

Summary of the 15th Japan-Europe Forum

- Topic:** The impact of geopolitical developments on energy security, environment, supply chains and green transformation
- Time:** Monday, September 16th, 2024, 10:00 – 16:00 CEST
- Location:** Wuppertal Institute for Climate, Environment and Energy, Wuppertal, Germany



The Japan-Europe Forum is organized regularly by the Japan Economic Foundation in cooperation with partners in European states. This year, it was co-organized with the Wuppertal Institute in Wuppertal, Germany. The aim of this expert roundtable is an exchange of information and standpoints on top priority issues and challenges for sustainable and inclusive global development to seek possible solutions. The experts invited were selected from academia, science, governmental organizations, and business.

Two years after Russia's full invasion of Ukraine, energy security and energy costs are still high on the agenda in many countries, including Japan and Germany. Worries about oil and gas supply have been increased due to the new conflicts in the Middle East, following the Hamas attack on 7 October 2023 and Israel's reaction. At the same time, severe floodings in many countries in 2024 brought the need to mitigate climate change back on the agenda. Therefore, the first session of this Forum focused on *The impact of geopolitical developments on energy security and environment*.

Achieving net zero greenhouse gas emissions by 2050 and achieving the COP-28 goals of tripling electricity generation from renewable energies and doubling the rate of energy efficiency improvement by 2030, as well as transitioning away from fossil fuels in the long run requires massive investments in clean technologies, their production facilities, and their critical supply chains for products and raw materials. Countries or blocks such as the USA, China, the EU, and Japan aim to secure their share in these clean technologies of the future. In doing so, they may compete or cooperate. Current trends, challenges, and opportunities for trade and cooperation were discussed in the second session on *Trade & Investment and Green Transformation*.

This summary includes the key discussion points of the 15th Japan-Europe Forum, which were raised during the open and guided discussion rounds that formed an integral part of the Forum. Due to the Chatham House rules, the names of the discussants will not be disclosed. As this document is a summary but no transcript, it has no claim for completeness.

During the Forum, input presentations as well as introductory and closing remarks of the session moderators have been recorded for further documentation and dissemination. Therefore, the content of these recorded input presentations and remarks has not been included in this summary, but the names and affiliation of the presenters have been mentioned.

Welcome and opening remarks (recorded)

- Prof. Peter Hennicke, former President of the Wuppertal Institut
- Mr. Masakazu Toyoda, Chairman & CEO of the Japan Economic Foundation (JEF)

Part 1: “The impact of geopolitical developments on energy security and environment”

Key questions

- Which geopolitical developments do we need to prepare for in the next 10 years in the context of the long-term net zero targets?
- Energy Efficiency is one way to avoid the impact of geopolitical development: How far and how quickly can we reduce energy consumption through energy efficiency and lifestyle changes?
- Domestic energy is another way to avoid the impact of geopolitical development: How much of the following energy can be domestic or imported; RES electricity, clean hydrogen and derivatives, nuclear, and CCUS?
- Energy Stockpiling (e.g., of LNG or clean hydrogen and derivatives) is the third way to alleviate the impact of geopolitical development: How can we strengthen international cooperation and supply chains?

Input presentations (recorded)

- Dr. Keigo Akimoto, Systems Analysis Group Leader, Chief Researcher, RITE Research Institute of Innovative Technology for the Earth: The impact of geopolitical developments on energy security and environment: Japan’s perspectives
- Prof. Andreas Goldthau, Global Public Policy; Director, Willy Brandt School of Public Policy, Erfurt University: The impact of geopolitical developments on energy security, environment, supply chains and green transformation
- Mr. Masami Hihara, Deputy Director-General, JETRO Berlin/METI: Japan’s Energy Policy Amid Rising Geopolitical Tensions
- Dr. Felix Matthes, Research Coordinator Energy and Climate Policy, Oeko Institut: The impact of geopolitical developments on energy security and environment

Moderator

Naoyuki Haraoka, Executive Managing Director, Japan Economic Foundation

Speakers and Discussants:

Prof. Mariko Watanabe, Prof. Dr. Peter Hennicke, Dr. Rie Watanabe, Dr. Stefan Thomas, Dr. Keigo Akimoto, Prof. Andreas Goldthau, Dr. Felix Matthes, Mr. Masami Hihara, Mr. Pascal Daleiden, Mr. Andrew Hammond, Dr. Klaus Schaefer, Mr. Takashi Mogi, Dr. Akihiko Tamura

Summary of the discussion during part 1

The discussion centered on the multifaceted challenges of the global energy transition, with a particular focus on Japan and Germany. Several key themes emerged throughout the conversation, reflecting the complexity of navigating energy policies, technological innovation, and geopolitical considerations in the pursuit of decarbonization.

A recurring theme is the prioritization of energy efficiency as a cornerstone of sustainable energy policy, following the ‘energy efficiency first’ principle. Multiple discussants stressed the importance of advancing energy efficiency across sectors, particularly in Japan, where improvement rates have slowed. The need for integrating energy efficiency with broader lifestyle changes enabled by sufficiency policies and with resource efficiency was emphasized, aiming to achieve a “low-energy-demand society.” This shift, discussants argued, would not only reduce energy consumption, with its multiple benefits, but also facilitate the transition to cleaner energy sources. Both Japan and Germany were noted for their relative energy efficiency, though neither country has yet fully maximized its potential in this area.

The role of renewable energy and hydrogen in decarbonization was another critical focus. Both Japan and Germany are exploring these as key elements of their energy strategies. However, challenges persist, especially in Japan, where limited renewable energy resources make domestic green hydrogen production difficult. This has led to increased reliance on hydrogen imports, which, according to discussants, raises concerns about supply chain resilience and the environmental risks associated with some forms of hydrogen production. The need for comprehensive carbon accounting systems to track emissions from hydrogen, including embedded and imported emissions, was highlighted as an urgent policy gap. The EU’s and Germany’s introduction of a “digital product passport” was cited as a proactive step towards transparency in tracking embedded emissions in products. Electricity generated from renewable energies enables large-scale electrification as a further decarbonisation strategy in buildings, transport and industry. In Germany, these technologies may also offer the flexibility in demand that is needed due to a high share of photovoltaics and wind energy in the system.

The conversation also explored other technological options for decarbonization, particularly the use of controversial technologies such as nuclear energy and carbon capture, utilization, and storage (CCUS). Germany’s decision to phase out nuclear and coal energy in favor of cost-effective renewable sources and hydrogen was contrasted with Japan’s approach that puts higher emphasis on energy security and continues to plan with these technologies. Japan's energy transition has been hindered by the

political aftermath of the Fukushima disaster, as well as geographical constraints, including limited flat land and cost-effective offshore wind energy potential.

The discussion also addressed global and geopolitical dynamics, particularly the need for supply chain resilience and international cooperation. Reducing dependencies on dominant global players, especially China, was identified as a strategic priority. The importance of resilient energy policies was underscored in this context, with suggestions to develop strategic reserves of critical raw materials and energy resources and to establish partnerships for energy infrastructure and supply chain development. Moreover, shifting dependencies from global supply chains to like-minded or even regional allies, was proposed as a more secure alternative to traditional globalization. This shift would help mitigate the risks associated with geopolitical fragmentation, which may be slowing the energy transition.

Cost and policy considerations were also central to the discussion. The high first cost of some green technologies and the need for financial mechanisms to reduce these costs were emphasized. International cooperation, particularly in research and development but also in finance for developing countries, was viewed as critical to making green technologies more affordable and accessible.

Finally, the discussion acknowledged the social and political dimensions of the energy transition. Several discussants warned that political leaders must carefully manage the social acceptance of energy policies, as citizens may resist policies that involve perceived personal sacrifices. This tension highlights the importance of designing energy policies that are both equitable and socially acceptable, while also achieving environmental goals.

In conclusion, the discussion highlighted the intricate interplay between technology, geopolitics, and social factors in the global energy transition. Japan and Germany face unique but overlapping challenges in their efforts to decarbonize, and both countries must accelerate their policies, technological innovations, and international collaborations to avoid the lock-in effects of unsustainable energy infrastructures. The urgency of the transition is clear, but navigating the path forward requires careful balancing of competing priorities and interests.



Part 2: “Trade & Investment and Green Transformation”

Key questions/topics

- Opportunities and challenges comparing the role of the USA, the EU/Germany and Japan
- Competition in specific critical green technologies and materials: How can we realize the supply chain cooperation?
- Assessment of trade and competition related challenges of the IRA: How can we deal with protectionist tendencies?
- Potential of initiatives by EU/USA/Japan to cooperate and avoid a “trade war”
- CBAM: how can we consider the concerns of the Global South?
- EV related matters as an example (re. China’s dominance in the market and EV purchasing subsidies)

Input presentations (recorded)

- Dr. Klaus Schaefer, former chief production officer, Covestro AG, member of the German hydrogen council
- Dr. Akihiko Tamura, Director General, JETRO Japan External Trade Organization, Paris / METI Ministry of Economy, Trade and Industry: Trade Policy Dimension of Green Industrial Policy
- Prof. Mariko Watanabe, Department of Management, Gakushuin University: Economics of Industrial Policies and International Rules

- Prof. Dr. Clara Brandi, Head of program, Transformation of Economic and Social Systems, IDOS German Institute of Development and Sustainability: Trade & Investment and Green Transformation

Moderator

Dr. Stefan Thomas, Director of the research division "Energy, Transport and Climate Policy", Wuppertal Institute

Speakers and Discussants

Mr. Andrew Hammond, Mr. Pascal Daleiden, Dr. Felix Matthes, Prof. Dr. Peter Hennicke, Dr. Rie Watanabe, Mr. Takashi Mogi, Dr. Stefan Thomas, Mr. Masami Hihara, Prof. Andreas Golthau, Dr. Klaus Schaefer, Dr. Akihiko Tamura, Prof. Mariko Watanabe, Prof. Dr. Clara Brandi

Summary of the discussion during part 2

The discussion focused on the challenges of industrial policy, green transformation, and financing, with a comparative lens on Japan, the European Union, and the United States. Concerns whether the EU can compete with the industrial strength of the U.S. and China, particularly in terms of scale and resources were discussed, with participants expressing doubts about Europe's ability to secure sufficient funding and manage large-scale industrial transformations effectively. Japan, historically successful in industrial policy, faces similar challenges nowadays.

A major point of concern is financing the green transition. Several discussants highlighted the massive financial investments required for decarbonization, with the estimated incremental costs in Germany alone reaching approximately 700 billion €. The U.S. Inflation Reduction Act (IRA) was a frequent reference point, sparking debate on the differences between quick tax rebates (as under the IRA), explicit subsidies (as in the EU or Japan), and carbon pricing as tools for incentivizing green technology. Potential new internationally agreed ways of raising funds through taxation of the richest or minimum corporate taxes were mentioned.

The debate on carbon pricing versus subsidies was a recurrent theme. While some sectors may be effectively decarbonized mainly through pricing mechanisms, most others require a targeted combination of subsidies and carbon pricing to drive innovation and green growth. The discussion also explored the balance between "sticks" (regulatory measures) and "carrots" (incentives), with many participants advocating for stronger regulatory frameworks to complement financial incentives. It was noted that the USA may rely on subsidies, because the federal government has

weak powers to set regulations, while the EU has stronger powers in regulating the Member States but little own financial resources.

International cooperation and standards were identified as critical to ensuring that industrial and energy policies align across regions. Discussants called for enhanced research and development (R&D) collaboration, particularly in developing common standards for technologies such as electric vehicles (EVs) or hydrogen. It was argued that standardization is essential to avoid fragmented markets and ensure the competitiveness of industries in the face of competition from China, whose advantage lies in mass production and scale. There was consensus on the need for joint negotiations between the EU, the U.S., and Japan to address global trade issues and counter China's dominance in certain sectors. If it were possible to include China in the negotiations, it might even be better. A discussant suggested that the EU and Japan may be the best potential partners in this context, another discussant highlighted the role of international fora, such as the G20, the WTO, and the World Bank.

The conversation also touched on the geopolitical aspects of the green transformation. Discussants highlighted the need for strategic resilience, cautioning against over-reliance on any single source of supply. They argued that maintaining industrial capacity, though costly, is crucial for long-term resilience. There may thus be a dilemma between 'greening the domestic industry' and 'green industrialization' in the regions that possess the green electricity and raw materials for the green transformation.

Discussants noted that the EU's Carbon Border Adjustment Mechanism (CBAM) may develop to an essential policy not only to avoid 'carbon leakage' of industries from the EU, but also to stimulate and regulate carbon pricing across international borders. While the threat of 'carbon leakage' may be overestimated, since production often needs to be located close to demand, the 'green industrialization' may lead to 'green leakage', following the 'renewables pull'.

The global south was also a focus, particularly in the context of financing climate change mitigation efforts. Several participants emphasized the importance of equitable financial support for the global south, warning that without addressing social and ecological inequalities, a global green transformation would be impossible.

Additionally, the CBAM was flagged as a key concern, especially as carbon prices may be introduced and rise in developing countries, but also in developed nations. Again, the use of the revenues and the combination with target financial support to the poor and incentives for the green transformation is key.

Regarding Japan, in addition to energy efficiency and renewable energies, also nuclear energy and carbon capture, utilization, and storage (CCUS) were highlighted as

essential technologies for reaching carbon neutrality by 2050. However, there were concerns about the feasibility of these technologies in the broader context of global decarbonization, especially when considering different targets in countries like India and China, which aim for decarbonization by 2070 and 2060, respectively. There was agreement that international cooperation requires more than just financial contributions, emphasizing the need for policy alignment and shared objectives, while countries should be free to choose their appropriate energy mix on the way to decarbonization. The upcoming U.S. elections were noted as a potential turning point for international climate cooperation, with some participants stressing the importance of having strong allies to drive global change.

In conclusion, the discussions underscored the complexity of the global green transformation, particularly in terms of industrial policy, financing, and international cooperation. The need for harmonized standards, resilient supply chains, and sufficient and equitable financial mechanisms emerged as key priorities. While there is no one-size-fits-all solution, the conversation highlighted the importance of balancing national strategies with global collaboration to achieve decarbonization.

Final Remarks (recorded)

- Prof. Dr. Peter Hennicke, former President of the Wuppertal Institute
- Mr. Masakazu Toyoda, Chairman & CEO, Japan Economic Foundation