



CASE
for Southeast Asia

Supported by:



Federal Ministry
for Economic Affairs
and Climate Action



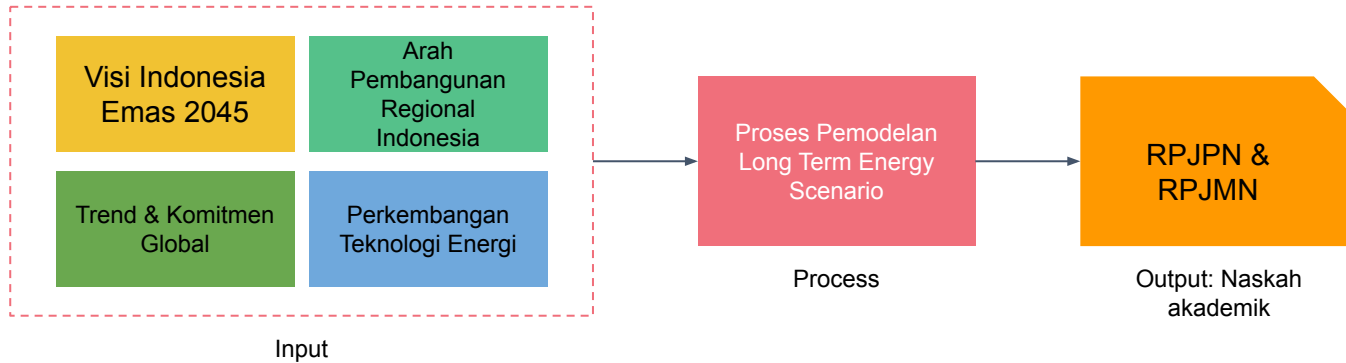
on the basis of a decision
by the German Bundestag

Long-Term Energy Scenario: The Role of Grid Interconnection

on behalf of Clean, Affordable and Secure Energy (CASE) for Southeast Asia

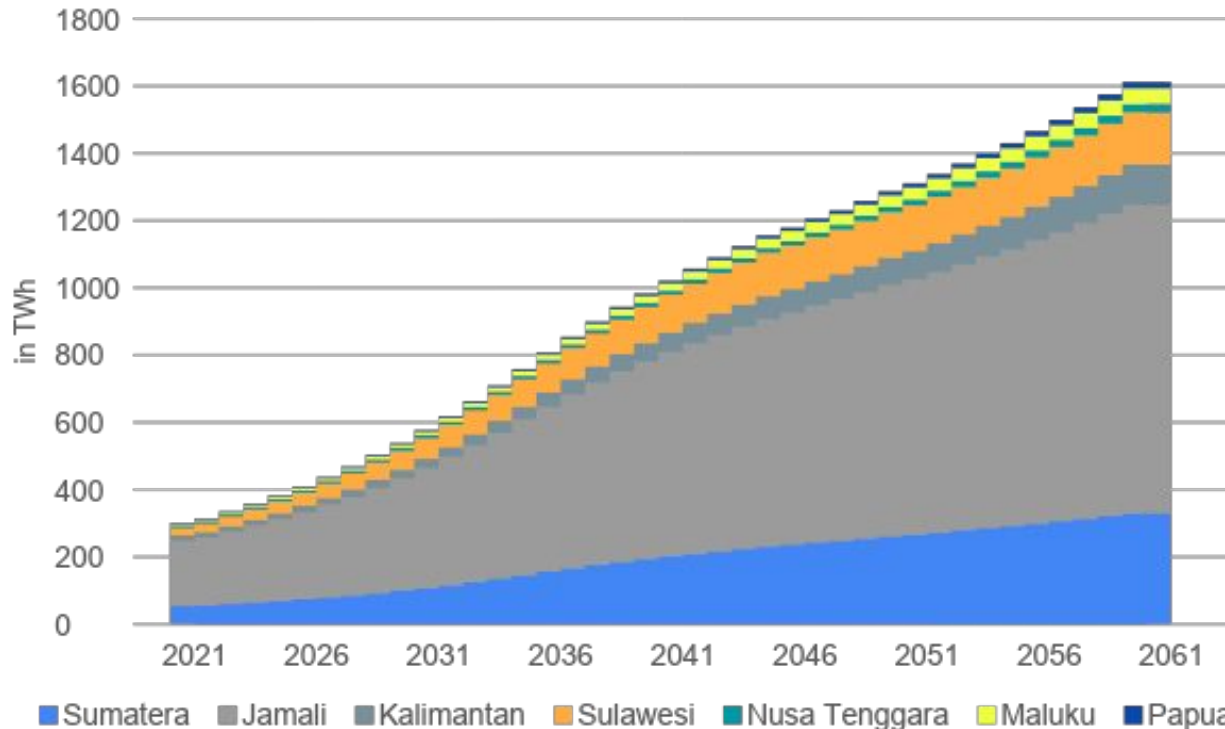


Mengenai Studi LTES

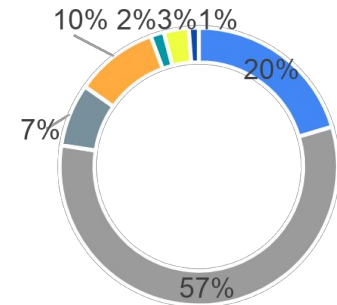


- Studi Long-Term Energy Scenario (LTES) merupakan sebuah studi pemodelan energi yang sejalan dengan Visi Indonesia Emas 2045 & Arah Pembangunan Regional & Nasional Indonesia. Studi ini juga sejalan dengan trend & komitmen global dan perkembangan teknologi energi.
- Sebagai sebuah luaran, studi LTES ini diharapkan dapat menjadi support naskah akademik yang melatarbelakangi pembuatan RPJPN dan RPJMN.

Electricity Demand per Region



With the economic growth ambition to escape the middle-income trap before 2045, Indonesia is projected to reach 1600 TWh in 2060.

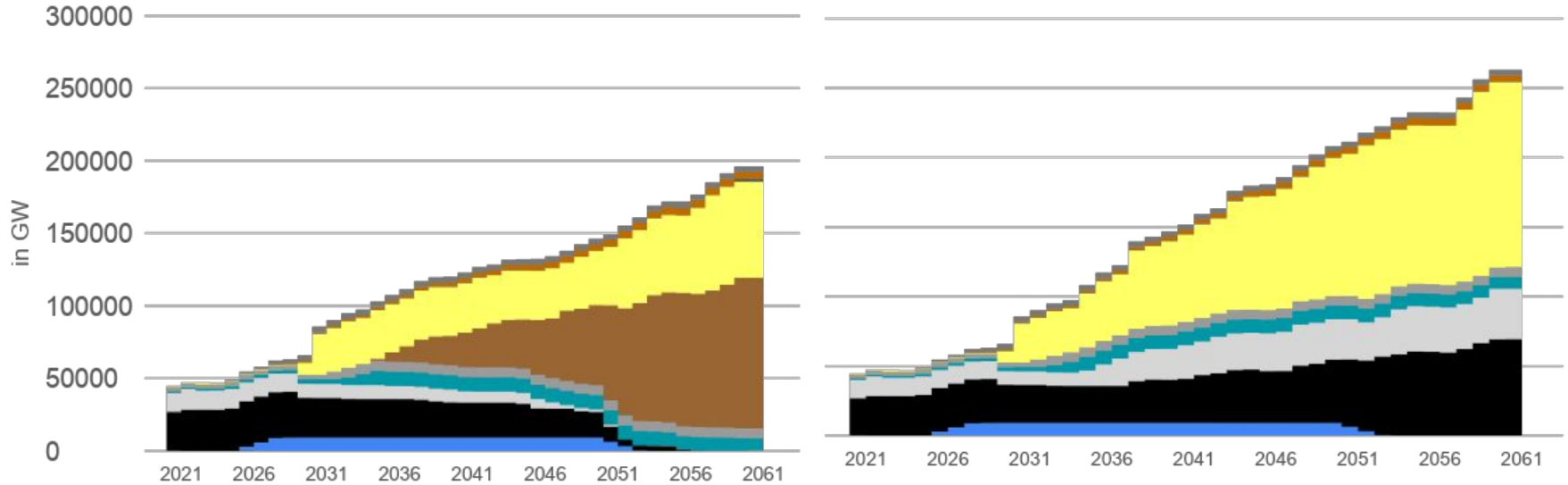


The Advantages of Inter-Island Grid



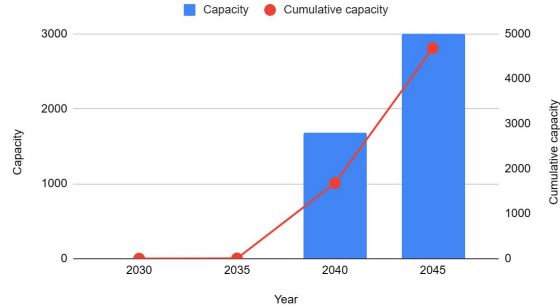
- Geographical sensitivity of renewable energy development.
- Connected inter-island grid allows 100 percent RE in Indonesia.
- Higher reliability and energy security.
- Dispersing current available electricity supply.
- Safety net for future energy projection.

The Urgency of Grid Interconnection

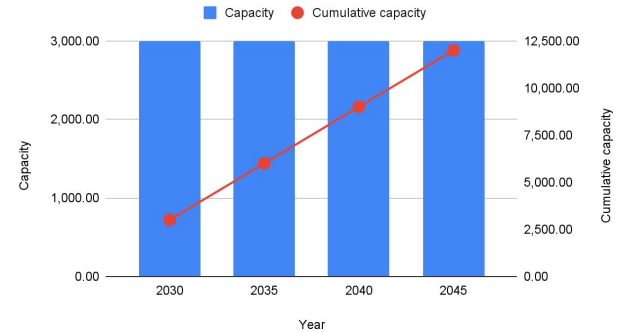
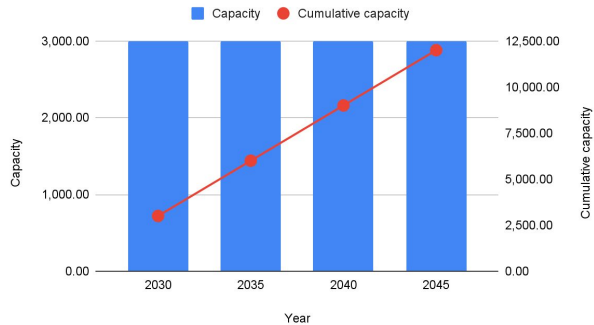
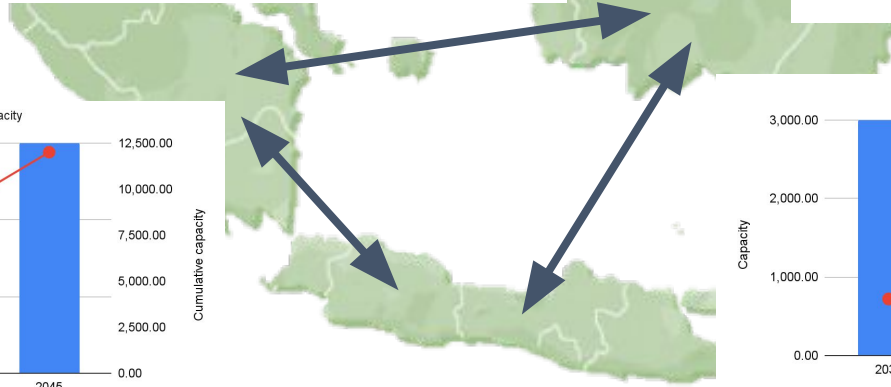


With no inter-island grid, Jamali left only with **nuclear** (*left*) or stay with **fossil fuel** (*right*)

The Projection of Grid Interconnection



The need of inter-island grid projected to be as soon as 2030, presented as a the most optimal option of providing generation capacity.



Challenges and Barriers

- High transmission infrastructure costs, especially for long-distance and undersea cables.
- Technical challenges in synchronizing power systems, ensuring grid stability, and integrating renewables.
- Regulatory and institutional barriers in cross-border electricity trade and stakeholder roles.
- Environmental and social impacts of grid development, including land, biodiversity, and communities.
- Political and security risks of external dependence.



Implemented by

giz Deutsche Gesellschaft
für Internationale
Zusammenarbeit (GIZ) GmbH

Agora
Energiewende



NEW
CLIMATE
INSTITUT



TDRI THAILAND
DEVELOPMENT
RESEARCH
INSTITUTE

