Resource Efficiency and Circular Economy in the EU and Japan

Current Activities and Future Direction Related to RE and CE in Japan

Recycling Promotion Division,
Industrial Science and Technology Policy and Environment Bureau,
Ministry of Economy, Trade and Industry
1. Current Situations in Japan
2. EU’s RE and CE from Our Point of Views
3. Comparative Analysis between EU and Japan
4. Future Directions
### Chronological Tables of Relevance

<table>
<thead>
<tr>
<th>Year</th>
<th>Legal Framework (Implementation)</th>
<th>Social Situation, etc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1971</td>
<td>Waste management law</td>
<td>rapid economic growth: Disposal of large amount of waste and its inappropriate handling/treatment resulted in a series of severe environmental contamination</td>
</tr>
<tr>
<td>1991</td>
<td>Recycling promotion law</td>
<td>• Responsibilities and treatment standards of waste were set</td>
</tr>
<tr>
<td>1995</td>
<td>Containers &amp; Packaging recycling law</td>
<td></td>
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<tr>
<td>2001</td>
<td>Basic law on a sound material-cycle society</td>
<td></td>
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<tr>
<td></td>
<td>Law on effective use of resources</td>
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<tr>
<td></td>
<td>Home appliances recycling law</td>
<td></td>
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<tr>
<td></td>
<td>Law on recycling of food matters</td>
<td></td>
</tr>
<tr>
<td>2003</td>
<td>First B.P. on a sound material-cycle society</td>
<td></td>
</tr>
<tr>
<td>2005</td>
<td>End-of-life vehicle recycling law</td>
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<tr>
<td>2006</td>
<td>C&amp;P recycling law revised</td>
<td></td>
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<tr>
<td>2007</td>
<td>Food matters recycling law revised</td>
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<tr>
<td>2008</td>
<td>2nd B.P. on a sound material-cycle society</td>
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<tr>
<td></td>
<td>Home appliances recycling law revised</td>
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<tr>
<td>2013</td>
<td>Small elec. devices recycling law</td>
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<td></td>
<td>3rd B.P. on a sound material-cycle society</td>
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### More emphasis on promoting 2R (Reduce and Reuse) which has higher priority than Recycling. Promotion of high-tech “horizontal (same product) recycling” Promotion of International corporation for 3Rs.

### Establishment of a sound material-cycle society which reduces consumption of natural resources and environmental burden
Legal Framework on RE(Resource Efficiency)

- Recycling law on individual products are devised for the products facing issues and challenges after disposal.

**Legal System Addressing Individual Issues Facing Challenges**

- **Small Electric Devices Recycling Law**
  - Appropriate treatment of waste
  - Measures on Containers & packaging accounting for 60% of household waste
  - Utilization of rare metals contained in small electrical devices
  - Special measures for designated businesses under waste mgt. law

- **Containers and Packaging Material Recycling Law**
  - Measures on bulky and large waste
  - Cost sharing by manufacturers and distributors

- **Home Appliances Recycling Law**
  - Measures on other large and mass disposed waste
  - Cost sharing by operators

- **End-of-Life Vehicle Recycling Law**
  - Cost sharing by generators (consumers)

- **Construction Materials Recycling Law**
  - Cost sharing by generators (operators)

- **Food Matters Recycling Law**

**Waste Management and Public Cleansing Law**

- Responsibility of municipality in treatment of household garbage, permit system for waste management companies, and setting up of standards for waste management, etc.

**Law for the Promotion of Effective Use of Resources**

- Establishing a voluntary collection and recycling system by manufacturers

**Basic Law on Establishing a Sound Material-cycle Society**

- 1. Reduce generation (reduce)
- 2. Reuse
- 3. Recycle
- 4. Thermal recovery
- 5. Appropriate disposal

**Basic Plan on Establishing a Sound Material-cycle Society** (revised in May 2013)
Outline of the Law for the Promotion of Effective Utilization of Resources

I. Product measures

Business operators are required to adopt measures to reduce waste generation, to reuse parts, and to recycle (reuse as resources).

Reduce

Manufacturing

 RAW materials

 Specified resource-saved products

(19 commodities, including personal computers, automobiles, home appliances, pachinko and slot machines, metal furniture, gas and oil appliances)

Reduce-oriented design based on rational use of raw materials, etc.

Product design

Specified reuse-promoted products

(50 commodities, including personal computers, automobiles, home appliances, pachinko and slot machines, metal furniture, gas and oil appliances, copiers, bathroom units, kitchen unit, compact secondary batteries)

Distribution and servicing

Specified reuse-promoted products

(50 commodities, including personal computers, automobiles, home appliances, pachinko and slot machines, metal furniture, gas and oil appliances, copiers, bathroom units, kitchen unit, compact secondary batteries)

Consumption

Specified resource-recycled products

(2 commodities: personal computers and compact secondary batteries)

Self-collection and recycling by business operators

Specified labeled products

(7 commodities: steel cans, aluminum cans, PET bottles, paper containers and packaging, plastic containers and packaging, compact secondary batteries, rigid PCV products)

Utilization of recycled parts or raw materials in product manufacturing

Reuse

Recycle

(5 industries: paper manufacturing, glass container manufacturing, rigid PVC pipes and pipe fitting manufacturing, copier manufacturing, construction)

Specify by-products

(2 commodities: coal ash generated by the electricity industry, and soil and sand, lumber, and other waste generated by the construction industry)

Specify by-products associated with energy supply or construction projects

Measures for reducing or recycling by-products

Designated resource-saving industries

(5 industries: pulp and paper, inorganic chemical manufacturing, iron making and steel making/rolling, primary copper smelting and refining, and automobile manufacturing)

II. By-product (workplace) measures

Business operators are required to adopt measures to reduce generation of by-products in plants and to recycle them (as raw materials).

Reduce

Manufacturing

Specified by-products

(2 commodities: coal ash generated by the electricity industry, and soil and sand, lumber, and other waste generated by the construction industry)

*Applies only to by-products associated with energy supply or construction projects

Reuse

Recycle

Utilization of recycled parts or raw materials in product manufacturing

Self-collection and recycling by business operators

Designated resource-saving industries

(5 industries: pulp and paper, inorganic chemical manufacturing, iron making and steel making/rolling, primary copper smelting and refining, and automobile manufacturing)

Identify through labeling

Specified labeled products

(7 commodities: steel cans, aluminum cans, PET bottles, paper containers and packaging, plastic containers and packaging, compact secondary batteries, rigid PCV products)
# Law for the Promotion of Effective Utilization of Resources  
(Specified Resources-Saved Products and Specified Reuse-Promoted Products)

<table>
<thead>
<tr>
<th>Category</th>
<th>Details</th>
<th>Specified products / industries</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Products</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specified</td>
<td>Require the actions of the rational use of raw materials, promotion of a longer use of the product, and the control of the generation of other used commodities</td>
<td>Electric home appliances (television sets, refrigerators, washing machines, air conditioners, microwave ovens, clothes driers), personal computers, gas and oil appliances, automobiles, metal furniture, pachinko machines</td>
</tr>
<tr>
<td>Resource-Saved</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Products</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specified</td>
<td>Require the promotion of the use of recyclable resources and recyclable parts</td>
<td>Electric home appliances (television sets, refrigerators, washing machines, air conditioners, microwave ovens, clothes driers), personal computers, devices using compact rechargeable batteries, gas and oil appliances, bathroom units and kitchen systems, metal furniture, copiers, automobiles, pachinko machines</td>
</tr>
<tr>
<td>Reuse-Promoted</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Products</td>
<td>Require the actions of voluntary collection and resource recovery and recycling</td>
<td>Personal computers, compact rechargeable batteries (including devices in which compact rechargeable batteries are used)</td>
</tr>
<tr>
<td>Specified</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Resource-Recycled</td>
<td>Require labeling to promote separate collection</td>
<td>Plastic container and packaging, paper container and packaging, compact rechargeable batteries, PET bottles, steel cans, aluminum cans, PVC construction materials</td>
</tr>
<tr>
<td>Products</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specified</td>
<td>Require the actions to promote the use of the byproducts as recycled resources</td>
<td>Coal ash generated by the electricity industry, soil and sand, slabs of concrete and asphalt, and lumber generated by the construction industry</td>
</tr>
<tr>
<td>Labeled Products</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specified</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Byproducts</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Industries</strong></td>
<td>Require to reduce the generation of byproducts</td>
<td>Automobile manufacturing, iron-making and steel-making/rolling, primary copper smelting and refining, pulp and paper, inorganic chemical manufacturing and organic chemical manufacturing</td>
</tr>
<tr>
<td>Designated</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Resource-Saving</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Industries</td>
<td>Require to use recyclable resources and recyclable parts</td>
<td>Paper manufacturing, construction, glass container manufacturing, copier manufacturing, rigid PVC pipes and pipe fitting manufacturing</td>
</tr>
<tr>
<td>Designated</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Resource-Reusing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Industries</td>
<td></td>
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</tr>
</tbody>
</table>


⇒ A follow-up to monitor the initiatives of manufacturers is conducted based on the “Guidelines for each product category by the Industrial Structure Council” (aligned with the Act on the Promotion of Effective Utilization of Resources). Also, METI regularly conducts an investigation on the status of the initiatives.
Law for the Promotion of Effective Utilization of Resources
(Specified Resources-Saved Products and Specified Reuse-Promoted Products)

For each product category, a set of “Judgment Criteria”, with which product manufacturers shall comply to take actions, is stipulated under the Ministerial Ordinance.

Summary of “Judgment Criteria” for Specified Resource-Saved Products and Specified Reuse-Promoted Products

<table>
<thead>
<tr>
<th>Specified Resources-Saved Products</th>
<th>Specified Reuse-Promoted Products</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Rationalization of the Use of Raw Materials, etc.</td>
<td>1. Efforts relating to Raw Materials</td>
</tr>
<tr>
<td>2. Promotion of Long-Term Use</td>
<td>2. Efforts relating to Structure</td>
</tr>
<tr>
<td>3. Ensuring Safety in Repair, etc.</td>
<td>3. Efforts relating to Sorting</td>
</tr>
<tr>
<td>4. Ensuring Opportunity for Repair, etc.</td>
<td>4. Ensuring Safety in Treatment</td>
</tr>
<tr>
<td>5. Considerations for Safety, etc.</td>
<td>5. Considerations for Safety, etc.</td>
</tr>
<tr>
<td>6. Technological Improvement</td>
<td>6. Technological Improvement</td>
</tr>
<tr>
<td>7. Advance Assessment of Products</td>
<td>7. Advance Assessment of Products</td>
</tr>
</tbody>
</table>

### Policy Framework regarding Eco-Design (Electrical and Electronic Equipment)

- As a policy framework to promote the environment-conscious products in the field of electric and electronic equipment in Japan, there are the “Act on the Rational Use of Energy (Energy Conservation Law)” and the “Law for the Promotion of Effective Utilization of Resources” (“Specified Resources-Saved Products”, “Specified Reuse-Promoted Products”, and “Specified Labeled Products”). In the perspective of product introduction into the market, both acts include the provisions on the environment-conscious design in the design phase.
- In addition, as a policy to promote the introduction of environment-conscious products into the market, there is the “Act on Promotion of Procurement of Eco-Friendly Goods and Services by the State and Other Entities (Green Purchasing Law)”, which stipulates the promotion of purchasing eco-friendly goods by the State and other authorities, etc.

<table>
<thead>
<tr>
<th>Measures for environment-conscious design</th>
<th>Energy Efficiency/Conservation</th>
<th>3R (Reduce/Reuse/Recycle)</th>
<th>Reduction of Chemical Substance Risks</th>
</tr>
</thead>
<tbody>
<tr>
<td>“Top Runner Program” based on the “Energy Conservation Law”</td>
<td>“Law for the Promotion of Effective Utilization of Resources” (“Specified Resources-Saved Products” and “Specified Reuse-Promoted Products”)</td>
<td>“Law for the Promotion of Effective Utilization of Resources” (“Specified Labeled Products”)</td>
<td></td>
</tr>
<tr>
<td>reduces energy efficiency/conservation performance standards based on the Top Runner Program calculation method for cars and home electric appliances, etc.</td>
<td>→making 3R conscious design mandatory (however, the criteria for implementation are qualitative; thus the need for the industry and manufacturers to determine what concrete actions to adopt)</td>
<td>→making the marking for presence of the specific chemical substances mandatory (J-Moss Mark, etc.)</td>
<td></td>
</tr>
<tr>
<td>“Green Purchasing Law” (“Judgment Criteria”)</td>
<td>→this is not the “Judgment Criteria”, but it requires voluntary efforts by related party</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Boosting RE industry (Eco-town project)

**Project outline**

**Purpose:**
1. Regional development through the promotion of the environmental industry by utilizing local industry accumulation
2. Construction of a recycling-based economy and society through the promotion of waste reduction and recycling, with consideration for the uniqueness of regions

**Business:**
1. Local governments utilizing the characteristics of each region to create an “Eco-Town Plan (Urban Development Plan in Harmony with the Environment)”
2. The Ministry of Economy, Trade, and Industry and the Ministry of the Environment jointly approving plans which they recognize that can become model plans for other local governments
3. Provide financial support to local public organizations and private sector organizations for the development of recycling facilities that contribute to the formation of a leading recycling-based society, based on the plan (Abolished in FY2005)

**System**

- **Eco-Town Project**
  - National
  - Ministry of Economy, Trade, and Industry
  - Ministry of the Environment
  - Joint approval
  - Development of leading recycling facilities
  - Development of research and development centers, etc.
  - Public awareness, provision of information, etc.

- **Local businesses**
  - Hard projects
    - Development of leading recycling facilities
    - Development of research and development centers, etc.
  - Soft projects
    - Public awareness, provision of information, etc.

- **Public**
  - Implementation of local government projects
  - Participation in business

- **Implementation of project, funding**
Map of Approved Districts for Eco-Town Projects

System start year 1997
Districts 26
Facilities eligible for aid 62

Hokkaido (approved 30 June 2000)
- Household appliances recycling facility (METI)
- Paper container and packaging recycling facility (METI)

Aomori Prefecture (approved 25 December 2002)
- Incineration ash / scallop shell recycling facility (METI)
- Molten fly ash recycling facility (METI)

Akita Prefecture (approved 12 November 1999)
- Household appliances recycling facility (METI)
- Non-ferrous metals recovery facility (METI)
- New construction material manufacturing facility, using waste plastic (METI)
- Coal ash and waste plastic recycling facility (METI)

Kamaishi, Iwate Prefecture (approved 13 August 2004)
- Seafood processing waste recycling facility (METI)

Uguisuzawa, Miyagi Prefecture (approved 12 November 1999)
- Household appliances recycling facility (METI)

Tokyo (approved 27 October 2003)
- Advanced sorting facility for recycling mixed construction waste (ME)

Chiba, Chiba Prefecture (approved 25 January, 1999)
- Eco-cement manufacturing facility (METI)
- Direct melting facility (ME-W)
- Methane fermentation gasification facility (ME)
- Waste wood and waste plastic recycling facility (METI)
- Highly pure metal and plastic recycling facility (METI)
- Shell recycling facility (METI)
- VC series waste recycling facility (ME)
- Interior construction waste material recycling facility (ME)

Aichi Prefecture (approved 28 September 2004)
- Nickel recycling facility (METI)
- Environmentally friendly, high value added matte manufacturing facility (METI)
- Raw material and waste rubber (unvulcanized waste rubber)
- Material recycling facility (METI)
- Environmentally friendly, high value added matte manufacturing facility (METI)
- Recyclage facility for panel products made from waste plastic (METI)
- Waste plastic recycling facility (METI)
- Plastic bottle recycling facility (METI)

Kawasaki (approved 10 July 1997)
- Waste plastic blast furnace reduction facility (METI)
- Recyclage facility for paper that is difficult to recycle (METI)
- Manufacturing facility for panels for concrete frames made from waste plastic (METI)
- Waste plastic recycling facility (METI)
- Plastic bottle recycling facility (METI)

Gifu Prefecture (approved 10 July 1997)
- Waste tire and rubber recycling facility (METI)
- Plastic bottle recycling facility (METI)
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METI: Eco-town grant from the Ministry of Economy, Trade, and Industry
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Circularity usage is increasing (213 -> 244 Million tons)

(Unit: Million tons)

(Note) Water content, etc.: Water content in waste (sludge, animal manure, excrement, waste acid, and waste alkali) and input of earth and sand accompanying economic activities (sludge from the mining industry, construction industry, and water supply business, and slag from the mining industry)

source: Annual Report on the Environment, the Sound Material-Cycle Society and Biodiversity in Japan 2015 (Ministry of Environment)
Changes in Monitoring Indicators

- **Material Productivity** (GDP/amount of natural resources)
  - Target: 460 thousand yen/ton by 2000FY
  - (to improve 80% from 2020FY: 250 thousand yen/ton)

- **Landfilling Amount**
  - Target: 17 Million tons by 2020FY
  - (to reduce 80% from 2000FY: 56 million tons)

- **Circularity Usage Rate** (circular usage/ (circular usage + input of natural resources))
  - Target: 17% by 2020FY
  - (to improve 70% from 2000FY: 10%)

Source: Annual Report on the Environment, the Sound Material-Cycle Society and Biodiversity in Japan 2015 (Ministry of the environment)
**Regulations and Indicators Set in Each Stage of Product Lifecycle**

### Law for Promotion of Effective Utilization of Resources (targets: TV, PC, etc.)
- **Products specified for resource conservation**: making products and their components smaller, lighter and durable
- **Products specified for reuse**: using recycled plastics, making products easier to demanufacture

### Green Purchasing Law (targets: refrigerator, TV, PC, etc.)
- **Items specified for product procurement**: focusing on energy efficiency and choosing CFC-free goods; easy access to information on chemical substances contained in goods

### Home Appliance Recycling Law (targets: air conditioner, TV, etc.)
- **Collection Rate Target**: 56% by the end of FY2018 (49% as of 2013)

### Small Home Appliance Recycling Law (targets: cell phone, digital camera, etc.)
- **Collection Amount Target**: 140,000 tons per year by the end of FY2015 which is roughly 1kg per person in a year (some 50,000 tons as of 2014)

### Home Appliance Recycling Law
- **Recycling Rate**: written as right table

**Note**: *1 recycling rate can be calculated as the total weight of materials recycled divided by the total weight of units treated for recycled

### Law for Promotion of Effective Utilization of Resources (copier manufacturer)
- **Industries specified for reuse**: setting of target; maintenance of equipment; making a utilization plan of recyclable resources
- **Parts-reuse rate**: in the copier manufacturing industry for 2002 was 2.45kg/unit and 2.54kg/unit in 2005

### Criteria for Four Items of Home Appliances (targets: air conditioner, TV, etc.)
- **Year of manufacturing**, **status of equipment** (energization check), **appearance**

### Criteria for Used Electrical and Electronic Equipment
- **Model**, **year of manufacturing**, **status of equipment**, **packing/loading status**, **past record of trading as used goods**
What is RE/CE

• **RE is**
  • Improving the resource productivity with minimizing the impact on the environment and using resources in a more sustainable manner.
  • “Resource” mean not only materials, but all resources including water, energy etc.
  • Including reducing waste, recycling, re-using, share, PaaS and so on.

• **CE is**
  • One of important themes to achieve RE.
  • Economic & industrial policy for boosting job creation, economic growth and investment by the creation of new services and business models.
  • Covering the whole product lifecycles: from production and consumption to waste management and the market for secondary raw materials.
  • To reduce waste, greenhouse gas emissions and protect environment by an effective utilization of resources.
Flow of EU’s Circular Economy (CE) Policy

Major Policies
- Ecodesign Directive sets requirements on durability, reparability and recyclability of products
- Environmental Communication: Labeling, Product Environmental Footprint

Product Design
- Ecodesign promotion (durability, reparability and recyclability of products)

Manufacturing Process
- Best practice promotion

Consumption
- Ensuring reliable information (fair business practice)
- Green Public Procurement

Recyclable Materials
- Criteria for secondary raw materials
- Measures for chemical substances management

Waste Disposal & Management
- Boosting recycling targets
- Voluntary certification scheme applicable to waste facilities

Creation of New business Model
Promotion of Development & Investment
Monitoring by Multiple Indicators

Source: Presentation made by Mitsubishi Research Institute, Inc.
## CE policy’s impacts on Japanese Businesses

<table>
<thead>
<tr>
<th>Category</th>
<th>Possible impact on Japanese businesses</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Product design</strong></td>
<td>Ecodesign promotion</td>
</tr>
<tr>
<td></td>
<td>Manufacturers Durability, reparable and recyclability of products used in the EU</td>
</tr>
<tr>
<td><strong>Production Process</strong></td>
<td>Best practice promotion</td>
</tr>
<tr>
<td></td>
<td>Manufacturers Measures to be taken at production facilities if best practice is selected as BAT’s reference document</td>
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<tr>
<td><strong>Consumption</strong></td>
<td>Ensuring reliable information (fair business practice)</td>
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<td></td>
<td>Manufacturers When labelling and Product Environmental Footprint are introduced in Japan, relevant information will be developed and provided</td>
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<td>Green public procurement</td>
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<td></td>
<td>Manufacturers When new requests are added to CE procurement criteria, measures for them need to be formulated</td>
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<tr>
<td><strong>Waste disposal &amp; management</strong></td>
<td>Higher recycling target</td>
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<td>Manufacturers Increased financial burden due to EPR</td>
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<td>Voluntary certification scheme for disposal facilities</td>
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<td>Recyclers Necessary of adoption if the EU certification scheme becomes international standard</td>
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<tr>
<td><strong>Secondary materials</strong></td>
<td>Quality standards for secondary raw materials</td>
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<td></td>
<td>Recyclers Necessary in manufacturing new technologies for secondary raw materials</td>
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<td>Measures for chemical substances</td>
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<td></td>
<td>Entire businesses Measures to make a request for chemical substances management in the supply chain</td>
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<tr>
<td><strong>Overall</strong></td>
<td>New business models</td>
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<td></td>
<td>Entire businesses Necessary for developing new business models including industrial symbiosis</td>
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<tr>
<td><strong>Development &amp; investment promotion</strong></td>
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<tr>
<td></td>
<td>Government &amp; businesses Securement of investment opportunities</td>
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<tr>
<td><strong>Monitoring by multiple indicators</strong></td>
<td></td>
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<tr>
<td></td>
<td>Government &amp; businesses Necessary for international consistency</td>
</tr>
</tbody>
</table>

Source) Presentation made by Mitsubishi Research Institute, Inc.
Japan-EU Industrial Policy Dialogue

<Goal>
(1) Review of industrial policy and progress of industrial cooperation between Japan and Europe, and exchange of views for promoting business environment infrastructure etc. (Co-chair: Vice-Minister for International Affairs METI and Director General DG Grow)

(2) Launch of the Working Group (Director level) for specific political issue for discussion.
   ① Chemicals WG  ② Standardisation and CA WG  ③ Climate Change and Environment WG
   ④ CSR WG  ⑤ Automobile WG
   (preparation for launch of Robotics WG and Smart Appliance WG)

<Regulatory Cooperation>
Agreement on the joint statement on regulatory cooperation for harmonizing rules in the following 12 categories and 13 issues in the meeting in March 2015.

① Robotics  ② Chemicals
   - Risk assessment of chemical substances
   - Transferring information of chemical substances

③ Revision of Flammability Classification in GHS

④ Automobile  ⑤ Conflict Minerals  ⑥ Eco-design  ⑦ Construction

⑧ Resource efficiency  ⑨ Medical devices  ⑩ IT and manufacturing

⑪ FLMs (Forced Localization Measures) in ICT  ⑫ Personal data protection

【Dialogue on Resource efficiency】
Dec. 2015 Meeting with EC DG Grow and DG ENV
   EU-Japan WG conformity assessment and standardisation

Feb. 2016 Climate Change and Environment WG
   METI / EJCIC Seminar on RE/CE
A comparative analysis of recycling efforts between Europe and Japan

**Product Design**
- Efforts for environmentally friendly design (such as rationalizing raw material use)

**Production Process**
- Progress on controlling generation of by-products

**Consumption**
- Efforts for reuse

**Secondary Raw Materials Market**
- Realization of self-circulation recycling and horizontal recycling by integrated businesses
- Waste and by-products are utilized by Eco Town projects, project on promoting collaboration between supply chain and energy conservation

**Waste Management**
- Progress on recycling based on each recycling laws

**Common Items**
- Realization of environmentally friendly design & resource recycling by taking voluntary approaches
- Information sharing method for best practices
- Lack of consistency of laws and regulations

**Areas where Japan is ahead**
- Realization of self-circulation recycling and horizontal recycling by integrated businesses
- Waste and by-products are utilized by Eco Town projects, project on promoting collaboration between supply chain and energy conservation

**Areas where Japan is behind**
- No certification schemes exist
- Underdeveloped traceability systems
- Differentiation of disposal costs under EPR scheme

**Areas where both Japan & Europe are behind**
- No reduction targets for recycling and landfill of household waste

**Notes**
- No definition of Quality standards, End of Waste exist
- Hazardous substance management system (can not comply with the EU standards partially)
- Measurement methods for environmental information such as EPF

**: Areas where Japan is ahead**
**: Areas where Japan is behind** (areas where both Japan & Europe are behind are underlined)
A comparative analysis of standards and certifications in EEE between Europe and Japan

Please note that there are various measurement standards other than the below.

1) No assessment schemes for environmentally friendly design concerning 3R exist.

2) One of big differences between Japan & Europe is there is no coordinated frameworks between standards and authorization.

3) While there are standards for some of construction materials and scraps, the standards do not indicate End-of-Waste.
### Collection, Logistics and Treatment Requirements between Japan and EU

- The table below shows the comparison of standards on collection, logistics and treatment in case of electrical and electronic equipment.

<table>
<thead>
<tr>
<th></th>
<th><strong>Japan</strong></th>
<th><strong>EU</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>A: Home Appliance Recycling Law</strong></td>
<td><strong>EN50625, WEEELABEX</strong></td>
</tr>
<tr>
<td></td>
<td><strong>B: Small Home Appliance Recycling Law</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Legal Framework</strong></td>
<td>■ Stipulated in laws and regulations</td>
<td>■ Standards are quoted in the regulations of the member states</td>
</tr>
<tr>
<td><strong>Requirements for Businesses</strong></td>
<td>■ Financial base and facility standards as well as disqualification conditions are stipulated</td>
<td>■ Maintaining management system or improving the system are stipulated</td>
</tr>
<tr>
<td><strong>Monitoring</strong></td>
<td>■ A: No regulations on monitoring</td>
<td>■ Process route of WEEE must be recorded (EU management system was developed and operated)</td>
</tr>
<tr>
<td></td>
<td>■ B: The following are stipulated in the law: whole procedure from disposal to recycling needs to be clarified; necessary steps need to be taken in order to clarify recycling status</td>
<td></td>
</tr>
<tr>
<td><strong>Recycling Level</strong></td>
<td>■ A: Recycling rates are stipulated in the law (55% - 80% depending on an item)</td>
<td>■ Recycling and recovery targets need to be met (recycling targets are 55% to 80% by the end of 2018)</td>
</tr>
<tr>
<td></td>
<td>■ B: No quantitative criteria are developed</td>
<td></td>
</tr>
<tr>
<td><strong>Certification Scheme</strong></td>
<td>■ Certified by national government</td>
<td>■ Certified by a third-party or industries’ organization</td>
</tr>
<tr>
<td><strong>International Consistency</strong></td>
<td>■ n/a</td>
<td>■ EN50625 is planned to be proposed as IEC standards</td>
</tr>
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<td>■ Quoted in the equivalent conditions for treatment of WEEE outside the EU</td>
</tr>
</tbody>
</table>
Discussion on RE in G7

Leaders’ Declaration G7 Summit (Jun. 2015)

- It declares “we will continue to take ambitious action to improve resource efficiency as part of broader strategies to promote sustainable materials management and material-cycle societies.”
- It is agreed to establish the G7-Alliance on Resource Efficiency as a forum to share knowledge and create information networks on a voluntary basis.
- G7 follows up their own actions till the next Summit. The G7 Alliance on Resource Efficiency will conduct workshops at least once a year under the leadership of the respective Presidency.

Preparation for G7 Ise-Shima Summit

- The G7-Alliance workshops
  - Oct. 2015 Kickoff WS (Germany), Industrial Symbiosis WS (U.K.)
  - Nov. 2015 Biomass WS
  - Feb. 2016 International Cooperation WS (Japan)
  - Mar. 2016 Automotive Supply Chain WS (U.S.)
- Energy Ministers Meetings (May. 2016)
- Environment Ministers Meetings (May. 2016)
- Ise-Shima Summit (May. 2016)
Future Directions in Japan

- Promotion of global circulation
- “Upstream industries” - “Downstream industries” cooperation
- Reviewing the waste legislation and changing of “Downstream industries”
  - Innovations in 3Rs ([IoT])
  - Overseas deployment of Japanese technology
  - Stimulating the new growth industry, Reduction in social cost
  - Definitions of waste (「End of waste」「secondary raw materials」)
- Necessity of various correspondence based on the situation of each country
- Consideration of the validity of measures besides regulating means