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

Brussels, 15 May 2019

Working Party 4
Environment and Sustainable Development

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Introduction

According to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC), human influence on the climate system is evident and growing, with impacts observed across all continents and oceans. Moreover, many of the observed changes since the 1950s have been unprecedented over a period ranging from several decades to thousands of years. The report also states that to limit climate change and stabilize temperature increases, it will be necessary to make continuous and significant efforts to reduce greenhouse gas emissions.

Global CO2 emissions rose by 1.7% in 2018 because of countries like China, the US and India. The EU and Japan actually decreased their energy-related emissions. Source: https://www.iea.org/geco/

Despite that, the more conscious countries Japan, the EU and other G20 countries should aim for climate neutrality (= net-zero greenhouse gas emissions). Reaching climate neutrality by around mid-century, as the IPCC special report says is necessary to limit global warming to 1.5 degrees Celsius, requires us to achieve a set of very ambitious framework conditions and actions. The paper should develop the framework conditions and actions that the EU and Japan should address, and what they expect from other G20 countries.

Climate migration is already happening. More than 31 million people fled disasters in 125 countries and territories in 2016.

The effects of global warming have led to changes in irregular weather patterns. Consequently, the environment has suffered a variety of severe and negative impacts on a global scale. For example, extreme precipitation has occurred in polar and sub-polar regions.

Other examples include increases in water evaporation caused by high temperatures resulting from hurricanes or cyclones and prolonged periods of abnormally low rainfall leading to water shortages.

Parts of western Asia, for example, are likely to become uninhabitable by the end of this century, with temperatures projected to exceed the human adaptability threshold. Temperatures exceeding 45 degrees Celsius will become the norm in most low-lying cities and could reach as high as 60 degrees Celsius in Kuwait, Al Ain and Doha during the late summer months.

The sea level has been rising at a rate of approximately 0.6 inches per decade since 1900. If this pace continues, there will be an increase in tidal flooding caused by storm surges and high tides in many coastal areas. Pacific island nations are extremely vulnerable to rising sea levels, as are more than 410 cities around the globe, including Amsterdam, Hamburg, Lisbon, and Mumbai. Agricultural productivity is easily affected by climate change.

Climate change also has an impact on the risk of food insecurity. As climate change continues, it will likely lead to more frequent and severe natural hazards.

It is good to expand renewable energy reasonably for the realization of a low-carbon society. As for energy issues, we have considered and studied the improvement of energy conservation and efficiency in light of the Paris Agreement. Unfortunately, at this point in time, it is technically impossible to rely solely on renewables, therefore we need - in addition to renewables - a reasonable energy mix comprised of a variety of sources such as fossil fuels and nuclear power.

Meanwhile, we are experiencing rapid progress in urbanization and innovations brought about by improvement of accessibility to electricity and quality of life and by a dramatic transformation to a new digital era. Since urbanization has a serious and tremendous impact on not only the environment but also energy efficiency and stability, we believe these issues must be addressed with utmost priority. Likewise, we deem it imperative to fast-track the development and implementation of high-quality infrastructure essential for realizing sustainable and inclusive societies, as well as the services associated with such infrastructure.

In 1990, 43 percent of the world's population lived in urban areas; by 2018, that percentage had risen to 55 percent. This trend is expected to continue, with the number of urban residents increasing 1.5-fold to 6 billion, an addition of 2 billion people. By the middle of this century, this figure is projected to rise to 68 percent. If urbanization occurs in an organized and efficient manner within the appropriate limits, it will bring about positive effects. In many instances, urbanization has resulted in socioeconomic advancement. For example, more than 80% of global GDP is generated in cities and Asia is now at the core of global economic growth.

However, we must recognize that extensive, rapid, and unplanned urbanization will result in adverse effects and challenges. Cities face numerous challenges, including the expansion of slums, illegal settlements, overcrowding, traffic congestion, unemployment, crime, water & sanitation, poor health & diseases, exclusion and rising inequality, risks of social instability, and critical deterioration of infrastructure. The urban environment also faces a variety of threats such as air pollution, climate change, loss of green space, marine plastic litter and microplastic issues, and the degradation and loss of forests and marine areas. Climate change has already impacted our precious ecosystems and biodiversity, which are vital to sustaining urban environments, as they can not only improve air and water quality but also reduce the effects of droughts and floods. It should be noted that these negative effects can be further exacerbated by continuous increases in the number of immigrants from rural to urban areas.

In many ways, recent urbanization appears to be unsustainable. Many people are being forced to face higher risks, the environment is being negatively affected, and unnecessary costs are being incurred. How effectively these risks are addressed will be determined by how well cities are designed, built, managed, and governed.

In line with this, Working Group 4 would like to study and make recommendations related to urbanization and the infrastructure supporting it, which not only have a direct impact on environmental and energy issues but also play an important role in sustainable development.

Recommendations from both European and Japanese industries

WP-4/#01/EJ to EJ **Cooperate closely to promote the stabilisation of energy supply and prices in order to improve energy security, conservation and efficiency and address global warming**

The BRT calls on the EU and Japanese Authorities to :

- continue their efforts to strengthen cooperation among members of the international community to improve regional peace and energy security.
- fully understand the impact that the stabilization of resource prices can have on energy security, energy conservation, and energy efficiency, and to act accordingly.
- commit themselves to work together to stabilize resource prices and implement energy mix policies suitable for regional needs aiming at a reduced carbon intensity, while enabling companies to continue their business activities in a stable manner and contributing to worldwide efforts against global warming.

The BRT believes that :

- uncertainties in the global energy market arising from a wide range of risks, changes by major transformations and geo-political tensions seriously affect energy security.
- the destabilization of energy prices has a significant impact on Japan and EU countries that import energy.
- growing energy demand continues to give tremendous impact on energy mix policies and the global warming.

WP-4/#02/EJ to EJ **Achieving a stable supply of energy and cooperation with other countries**

The BRT calls on the EU and Japanese Authorities to :

- continue their efforts to establish a multi-layered energy supply structure capable of functioning not only during times of peace but also in emergencies.
- deepen relationship with various international committees to promote a framework for a more comprehensive collaborative alliance from the viewpoints of energy and the environment.

The BRT believes that :

- a multi-layered energy supply structure which is based on “3E+S”- stable supply (“Energy Security”), and realize low cost energy supply by enhancing its efficiency (“Economic Efficiency”) on the premise of “Safety” and making maximum efforts to pursue environment suitability (“Environment”) - is fundamental to ensure long-term sustainability of human activities.
- the diversification of energy sources, the impact on the global environment and the complexity of energy issues are becoming more pronounced.

WP-4/#03/EJ to EJ Challenge to build low carbon society

The BRT calls on the EU and Japanese Authorities to :

- carefully consider all possible options of usage on fossil fuels including natural gas which has its environmental benefits relative to others, since it is necessary to pursue the usage of fossil fuels on which latest reducing CO2 emissions technology are given when we study stability and economic efficiency of future energy supply.
- contribute to the development of CCS technologies and support their advancement.
- strengthen the cooperation to establish a new ecosystem in the field of CCU (Carbon Capture and Utilization) as well since it is vital to pursue all possible options of low carbon technologies such as Carbon Recycling (artificial photosynthesis, methanation, catalyst, mineralization and next generation biotechnology, etc) in order to reduce CO2 emissions.

The BRT believes that :

- ensuring natural gas remains affordable and secure is critical for its long-term prospects.
- CCS technologies are expected to play a significant part to limit future temperature increases to "well below 2°C," as laid out in the Paris Agreement.
- carbon recycling which regards CO2 as "carbon resource" and reutilize them as a variety of carbon compounds should be focused.

WP-4/#04/EJ to EJ Future direction of usage on nuclear power

The BRT calls on the EU and Japanese Authorities to :

- cooperate in facilitating the effective implementation of international nuclear safety standards and security measures at bilateral meetings and multilateral meetings on nuclear power. These standards should capitalize on lessons learned through the operational experience of the parties.

- study continuously, from the viewpoints that nuclear power is one of the carbon-free electricity alternatives and promoting measures against global warming and stably securing energy that is less susceptible to fluctuations in fossil fuel prices,

  the direction of usage for nuclear power generation as important base-load power source with the careful consideration of safety.

WP-4/#05/EJ to EJ Future direction of usage on renewable Energy

The BRT calls on the EU and Japanese Authorities to :

- take all possible measures to promote the followings in order to accelerate possible conversion to renewables:
  - ✓ Comprehensively develop the adoption of highly distributed renewable energy sources.
  - ✓ Drive down the total costs for renewable energy in comparison with other traditional energy sources, including all indirect costs of CO_2 emission.
  - ✓ Keep the appropriate level of subsidies or incentive schemes for renewable energy technologies while phasing out inefficient fossil fuels subsidies.
  - ✓ At one point, a discussion will be necessary about carbon taxes and a carbon emission market that reflect the true cost of CO2 emissions to society at least at G20 level. As a first step, EU and Japanese Authorities should work together and carefully study the outcome of the EU-ETS reform.
  - ✓ Promote research on immature renewable energy technologies towards their commercialization.
  - ✓ Promote research on energy storage (eg via hydrogen, batteries) in order to alleviate the issue of variability in renewables generation.

The BRT believes that :

- renewable energy is expected to play a major role in the transition to a less carbon-intensive and more sustainable energy system.
- there are remaining economic, efficiency, environmental, safety and stability issues that need to be addressed, pointing to the need for further discussions while their uptake is being realized.

WP-4/#06/EJ to EJ Smart Grid and convergence of Electric distribution networks with ICT

The BRT calls on the EU and Japanese Authorities to :

- take necessary actions to promote the following measures:
  - ✓ Strengthening the positive role of highly distributed residential and small commercial photovoltaic (PV) installations for self-consumption to reduce costly investments in power distribution network and new big power generators and to minimize system losses.

- ✓ Balance all diverse capacities such as Wind, PV and others in a smart way.
- ✓ Promote smart functionality of PV inverters through regulatory requirements.
- ✓ Improve power quality and stability through smart grids and micro grids with battery storages .
- ✓ unify EU/JAPAN technical standards for highly distributed residential and small commercial PV installations and make them comparable to the high standards set by the newest USA rule 21/2017 regarding power quality and fire safety (such as rapid-shutdown regulation).
- ✓ prepare a concrete action plan for financial stimulation and promotion of high distributed on-site smart grid green power generation in connection with e-mobility penetration.

- promote the implementation of a sustainable, effective, and transparent framework for strengthening of government support for collaborative R&D and technical trials between private-sector companies and academic institutions and providing subsidies and tax incentives for biomass-derived fuels and chemicals to increase the uptake of products manufactured using the technologies converting non-edible plant resources into fuel or useful chemicals.

<u>The BRT believes that :</u>

- the growing role of prosumers, smart grids, micro grids, energy storage and e-mobility requires a different distribution of roles and responsibilities in the value chain of electricity production, transmission, distribution and retail.
- along with the spread and expansion of renewable energy, grid stability, peak shift of power consumption, stable power supply need to be dealt with.
- harmonization of safety standards for storage batteries, standardization and unification of test protocols, and/or introduction of mutual certification system should be promoted between Japan and EU.
- Japan and the EU must continue to work together toward lowering costs and increasing efficiency through technological development and standardization, while also monitoring the “cradle to grave” environmental impact of batteries as well as research to minimize the environmental impact of manufacturing and disposal of batteries.
- it is imperative to proactively make use of the micro-grid and ICT that enable handling efficient power sources, such as solar power generation.
- technologies and processes to competitively convert biomass into fuel, such as cellulosic ethanol, bio-gasoline and biogas which can be further converted into hydrogen, or useful chemicals must be developed and become more widely adopted in order to make the shift from fossil to biomass resources as raw materials for a wide range of uses and therefore achieve significant reduction in greenhouse gas emissions.

WP-4/#07/EJ to EJ Energy conservation & energy efficiency

The BRT calls on the EU and Japanese Authorities to :

- collaborate on standards to take the lead in promoting market introduction of energy conservation and energy efficiency technologies, and their supporting infrastructures.
- promote alignment and simplification of related standards and regulations of energy conservation and energy efficiency.
- promote development of advanced technologies that boost energy efficiency through best practices, and implement stimulus measures such as investment in methodologies. At the same time, these actions should be complemented by aggressive measures that will also have an impact on technologies for soundproofing of buildings and stabilization of room temperature.
- implement harmonization of standards and mutual accreditation of testing protocols to verify the energy saving effect of components and materials.

The BRT believes that :

- energy conservation is an initiative aimed at fulfilling the need for economic efficiency, environmental compatibility, and energy security, and industries in Japan and the EU should make every possible effort to develop and promote the use of energy conservation technologies.
- it is also important to ensure that excessive investment burden is not placed on companies nor that production suppression is imposed on them for the sake of achieving unequal energy conservation effects or slowing down development of innovative low carbon production processes with higher energy needs.
- the promotion of energy conservation will require the strengthening of research and development and improvement of public awareness of energy conservation.
- Investments in energy efficiency by industry, even at equal capacity levels, should be encouraged by governments, with incentives that reflect the indirect benefits to society.

WP-4/#08/EJ to EJ Energy research and international cooperation

The BRT calls on the EU and Japanese Authorities to :

- promote cooperation among industry, government and academia to reinforce the development framework of technologies which is capable of reducing greenhouse gas emissions.
- promote to establish a system for continuously training technical experts in energy-related fields through personnel exchanges.
- continue to support ITER (International Thermonuclear Experimental Reactor and Latin for "the way") project, which is one of the most ambitious energy projects in the world today.

The BRT believes that :

- greenhouse gas emissions are impacting climate change and the environment, thereby making this an issue facing all of mankind that requires international insight.
- both Japan and the EU as leaders in the fields of energy and environmental technology must forge ahead with ground-breaking innovation.

WP-4/#9/EJ to EJ Efforts toward the prevention of global warming following the Paris Agreement reached at COP21

The BRT calls on the EU and Japanese Authorities to :

- undertake the tasks of developing low-carbon technologies and transferring technology to developing countries with significant potential for making reductions, while at the same time driving energy efficiency and improving their energy mix at home.
- promote “the avoided emission of CO_2 approach” as well as other environmental impacts through public-private collaboration for evaluating low-carbon technologies and products by LCA.
- contribute to global warming countermeasures by outstanding technologies, products and know-how possessed by both countries.
- Help to finalize Article 6 of the Paris Rulebook addressing such market mechanisms to clarify support measures of a bilateral offset mechanism which will be an effective means for achieving greenhouse gas reductions in newly emerging countries where a sharp rise in energy demand is becoming apparent.
- open their doors to industry, provide easy-to-understand explanations of adaptive planning, technology needs, and financial assistance, and create an environment in which industry can easily participate.
- take measures, to promote commercial technology transfer, ensuring the creation of appropriate regulatory frameworks in countries to which technology transfers are to be made and the protection of intellectual property rights.

The BRT believes that :

- the prevention of global warming is an issue facing all of mankind and both Japan and the EU as leaders must play roles to take and promote all possible measures.

WP-4/#10/EJ to EJ Promotion of resource efficiency and the circular economy

The BRT calls on the EU and Japanese Authorities to :

- move forward with efforts aimed at improving resource efficiency considering the entire life-cycle of products and work together to formulate consistent rules fostering actions to combat climate change and promote circular economy.
- take advantage of the advanced innovation and competitive edge in international market, which they possess in regard to the institutional and technical aspects of resource efficiency and the circular economy, deepen their cooperation and collaboration, and take the lead in international discussions on the future direction of the circular economy and resource recycling, as well as on the creation of institutions and systems.

The BRT believes that :

- the discussion on resource efficiency and the circular economy holds the potential to create business opportunities that will lead to additional economic growth and job creation in the future.
- the pursuit of resource efficiency through exceedingly regulatory approaches could inhibit classical economic growth. Therefore, it is desirable to choose an approach that will lead to economic growth, such as promotion through voluntary efforts by stakeholders with associated incentives and reasonable regulation.
- a last recent project funded by the German government, which demonstrates the use of waste gases of the steel production in combination with green hydrogen as a resource for valuable chemicals like methanol or ammonia, is a great example.

WP-4/#11/EJ to EJ Promotion of global investments and nurturing of long-term relationships

The BRT calls on the EU and Japanese Authorities to :

- encourage direct investment from a transparent, open, and long-term perspective living up to the commitments all parties made in the Energy Charter Treaty.
- promote high-efficiency, low-cost renewable energies and conduct research and development of hydrogen production and usage, energy storage, geothermal, and other new energies to spread of energy conservation technologies and the like.
- consider research that will contribute to the highly efficient utilization of fossil fuels with minimized carbon impact and both the safety and security of nuclear power.

The BRT believes that :

- amidst sharp fluctuations in the price of oil and other resources, continued investment and strong economic collaboration in a wide range of fields will be necessary to secure stable and sustainable resources in response to global risks.

- when it comes to long-term sustainable energy policy, it is important to make the necessary investments and ensure strong cross-border collaboration in order to achieve ambitious targets.

WP-4/#12/EJ to EJ Initiatives and measures as a response to accelerated urbanization in the world

The BRT calls on the EU and Japanese Authorities to :

- recognize the increasing impact of disasters caused by climate change and their complexity in many parts of the world and to cooperate closely to strengthen disaster risk reduction to infrastructure with the aim of minimizing the loss of lives and assets in disasters.
- address with utmost priority to develop and implement resilient and high-quality infrastructure considering life-cycle cost which is essential for realizing sustainable and inclusive societies as well as the services associated with such infrastructure, since urbanization has a serious and tremendous impact on not only the environmental but also energy efficiency and stability.
- facilitate and promote high-level dialogues with authorities of emerging countries, recognizing magnitude of urbanization in emerging countries onto global environment, to share their good practices, national experiences, accumulated knowledge, and effective solutions for solving urbanization issues. EU and Japanese Authorities should strive to spread mindset and policy regarding quality of infrastructure and support changes to the behavioural aspects of urban planning, design, and procurement in emerging countries.

The BRT believes that :

- cities require a wide range of basic infrastructure and associated services to be viable and sustainable and infrastructure development is vital for economic growth because it can create jobs, alleviate poverty, and improve quality of life for urban residents.
- it will be crucial for the international community to carry on efforts to ensure a resilient and stable society to secure global sustainable development.
- strengthen the support provided to emerging countries to solve the problems they face in order to achieve sustainable development on a global scale.

WP-4/#13/EJ to EJ Challenge to solve social issues in new era

The BRT calls on the EU and Japanese Authorities to :

- continue cooperating closely while recognizing the importance and effects of the latest digital technologies to ensure environmental conservation and safety in cities against disaster, crime, terrorism, and various accidents as well as to support the

advancement of digitalized infrastructure to accelerate the realization of sustainable urban development.

- strengthen cooperation to promote cross-domain data utilization since the digital society of the future will primarily address social issues from the viewpoint of comprehensive optimization as opposed to the early digital society, which was focused on laying out systems for each field and on data utilization within those fields.

The BRT believes that :

- it is crucial to further advance ICT and its utilization to solve social issues through efficient operation and optimization of diversified urban functions and complicated styles of living since problems such as exhaust emissions from traffic congestion and large amounts of garbage and waste resulting from the overpopulation of urban areas negatively impact the environment.
- urban problems such as unemployment, poverty, and educational issues result in a rising incidence of crime, thereby requiring comprehensive and persistent efforts since the safety of cities is often overwhelmed by the cascading effects of various urban problems.
- efforts to utilize digital technology in an aim to solve social issues have entered a new era and these technologies have the potential to dramatically improve the level of urban security. It is also beneficial from an economic perspective to achieve significant improvement through investment in infrastructure using digital technology as cities with low levels of security and those unsuitable for a healthy life will have a negative impact on economic development.

WP-4/#14/EJ to EJ Support of sustainable finance

The BRT calls on the EU and Japanese Authorities to :

- take a global perspective in developing standards for sustainable economic activities and investments.
- Not simply consider economic activities in isolation but also their role within the economy, society or other ecosystems they are rooted in, the size of their contribution to the national or regional GDP, the stage of transitions and development towards electrification and digitalization, financial resources and skills needed to implement measures that meet the criteria, etc.
- focus more on the ‘continuous improvement’ from the current situation rather than getting caught up in the different nature of economic activities. Encouraging the continuous improvement will ultimately create clarity in order to foster innovation, reward concrete transitional activities, mitigate inequality and enhance competitiveness.
- maintain a positive and inclusive mindset to encourage companies to transition to these goals in order to mobilise investments in alignment with economic, environmental, societal and governance objectives.

The BRT believes that :

- the overall objective of sustainable finance which can channel private capital towards sustainable projects and can become a key enabler to achieve the UN SDG agenda and the Paris Agreement is welcomed. The BRT further acknowledges that financing and appropriate support to investments are indeed the missing links to the achievement of Paris Agreement on climate change and the UN 2030 Agenda for Sustainable Development.
- sustainable finance should be comprehensive initiatives that can encourage necessary investment not only to activities with regard to realizing a low-emission society but also to solving issues caused by urbanization and to enhance of resilient infrastructure with its associated services which is fundamental for lives and social and economic activities and to realizing an efficient, stable and inclusive society through an appropriate energy mix. The BRT expects EU and Japanese Authorities to facilitate international collaboration among governments, financial market participants and companies to best scale up sustainable finance globally and to implement effective mechanism of this field.