



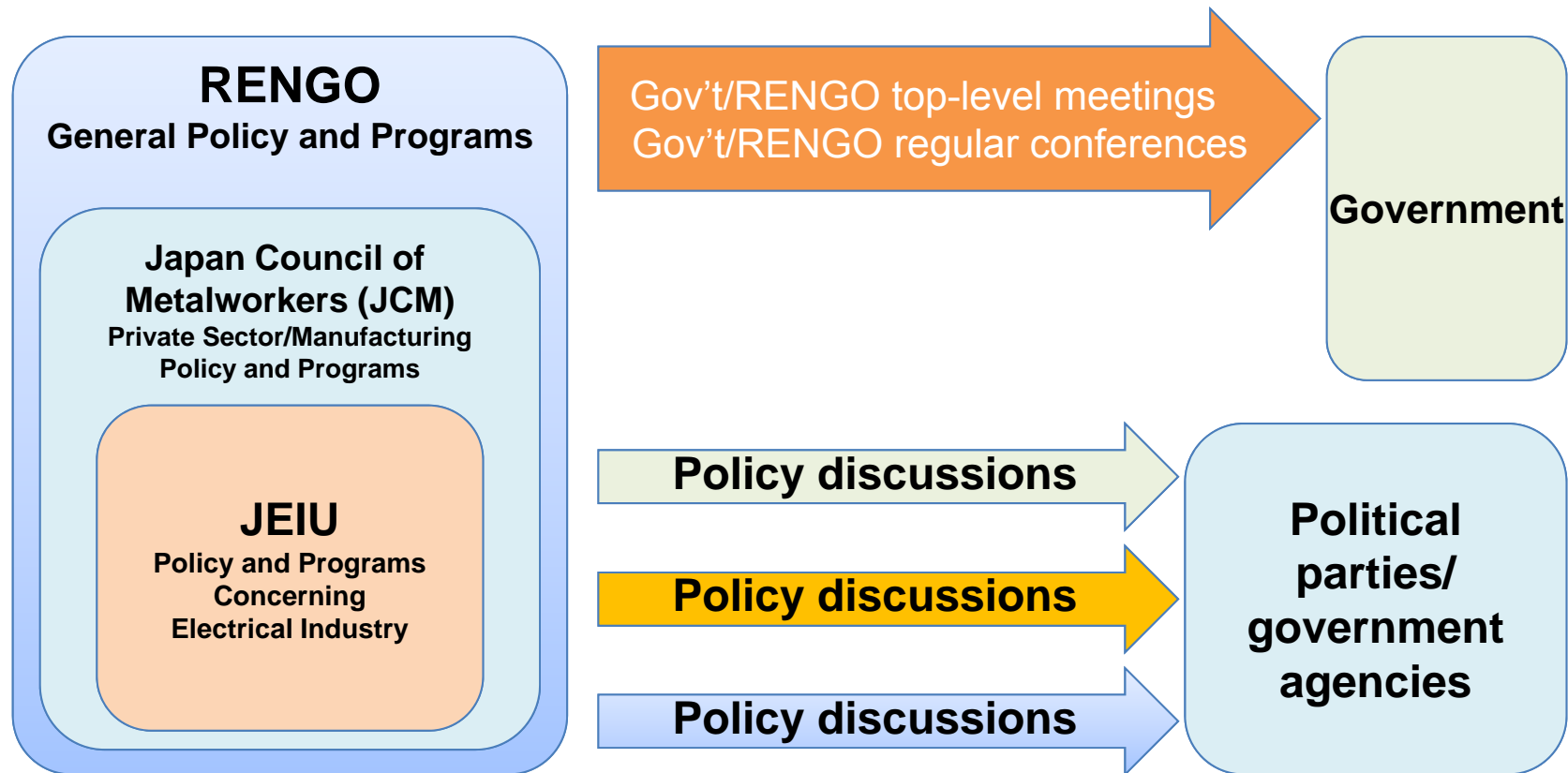
# JEIU Policy and Program Efforts



**April 24, 2013**  
**Japanese Electrical Electronic and Information Union**

# Strengthening Industrial Policy

## JEIU Policy and Program Efforts



**Link workplace opinions to national policy**

# 1. Preventing Domestic Deindustrialization

## (1) Promoting the domestic location of innovative low-carbon technology-intensive industries within Japan

The Program for Projects Promoting the Location of Job-Creating and Low-Carbon Industries (its former name) that began in 2010 has helped preserve domestic manufacturing bases, expand investment, and maintain and create jobs.

### (1) Continue and expand domestic location promotion projects for innovative low-carbon and job-creating industries

- **Relax subsidy requirements** for promoted projects
- **Relax screening criteria** for innovations
- **Relax criteria for first-line (first-time projects for businesses)** targets
- Review other requirements to achieve more effective investment

#### Past domestic location promotion projects

- ◆FY2009 2<sup>nd</sup> supplementary budget (Projects Promoting the Location of Innovative, Job-Creating and Low-Carbon Industries)  
Budget: 29.71 billion yen  
○Applicants: 75 (36 of these SMEs)      ○Recipients: 42 (12 SMEs)
- ◆FY2010 contingency funds (Promoting the Domestic Location of Job-Creating and Low-Carbon Industries)  
Budget: 110 billion yen  
○Applicants: 285      ○Recipients: 153 (41 SMEs)
- ◆FY2011 budget (Promoting the Domestic Location of Innovative, Low-Carbon Technology-Intensive Industries)  
Budget: 7.14 billion yen  
○Applicants: 48      ○Recipients: 22 (4 SMEs)
- ◆FY2011 3<sup>rd</sup> supplementary budget (Subsidy for Domestic Location Promotion Projects)      Budget: 330 billion yen  
○1st public appeal: Applicants: 748 (358 SMEs)      ○Recipients: 245 (81 SMEs)  
○2<sup>nd</sup> public appeal now in progress (as of end of May 2012)
- ◆FY2012 budget (Promoting the Domestic Location of Innovative, Low-Carbon Technology-Intensive Industries)  
Budget: 7.08 billion yen

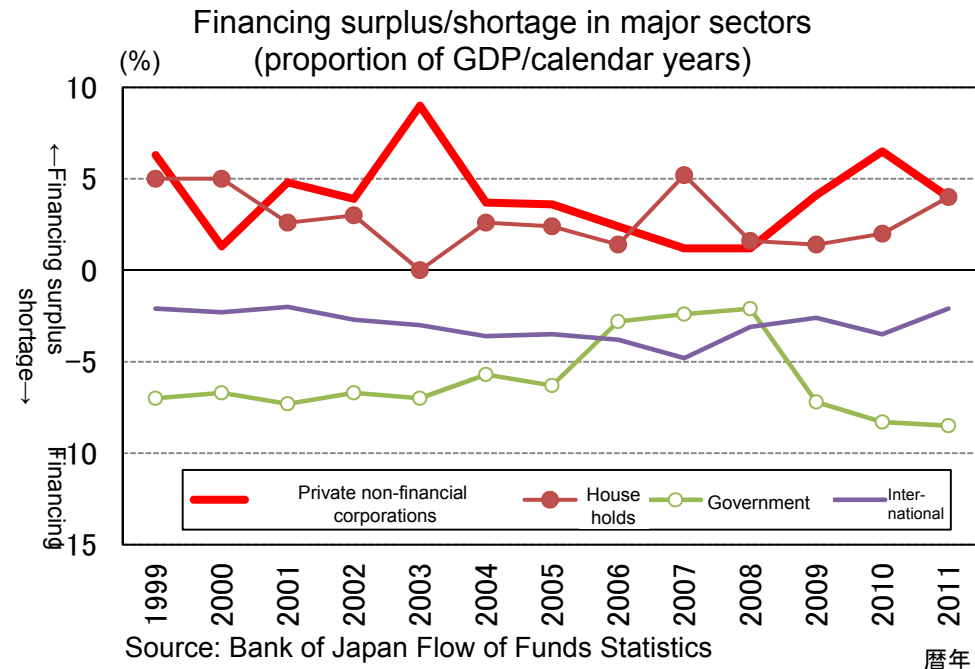
## 1. Preventing Domestic Deindustrialization

### (2) Restructuring and Promotion of Inward Investment Program

Despite efforts of this program, which was set up in autumn 2010, shortages in investment by domestic companies have not been rectified (excessive corporate savings equal 200 trillion yen in cash and cash equivalents held). We should expand capital investment as a pillar of demand.

(1) Through the Japan Revitalization Strategy determined in mid 2012, prevent deindustrialization through rapid recovery from the earthquake and tsunami and restructuring the promotion of domestic locations for projects.

- Restructure the domestic investment promotion program and promote it proactively with consideration for the change in circumstances following the earthquake and tsunami
- Conduct further review and scrutiny on factory location regulations and extend locations



### (3) Greater Flow-back of Profits Earned Overseas to Domestic Market

In order to promote the flow-back of profits from overseas investments to the domestic market, and to promote domestic R&D investment and new product development, we should correct systems in foreign countries that are obstructing this flow. Since FY2009 dividends from foreign subsidiaries have been excluded from gross revenue, and while certain progress in their flow-back has been seen, the following efforts are necessary.

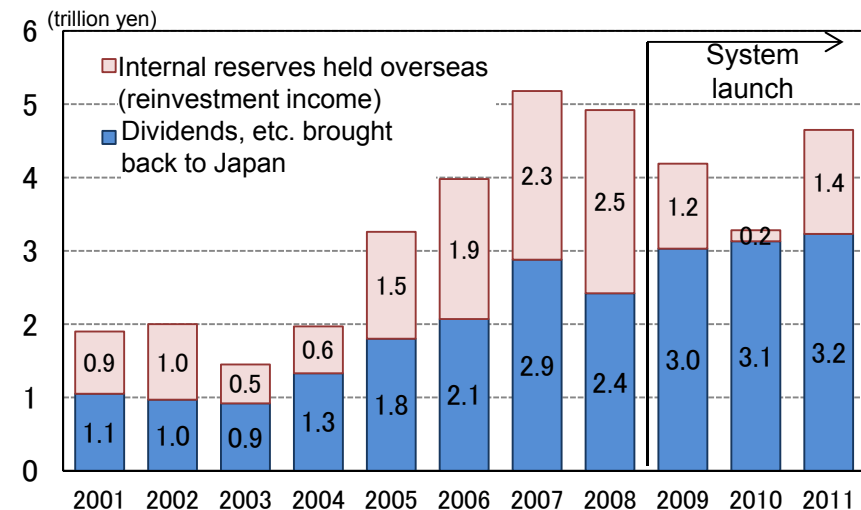
#### (1) Correct systems of foreign countries regarding fund transfer regulations and technology licensing

- Make efforts to rectify irrational foreign systems, including inability to collect appropriate royalties for technologies due to royalty limits and contract period regulations, etc., and inability to quickly transfer funds due to need for prior authorization, etc.

#### (2) Expand tax network

- To better avoid double taxation by Japan and the host country, introduce arbitration procedures and regulations, and respond to tax evasion and avoidance, we should sign tax treaties with more countries not currently involved in them and reform existing tax systems to expand the tax network.

Trends in outward direct investment income and dividends



Source: Balance of Payments Statistics (Ministry of Finance, Bank of Japan)

### (4) Policies on Scarce Resources

One of the measures for ensuring the future survival of the manufacturing industry in Japan will be to continue making materials and products with high added value. To this end, it is important to ensure a supply of rare metals and rare earths.

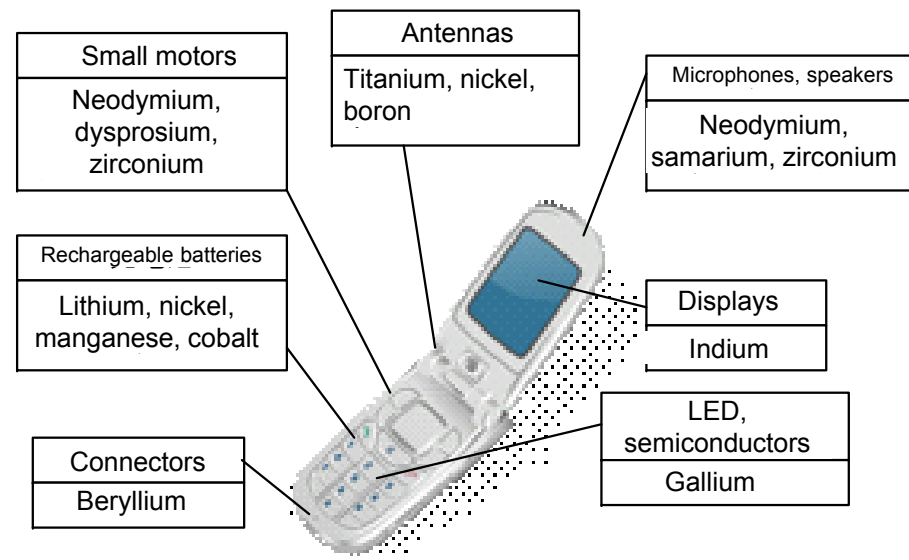
#### (1) Ensure a stable supply of rare metals and rare earths

- Joint development of deposits through intergovernmental agreements with producing countries
- Financing for joint development and technology cooperation through government policies and funding.
- Strategic reserves by the government

#### (2) Speed up R&D on recycling technologies and substitute products, and their practical application

#### (3) In certain cases, take advantage of international dispute resolution measures, such as filing suit with WTO

Rare Metals Used in Daily Life



## 2. Expanding Distributed and Renewable Energy and Promoting Energy Efficiency

### (1) Building Smart Communities

Since the Great East Japan Earthquake, a greater need has been felt for building distributed energy systems that are effective for disaster response.

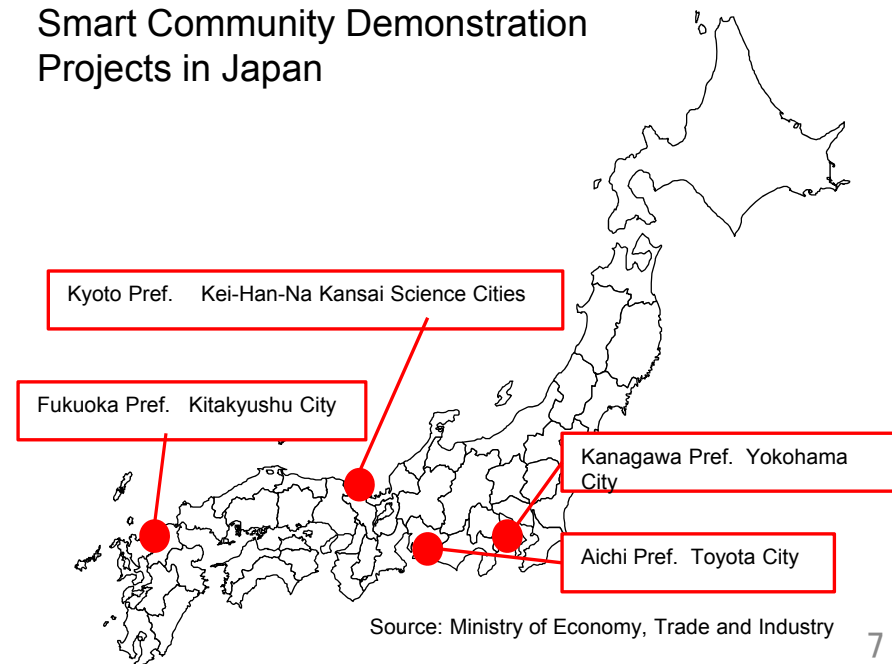
(1) Fully and quickly implement the pioneering Smart Community Promotion Projects in the three disaster-affected prefectures

(2) In conjunction with promotion plans in each region, develop local projects (set up business models, clarify responsible organizations, etc.)

(3) Clarify and publicize results and issues learned from demonstration projects

—As we continue to implement the four Smart Community demonstration projects, we will clarify the results and issues from each, gather know-how and share it with the public. We will share results and know-how for building smart communities in the affected areas and other areas in Japan, setting price fluctuations (high rates during peak demand, low rates during low demand), and speeding up overseas development.

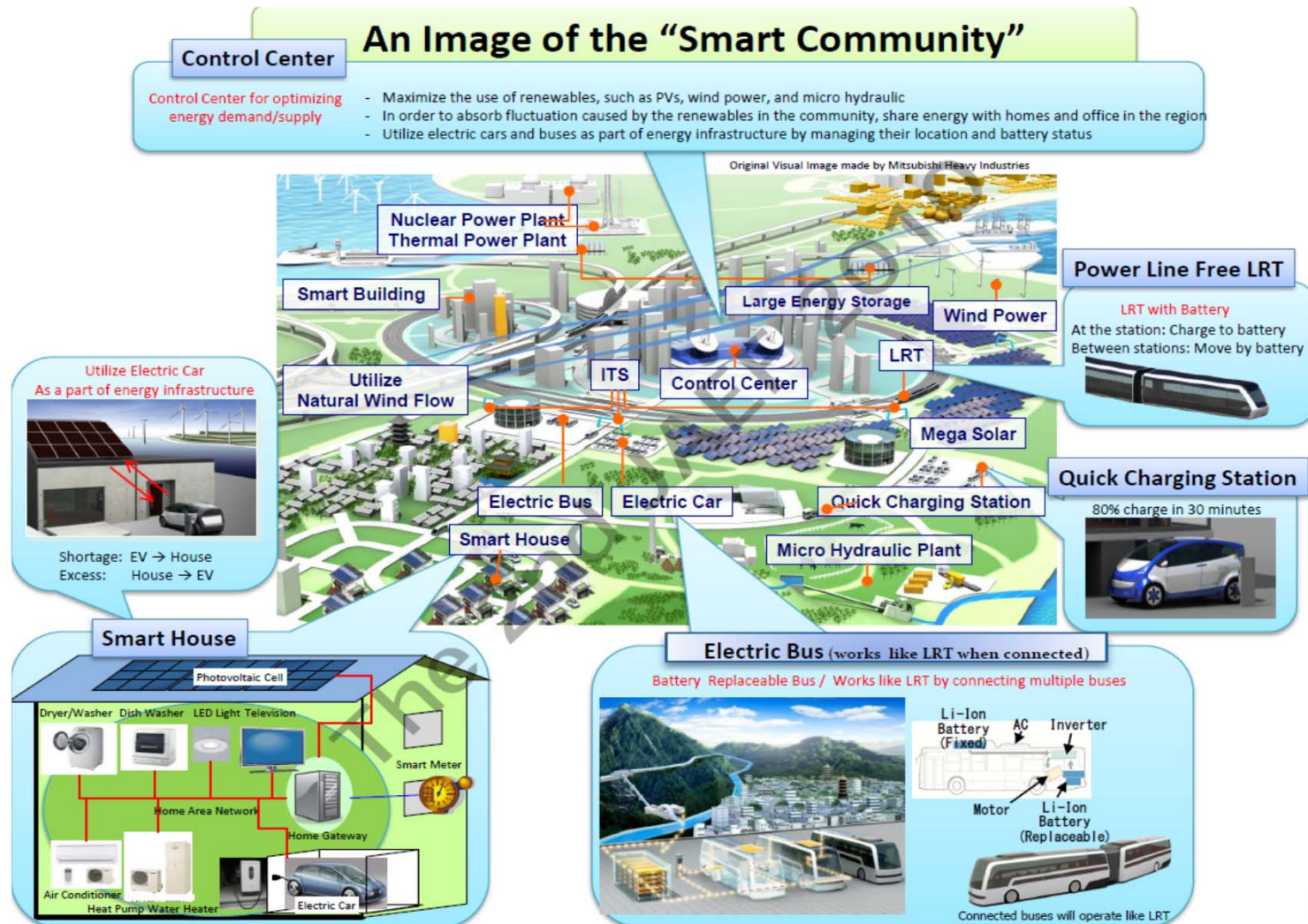
#### Smart Community Demonstration Projects in Japan





## 2. Expanding Distributed and Renewable Energy and Promoting Energy Efficiency

### (1) Building Smart Communities (cont.)



Source: Ministry of Economy, Trade and Industry

Beautiful earth & Happy life



## 2. Expanding Distributed and Renewable Energy and Promoting Energy Efficiency

### (1) Building Smart Communities (cont.)

#### (4) Promote integrated construction of advanced geographically distributed systems

- Promote use of distributed energy, advanced ITS and other transportation infrastructures, thermal energy systems, smart meters\*, and HEMS/BEMS\*\*, and the construction of integrated, advanced geographically distributed systems

#### (5) Provide aid for creation of new businesses that emerge from smart communities

- Provide assistance for the creation of new businesses including security, medical-related services, and applications and services that utilize power usage data from energy management systems

#### (6) Accelerate overseas expansion through public-private partnerships

- Continue public-private demonstration projects in areas worldwide
- Provide assistance for feasibility studies and development in emerging markets
- Actively provide aid through government-owned financial institutions and carry out economic and business talks and political negotiations at upper levels to address commercialization risk
- Also provide assistance to collect know-how from solution proposals to specific hardware and software cross-production

## 2. Expanding Distributed and Renewable Energy and Promoting Energy Efficiency

### (1) Building Smart Communities (cont.)

#### \*Smart Meter

While the specific definition has not yet been determined, this term refers to an electrical meter that has these functions: 1) Records and displays in various ways the state of energy use; 2) controls home appliances within the house via a microcomputer inside the meter; 3) exchanges data on power use with an electric utility via a communications function. This term is used in contrast to a basic, conventional electricity meter that mechanically calculates power consumed and displays analog data.

#### \*\*HEMS, BEMS

HEMS stands for Home Energy Management System, and BEMS stands for Building Energy Management System. HEMS connects home appliances within a residence and BEMS connects various equipment within buildings to a network and regulates their operation based on data received from sensors placed within residences and buildings to optimize the amount of energy used and improve energy efficiency. They are assumed to enable checks on how equipment is running and remote operation from other locations or from a control room.

## 2. Expanding Distributed and Renewable Energy and Promoting Energy Efficiency

### (2) Promoting and Expanding Smart Meter Adoption

Power use in the civilian sector (business and related sectors, households) is on the increase. Making energy use more efficient requires urgent measures for this sector.

#### (1) Promote standardization of smart meters and peripheral interfaces

- Promote the standardization of the smart meter, HEMS, BEMS, and home appliance and other household device interfaces.

#### (2) Promote adoption by heavy consumers and general households

- To achieve the goal set forth at energy and environmental conferences (placing smart meters at 80% of all consumers within 5 years), promote their adoption by heavy consumers and general households.

#### (3) Thoroughly protect privacy when power usage data is supplied

- Provide power usage data to consumers properly. Privacy must be completely ensured. For supplying usage data to a third party, think carefully the proper methods, taking privacy protection, societal needs and extent of demand into consideration.

## 2. Expanding Distributed and Renewable Energy and Promoting Energy Efficiency

### (3) Expanding Adoption of HEMS and BEMS

The commercialization of HEMS has made little progress thus far. Efforts should be made to expand the use of HEMS, including implementing “smart house” projects in the future.

#### (1) Proactively work to promote the spread of Echonet\*, the HEMS international standards designed in Japan

\* Echonet is a standard for networks using wiring for household lighting and wireless networks promoted by the Echonet Consortium.

Using a network for in-home device control, the user can not only directly control devices from a controller, but also operate them remotely. It also enables remote maintenance such as alerts in case of gas leakage.

#### (2) Work to promote spread of BEMS through expansion of areas where efforts are made

—Work to make BEMS more efficient and expand the scope of its energy-saving from individual buildings to groups of buildings or specified areas.

#### (3) Strengthen efforts toward small businesses (SMEs)

—Adoption of energy management systems at small businesses is lagging for financial and personnel reasons. Efforts to this end should be strengthened, including expanding assistance for adoption from large enterprises to SMEs through CDMs (clean development mechanisms)\*\*\* within Japan and the spread of ESCO businesses\*\*.

#### (4) Offer incentives to consumers

—Introduce a fee structure that corresponds to the state of power supply and demand.

—**Expand the energy-saving eco subsidy to HEMS and BEMS and extend aid three years or more. Also, make more devices eligible for aid.**

## 2. Expanding Distributed and Renewable Energy and Promoting Energy Efficiency

### (4) Expand Adoption of Stationary Batteries

Rechargeable lithium ion batteries cost 500,000 yen per kilowatt. This should be reduced to around 50,000-60,000 yen through mass production.

(1) Expand subsidy and eco point systems for energy efficiency.

(2) Bolster subsidies for when solar power systems and batteries are installed together.

(3) Looking at performance after Fire Defense Law regulations are eased, set and clarify storage capacities for applications and zones in Building Standard Law.

(4) Bud a third-party certification system as soon as possible.

(5) Promote their spread through joint use with vehicle batteries.

— There are some differences between in-vehicle and stationary batteries, but essentially they are the same battery. To make their increased adoption more efficient, standards should be set such as common parts and plug connectors.

(6) Create remaining charge reading standards for lithium ion batteries.

— The use of lithium ion batteries for EVs and households is expected to continue to increase, and there will likely be more recycled products making the rounds as the market continues to expand. However, today there are no set standards for remaining charge readings of lithium ion batteries, nor are there appropriate price designations for recycled units. To enable more effective use of electric energy, the readings should be standardized and appropriate prices should be set.

## 2. Expanding Distributed and Renewable Energy and Promoting Energy Efficiency

### (5) Expanding Use of Solar Power

Solar is the method of power generation that is most likely of all renewable energy sources to quickly spread in use.

(1) To expand use of solar power, quickly pass related bills and ease necessary regulations.

- Legal systems concerning consolidation of abandoned farmland and conversion of farmland that hinder the expansion of solar power should be reviewed and amended.
- Allow use of generating facilities along highways and in other roadway structures.
- Speed up discussions on a system that eradicates inequalities with the system for power purchasing from single family homes, as equipment installation is structurally impossible on apartment complexes.
- Provide aid for creation of new power-generating businesses through lending of roofs or walls.
- Offer appropriate guidance regarding local government regulations
  - a) Prefectural building standards law gradation regulations
    - reduce power output due to constricted panel installation area
  - b) Prefectural subsidies consistently cover output under a specified level.  
Capacities above this are not covered.
    - Keep price decline in check through economies of scale

## 2. Expanding Distributed and Renewable Energy and Promoting Energy Efficiency

### (6) Expanding Use of Geothermal Power

As Japan is a country with many volcanoes, its potential for geothermal power generation is very high. Plus, geothermal is one of the renewable energies that can stably produce a considerable output.

#### (1) Expand eligible regions for construction of power plants.

- Allow diagonal digging from outside of national park regulatory domains. Work to implement and verify development within parks, then expand eligible regions based on results.

#### (2) Where necessary, correct and review criteria and regulations for power plant construction

- Allow vertical drilling in the same regulated zones. Due to attached conditions such as use of technologies that minimize environmental impact and consensus from involved parties, verification should be conducted and, where necessary, conditions and regulations should be corrected and reviewed.

#### (3) Work to utilize sources other than steam in geothermal power

- Expand adoption of binary systems (which uses hot spring water instead of underground steam and boils a low-boiling point liquid such as ammonia to spin a turbine).



## (7) Structural Transformations in Industry and Society to Achieve a Low-carbon Future

Basic stance on building next-generation energy supply infrastructures that allow us to envision a low-carbon future

- ◆ Strive for a society that contributes to energy supply through maximum adoption of renewable energy.
- ◆ Strive for a society that makes fossil energy use significantly more efficient and achieves lower carbon emissions.
- ◆ The cost of global warming measures is also a way to create demand.

On the macro level, cost = demand.

Cost means added investment and consumption. It can also lead to more jobs.

- ◆ Design a system that ascertains the amount of CO<sub>2</sub> emissions during production, and also evaluates contributions to CO<sub>2</sub> reductions through products and systems.

Thank you for your kind attention.