EU - Japan Business Round Table
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Recommendations
of the
EU-Japan Business Round Table
to the Leaders of the European Union and Japan

Paris, 29 & 30 April 2013

Working Party E
Energy, Environment and Sustainable Development

Working Party Leaders:

Armand LAFERRERE
President
AREVA Japan

Hajime SASAKI
Honorary Advisor
NEC Corporation

List of Abbreviations

Abbreviation	Meaning
CCS	Carbon Capture and Storage
	Government of Japan
EC	European Commission
EIB	European Investment Bank
EBRD	European Bank for Reconstruction and Development
EITI	Extractive Industries Transparency Initiative
ETP	European Technology Platform
ETS	Emissions Trading Scheme
EU	European Union
EV	Electric vehicle
GHG	Greenhouse Gases
GOJ	Government of Japan
IAEA	International Atomic Energy Agency
IOSCO	International Organization of Securities Commission
IPR	Intellectual Property Rights
ISDR	International Strategy for Disaster Reduction
JSCA	Japan Smart Community Alliance
NEA	Nuclear Energy Agency
NEDO	New Energy and Industrial Technology Development Organization
NGO	Non-Governmental Organization
OECD	Organization for Economic Co-operation and Development
PHV	Plug-in Hybrid Vehicle
UN-ECE	United Nations Economic Commission for Europe
UNFCCC	United Nations Framework Convention on Climate Change
WP	Working Party

Introduction

Harnessing a cheap, abundant, safe and sustainable energy supply is key to both Japan and EU as their companies and industries must meet their energy demand in the upcoming years while addressing several other challenges, such as the transformation of energy systems, the reduction of greenhouse gas emissions and the protection of the environment, securing raw materials procurement, as well as their preparedness to natural disasters and crisis management.

Japan and EU can yield extraordinary synergies in the field of energy, environment and sustainable development, with results that could help improve their economies as well as benefit to emerging economies. This can be essentially achieved through:

- Sharing best practices and lessons learned from the Great Eastern Japan earthquake and tsunami that struck Japan two years ago to better prepare for natural disasters;
- Developing a new nuclear safety culture based on the first lessons learned from the Fukushima-Daiichi nuclear accident and through sharing best practices between EU and Japan;
- Furthering R&D cooperation and exchanges on renewable energy developments, recycling of key materials and resources, and facilitating exchanges in the field of emissions reduction technologies;
- Enhancing EU-Japan dialogues and collaborative work in all international fora addressing global warming, emissions reductions issues, and long-term strategies on resources uses;
- Adopting and constantly improving standards of key energy-components, regulation to promote energy-efficient technologies, and energy savings;

The above is reflected in our selection of priority Recommendations for this WP E document. One asterisk (*) identifies a priority Recommendation, two asterisks (**) identify a top priority.

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Recommendations from both European and Japanese industries

Natural Disasters and Safety Measures

WP-E / # 01 / EJ to EJ: Identification and prevention measures for natural risks

The EU and Japan should put in place appropriate mechanisms to identify the potential risks of natural disasters and the probability of their occurrence, and objectively verify their impact in terms of:

- Evacuation-Prepared Area in case of Emergency
- Technological hazards and their consequences: chemical pollution, radiation, etc.
- Disruption of energy supply
- Disruption of information networks
- Disruption of logistics, business operation
- Etc.

< Recent Progress >

An EU-Japan seminar took place in January 2012, highlighting common interests in sharing good practices and knowledge in disaster management, and enhancing cooperation on disaster management and humanitarian assistance. A letter of intent was proposed in order to formalize cooperation between Japan and the EU, covering the following items:

- Humanitarian assistance and emergency relief operation
- Coordinated preparation and prevention on natural disaster
- Sharing expertise on R&D and construction practices (earthquake engineering)
- Studies on other collaboration possibilities

< Background >

The Great East Japan Earthquake of March 11, 2011 and the accompanying tsunami devastated large parts of the coast in the Tohoku region and caused great damage to the Fukushima-Daiichi nuclear power plant. By working together, Japan and EU can share best practices and better prepare for natural disasters, as well as identify, prevent and reduce associated risks for impacting the residents in the affected areas, the environment, and the economy. On the topic of risk prevention, the authorities and the industries of EU and Japan could work together in establishing a framework to prevent risk and ensure business recovery and business continuity in case of a natural or made-made disaster.

WP-E / # 02 / EJ to EJ: Facilitating international support in case of disaster

International support is indispensable in times of a major natural disaster. Necessary measures need to be adopted and maintained to facilitate the swift acceptance of support from overseas. These measures shall address not only the management for receipt of incoming international aide, procedures for clearance (customs, etc.) of disaster relief materials and supplies, but also the use of transport equipment sent from abroad (such as helicopters, etc.), which are keys to rescue operations, dispatch of emergency aid & food, resident evacuation, etc.

<Recent Progress>
See #01

< Background >
The Great East Japan Earthquake of March 11, 2011 and the accompanying tsunami large parts of the coast in the Tohoku region and caused great damage to the Fukushima-Daiichi nuclear power plant. Following the earthquake, the EU and Japan agreed to further increase their active dialogue and cooperation in disaster response. According to the European Commission, cooperation between the EU's Humanitarian Aid and Civil Protection department ECHO and Japanese authorities on emergency relief operations, disaster preparedness and prevention have made progress in the past 2 years.

WP-E / # 03 / EJ to EJ: <u>Strengthening international collaboration for "Post crisis" management</u>

The EU and Japan should improve the sharing of know-how and expertise in specific fields for "post crisis" management. Such joint efforts will significantly:

- Speed up the recovery and restoration efforts for affected residents and devastated area: health risks reduction, reconstruction efforts
- Speed up the restart of society and the rebuild of economic activities: recovery from local production shutdowns, contingency plans for disrupted energy supply, information networks, etc.

< Recent Progress >
An EU-Japan seminar took place in January 2012, highlighting common interests in sharing good practices and knowledge in disaster management, and enhancing cooperation on disaster management and humanitarian assistance. A letter of intent was proposed in order to formalize cooperation between Japan and the EU, covering the following items:

- Humanitarian assistance and emergency relief operation
- Coordinated preparation and prevention on natural disaster
- Sharing expertise on R&D and construction practices (earthquake engineering)
- Studies on other collaboration possibilities

< Background >
The Great East Japan Earthquake of March 11, 2011 and the accompanying tsunami caused great damage to the Fukushima-Daiichi nuclear power plant. The extent of damage caused by the earthquake and tsunami, as well as the situation at the crippled nuclear power plant, triggers the need for know-how and expertise in specific fields for "post crisis" management . We urge the Japanese government to welcome all entities which could help to swiftly implement appropriate solutions.

Alternative and Renewable Energies

WP-E / # 04 * / EJ to EJ: Maintaining and enhancing high-level EU-Japan dialogue on energy

The EU and Japan should enhance their dialogue on energy policy, including the regular set-up of a dedicated high-level dialogue on nuclear energy.

< Recent Progress >

Japan and the EU held a new (their 4th since it was established in 2007) energy policy dialogue in June 2012, this time at the ministerial level (METI Minister Edano and EU Commissioner for energy Oettinger), where both sides could exchange views on:

- Energy policies
- Nuclear energy and nuclear safety
- Cooperation in energy technology research
- Energy security
- Liberalisation of the energy sector
- Raw materials
- Etc.

The EU side strongly hopes the new government in Japan will continue holding these dialogues.

< Background >

The three first such dialogues were held at senior officials levels (the Agency for Natural Resources & Energy on the Japanese side, and the European Commission Directorate for Energy on the EU side).

WP-E/ # 05 * / EJ to EJ: Promoting and supporting a long-term strategy on stable, competitive and sustainable energy supply

The EU and Japan should work together through sharing of best practices implemented by both EU countries and Japan to secure a stable, sustainable economical and environmental energy supply, so that the EU and Japan can establish respective long term strategies.

<Recent Progress>

This is a new recommendation.

< Background >

With respects to energy-intensive and carbon-intensive industries, Japan and the EU face similar challenges in securing a stable yet competitive energy supply. Developing a common understanding of actions undertaken by both sides to address these challenges.

WP-E/ # 06 ** / EJ to EJ: Expediting collaboration on nuclear fuel cycle policy

The EU and Japan should collaborate in helping each other implementing and achieving their nuclear fuel cycle policy, including:

- Recycling of spent nuclear fuel in countries adopting a closed-fuel cycle policy

- Furthering R&D efforts on technologies aiming at reducing the volume and activity of radioactive waste, paving the way towards Gen IV nuclear reactors
- Furthering R&D efforts on nuclear waste management technologies such as dry storage, final repository

<Recent Progress>
This is a new recommendation.

< Background >
The policies and practices of EU and Japan on radioactive waste and spent fuel management reflect their historical, scientific and technological development, as well as their international commitments in terms of non proliferation and pacific use of nuclear energy:

- *In EU, currently five states use the reprocessing option and two states are actively pursuing spent fuel direct disposal option. The Commission proposed in 2010 to set up an EU legally binding and enforceable framework to ensure that all Member States will apply the common standards developed in the context of the International Atomic Energy Agency (IAEA) for all stages of spent fuel and radioactive waste management up to final disposal. Gen IV technologies are also part of the European Strategic Energy Technology Plan.*
- *Japan has developed over the past 30 years a closed nuclear fuel cycle policy: the Rokkasho Reprocessing Plant is close to completion, and will allow Japan to reprocess spent fuels and recycle uranium and plutonium. Japan recently confirmed its commitment to the fuel recycling policy which confirms Japan's long-term vision on nuclear energy. As for the management of used fuel, the recovery and recycling of valuable materials remaining in used nuclear fuel will lead to the effective use of resources and reductions in radioactive waste. In addition, R&D efforts will be made on direct disposal and technologies aiming at reducing the activity/volume of radioactive waste such as the prototype Fast Breeder Reactor, Monju, which will be dedicated to this research.*

WP-E / # 07 ** / EJ to EJ: <u>Leadership role to establish world safety standards</u>

The EU and Japan should take a proactive, leading role in supporting the establishment of world safety standards for nuclear power plants through the IAEA and more generally promote international cooperation on nuclear energy.

<Recent Progress>
Nuclear safety is currently being reassessed in Japan, with new standards due in July 2013. Japan has set up an independent safety authority in September 2012 who is in charge of revamping these standards. 3 Foreign experts including French ASN's Andre-Claude Lacoste but also Mike Weigtman (head of the UK nuclear regulation office) and Richard Meserve (former chairman of the US Nuclear Regulatory Commission) will advise the newly established Japanese nuclear authority.

The safety of nuclear power plants and nuclear energy in general were among the topics addressed during the 4th energy dialogue between EU and Japan held in June 2012, with joint commitment in enhancing common activities such as:

- Continue discussing on respective nuclear safety stress tests;
- Enhance international legal framework on nuclear safety through closer cooperation and consultation within the framework of the IAEA and the upcoming extraordinary meeting of the Convention on Nuclear Safety;
- Stimulate bilateral discussions between specialists on both sides on the capabilities and technologies in nuclear plant decommissioning projects, decontamination and waste management.

Japan also organized a ministerial conference on nuclear safety which was held in Fukushima Prefecture in December 2012. The conference provided an opportunity to share lessons from the Fukushima accident. Experts and ministers from several countries including Japan and EU countries could present their recommendations on nuclear safety. The conference was co-sponsored by IAEA, who compiled the main proposals that emerged from the 3 Working Sessions: lessons from the Fukushima accident, strengthening of nuclear safety and emergency preparedness & response, and protection of population and environment. These proposals stressed on:

- The necessity of stricter, internationally peer-reviewed safety standards;
- The importance of establishing and maintaining international cooperation frameworks to address issues such as: accident response, people and environment protection, decontamination and decommissioning, etc.

< Background >

As an alternative energy with a stable energy supply, excellent economic potential, and zero CO_2 emissions nuclear energy is being reassessed by nations around the world. The serious accident at the Fukushima-Daiichi nuclear power plant, following the dramatic tsunami that struck Japan on 11 March 2011 also triggered a re-assessment of the safety measures and emergency response systems of nuclear power by all nations using or contemplating the use of nuclear energy.

<u>Rising Expectations for Nuclear Energy calls for a Strengthened Safety Framework</u>

According to the Nuclear Energy Agency of the OECD (OECD-NEA), nuclear power accounted for 14% of global electricity production in 2009. This figure is expected to rise to 24% by 2050. As of January 2010, the International Atomic Energy Agency (IAEA) estimated that 437 nuclear power reactors were in operation worldwide, while a total of 56 reactors were under construction.

In the majority of the countries worldwide, there is still a growing interest in nuclear power generation to prevent dependence on fossil fuels, and a continuous stream of construction projects for nuclear power plants is underway. However, nuclear energy requires the highest safety standards. A lot has been done for several years at the national level, at the EU level, and at the international level (IAEA, Convention on Nuclear Safety, …). The industry has significantly improved the safety of its current reactor design. Now, the accident at Fukushima, caused by an extreme situation, demonstrates that safety must be continuously improved. As nuclear power will remain an attractive energy source for a large number of countries in the world (contribution to energy security and a low-carbon society), it is even more important to define world safety standards. The EU and Japan must play an active role in promoting and defining such standards.

While enhancing safety, it will be necessary to deal with the ageing of existing plants, improve facility utilization rates, and properly manage the nuclear fuel cycle (e.g., the management of used nuclear fuel). It will be essential to understand the mechanism of degradation of machinery and equipment as well as to conduct maintenance of ageing plants to maintain and restore their functions and performance. Therefore, the EU and Japan must promote, through international discussions like those held by the OECD-NEA, the exchange of information related to the technological assessment of ageing plants and to techniques associated with the appropriate maintenance of existing plants.

WP-E / # 08 ** / EJ to EJ: <u>Nurturing skilled independent nuclear safety authority</u>

Japan and EU member countries should maintain a highly skilled nuclear safety authority in each country and ensure its independence.

<Recent Progress>
The Government of Japan has established in September 2012 a new nuclear regulatory authority with enhanced independency by extracting the former safety authority (NISA) from METI, merging it with other safety-related entities (NSC, JNES, etc.) and establish it as an independent bureau of the Ministry Of Environment.

< Background >
One of the lessons from the Fukushima Daiichi accident reminded of the imperative of:
- *Establishing an effective nuclear safety regulatory framework;*
- *Having an independent, trusted, competent (legally, culturally and in practice) regulator.*

WP-E / # 09 * / EJ to EJ: <u>Development of a common technological base to support nuclear safety</u>

Through the deployment and efficient use of simulation and virtualization technologies, industrial actors and authorities in both Japan and EU countries should work together in establishing a common technological base or environment in order to:
- Improve safety of existing nuclear power plants
- Train operators to execute appropriate safety procedures during accidents or emergency situations
- Improve public confidence and communication

<Recent Progress>
This is a new recommendation.

< Background >
Nuclear power needs to adapt to safety standards and regulations in various countries. At the same time we need to make sure to have the highest safety standards everywhere at all time to protect people and the environment. Ensuring open innovation between industrial and public actors can help addressing these challenges.

WP-E / # 10 * / EJ to EJ: <u>Cooperation on renewable energy development</u>

Japan and the EU should cooperate on the development of renewable energies, such as wind and photovoltaic power generation, and on other low-carbon technologies such as carbon capture and sequestration (CSS).

<Recent Progress>
Some progress has been seen for this recommendation:

- Renewable energies in general were also among the topics addressed during the 4th energy dialogue between EU and Japan held in June 2012, with joint commitment in implementing joint activities in the research area, such as coordinated research calls on PV and energy storage and reciprocal technical visits on CCS, and further information exchange in other areas such as wind, ocean energy and Smart Grids.
- Some Smart Community demonstration projects jointly carried out by Japan (through NEDO) and some EU countries such as Spain and France were also launched in 2011.
- Specific CCS projects at the commercial level and research level are in progress in European countries and Japan.

According to the 2013 Progress Reports from the Government of Japan Concerning the Recommendations from the EU-Japan Business Round Table, and the 2012 Progress Reports from the European Commission Concerning the Recommendations from the EU-Japan Business Round Table, Japan and EU are cooperating on new and renewable energy research. Among specific activities in this field, a coordinated research call on ultra-high efficiency concentration photovoltaic (CPV) cells, modules and systems photovoltaic (PV) was included in the Seventh Framework Programme in 2011 and projects under this call are currently under implementation.

< Background >

The EU aims to get 20% of its energy from renewable sources (including wind, solar, hydro-electric and tidal power as well as geothermal energy and biomass) by 2020 and a 10% share of renewable energy specifically in the transport sector. Japan also established a new energy strategy in September 2012, calling for ambitious 2030 renewable targets. The newly established government (December 2012) confirmed it would push for the adoption of more renewable energy in Japan's energy mix in the long term.

Energy from renewable sources suffers from intermittency – the EU and Japan should cooperate to develop Smart Grid technology, Appliances and Energy Storage to utilise renewable energy to is maximum. 40% of total energy demand worldwide is consumed in buildings. Development should therefore focus on intelligent systems (e.g. smart grids) which maximise the use of renewable energy.

Market mechanisms should reward the generation, transmission and consumption of renewable energy throughout the supply chain. The EU and Japan should harmonise their approach to the Renewable Energy Chain.

WP-E / # 11 / EJ to EJ: Promoting reciprocal access to R&D facilities

The EU and Japan should support joint R&D activities or mutual access to unique, capital intensive R&D facilities located in either the EU or Japan.

<Recent Progress>

A 2nd Joint Committee on Scientific and Technological Cooperation is expected to take place in 2013. Follow-up on discussions held during the 1st joint committee are expected to take place.

Three major Japanese R&D facilities have been made available for shared used since 2012:

- The SACLA (SPring-8 Angstrom Compact Free Electron Laser) and the SPring-8, managed by the Japan Synchrotron Radiation Research Institute (JASRI);
- J-PARC (Japan Proton Accelerator Research Complex, managed by JAEA).

These facilities are made available for shared used twice a year, with calls for proposals also taking place twice a year. For example in 2013, the first period for shared use of the SACLA facilities will be from April 2013 through July 2013, and candidates could apply during fall 2012.

< Background >

Japan and EU held the First Joint Committee on Scientific and Technological Cooperation in June 2011, in which discussions were conducted to deepen and broaden the scope of cooperation, based on the 2011 "Agreement between the European Community and the Government of Japan on Cooperation in Science and Technology".

WP-E / # 12 * / EJ to EJ: Sharing best practices for safety and regulation with newcomer civil nuclear energy countries

The EU and Japan should position nuclear power as an alternative energy and provide assistance to each other and to other countries, giving priority to sharing best practices in the fields of regulation and safety. The EU and Japan need to effectively support establishment of safety regulations and operation in emerging countries through a combination of bilateral, regional, and cooperative activities through international organisations.

<Recent Progress>

Some progress has been seen for this recommendation. According to the 2013 Report from the Government of Japan Concerning the Recommendations from the EU-Japan Business Round Table, Japan has actively taken part in the Asian Nuclear Safety Network (ANSN) of the IAEA for supporting to establish nuclear safety infrastructures in emerging nuclear power countries in Asia, and attended its General Conference held in September, 2012 and steering committee meeting held in November, 2012. Japan also organized the Fukushima Ministerial Conference on Nuclear Safety in Koriyama-city of Fukushima Prefecture in December, in co-sponsorship with the IAEA, where Japan shared with the international community further knowledge and lessons learned from the accident, further enhanced transparency, and discussed the progress of the international efforts aimed at strengthening nuclear safety

In 2012, Vietnam and EU launched a nuclear safety cooperation project through the EC-financed Instrument for Nuclear Safety Cooperation with regard to the technical assistance for improving the legal framework for nuclear safety and strengthening the capabilities of the regulatory authority of Vietnam.

< Background >

As an alternative energy with a stable energy supply, excellent economic potential, and zero CO_2 emissions nuclear energy is being reassessed by nations around the world. The serious accident at the Fukushima-Daiichi nuclear power plant, following the dramatic tsunami that struck Japan on 11 March 2011 also triggered a re-assessment of the safety measures and emergency response systems of nuclear power by all nations using or contemplating the use of nuclear energy.

Rising Expectations for Nuclear Energy calls for a Strengthened Safety Framework

According to the Nuclear Energy Agency of the OECD (OECD-NEA), nuclear power accounted for 14% of global electricity production in 2009. This figure is expected to rise to 24% by 2050. As of January 2010, the International Atomic Energy Agency (IAEA) estimated that 437 nuclear power reactors were in operation worldwide, while a total of 56 reactors were under construction.

In the majority of the countries worldwide, there is still a growing interest in nuclear power generation to prevent dependence on fossil fuels, and a continuous stream of construction projects for nuclear power plants is underway. However, nuclear energy requires the highest safety standards. A lot has been done for several years at the national level, at the EU level, and at the international level (IAEA, Convention on Nuclear Safety,…). The industry has significantly improved the safety of its current reactor design. Now, the accident at Fukushima, caused by an extreme situation, demonstrates that safety must be continuously improved. As nuclear power will remain an attractive energy source for a large number of countries in the world (contribution to energy security and a low-carbon society), it is even more important to define world safety standards. The EU and Japan must play an active role in promoting and defining such standards.

While enhancing safety, it will be necessary to deal with the ageing of existing plants, improve facility utilization rates, and properly manage the nuclear fuel cycle (e.g., the management of used nuclear fuel). It will be essential to understand the mechanism of degradation of machinery and equipment as well as to conduct maintenance of ageing plants to maintain and restore their functions and performance. Therefore, the EU and Japan must promote, through international discussions like those held by the OECD-NEA, the exchange of information related to the technological assessment of ageing plants and to techniques associated with the appropriate maintenance of existing plants. As for the management of used fuel, the recovery and recycling of valuable materials remaining in used nuclear fuel will lead to the effective use of resources and reductions in radioactive waste.

According to the EU Authorities Progress Report on the EU-Japan BRT 2011 recommendations, the European Commission held in June 2011 a meeting with representatives of EU neighbouring countries which operate or own nuclear installations or which have plans for the development of nuclear power – Armenia, Republic of Belarus, Republic of Croatia, Russian Federation, Swiss Confederation, Republic of Turkey and Ukraine. An agreement was reached with these countries to undertake voluntary safety assessments taking into account the EU specifications and methodology, including the

principle of peer reviews. Two of these countries – Switzerland and Ukraine – participate fully in the EU stress-test process.

According to the Japan Authorities Progress Report on the EU-Japan BRT 2012 recommendations, Japan provided training programs for the capacity building of regulators and licensees of China and Vietnam through Japan Nuclear Energy Safety Organization (JNES). Japan also has advanced bilateral cooperation, regional cooperation, and cooperative activities through international organizations to communicate the situation of the accident at TEPCO's Fukushima Daiichi Nuclear Power Station to emerging nuclear power countries, and share the lessons learned from the accident with them.

WP-E / # 13 / EJ to EJ: Promoting involvement of international institutions to finance capacity-building actions nuclear safety and more generally nuclear investment in the best conditions of safety and security

To facilitate nuclear investment and achieve a high level of safety, Japan and the EU should encourage the World Bank, the European Bank for Reconstruction and Development (EBRD), and the European Investment Bank (EIB) to consider loan and loan guaranties on nuclear investments and to allocate funds for, and to promote the establishment of, dedicated nuclear safety programmes.

<Recent Progress>

Some progress has been seen for this recommendation as the various programmes already existing continued their activities in 2012. As an illustrative example, Vietnam and EU launched in 2012 a nuclear safety cooperation project through the EC-financed Instrument for Nuclear Safety Cooperation with regard to the technical assistance for improving the legal framework for nuclear safety and strengthening the capabilities of the regulatory authority of Vietnam.

EBRD-administered Ignalina International Decommissioning Support Fund The European Commission announced December 2012 the European Bank for Reconstruction and Development (EBRD) has suspended funding for construction of an interim spent fuel storage facility and supply of storage casks for defueling of Ignalina-1 and -2 in Lithuania.

< Background >

On the EU side, several financial instruments exist:

- *As stated in the EU Authorities Progress Report on the EU-Japan BRT 2012 recommendations, the EU Instrument for Nuclear Safety Cooperation, established in 2007, provides financial support for measures for:*
  - *improving nuclear safety in non-EU countries, particularly in terms of regulatory framework or management of nuclear plant safety (design, operation, maintenance, decommissioning),*
  - *the safe transport, treatment and disposal of radioactive waste,*
  - *remediation of former nuclear sites and protection against ionizing radiation given off by radioactive materials,*
  - *accident prevention and reaction in the event of an accident,*
  - *promotion of international cooperation.*

The financing takes the form of projects or programmes, grants to fund measures, contributions to guarantee funds and national or international funds, or even human or material resources.

- *The European Bank for Reconstruction and Development (EBRD) also manages several nuclear safety funds:*
  - *Nuclear Safety Account (NSA)*
  - *Chernobyl Shelter Fund (CSF)*
  - *International Decommissioning Support Funds (IDSFs): Bulgaria, Lithuania and the Slovak Republic*
  - *Nuclear Window of the Northern Dimension Environmental Partnership (NDEP) Support Fund.*
- *Through the European Investment Bank (EIB), the Euratom Treaty's loan facility finances investments in nuclear safety projects in eastern Europe, in particular those related to later-model VVER reactors in non-Member states: safety upgrade, dismantling, etc.*

According to the Japan Authorities Progress Report on the EU-Japan BRT 2012 recommendations, Japan has been funding activities promoting nuclear safety, through the account and fund at the European Bank for Reconstruction and Development (EBRD) for the regions of the former Soviet Union and Central and Eastern European countries.

WP-E / # 14 / EJ to EJ: Ensuring fair competition in exports

The EU and Japan need to create equally competitive fields for export industries, including fulfilment of world safety standards, and strictly adhere to the OECD's Arrangement to Officially Support Export Credits. The EU and Japan should request other countries to make every effort to also adhere to these provisions.

<Recent Progress>

According to the EU Authorities Progress Reports on the EU-Japan BRT 2012 recommendations, an International Working Group was created in 2012 to negotiate a new international agreement on export credits which should also include non-OECD countries.

< Background >

With the economic growth of the emerging countries, companies in non-OECD member countries have more competing export projects with those in the OECD member countries. Under these circumstances, it has become critically important to seek to foster a level playing field for officially supported export credits regarding financial terms and conditions with non-OECD member countries. According to both countries' Authorities Progress Reports on the 2012 recommendations, EU and Japan have similar stance regarding provisions on export credits, importance of adhering to OECD's Arrangement and Common approaches, and importance of encouraging non-OECD member countries to participate in OECD meetings for officially supported export credits.

WP-E / # 15 ** / EJ to EJ: <u>Fostering international harmonization for EV safety and charging infrastructure</u>

The EU and Japan should work together in UN-ECE WP 29 and other international forums to develop internationally harmonized requirements for the safety and type approval of electrically charged vehicles and common standards for accessing the battery-charging infrastructure.

<Recent Progress>

Some progress has been seen for this recommendation. According to the proceedings of the 158th session of UN-ECE WP 29, regulation proposals addressing battery electric vehicle safety remain listed as "adopted proposals" and is discussed by the Informal group on Electric Vehicle Safety, but their entry into force remain unclear at the present stage. The terms of reference (TOR) of the Informal Group on EVS including the protection against electrical shock were agreed during this 158th session, according to the 2013 Report from the Government of Japan Concerning the Recommendations from the EU-Japan Business Round Table

Standardization of charging infrastructure has also been discussed in international discussion table such as IEC, according to the 2013 Report from the Government of Japan Concerning the Recommendations from the EU-Japan Business Round Table.

< Background >

Rechargeable batteries are used in the electric and plug-in hybrid vehicles being developed and promoted by several Japanese and European car manufacturers. Both the European and Japanese industry are actively seeking to improve the performance and costs of next-generation vehicle batteries to enable the more widespread use of EVs and PHVs.

The commercialization of next-generation electrically charged vehicles, including fuel-cell vehicles, will contribute to the conservation of energy, as well as a reduction in CO_2 emissions:

- *EVs offer a means to decarbonise transport, while providing a flexible distributed energy storage asset. They can be connected to the electricity grid and charged at different times to suit grid conditions and therefore maximise the use of electricity generated from renewable sources.*
- *The primary energy consumed for heating, cooling and hot water provision is comparable to that consumed in transport. A similar approach should be taken in this sector by using technologies such as smart thermal storage and heat pumps to manage the consumption of grid electricity to ensure the penetration of renewable generation is maximised.*
- *Japan and the EU should seek to find common ground in the electrification of heating as well as transport.*

To facilitate their market acceptance, the EU and Japan should cooperate on developing internationally harmonized requirements for the type approval and safety of electrically charged vehicles and common standards for accessing the battery-charging infrastructure. The objective should be to ensure that electric vehicles can be charged everywhere, at all times.

As an example, in the UK 36% of all primary energy is used for space and water heating in buildings. Significantly cutting emissions means taking the carbon out of heating by managing demand through energy and resource efficiency, and replacing fossil fuels with low carbon alternatives. Japan and the EU should promote[encourage] the industry to innovate and develop heating solutions that deliver sufficient comfort levels that utilise the least amount of primary energy and take into account the future energy generation and supply and its inherent intermittency.

WP-E / # 16 * / EJ to EJ: <u>Cooperating on pre-commercial development of batteries</u>

The EU and Japan should seek opportunities for partnerships between governments and research institutes to develop pre-competitive technologies for next-generation batteries (e.g., for lowering cost, improving battery life, enhancing safety, and raising energy density).

<Recent Progress>

No progress has been seen for this recommendation. Both Japan and EU are conducting R&D projects at national levels.

< Background >

Both the EU and Japan are developing next-generation rechargeable batteries. The rechargeable battery is a potential key component in the development of smart grids worldwide, such as the "Smart City Project" in Japan, as well as a groundbreaking advanced application technology contributing to the promotion of renewable energy.

Rechargeable batteries can be placed at power stations for large-scale photovoltaic or wind-power generation in order to store low-cost off-peak electricity and deliver it during peak demand times, ensuring the delivery of a stable supply even when wind or sun power generation falls due to their inherent variability. As smart grid components, batteries can also be installed in commercial districts and large-scale apartment housing complexes to store electricity and cut peak demand electricity.

WP-E / # 17 / EJ to EJ: <u>Sharing best practices for reuse and recycling of batteries</u>

The EU and Japan should share best practices with respect to the reuse and recycling of rechargeable batteries to enhance their secondary, taking into account the depletion of key material elements entering into the composition of batteries such as: lithium, nickel, cobalt, rare-earths, etc.

<Recent Progress>

Some progress has been seen for this recommendation. Some Japanese automotive manufacturers have finalised partnership agreements with EU-based companies to recycle batteries used in their vehicle in Europe. In addition, the Japan Automobile Manufacturers Association (JAMA) is working on the appropriate method of recycling rechargeable batteries in Japan.

< Background >

With respect to environmental sustainability and waste management, rechargeable both producers and users of batteries must address the issues, technical/economical challenge of recycling sent rechargeable batteries. Recovering and recycling valuable

materials such as aluminium, manganese, nickel, cobalt, copper, lithium, rare-earths, etc. from spent rechargeable batteries is also strategically important with regards to security of supply of these raw materials.

WP-E / # 18 / EJ to EJ: <u>Further promoting demo projects of smart cities and smart grids</u>

The EU and Japan should continue promoting demonstration experiments of smart cities and smart grids, furthering exchanges on:

- Energy storage
- Energy efficiency and construction techniques for smart cities
- Communication standards
- Other key aspects/components of smart grids: power electronics, control and automation, information and monitoring systems, etc.

The EU and Japan should provide open access to allow each other's industry to participate in such experiments.

<Recent Progress>

Several smart grids and smart cities demonstration projects are currently being carried out in Japan through its "Demonstration Project on Next-generation Energy and Social Systems". With respect to joint-collaboration between Japan and EU, Japan's NEDO and Malaga City of Spain started in spring 2012 a collaborative smart community demonstration project to take place in Spain, following a joint technology agreement signed in 2008. In December 2012, another such demonstration project for a smart city was launched in Lyon City of France.

< Background >

The EU established a "European Technology Platform for Electricity Networks of the Future" in 2005. One of the primary missions of this European Technology Platform is to "enhance the level of coherence between the European, national and regional programmes, addressing the challenges of future networks". The ETP proposed to achieve this objective by several means, including establishing links with equivalent bodies in other countries including Japan, in order "to ensure that international development paths are complementary and consistent with the development of commercial products".

In Japan, NEDO and several companies involved in smart grids also launched the "Japan Smart Community Alliance" (JSCA), whose objective is "to strengthen collaboration among a wide range of concerned organizations and also conduct activities of mutual interest, such as dissemination of information and preparation of roadmaps to achieve global standardization". The activities of JSCA are organized into several working groups, two of which being geared towards international standardization (the "International Standardization Working Group" and the "International Strategy Working Group"). In this respect, the Smart Community Demonstration Projects carried out by NEDO in the French city of Lyon and the Spanish City of Malaga can be seen as showcases of EU and Japan entities working together to promote demonstration projects of smart cities and smart grids in both countries.

Global-Warming Issues

WP-E/ # 19 ** / EJ to EJ: Establishing in the near future a new, fair, and effective international framework addressing Global-Warming Issues

The EU and Japan should promote a post-Kyoto framework that engages all major emitters of greenhouse gases to take a fair share of the burden of global emission stabilization and reduction.

<Recent Progress>

Some progress has been seen for this recommendation, as the main actions already undertaken jointly by both countries were furthered in 2012. Japan and the EU are actively contributing to negotiations toward the adoption of a new legal document which will establish a fair and effective international framework in which all major economies participate. These negotiations mainly take place under the UNFCCC. The negotiation tracks of the Durban Platform, established during COP17, currently represent the best opportunity for establishing such a framework. In this respect, negotiations around the "Ad Hoc Working Group on the Durban Platform for Enhanced Action", were furthered during COP18 (November 2012), and, according to the 2013 Report from the Government of Japan Concerning the Recommendations from the EU-Japan Business Round Table, decisions were made on the arrangements for negotiations in the related working group from next years onward.

< Background >

Since 2010 the international community has recognized the scientific evidence that global warming needs to be held below 2°C above the pre-industrial temperature in order to prevent climate change from reaching dangerous proportions. However, international action taken to date is still not sufficient to prevent this ceiling from being exceeded. Scientific evidence indicates that a temperature rise of more than 2°C could have irreversible and potentially catastrophic environmental consequences with high costs in human and economic terms

Both Japan and the EU countries are actively promoting the reduction of GHG emissions, and hold regular bilateral dialogues to further exchange views on these issues. EU and Japan have ambitious targets in terms of GHG emissions reductions, but the situation differs between the two countries:

- *According to the European Commission's annual progress reports, The EU is leading by example through its domestic action to tackle climate change. Despite economic growth of almost 40% since 1990, the EU-15 is well on track to achieve and exceed its 8% emissions cut under Kyoto. Taking all 27 EU Member States together, GHG emissions in 2010 were 15.5% lower than in 1990 while GDP was 41% higher. For 2020, the EU has committed to cutting its emissions to 20% below 1990 levels. This commitment is one of the headline targets of the Europe 2020 growth strategy and is being implemented through a package of binding legislation.*
- *In 2009, Japan expressed an ambitious 25% emission reduction target by 2020, provided major CO2 emitting nations participate in same framework with clear definitions of international fairness or selection of base year. However the new Japanese Government decided in January 2013 to conduct zero-based review of the 25% emission reduction target by COP19 in November. as the Japanese utilities recorded a huge rise in the use of fossil fuels since the Fukushima nuclear accident and the consecutive shutdown of the Japanese fleet of nuclear reactors. Also new Japanese government announced to conduct a zero-based review of the energy and*

environment strategy of the former government and to forge a responsible energy policy taking account of the needs for stable energy supplies as well as the reduction of energy cost.

The need to reduce GHG emissions to counter climate change remains unchanged. It is essential to establish a new, fair, and effective international framework with the participation of all major emitters. Designing such an international framework and setting targets at the national level must be done with due consideration for their short and mid-term economic impact, and take into account the opportunities and constraints of the global economy.

WP-E/ # 20 ** / EJ to EJ: <u>Setting CO_2 emission targets in a fair and transparent way</u>

The EU and Japan, when setting national targets, should take into account their international fairness, feasibility, and social impact on citizens. The setting of such targets should be done with a high level of transparency and in consultation with stakeholders.

<Recent Progress>

Some progress has been seen for this recommendation:

- Global warming and greenhouse gases emissions reduction were addressed in the new energy policy announced by Japan in September 2012, which targeted a 20% reduction of GHG emissions in 2030 compared to 1990 level (the previous target was -25% by 2020). However the setting of CO2 emissions targets and the overall implementation of this policy is now being reconsidered by new Japanese government. New strategies of climate change and future framework of CO2 emission reduction will be presented at COP19 in November.
- EU has put in place binding legislation to cut emissions to 20% below 1990 levels by 2020, as part of the Europe 2020 Growth Strategy, and confirmed this commitment at the Doha Climate Change Conference in 2012.

< Background >

According to the European Commission, the EU has offered to increase its emissions reduction to 30% by 2020 if other major emitting countries in the developed and developing worlds commit to undertake their fair share of a global emissions reduction effort. For 2050, EU leaders have endorsed the objective of reducing Europe's greenhouse gas emissions by 80-95% compared to 1990 levels as part of efforts by developed countries as a group to reduce their emissions by a similar degree. According to the European Commission Services Progress Report on EU-Japan BRT 2012 Recommendations, the 'climate and energy package' was agreed by the European Parliament and Council in December 2008, after extensive, inclusive and transparent consultations with all stakeholders, and taking into account domestic circumstances. It then became law in June 2009. The European Commission published a roadmap in 2011 that charts a cost-effective pathway for making the necessary transition to a competitive, low carbon European economy by mid-century. Future climate legislation at the EU level will continue to be based e.g. on open consultation and full transparency, ands answering the findings of science.

In Japan, the Fukushima-Daiichi nuclear accident and the consequent switch to fossil fuels to compensate power loss from idled nuclear reactors. In the short-term, Japan's CO2

emissions are therefore projected to climb. It is expected the new Japanese government (December 2012)will define new targets in the upcoming months/years.

WP-E/ # 21 / EJ to EJ: <u>Facilitating transfers of green technologies</u>

The EU and Japan should assist emerging economies in developing the necessary human resources and infrastructure so that they can smoothly absorb advanced technologies. To facilitate the transfer of technologies on a commercial basis, the EU and Japan should support the recipient countries in putting in place an appropriate regulatory framework and enforcement tools to ensure the protection of intellectual property rights.

<Recent Progress>

Some progress has been seen for this recommendation:

➲ In the field of green technologies, public-private sector initiatives have been established to facilitate and enhance green technologies transfers and dissemination. The WIPO Green initiative, funded from the WIPO budget with additional contributions from Japanese entities such as the Japan Intellectual Property Association (JIPA) and the Japanese Funds-in-Trust is such an example.

< Background >

Having an appropriate regulatory framework to ensure the protection of intellectual property rights (IPR) is an objective shared by both EU and Japan. In recent years, several type of assistance has been provided to developing countries and emerging markets in order to put in place supervisory systems to protect intellectual property rights. This includes training of human resources, technical collaboration, support for licensing, etc.

WP-E/ # 22 / EJ to EJ: <u>Cooperation on long-term innovative R&D projects to reduce GHG emissions</u>

The EU and Japan should cooperate on joint R&D efforts by industry, academia, and government to develop innovative technologies to reduce greenhouse gas emissions. They should also allow access by their industries to their domestic pre-competitive, government-funded research projects because highly innovative technologies require lengthy timelines and very large budgets for basic research and development.

<Recent Progress>

Some progress has been seen for this recommendation as projects on smart-grids, smart cities, energy efficiency, etc. such as those carried out by Japanese and EU entities, and which are of course linked to GHG emissions, have been launched in the past months. However, these projects are taking place at the demonstration stage; hence **no progress** has been seen at the R&D, pre-competitive stage level.

< Background >

Technology is essential to combat climate change while also achieving economic growth. Widespread use of existing technologies on a global scale will enable a major reduction in GHG emissions. In addition, innovative and advanced technologies are absolutely necessary. Japanese and European businesses are fully engaged in such endeavours

through the improvement and promotion of existing technologies as well as research and development into new technologies and their market introduction.

Developing Energy Efficiency and Energy Savings

WP-E/ # 23 ** / EJ to EJ: Continuously improving incentives and regulations to promote the adoption of energy-efficient technologies and processes

The EU and Japan should continue to refine their regulations and incentives to promote the efficient use of energy (energy efficiency as well as energy savings). Setting as soon as possible mandatory principles for standards for building and house insulation plays a major role in reducing energy consumption and dependency and in achieving a significant reduction in CO2 emissions. Japan and the EU should also share best practices to implement energy efficiency regulations, innovation processes, trainings, experimental programmes of construction and renovation regarding products and services.

<Recent Progress>

On the EU side, the Directive 2012/27/EU on energy efficiency was approved on the 25 October 2012. It establishes a common framework of measures for the promotion of energy efficiency within the Union in order to ensure the achievement of the Union's 2020 20 % headline target on energy efficiency and to pave the way for further energy efficiency improvements beyond that date. Other measures include rules designed to remove barriers in the energy market and to overcome market failures that impede efficiency in the supply and use of energy, as well as the establishment of indicative national energy efficiency targets for 2020.

On the Japanese side, the government approved in 2012 the adoption of mandatory insulation standards for new constructions (residential & non-residential). The implementation date will vary according to the total floor surface of the building: 2015 for a surface over 2000 m2, 2017 for a surface between 300 m2 and 2000 m2 and 2020 for a surface inferior to 300 m2. The government also approved and implemented on the 4 December 2012 the creation of a Low Carbon House certification, which primary energy consumption (not including household appliances) should be inferior by 10% to existing energy efficiency standards.

< Background >

In the current context of economic crisis and increase of primary energy prices, energy efficiency and energy savings measures are the solution. An efficient use of energy is necessary for better fighting global warming, for reducing energy demand and consumption, energy dependency and for eliminating energy waste. There is an important potential for reducing consumption in energy-intensive sectors such as manufacturing and transport, and even more significantly in the building sector.

According to the International Energy Agency, residential, commercial and public buildings account for 30 to 40% of the world's energy consumption (and in each country too) and for 25 to 35% of the current world's CO2 emissions. Huge energy efficiency improvements can be expected in this sector if authorities take appropriate measures, such as adopting high level and binding standards ,implementing building renovation programmes, coherent financing strategy for promoting energy efficiency, setting binding

targets, ensuring compliance of energy efficiency related legislation, promoting training programmes and information regarding energy efficiency initiatives.

Securing Supply of Raw Materials

WP-E / # 24 / EJ to EJ: Promoting adhesion and enforcement of EITI

The EU and Japan should work closely with other governments, industrial bodies, and NGOs to enable resource-producing countries to fulfil the EITI's "Principles and Criteria" and to advance from candidate to compliant EITI countries.

<Recent Progress>

Japan, numerous EU countries and the European Commission have continued their supportive actions to the EITI activities in 2012. Another approach was undertaken by the US government with the adoption of the Dodd-Frank-Act, forcing companies to determine and disclose whether "conflict minerals" used in their products originated in the war-torn eastern part of Democratic Republic of Congo. The WP E believes the Dodd-Frank-Act approach will be difficult to implement and yield positive results, mainly due to the complexity of the monitoring networks that needs to be put in place.

< Background >

The "Extractive Industries Transparency Initiative" (EITI) adopted at the "World Summit for Sustainable Development" in Johannesburg in 2002 sought to promote the responsible development of natural resources by increasing the transparency of payments made by companies to government and government-linked entities in the extractive sectors. With good governance, these natural resources can generate large revenues that governments of resource-rich countries can use to foster economic recovery and reduce poverty. However, when governance is weak, revenues may be squandered, creating a downward spiral of poverty, corruption, conflict, and the unsustainable development of minerals and resources. As of December 2012, 37 countries are implementing EIT standards, according to EITI.

In several other countries, there are concerns that the revenue generated by natural resources is funnelled to funding conflicts. European and Japanese business can support the EITI objectives by implementing the open and responsible supply-chain management of resources. At the government level, the EU and Japan should pursue common strategies to keep energy and mineral markets open, undistorted, and stable.

WP-E/ # 25 ** / EJ to EJ: Promoting action to minimize commodity price volatility

Japan and the EU should strive to reduce excessive price volatility in commodity markets and should accordingly identify common actions to take in international fora.

<Recent Progress>

Japan and the EU are furthering discussions on these issues at several international conferences such as G20 (Mexico 2012), the Asian Ministerial Energy Roundtable Meeting, International Energy Forum, etc., and organizations such as IOSCO.

➲ According to the 2013 Report from the Government of Japan Concerning the Recommendations from the EU-Japan Business Round Table, in the 13th IEF

Ministerial Meeting held in June 2012, the Government of Japan pointed out that it is necessary for producing countries to behave responsibly toward the stabilization of the energy supply for the market stability, commented that GOJ will contribute actively to the continuous effort to strengthen the market stability and the producer-consumer dialogue.

- Several legislative proposals and initiatives were proposed by EU in 2011:
  - The European Market Infrastructure Regulation (EMIR, regulation for over the counter derivative trading) regulation was adopted in June 2012;
  - Proposals reviewing Directives on Market Abuse (MAD) and Directives on Markets in Financial Instruments (MiFID) were adopted in 2011; these new measures increase transparency and reporting in trading of commodity derivatives

Both Japanese and EU initiatives are in line with G20 principles and are backed (i.e. surveyed and approved) by principles defined by IOSCO such as: “Principles for the Regulation and Supervision of Commodity Derivatives Markets” or “Principles for the Oil Pricing Reporting Agencies”.

< Background >

The rising cost, price volatility, and unstable supply of raw materials are a concern for Europe and Japan business. The policies of resource-rich countries can alleviate or exacerbate such a concern. Stable access to rare metals is critical to expanding the production of rechargeable batteries, as well as to several other industries. There are diversified sources of supply of positive-electrode materials such as lithium, manganese, cobalt, and nickel used for rechargeable batteries. However, some other rare earths are currently only available from China. The EU and Japan should reinforce their efforts to diversify their sources of supply and to secure a stable yet competitive supply of rare metals.

The rapidly growing demand for energy and natural resources mainly comes from developing countries, notably China and India. International competition to secure energy and natural resources is intensifying. Moreover, raw-material and energy-access diplomacy has been on the rise and has the potential to distort markets. The inflow of financial funds has contributed to the price volatility of major mineral resources. The mining regulations and trade policies of the resource-rich countries can heavily influence the availability and price of some raw materials. All these developments put pressure on the competitiveness and stable and profitable development of Japanese and European industry. Rapidly rising raw material prices could adversely affect corporate profits and the world economic recovery. Commodity-price volatility in the agricultural sector is also a threat to global growth and food security.

WP-E/ # 26 * / EJ to EJ: <u>Supporting R&D for recycling and material substitution</u>

Japan and the EU should encourage the recycling of raw materials in developed countries through R&D, industrial policy, and international cooperation as well as promote research aimed at the substitution of critical raw materials.

<Recent Progress>

“Recycling of Rare Earths Metals” was one of the themes of the 2nd Trilateral EU-Japan-U.S on Critical Materials held in March 2012. Discussions and seminars were held on R&D policies on the development of substitutes for rare earths and the reduction of the

use of rare earths, trends in resource development, recycling, business strategies on supply chain management. The EU and Japan decided to collaborate in the substitution of rare materials by launching a joint call for proposals in July 2012 (FP7-NMP-2013-EU-Japan).

< Background >

Critical materials such as rare earths and rare metals are essential for producing several key components of high-technology devices produced by the industries of both Japan and the EU. Ensuring ways to secure supplies of strategically important rare earths and other critical materials is vital to both industries.

WP-E/ # 27 ** / EJ to EJ: <u>Supporting long-term strategy on resources use and technology development</u>

The EU and Japan should work together in:

- Sharing knowledge, best practices implemented by both EU countries and Japan to secure raw material supply (including rare earths);
- Establishing global rules on access to raw materials (including rare earths), tackling issues such as: export restrictions, export taxes, quotas, double pricing, etc.

<Recent Progress>

This is a new recommendation

< Background >

Japan and the EU face similar challenges in accessing and securing raw material supplies; they also have similar positions as resource-poor countries with lots of resource-intensive industries. Developing a common understanding of actions undertaken by both sides to address these challenges will help Japan and the EU countries establishing a common, long-term strategy regarding the sustainable / stable supply and use of key resources. This will eventually benefit the industries in both Japan and the EU.