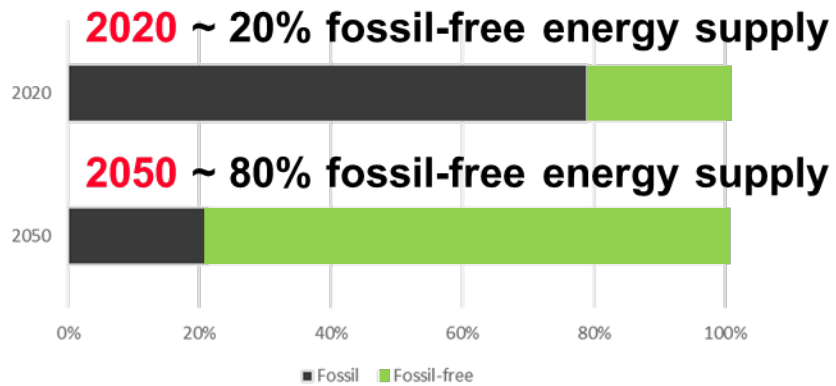

Contribution to Zero Carbon society through our technology

October 5th 2022
Claudio Facchin
Hitachi, Ltd.

1. Shaping an evolving power system to accelerate the energy transition

Share of fossil-free energy:



Electricity demand growth to 2050:



Industries doubling to >20 PWh

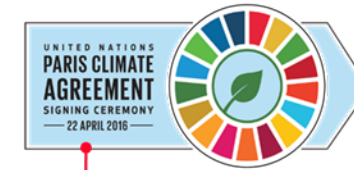


Buildings growing ~50% to >15 PWh



Transportation growing >30x to ~10 PWh

(PWh: 1×10^{15} Wh)

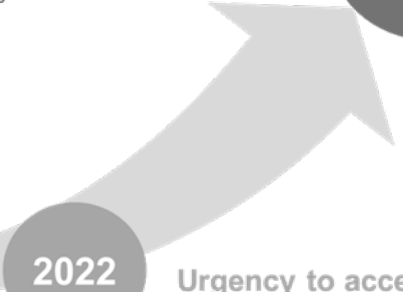


2016

Sustainable, flexible and secure energy system



2050



2022

Urgency to accelerate the power system ramp-up

In the global power system of 2050, we need four times of today's generation capacity and we will need to transfer three times as much electrical energy

Technologies – enabling the energy transition



Sustainable products & solutions



Power Electronics



Digital technology and services

Building the foundation for a system of systems

Advancing a sustainable energy future for all

2. Strengthen the grid system by HVDC in Europe

■ “10 Year Network Development Plan” in Europe

In Europe, the strengthening of grid interconnection has been rated environmentally friendly and economically effective, and further strengthen the grid system is planned.

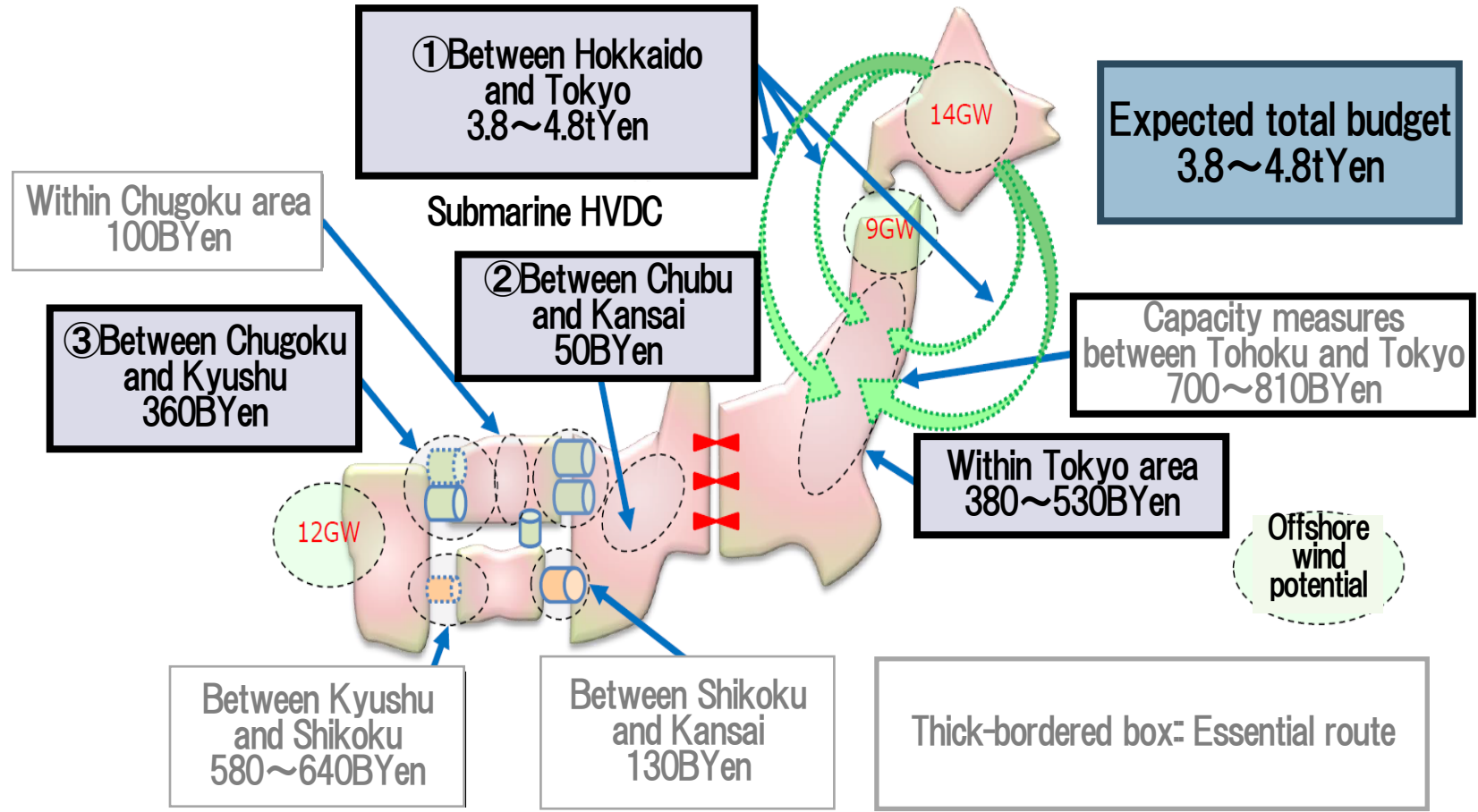


ENTSO-E 10 Year plan in 2018

3. Submarine HVDC project in Japan is investigated in Master Plan

- In Japan, there is a policy "Master plan" to advance the regional grid interconnection in the policy of the renewable energy mass introduction.

Status of enhancing cross-regional interconnection line



Source: 2022/7/13 METI material

- As a concrete system plan, it is being investigated for the first submarine HVDC in Japan.
- In Europe, the experience of the offshore HVDC has been long, and there are many projects, and Hitachi Energy contributes by technology.

4. Our contribution to carbon neutrality beyond country

■ Aiming for carbon neutrality beyond the country by accommodating renewable energy to the nation became one of trend in the world.

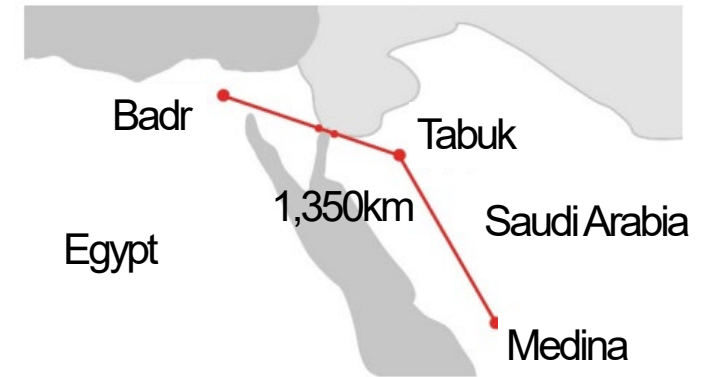
● Our example:

➤ Hitachi Energy orders first large-scale HVDC system between Saudi Arabia and Egypt.

The project is designed to support the achievement of adoption of renewable energy through the accommodation of power for both country.

➤ Hitachi Energy orders a New York-based HVDC converter station in the transmission line connecting Canada, Quebec and New York.

This project will help supply renewable energy to New York and contribute to reducing CO2 emissions by approximately 3.9 million tons annually.





Hitachi Social Innovation is
POWERING GOOD



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