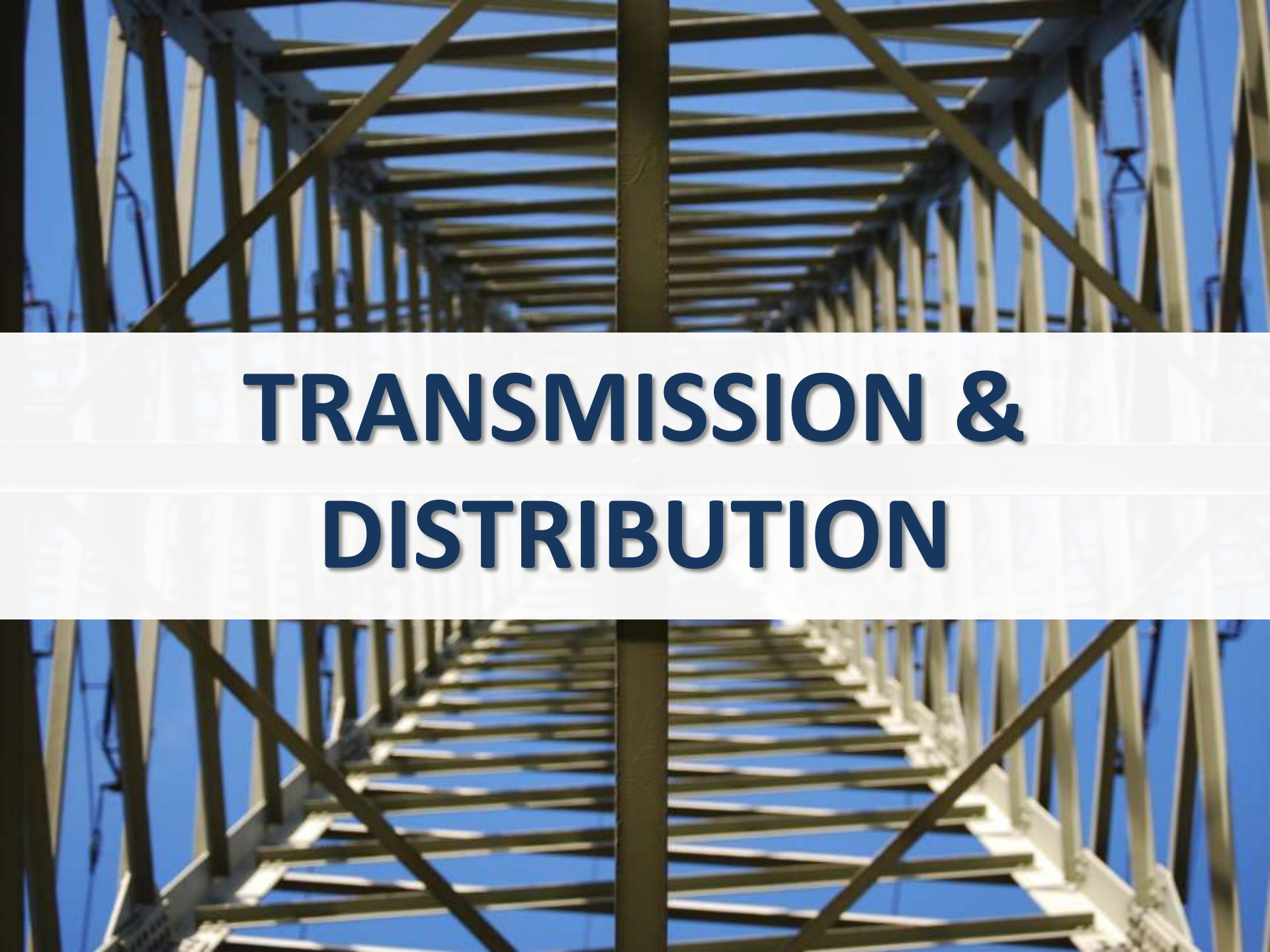
EUROPEAN BUSINESS COUNCIL IN JAPAN
THE EUROPEAN (EU) CHAMBER OF COMMERCE IN JAPAN

ENERGY

ISSUES AND RECOMMENDATIONS



TRANSMISSION & DISTRIBUTION

Transmission & Distribution

YEARLY STATUS REPORT: Some Progress

- Japan's transmission network is centred on its production sites, with the main transmission at 500kV.
- The frequency convertor stations (FC) connecting the 50Hz and 60Hz networks offer only limited additional capacity.
- Furthermore, the limited interconnections between the individual EPCOs represent a real risk to security of supply.
- In contrast, European and US grids have extensive plans for use of High Voltage Direct Current (HVDC), which offers more flexibility in energy flows from one region to another and easier integration of non-conventional energy sources into the overall energy supply.

Transmission & Distribution

RECOMMENDATIONS

- As part of the preparations for legal unbundling in 2020, Japan should implement regulations that will ensure security of supply and fair market mechanisms.
- Japan should do more to increase interconnection capacity between Transmission and Distribution System Operators (TDSOs), achieving fair electricity transactions and encouraging mergers between TDSOs.
- The Japanese authorities should ensure that electricity interconnections are developed at national and international levels based on HVDC – firstly through the "invest and connect" model, then moving on to a "connect and manage" model, such as that used in Europe.

NUCLEAR ENERGY & NUCLEAR SAFETY

Nuclear Energy & Nuclear Safety

YEARLY STATUS REPORT: Some Progress

- In its latest Basic Energy Plan (2014), the Japanese Government confirmed that the nuclear closed-fuel cycle policy would continue and that nuclear power would remain an important source of base load electricity for Japan.
- At the same time the Government also stated that nuclear power would be reduced as much as possible, although a certain amount would be preserved with regards to security of supply and costs.

Nuclear Energy & Nuclear Safety

YEARLY STATUS REPORT: Some Progress

- Since nuclear energy will remain a core constituent of the Japanese energy mix, it is essential that its long-term sustainability is based on a reliable and efficient approach to safety concerns, smooth implementation of a back-end policy for recycling spent fuel, and final disposal of radioactive waste.

- It will also be necessary in the near future to address the issue of increasingly ageing plants, not only through plant lifetime extensions, but also through replacement of reactors, set to be some 60 years old by the mid-2030s.

Nuclear Energy & Nuclear Safety

RECOMMENDATIONS

- Japan should increase cooperation and transparent exchange with international organisations such as the International Atomic Energy Agency (IAEA) and World Association of Nuclear Operators (WANO) to improve worldwide nuclear safety levels.
- The Japanese authorities should develop complete interim and final waste repositories for spent fuel and radioactive waste.
- Japan should address the issue of ageing reactors and develop a long-term plan for their replacement to uphold the latest energy mix target for nuclear power.

WIND ENERGY

Wind Energy

YEARLY STATUS REPORT: No Progress

- The development of wind energy will be essential for Japan to reach its CO2 emissions targets.
- Modern and cost-efficient wind turbines now contain sophisticated technology that works well with established power grids of all kinds, ranging from large transmission systems to isolated local grids.
- Currently the deployment of wind farms is too slow.

Wind Energy

RECOMMENDATIONS

- Japan should facilitate the development of on-shore as well as off-shore wind farms by reducing unnecessary regulations that add to their cost and development time, especially in relation to environmental impact assessment requirements.

- Japan should adopt and recognise internationally accepted certification standards and international accreditation for wind turbines and their componentry. This would increase both domestic and foreign direct investment, and support Japanese technology exports.

- Japan should focus on and officially support development in the Hokkaido / Tohoku area to enable investors to build utility-scale wind farms utilising the optimum wind conditions in Japan.

SOLAR ENERGY

Solar Energy

YEARLY STATUS REPORT: Some Progress

- The principal impediments to sustainable growth of utility and commercial-grade solar energy are: the cumbersome procedure for obtaining special permits for land re-zoning for non-agricultural use, and the difficulties in obtaining reasonable interconnection commitments from regional electric utilities and project financing for utility-scale photovoltaic (PV) projects.
- Potential curtailment remains an issue in relation to these points.
- Additional challenges that Japanese utility companies may soon encounter are managing cost effective solutions to integrate de-centralised and intermittent renewable generations into the existing power grid.

Solar Energy

YEARLY STATUS REPORT: Some Progress

- While Japan has focused extensively on solar power as a renewable energy source, the EBC believes that it must continue to encourage development of this important source of renewable energy.
- This must be carried out ambitiously with realistic targets, aimed at increasing the safety and reliability of the energy supply.

Solar Energy

RECOMMENDATIONS

- Japan should adopt and recognise internationally accepted certification standards for solar modules, system components and design qualifications, rather than enforcing existing “Japan-only” component and certification standards.
- Japan should adopt an accreditation scheme to support the acceptance of test results, reports and certificates from any accredited certification body, whether domestic or foreign, based on available international standards.
- The Japanese Government should incentivise and create standardisation programmes for the EPCOs to use to contract PV project construction to an emerging class of engineering and design companies, with the aim of reducing grid connection costs and lead times.

Solar Energy

RECOMMENDATIONS

- Japan should encourage further grid interconnections, utilise existing pump storage power generation plants, use and improve battery storage, and consider new technologies, such as conversion to hydro for further PV integration.

- The Japanese Government should avoid imposing additional or differing safety requirements on the emerging 1500V technology in order to facilitate plant development applying this latest technology without making changes to the relevant authorisation process.