Belt & Road Initiative and China- Korea-Japan Power Grid Interconnection

Global Energy Interconnection Development and Cooperation Organization
Outline

1. Belt and Road Initiative
2. Interconnection Overview
3. Prefeasibility Study Outcomes
4. Way forward
1. Belt and Road Initiative

Silk Road Economic Belt
Integrates historical symbolism of the ancient Silk Road with the new requirements of today

Sep. 7, 2013
at Nazarbayev University of Kazakhstan

21st Century Maritime Silk Road
Boost maritime cooperation, forge closer ties in a community with a shared future

Oct. 3, 2013
in speech to the Indonesian parliament
Active Response: over 100 countries and organizations
Bilateral Agreement: more than 70 countries and organizations with China
Goal: An open world economic system
5 Priorities

- Policy coordination: Planning and supporting large-scale infrastructural development projects.
- Facilities connectivity: Building facilities to enable connectivity along the Belt and Road.
- Unimpeded trade: Facilitating cross-border investments and supply chain cooperation.
- Financial integration: Enhancing monetary policy coordination and bilateral financial cooperation.
- People to people bond: Promoting people-to-people bonds and cooperation.
Top Priority: Facilities connectivity
The majority electricity demand of Northeast Asia is in China, Japan and South Korea. By 2030, the total electricity demand of the three countries will reach 11100 TWh, which accounts for more than 60% of the demand in Asia.

The direction of electricity flow in Northeast Asia is from West to East and from North to South.
Several utilities and research institutes have conducted studies on the Northeast Asia grid interconnection in order to meet demand growth, maintain energy supply security, promote renewable energy and achieve a fair electricity price.
The Mongolia-China-Korea-Japan power grid interconnection is selected as the first implemented multi-national grid interconnection project in Northeast Asia.

The implementation of the south channel is better than the north channel for the Northeast Asia power grid interconnection.
A joint working group and a joint technical workgroup were established by SGCC, KEPCO and SBG in May 2016 to conduct the pre-feasibility study of the CKJ project. The report was completed in March this year.
3. Prefeasibility Study Outcomes

- **Transmission Mode**: LCC (Bi-pole with metallic return, symmetric monopole) or VSC (symmetric monopole).
- **Transmission Capacity**: 2GW
- **Voltage Level**: ±500kV
- **Route Distance**: China-Korea segment as 366km; Korea-Japan segment as 460km or 770km.
➢ The system plans are technically feasible.
➢ Different transmission modes have great effects on the total cost.
4. Way forward

◆ C-K-J project F/S will include seabed survey, business model analysis, regulatory framework study, technical plan optimization, economic study, risk assessment, etc.. The recommended plan shall be proposed, regarding submarine cable type and DC transmission mode choice.

◆ All parties shall actively report the project progress to the respective governments and demonstrate its feasibility and positive significance, to seek their solid support in order to commission the project as early as possible.

◆ Making Northeast Asia interconnection a successful pilot interconnection project under Belt and Road Initiative.
Thank you!