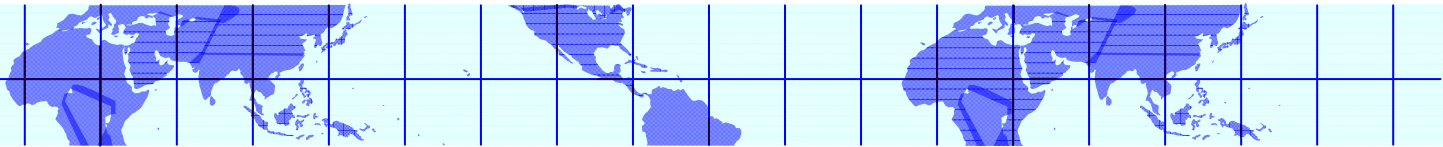


Specified NPO Green City



Japan Wind Development Co., Ltd.





# 3. The Status of Green Power Certificate Businesses

## (3) Examples of Green Power Certificate

Japan Natural Energy Company Limited



SUMMIT ENERGY CORPORATION



Japan Wind Development Co., Ltd.



[Items to be indicated in Green Power Certificate]

Certificate issuer organizations should indicate the following items and other items that the organization decides as necessary in the Green Power Certificate they issue:

- (1) Equivalent green power generation amount
  - (2) Power generation type
  - (3) Power generation period
  - (4) Certificate issuer organization name
  - (5) Certification organization name
  - (6) Serial number of the equivalent green power generation amount
- ★ Quoted from the Guidelines for Tradable Green Certificates

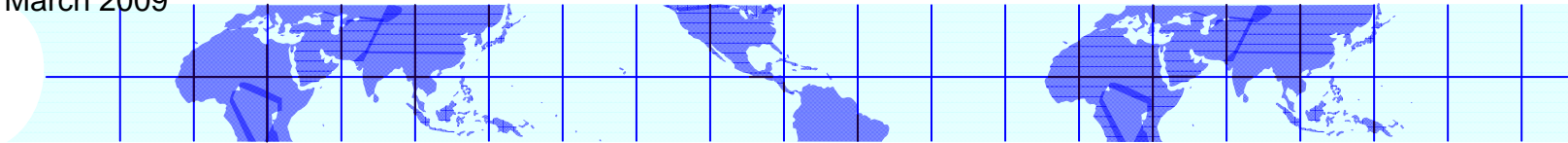


### 3. The Status of Green Power Certificate Businesses

#### (4) Status of Green Power Certificate Purchase

As of April 2008

Ranking	Certificate Purchaser	Business Type	Purchased Amount (10,000kWh)
1	Sony Corporation	Consumer electronics	3,150
2	Nomura Holdings, Inc.	Capital services	590
3	YAMADA-DENKI, Co., Ltd.	Consumer electronics sales	360
4	Asahi Breweries, Ltd.	Foods	330
5	Hall Network, Inc.	Theater	270
6	Seiko Epson Corporation	Consumer electronics	200
6	Chugai Pharmaceutical Co., Ltd.	Pharmaceuticals	200
6	Tokyo Broadcasting System, Inc. (TBS)	Broadcasting	200
6	Toyota Motor Corporation	Equipment for export	200
6	NGK Insulators, Ltd.	Glass and ceramics	200



### 3. The Status of Green Power Certificate Businesses

#### (5) Examples of Green Power Certificate Utilization

##### ■ Added value of products and services

- ✦ Greening of electricity consumed in products manufacturing processes: “Towels weaving by wind,” etc.
- ✦ Greening of electricity consumed in services providing processes: Broadcasting, Internet services, etc.
- ✦ Greening of electricity consumed by service consumers, etc.: Condominium apartments, travel, etc.

##### ■ Environmental PR and communications

- ✦ Consumption in events: Sport events (2008 Japan Professional Baseball Interleague Games sponsored by Nippon Life Insurance Company, the World Championship in Athletics 2007, etc.), electricity used in event sites (Eco-Products Fair, New Energy World’s Exhibition, etc.), lighting-up illumination (lighting-up of Tokyo Metropolitan Government Towers, illumination of Imperial Hotel, etc.)
- ✦ Advertisement of newspapers and magazines, creation of posters

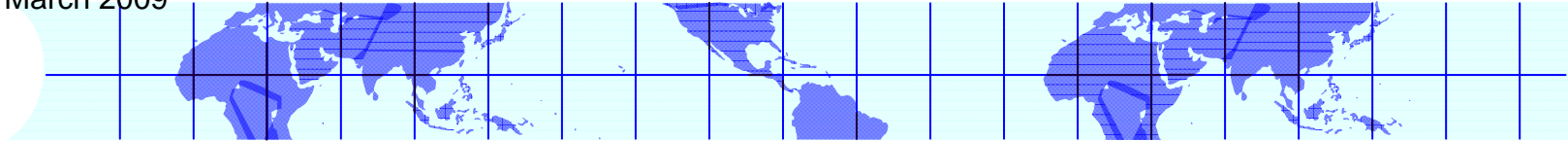
##### ■ Counted as electricity consumption in specific businesses

- ✦ Counted as electricity consumption in specific businesses, including factories, shops, live houses, head office buildings

##### ■ Indication in CSR reports

- ✦ Indicated as converted values mainly to CO2 emissions reduction

\* Currently, [the resale of Green Power Certificate is prohibited](#) because ① no specific policy and procedure for amortization has yet been established, and ② no register in which participants can broadly be involved is prepared.



### 3. The Status of Green Power Certificate Businesses

[Reference] Accounting procedure of Green Power Certificate

#### ■ Added value of products and services

- ⊕ Since the values can obviously be measured, a proposal involving the use of the Green Energy Mark being counted as an advertising cost is now under discussion.

#### ■ Environmental PR and communications

- ⊕ Since these costs are likely to be modest, they are treated on a case-by-case basis.

#### ■ Counted as electricity consumption in specific businesses

- ⊕ Since the values cannot currently be easily measured, these costs are treated as donations in principle.

#### ■ Indication in CSR reports

- ⊕ Since the values cannot currently be easily measured, these costs are treated as donations in principle.

A request for official procedures to allow these costs to be included as operation costs is now being proposed.



### 3. The Status of Green Power Certificate Businesses

#### (6) Style Guidelines

- The Style Guidelines were formulated in February 2008. These guidelines define principles when representing environmental values using Green Power Certificate . When using Green Power Certificate , these Style Guidelines should be complied with.
- Principles
  - ✦ When the owner of a Green Power Certificate represents environmental values based on the certificate ownership, the owner should clearly indicate the certified green power amount owned.
  - ✦ When the owner of a Green Power Certificate needs to submit reports or other documents concerning the amount of greenhouse gas emissions converted to the national government or other authorities, based on the Law Concerning the Promotion of Measures to Cope with Global Warming, the Law Concerning the Rational Use of Energy, or other laws, the owner is recommended to indicate the fact that it has purchased and owns a Green Power Certificate in the remarks column.
  - ✦ In the indication, when, by whom, where, how much, and why the green power (Green Power Certificate ) was used should be represented on the targeted products or leaflets, as well as, including cases where there is limited space for indication, publishing this detailed information on the websites of the certificate owner, applier, or issuer, and other relevant parties, in order to allow third parties to check the relevant information.



## 8. Further Development

### (1) Green Energy Mark ①: Establishment

- Aiming not only to raise the awareness of green energies but also increase the credibility of products and services produced using green power, the “Green Energy Mark” was established to facilitate easy identification of products and services produced using green power for consumers and other relevant parties.

- **The best design mark: by Mr. Suguru Tashiro**  
(from Tokyo: a graphic designer)

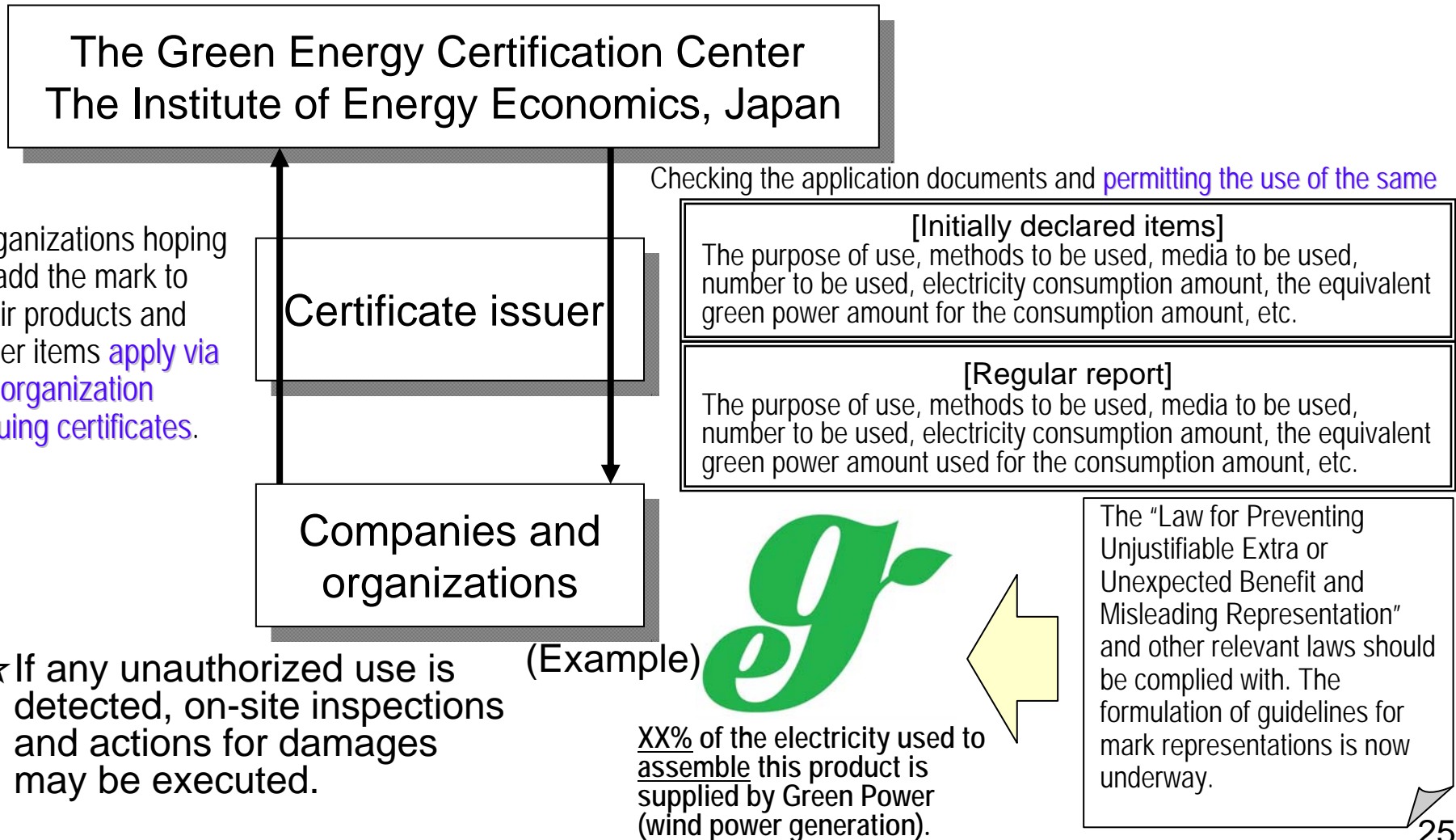


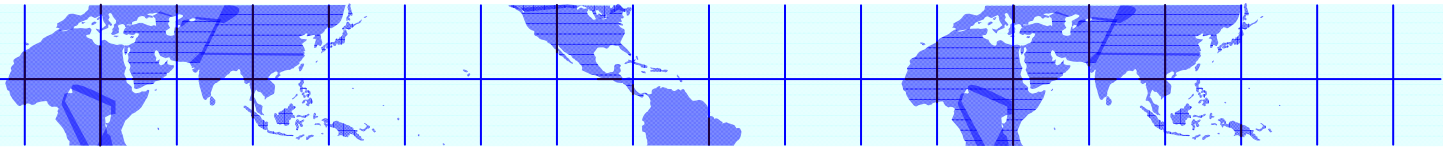
I designed this mark by combining “g” and “e,” the first letters of ‘green’ and ‘energy’ respectively, in which I expressed friendship with the global environment via gently sloping curves and a single piece of leaf.

- ☆ **Currently, a total of 45 items are being applied to the trademark registration (Application Number 2008-040081)**

## 8. Further Development

### (1) Green Energy Mark ②: Operation





## 8. Further Development

### (1) Green Energy Mark ③: Introduction Examples



Nihon Tetra Pack K.K.  
(Using green power to print the paper  
containers of Kagome "Yasai  
Seikatsu 100")



The Asahi Shimbun Company  
(Adopting green power for the  
electricity consumption used to print  
the Sunday edition "be on Sunday")



IKEUCHITOWEL CO. LTD.  
(Adopting green power for the  
electricity consumption used to  
manufacture towels)

- Also, SHARP CORPORATION plans to use the Green Energy Mark with their AQUOS R series (total six models).

## 8. Further Development

### (2) Green Energy Partnership ①

- The “Green Energy Partnership” was established aiming to facilitate collaboration among the relevant parties, including manufacturers and retailers, green energy power generators, and consumer representatives, and promote the introduction of green energies, in order to expand green power utilization in industrial products and other items, as well as raising consumer awareness.

#### ■ Activities

##### ✦ 1. Awarding to expand the utilization of green energies

- Introduction of partners’ activities
- Introduction of organizations and groups which have developed innovative business models using Green Power Certificate and other related items
- Awarding of organizations and groups which contribute to expanding the utilization of green energies

##### ✦ 2. Provision of information concerning green energies

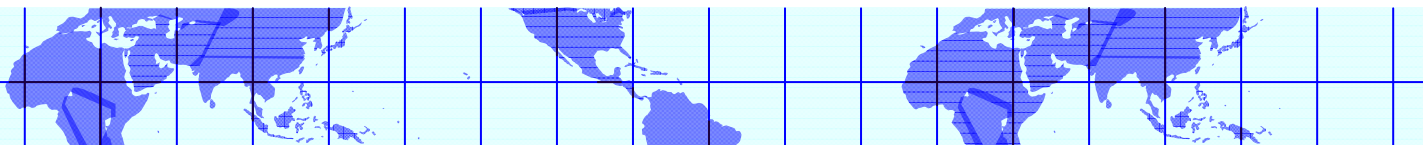
- Introduction of new members and unique activities using green power
- Organization of symposiums and events related to green energies

##### ✦ 3. Performing massive campaigns

- Performing a massive campaign during the Green Power Week, one week prior to the G8 summit
- Establishing common logo marks and catchphrases

Currently, a total 298 groups and 10 individuals are participating.





## 8. Further Development

### (2) Green Energy Partnership ②

Member Type	Participation Requirements
Excellent Partner (Excellent group member)	Companies and groups purchasing green power for 100% or more of their annual electricity consumption, or for an amount equal to or greater than 10,000,000kWh annually (on the basis of the subcontracted amount of purchased electricity), or using other equivalent methods
Excellent Family Partner (Excellent individual member)	The total of the Green Power Fund (annual payment amount) and the purchased green power amount (subcontracted purchased electricity capacity) are equivalent to 100% or more of its annual electricity consumption
Partner (Group member)	Companies and groups purchasing green power for 10% or more of their annual electricity consumption, or for an amount equal to or greater than 1,000,000kWh annually (on the basis of the subcontracted amount of purchased electricity), or using other equivalent methods
Family Partner (Individual member)	The total of the Green Power Fund (annual payment amount) and the purchased green power amount (subcontracted purchased electricity capacity) are equivalent to 50% or more of its annual electricity consumption
Green Power Supporter (Supporting member)	Companies, groups and individuals which support the purpose of the Green Energy Partnership

- (1) Excellent Family Partner  
 {Purchased green power capacity (kWh) + (amount/account x account number x 12 months) / 10 yen/kWh}  $\geq$  3600kWh  
 (3600kWh: annual electricity consumption per one standard household)
- ★ Family Partner  
 1800kWh  $\leq$  above conversion formula  $\leq$  3599kWh

## 8. Further Development

### (2) Green Energy Partnership ③

概要	入会方法	パートナーシップ 参加企業	リンク集	サイトマップ	プライバシー ポリシー	お問い合わせ	グリーンエネルギー ポータルサイト 
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# GREEN ENERGY

「グリーン電力」をご存知ですか？  
「グリーン電力」とは、地球環境に対して負荷の少ない  
自然由来のグリーンエネルギーから生まれた電力のことです。  
自然エネルギーには、太陽光、風力、水力、バイオマスなどがあります。

ご存知ですか？  
環境にやさしい「グリーン電力」を利用して  
商品やサービスを提供している先進的な企業などがあることを。  
その「グリーン電力」を使った商品やサービスを選択することで  
未来が変わることを。

グリーン電力ニュース NEWS

2008.09.03  
[「NIKKEI ECOLOGY」が「GE社の北京オリンピックの遺産」についてを紹介！](#)

2008.09.02  
[香川大学でECOオープンキャンパスが開催！](#)

2008.09.01  
[山梨県都留市が「グリーン電力証書」販売へ\(産経新聞\)](#)

[一覧はこちら](#)

- ▶ グリーン電力とは？
- ▶ グリーン電力をはじめよう！
- ▶ グリーン電力導入企業レポート
- ▶ グリーン電力を使った製品
- ▶ グリーン電力応援メッセージ
- ▶ グリーン電力に関するニュース募集



**グリーンエネルギー  
利用拡大セミナー**  
[詳細はこちら](#)



**グリーンエネルギーポータル  
バナーダウンロード**  
[詳細はこちら](#)



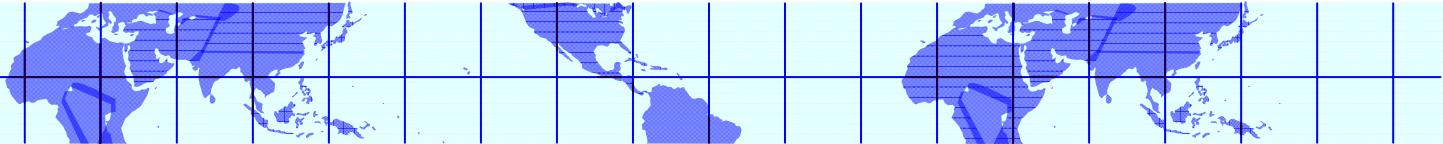
**グリーン電力  
パンフレットはこちら**  
[詳細はこちら](#)



**グリーンエネルギーパートナーシップ  
設立総会開催**  
[詳細はこちら](#)

いま 未来のためにできることが ここにもあります。 Copyright (C) 2008 Agency for Natural Resources and Energy All rights reserved.

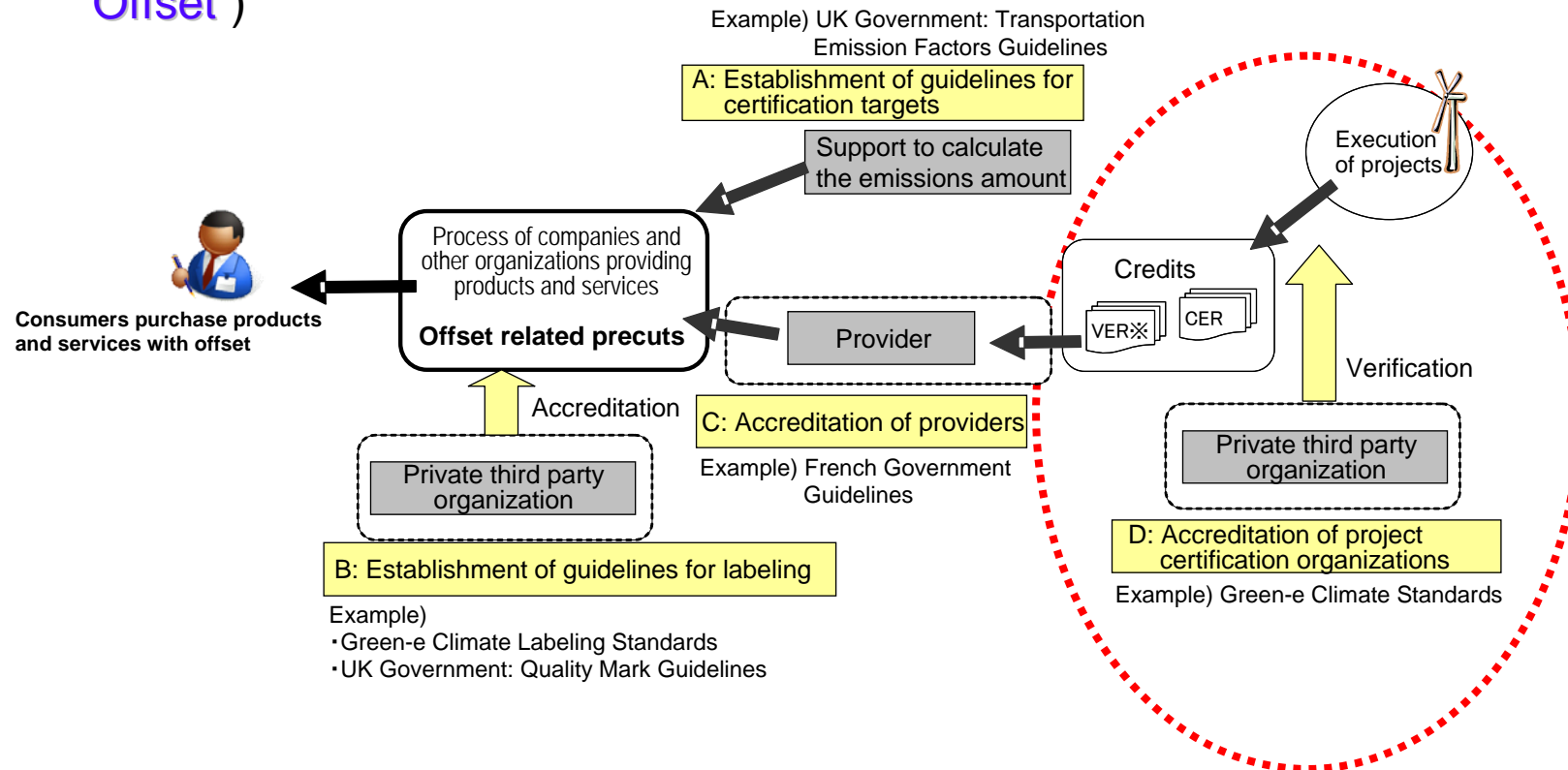
<http://www.green-energynet.jp/>

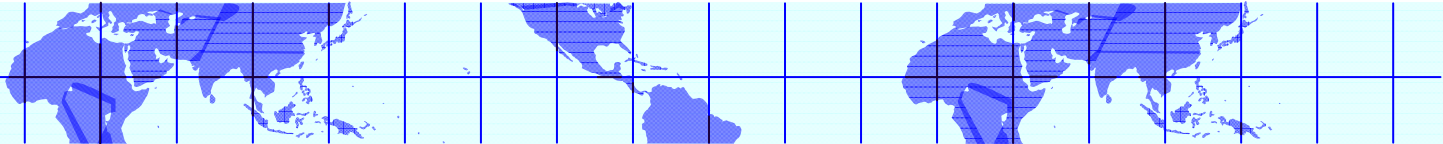


## 8. Further Development

### (3) VER (Verified Emission Reduction) ①

- Currently, the Ministry of the Environment is discussing certification standards concerning voluntary CO2 reduction credits, and the Green Power Certificate are among the major candidates for this purpose. (“**Study Team for Certification Standards of VER (Verified Emission Reduction) Used for Carbon Offset**”)

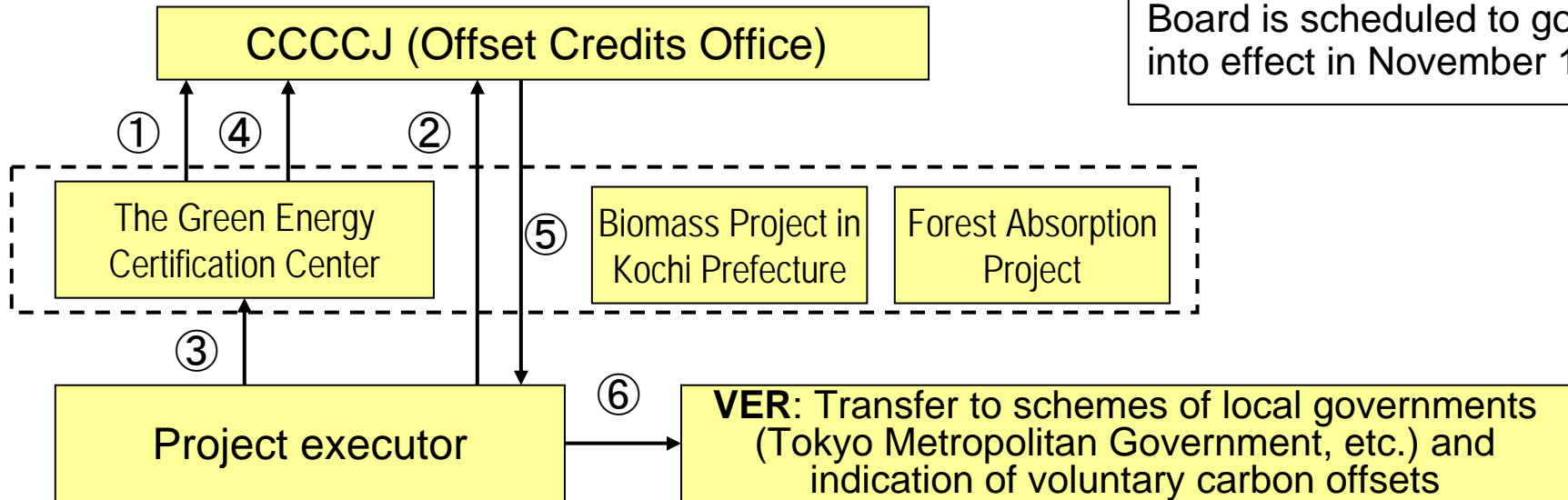




## 8. Further Development

### (3) VER (Verified Emission Reduction) ②

A scheme for VER certification, issuance and management by the VER Board is scheduled to go into effect in November 11.

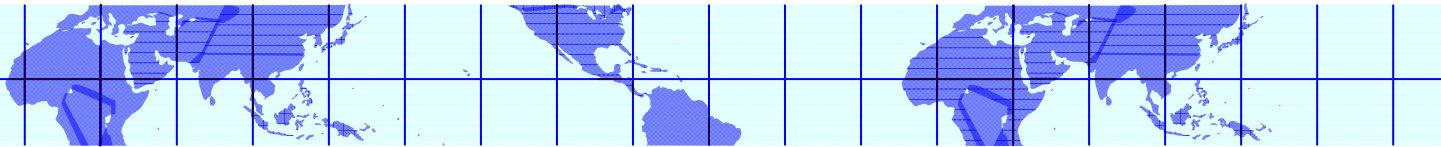


- ① Prior application of methods (Standards for Green Power Certification, etc.)
- ② Project registration (JCOF performs only simple screenings)
- ③ Application of report and verification after the project completion
- ④ Report of verification results (A third party organization is responsible for the verification)
- ⑤ Issuance of VER
- ⑥ Utilization of VER (managed by the registry)

Can this step be performed as a voluntary activity of local government based on Clause 2 of Article 20, Law Concerning the Promotion of Measures to Cope with Global Warming?

**\*The Green Power Certificate are expected to be authorized as a VER program.**





## 8. Further Development

### (4) Activities of the Tokyo Metropolitan Government

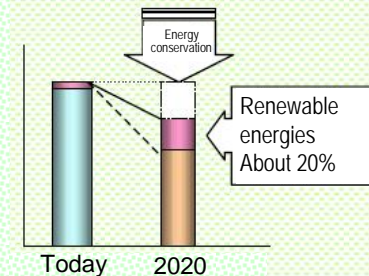
- The Tokyo Metropolitan Government is actively engaged in expanding the usage of renewable energies, and cites Green Power Certificate as one of the key measures for the industrial and business sectors.

#### Goal for renewable energies usage in the Tokyo Metropolitan area

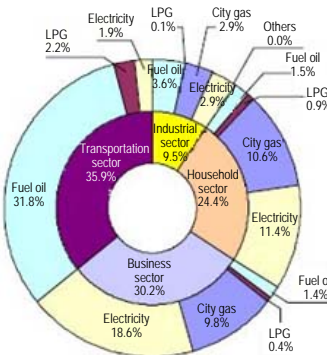
**Aiming to increase the usage of renewable energies usage as a ratio of total energy consumption by about 20% in the Tokyo Metropolitan area by 2020**

Beginning with the target usage proposal cited in this strategy, the government facilitates broader discussions to decide on the specific usage target values in the Basic Environmental Plan of the Tokyo Metropolitan Government, which is scheduled to be revised in fiscal 2007.

- To achieve the goal, firstly, we will strictly enforce the “energy conservation” activities in order to reduce the original energy consumption. Next, we transfer the consumed energy to renewable energies.
  - This program includes not only renewable energies produced within the metropolitan area, but also those produced outside as well.
- The significant demand in the Metropolitan area is leveraged in order to expand the nationwide supply.

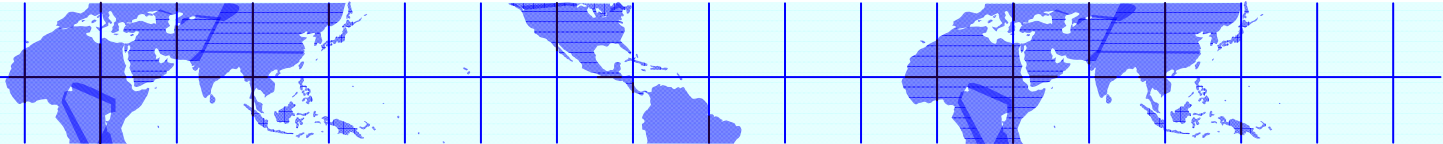


#### Introduction and utilization methods in each sector to achieve the goal



- Industrial sector: Usage of biomass fuels, power generation using renewable energies within operation sites, usage of Green Power Certificate , etc.
- Household sector: Usage of solar heat for low-temperature heat demands, including room heating and hot water supply, and the further installation of solar power generation facilities
- Business sector: Installation of solar power generation facilities, usage of Green Power Certificate , transfer to biomass fuels, and the usage of solar heat
- Transportation sector: Examination of the further usage of biomass fuels

(Source) Tokyo Metropolitan Government “Strategy for Renewable Energies of Tokyo Metropolitan Government” (formulated in March 2006)

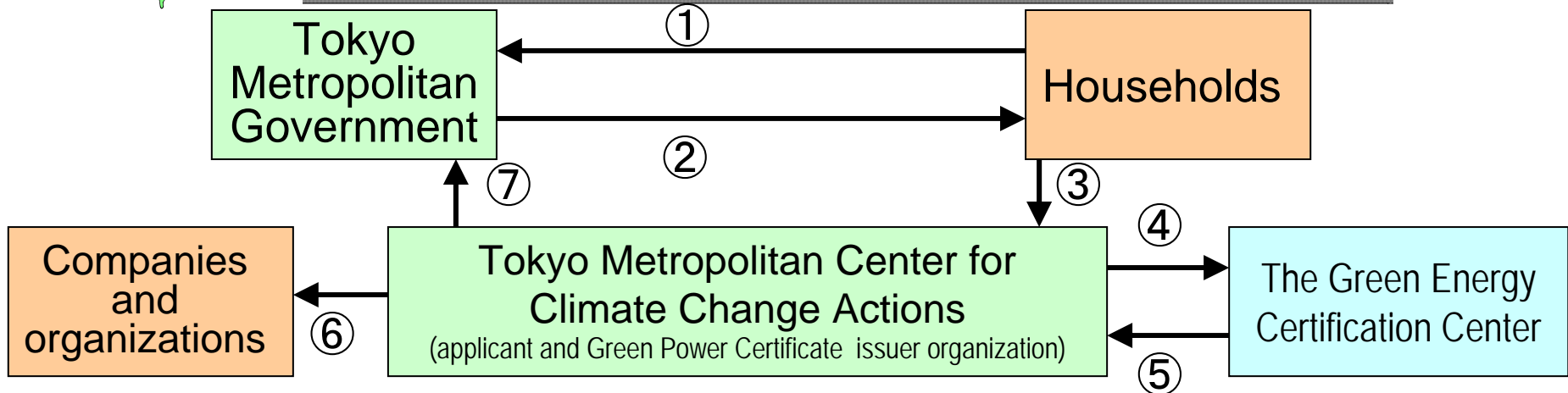


## 8. Further Development

### (4) Activities of the Tokyo Metropolitan Government

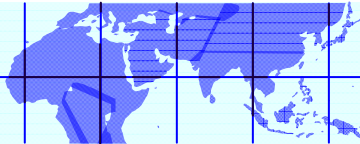


Solar power generation expansion program using Green Power Certificate



- ① Application to the trading system, installation of solar power generation facilities
- ② Payment of 10-year's environmental values
- ③ Report of the electricity consumption amount
- ④ Application of certification for facilities and power generation capacity
- ⑤ Issuance of certificates for facilities and power generation capacity
- ⑥ Converting to Green Power Certificate and selling them to companies
- ⑦ Using the revenue of Green Power Certificate as funding for the trading system, aiming to help further expand solar power generation

The government aims to introduce 1,000,000kW of solar energy within a decade, supporting the installation of solar energy utilization facilities and equipment in 20,000 households for each year in 2009 and 2010, and 40,000 households per year from 2011.

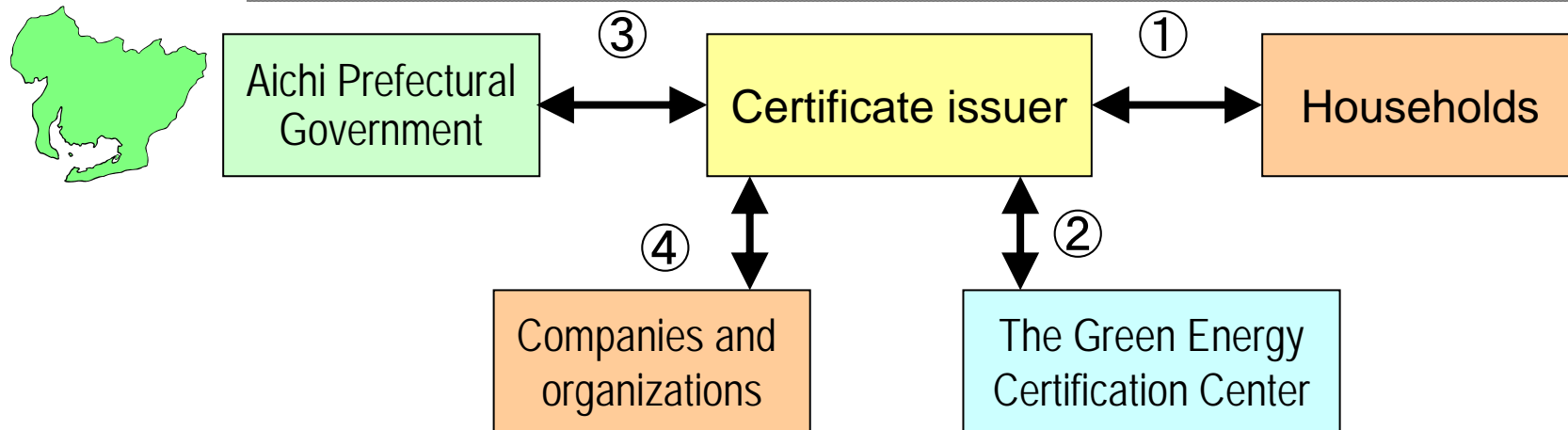


## 8. Further Development

### (5) Activities of the Aichi Prefectural Government

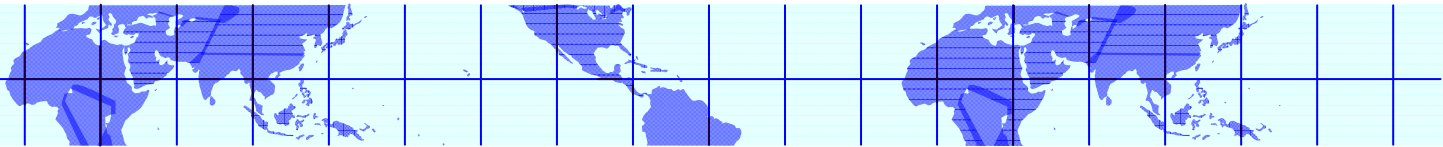
- <Conditions>
- Purchase period: One year after starting the power generation (to be confirmed)
  - Purchase unit price: **20 yen per 1kWh**
  - Purchase environmental value amount: The value amount should be 500kWh or less per 1kWh of power generation capacity, and 2000kWh or less per single power generation facility. However, only the environmental values of electricity consumption by its own household are purchased.

### Solar power generation expansion program using Green Power Certificate



- ① Households apply to the expansion program, transfer their environmental values to certificate issuer organizations, and are paid for the environmental values.
- ② The certificate issuer organizations receive certifications for applicants' facilities and electricity capacities from the Certification Center.
- ③ The prefectural government purchases Green Power Certificate from the certificate issuer organizations (for one year).
- ④ Next, the certificate issuer organizations sell the Green Power Certificate to companies and other organizations.

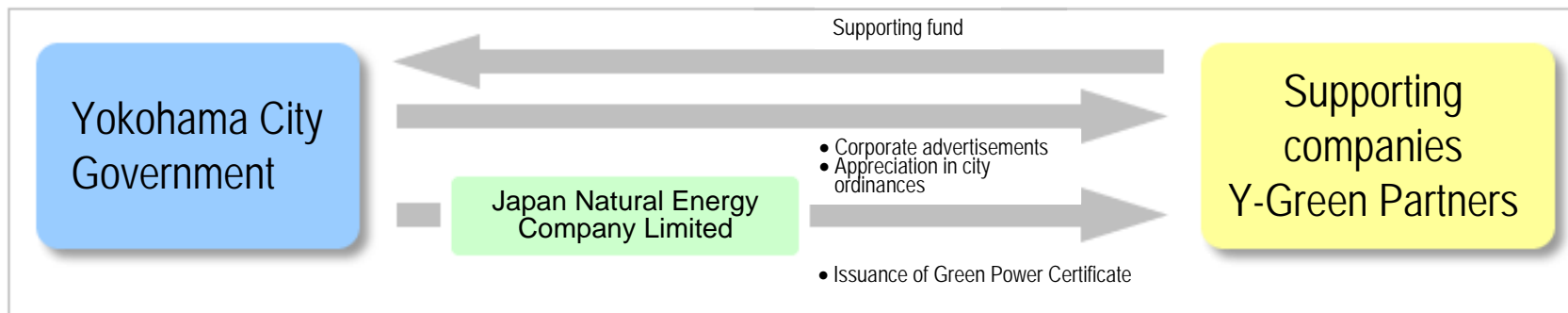
A system for further expansion where the prefectural government is involved in the installation stage of solar power generation facilities



## 8. Further Development

### (6) Activities of the Yokohama City Government

- The Yokohama City Government promotes the expansion of natural energies together with companies and citizens.
  - ✦ The Yokohama City Government launched the power generation business as a wind power generator in 2007 (Hamawing).
  - ✦ The environmental values produced from the power generation are provided to supporting companies (Y-Green Partners) as Green Power Certificate .
  - ✦ Part of the construction cost of the windmill was raised by city residents bonds.

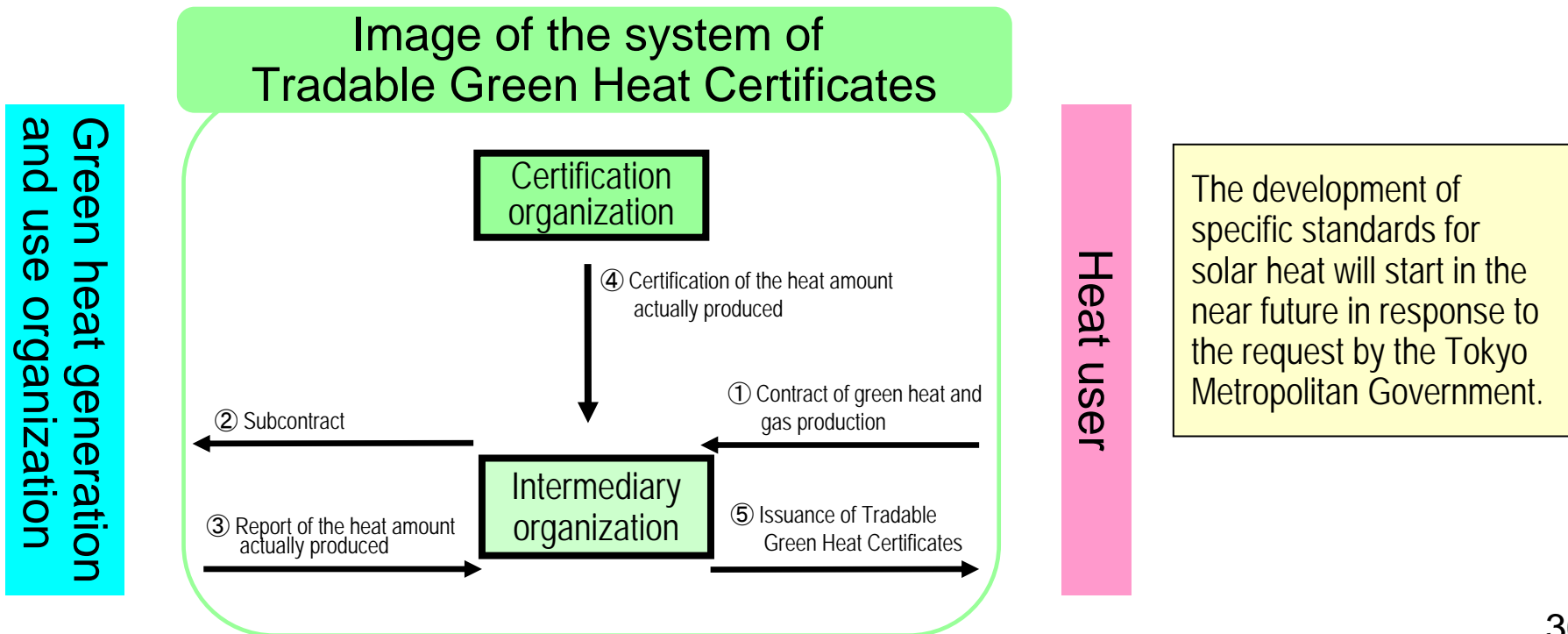


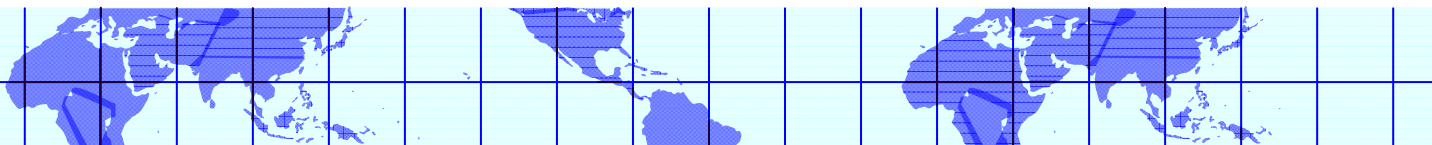
(Source) quoted from the website of the Yokohama City Government

## 8. Further Development

### (7) Examination about the Tradable Green Heat Certificates

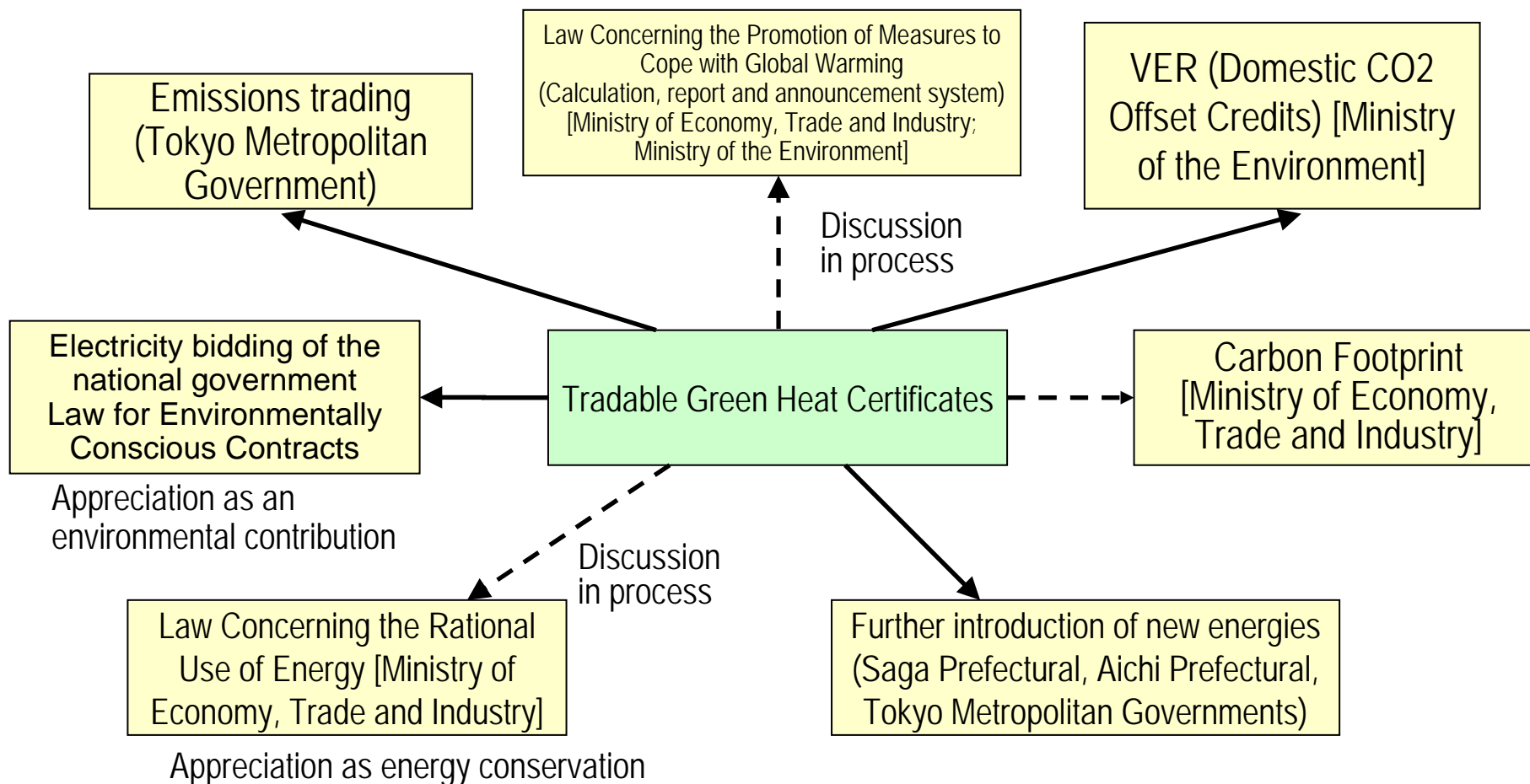
- In the Tradable Green Heat Certificates, environmental values produced from the usage of biomass heat such as the combustion of wood chips, the usage of cold energies of snow and ice, and other heat usages, are traded as certificates.
- Heat users acquiring Tradable Green Heat Certificates can convert their production and cooling / heating to those using naturally originated green heat energies, and externally promote these environmental efforts.
- We will engage in model projects to examine issues such as the methods of calculating heat amount, and finalize this program as a system similar to the Tradable Green Heat Certificates in future.





## 8. Further Development

### (8) Toward Further Development ①



★ The official utilization of Green Power Certificate has been rapidly expanding

## 8. Further Development

### (8) Toward Further Development ②

#### ■ Future activities

- ✦ Definition of environmental values: What are the scope and definition of environmental values targeted by Green Power Certificate ?
- ✦ Confirmation of policy and procedure for amortization: With what we can check that the Green Power Certificate is used? How long is the effective period of a Green Power Certificate ?

#### ■ CO2 conversion factors

- ✦ Especially in relation to the calculation, report and announcement system of the Law Concerning the Promotion of Measures to Cope with Global Warming, we anticipate the need for appropriate management for the scope and amount of power generators and purchaser organizations required to submit reports in the Green Power Certification System.
- ✦ These factors should be aligned with the CO2 emission factors of power suppliers. (If a power generation company is selling its electricity to a power supplier as system power, when the power generation company sells its environmental values to a third party as a Green Power Certificate , can the amount be appropriately deducted from the relevant power supplier' s CO2 emission amount?)

## 8. Further Development

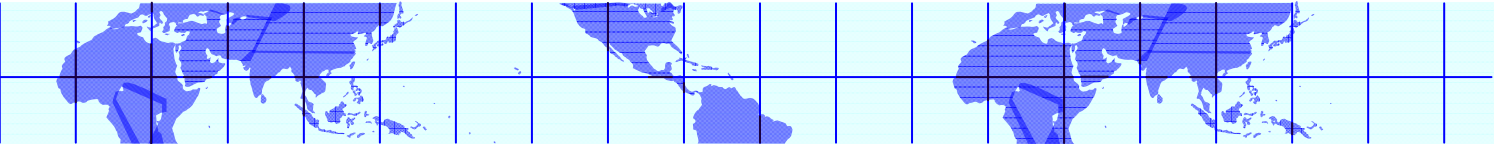
### (8) Toward Further Development ③

#### ■ Expected local expansion

- ✦ In the near future, “Green Energy Usage Expansion Seminars” will be held nationwide through the Green Energy Partnership.
- ✦ Since in the Green Power Certificate (Tradable Green Heat Certificates in future), where the power is produced and from what energy source it is produced should be indicated, this system can be utilized for activities to promote the characteristics of each region.
  - Example 1) Tradable Green Heat Certificates for snow and ice energy in Hokkaido
  - Example 2) The Tsuru City Government in Yamanashi Prefecture is considering becoming a company issuing certificates using small-size hydropower generation.
  - Example 3) Joint participation with projects to promote solar power batteries of the environmental NPOs in each region (Kagoshima City)







# [Reference] Greenhouse Gas Report System of Kyoto Prefecture



In the Greenhouse Gas Report System of Kyoto Prefecture, as a supplementary measure, the purchase of green power can be calculated in terms of greenhouse gas reduction.

第3号様式 (第15条関係)

事業者排出量削減報告書

住所 (法人にあっては、主たる事務所の所在地)

氏名 (法人にあっては、名称及び代表者の氏名)

事業者の主たる業種

該当する事業者要件

計画期間

基本方針

推進体制

年度ごとの具体的な取組及び措置の状況

温室効果ガスの排出量等

原単位当たりの温室効果ガス排出量等

その他の地球温暖化対策による温室効果ガスの削減量等

その他の地球温暖化対策による温室効果ガスの削減量等	対策等の区分	目標年度 (計画)				報告年度 (実績)			
		取組量等		(二酸化炭素換算)		取組量等		(二酸化炭素換算)	
	森林の保全及び整備	(整備面積)	ha	(吸収量)	t	(整備面積)	ha	(吸収量)	t
	府内産の木材の利用	(利用量)	m <sup>3</sup>	(削減量)	t	(利用量)	m <sup>3</sup>	(削減量)	t
	自然エネルギーを利用した電力又は熱の供給	(売電量)	kwh	(削減量)	t	(売電量)	kwh	(削減量)	t
		(熱供給量)	GJ	(削減量)	t	(熱供給量)	GJ	(削減量)	t
	グリーン電力の購入	(購入量)	kwh	(削減量)	t	(購入量)	kwh	(削減量)	t
	家庭における温室効果ガス排出量の削減効果分の購入	(購入量)	t	(削減量)	t	(購入量)	t	(削減量)	t
	削減量等合計			*3	t			*5	t

6 「特別事項」には、平成22年度(1990年度)を基準とした排出量の対比や、省エネ製品開発など他の温室効果ガス削減への貢献、グリーン調達を採用、特定フロンなどの条約指定外の温室効果ガスの削減などを記入していただく。