

Korea-China Power Grid Interconnection

2019. 10. 24

KEPCO

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Cross-border Interconnection

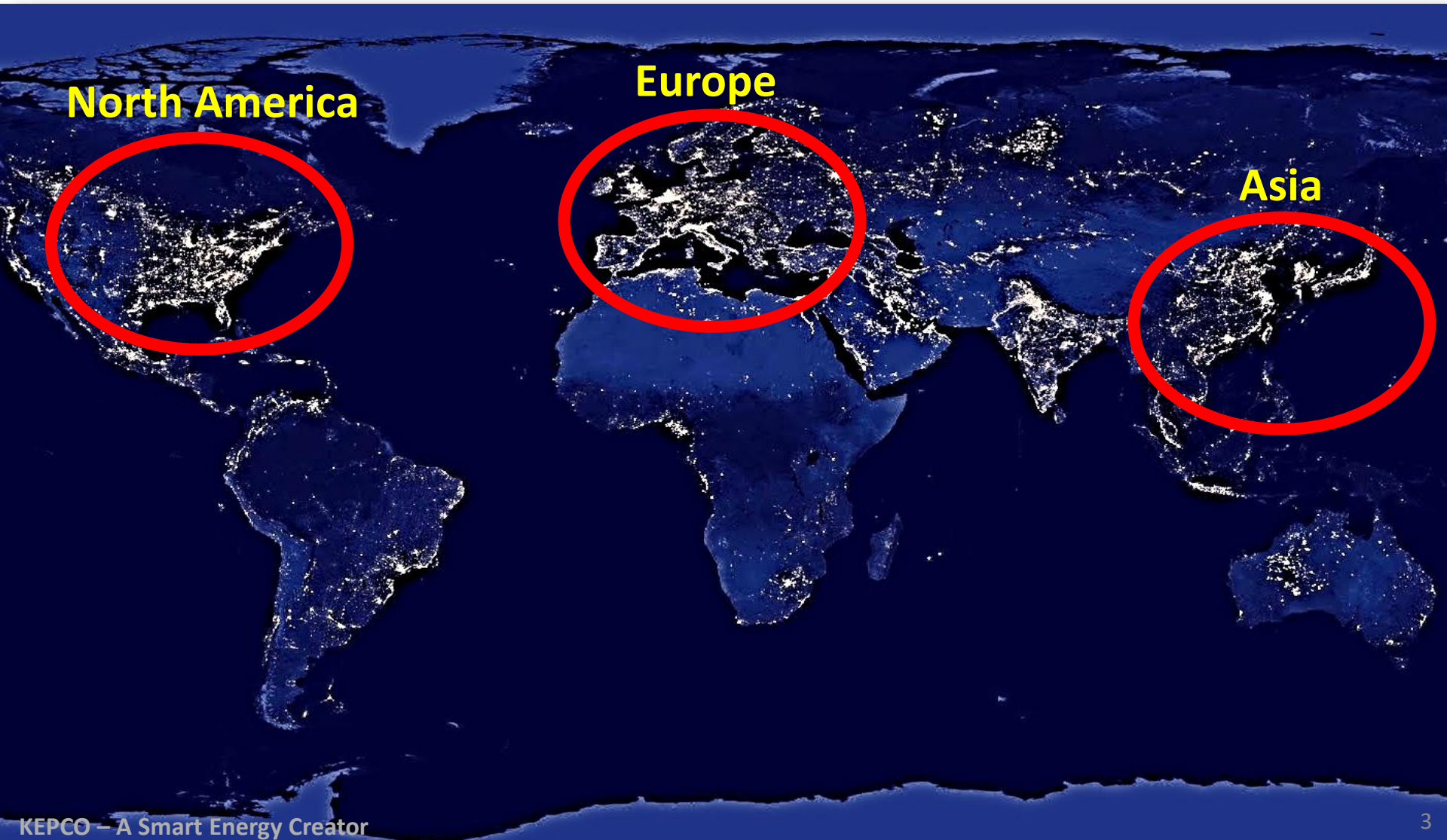
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K-C Project Progress

3

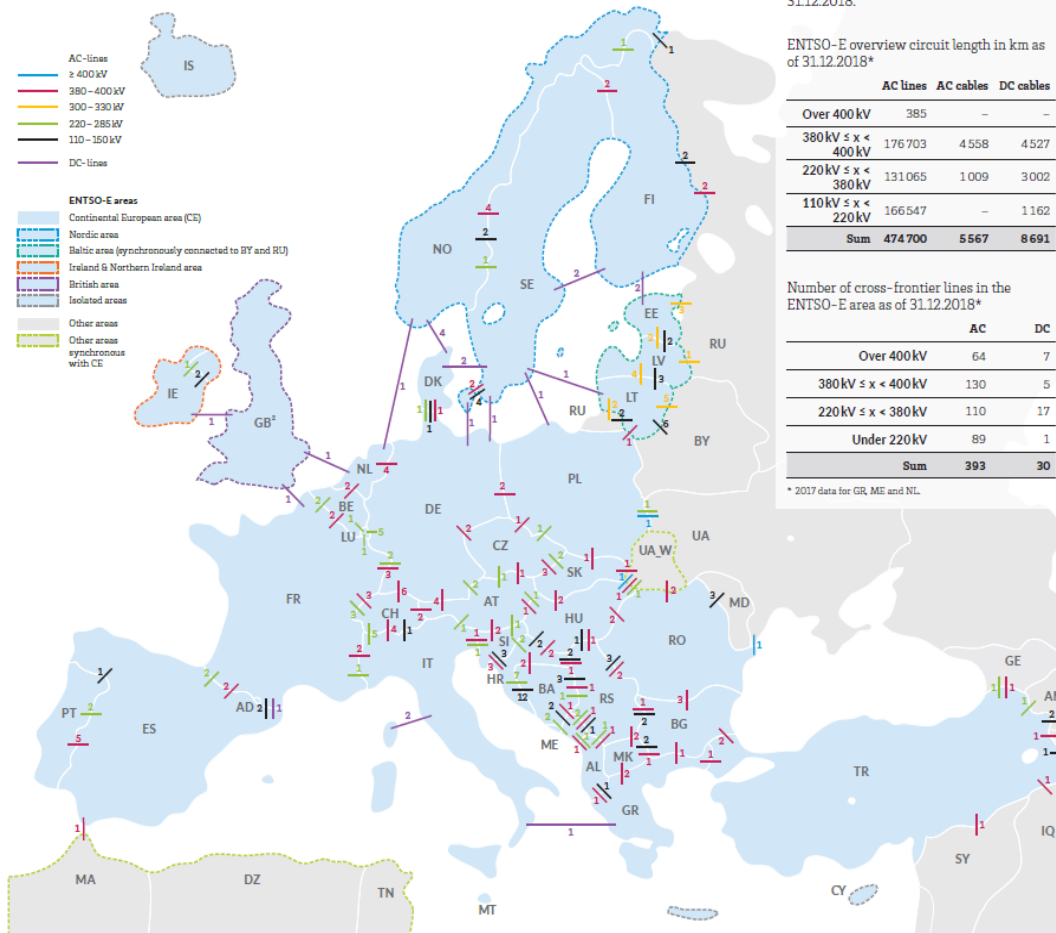
Project Effectiveness and Issues

Electricity Demand



Interconnection in Europe

Grid information



entsoe
Reliable Sustainable Connected

36 countries
43 power utilities

EU and ENTSO-e drive
cross-border interconnections

Now 2018,
423 interconnectors('18.12)
467 TWh Exchanged('18.12)

Until 2040,
100 more interconnectors

Interconnection in North America

The Integrated North American Transmission Grid

Map copyright CEA. Lines shown are 345 kilovolts (kV) and above. There are numerous interconnections between Canada and the U.S. under 345kV that do not appear on this map.



First interconnector in the world (1901)

Now **37 interconnectors** between U.S. and Canada

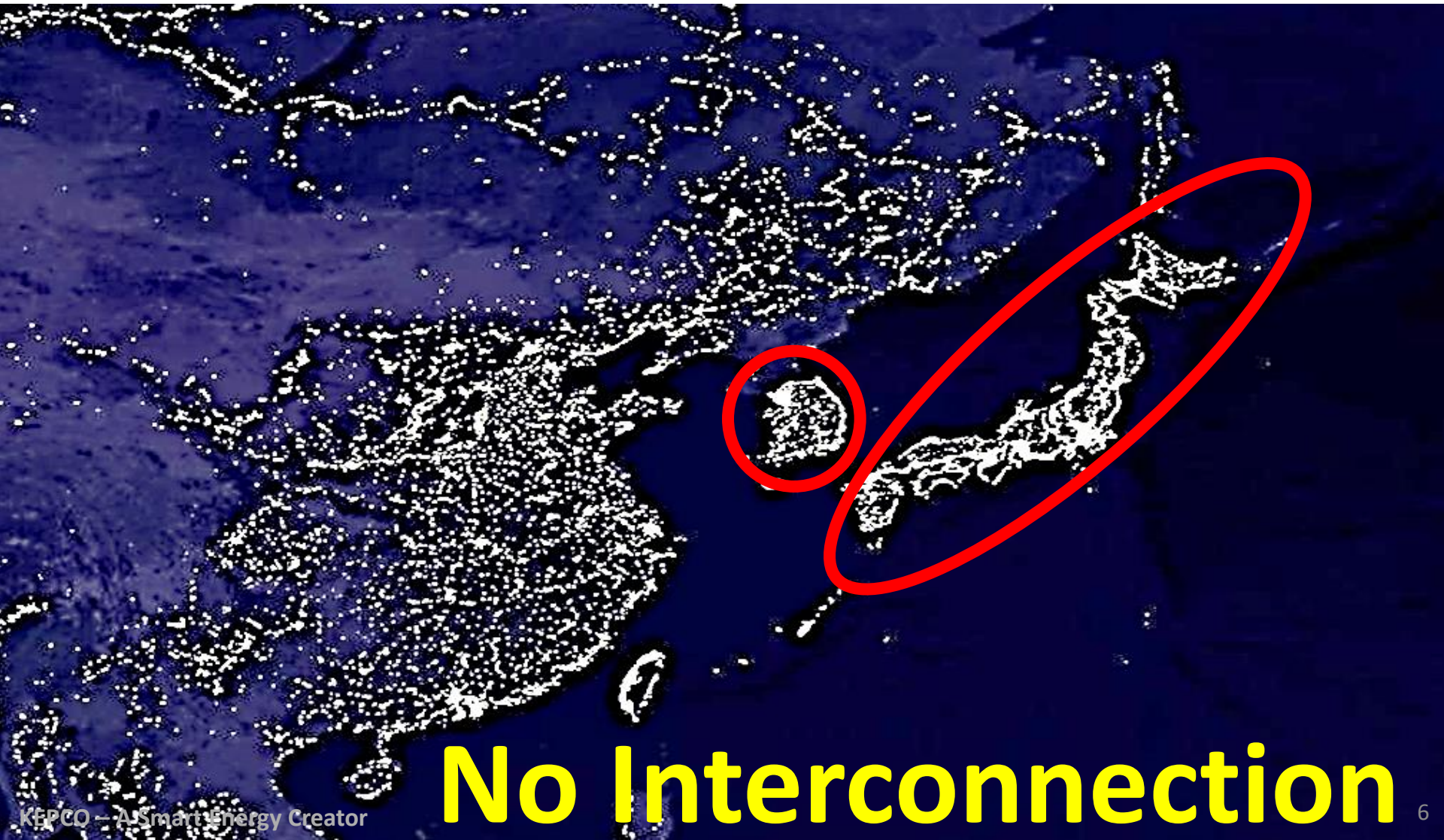
74.5GWh Exchanged in 2018

Further **6 interconnectors(5GW)** until 2025

“Enhanced flexibility and reliability of North America power grid”

* USA, Canada, Mexico summit('16)

Northeast Asia



No Interconnection

Major Progress (2016~2017)

'16.03

MOU on Joint Promotion of Power Grid Interconnection
between SGCC(China) - KEPCO - SoftBank(Japan) - Rosseti(Russia)

'16.06

~
'17.03

Joint Pre-F/S on China-Korea-Japan Power Interconnection
between SGCC – KEPCO - SoftBank

'17.12

MOA on Joint development of China-Korea Power Interconnection
between SGCC-KEPCO-GEIDCO ※ **MOU between Korea-China**



Review Study (2018)



Preparing JDA (2019)

MOU/MOA
(Memorandum of Understanding)

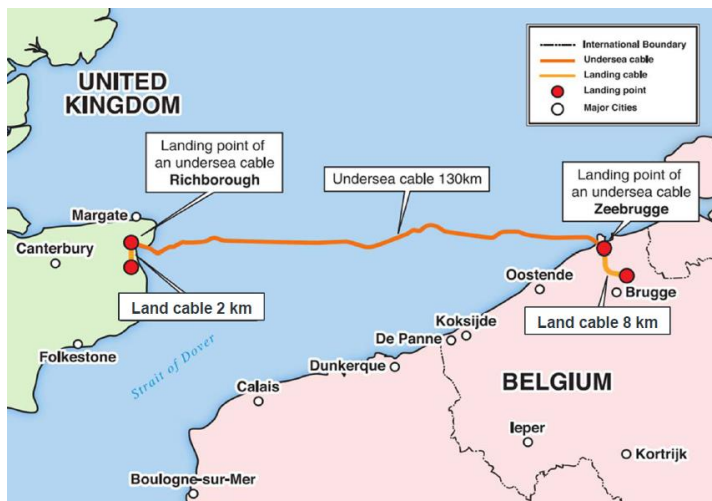
Joint Study

JDA
(Joint Development Agreement)

SHA
(Shareholder's Agreement)

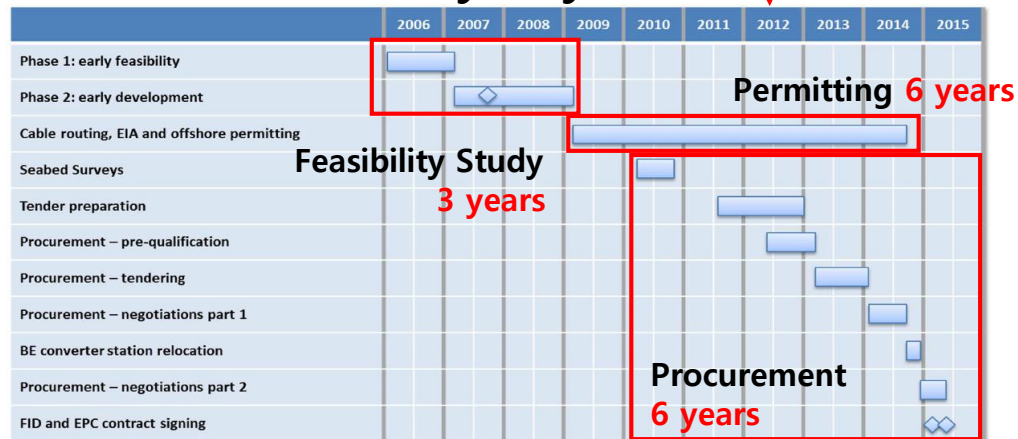
Construction

Example of Project Development

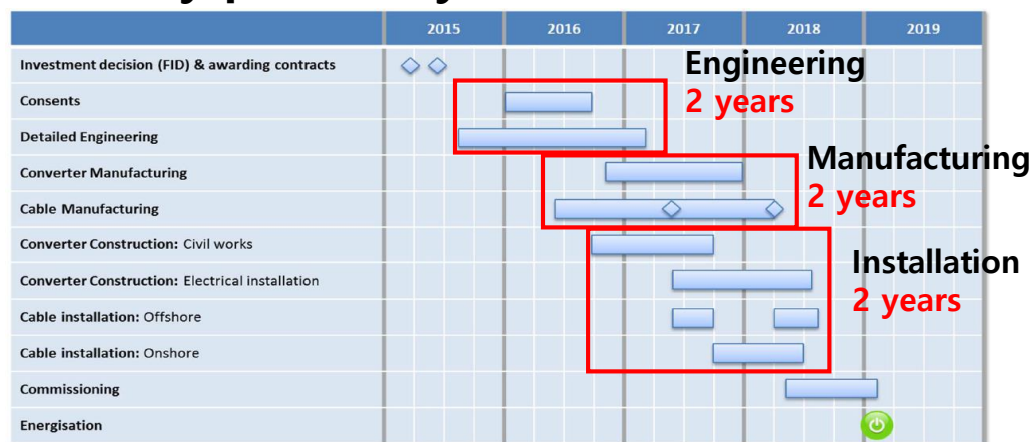


HVDC 400kV – 1,000MW
140km (130km submarine cable)

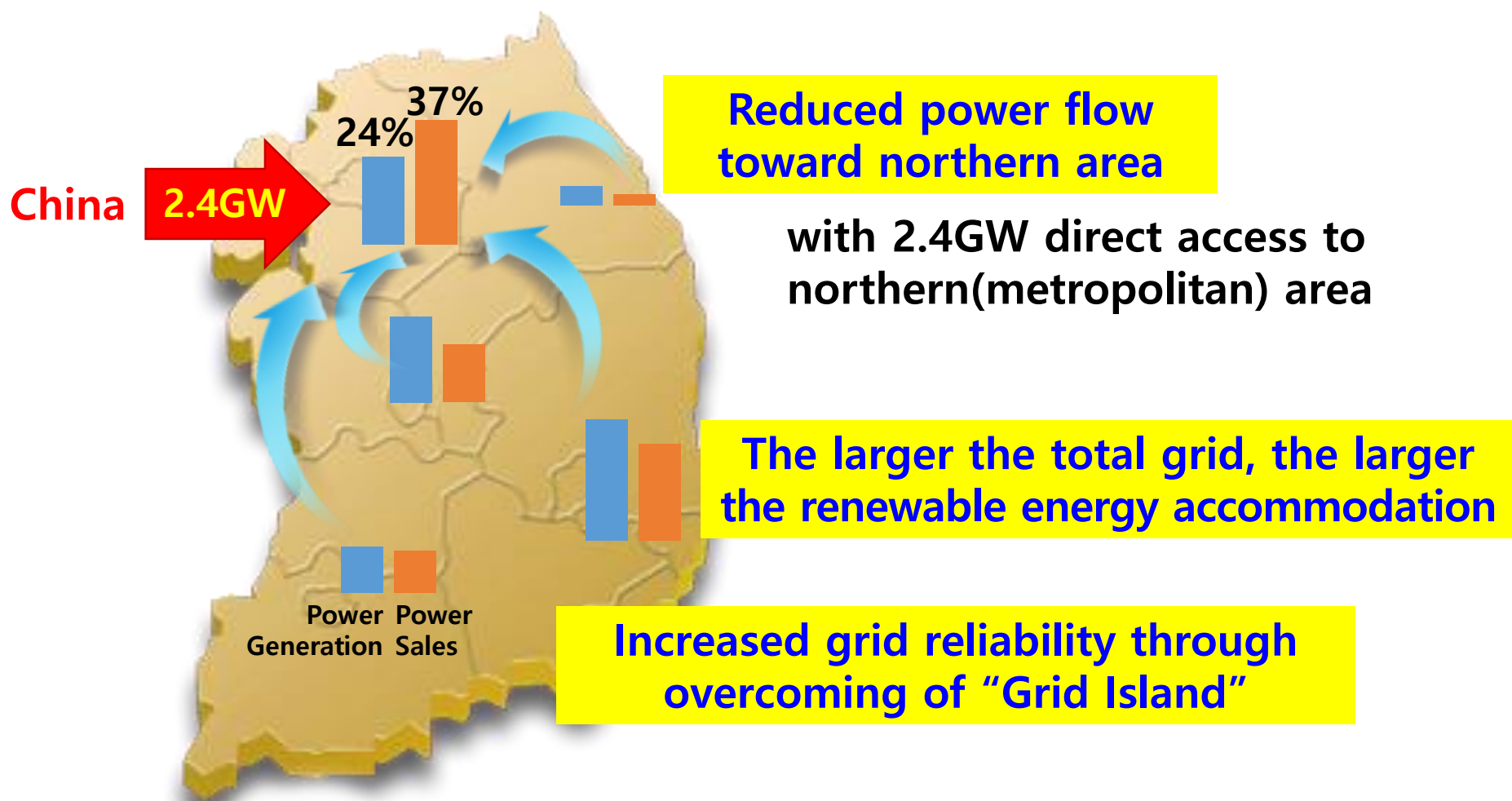
The Ancient History (9 years)



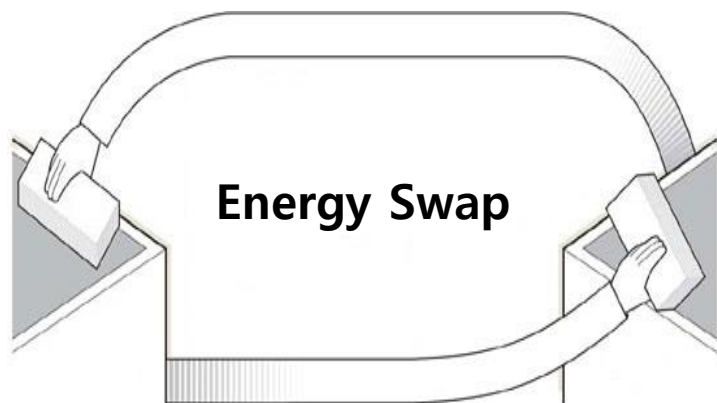
Delivery phase (4 years)



Stability of Power Supply



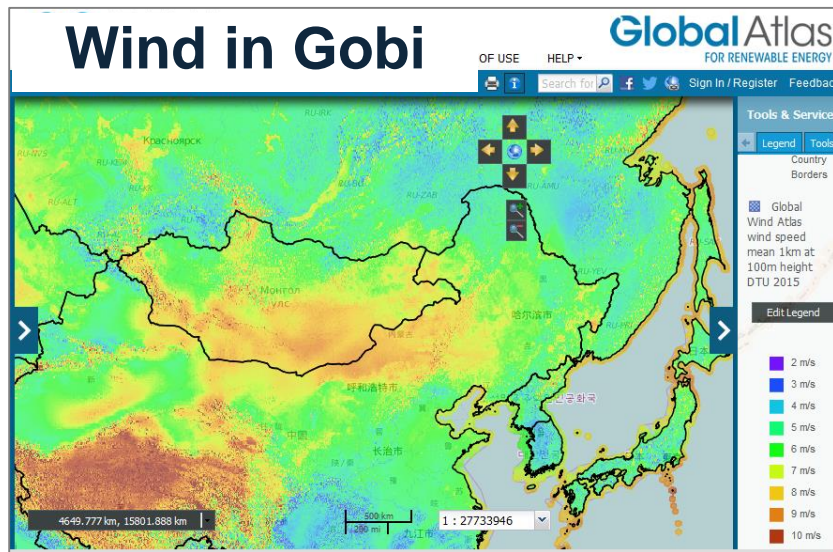
Social Benefit



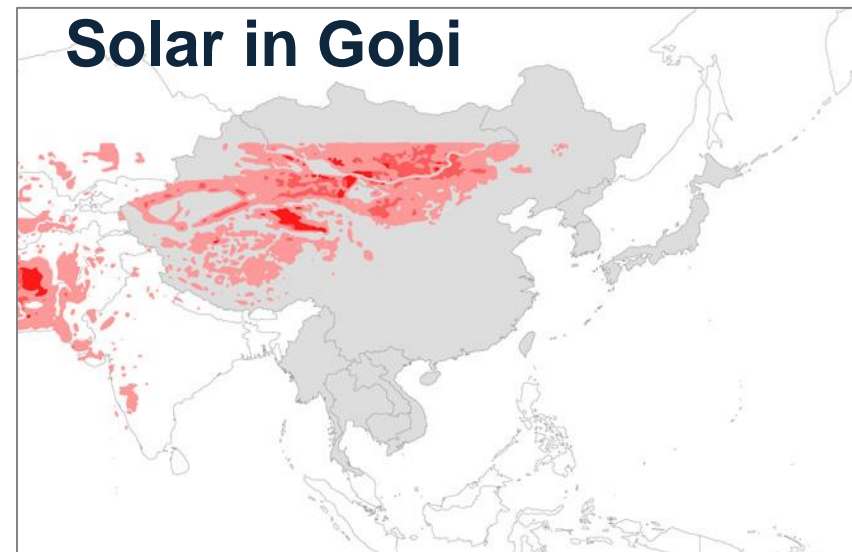
- » **Elevated Cooperative Tie among Northeast Asia (Effectiveness of Energy Swap)**
- » **Price reduction effect with low-cost generation (EU saves annual generation costs €2bn to 5bn in 2030)**
- » **Technical development and Creation of jobs**

Co-developing Renewable Energy

- *Renewable Energy Development of Gobi Desert*
- *Interconnection between China and Mongolia*



Wind : more than 8m/s



Solar : 270-300 sunny days in a year,
4.3-4.7 kWh/meter or higher per day

The background of the slide features a vibrant blue sky with a bright sun in the upper right corner, creating a lens flare effect. Several translucent, overlapping circles are scattered across the sky. Below the sky, a dense layer of white, fluffy clouds fills the lower half of the image. A city skyline, including various skyscrapers, is visible just above the cloud layer.

Thank you