German-Japanese Energy Transition Council

The importance of international cooperation under disruptive change

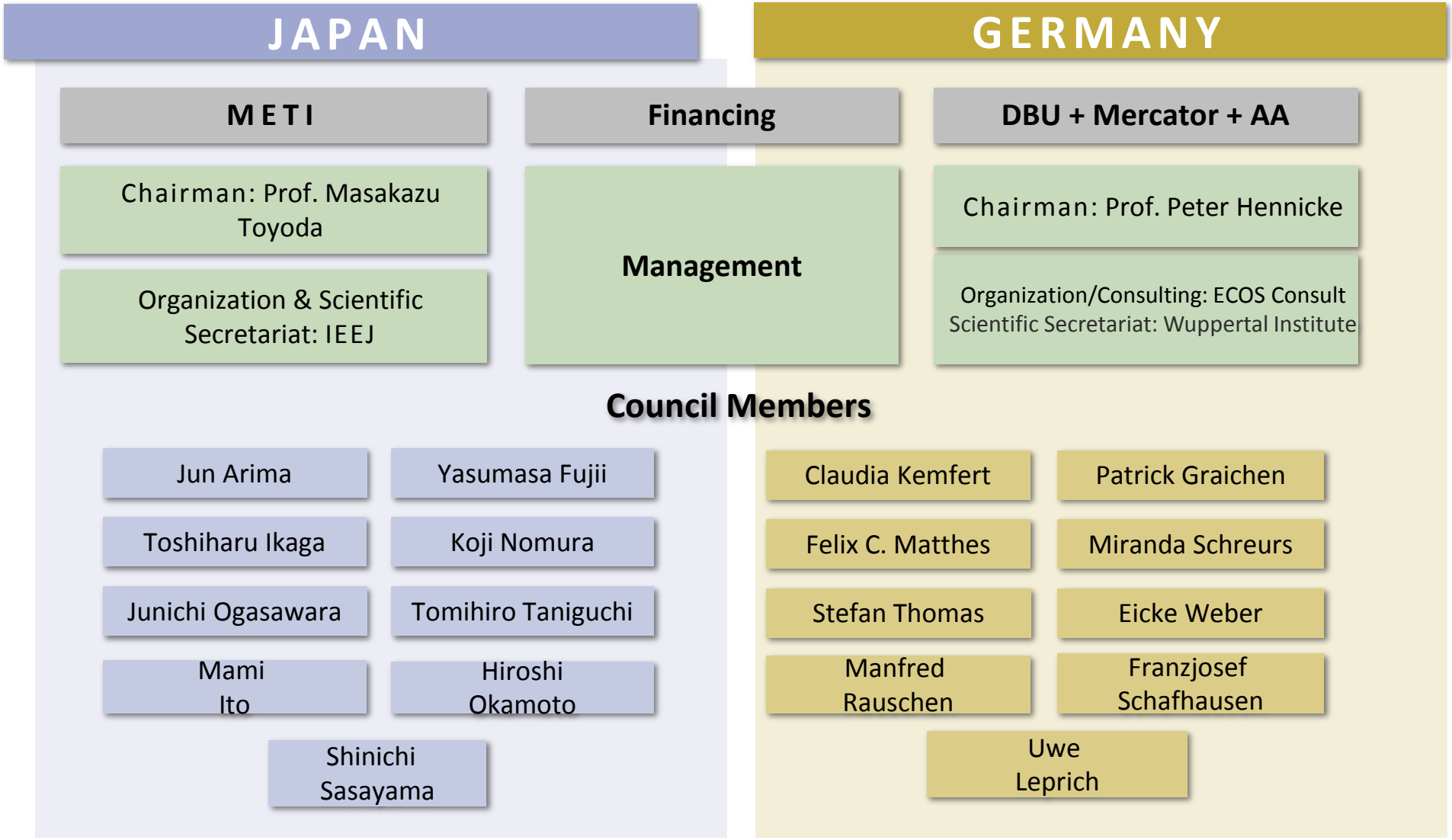
Recommendations and lessons learnt from a fruitful German-Japanese dialogue on the energy transition

Monday, 10th September 2018
Institute of Energy Economics, Japan (IEEJ), Tokyo

GJETC

Structure of the GJETC

German – Japanese Energy Transition Council

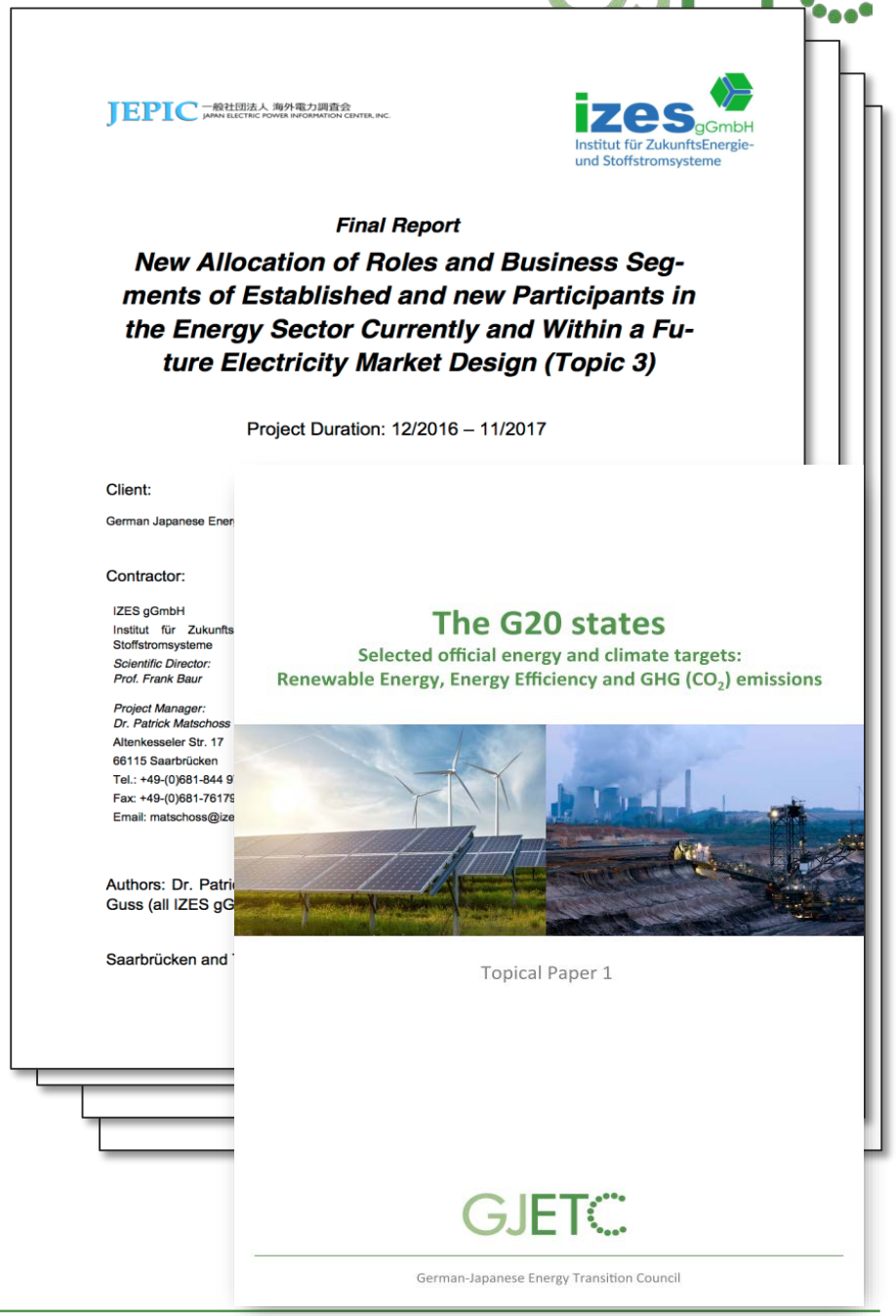


Output and results (http://www.gjetc.org)

- **4 comprehensive German-Japanese studies** (total of 800 pages)
- **10 Input and topical papers**, technology overview
- **3 Stakeholder Dialogues** (industry, decentralized and efficiency sector)
- **Recommendations** "Report 2018"

Japan	Germany
Inventory	**Inventory**
Transformation Analysis	**Transformation Analysis**
National Recommendations	National Recommendations

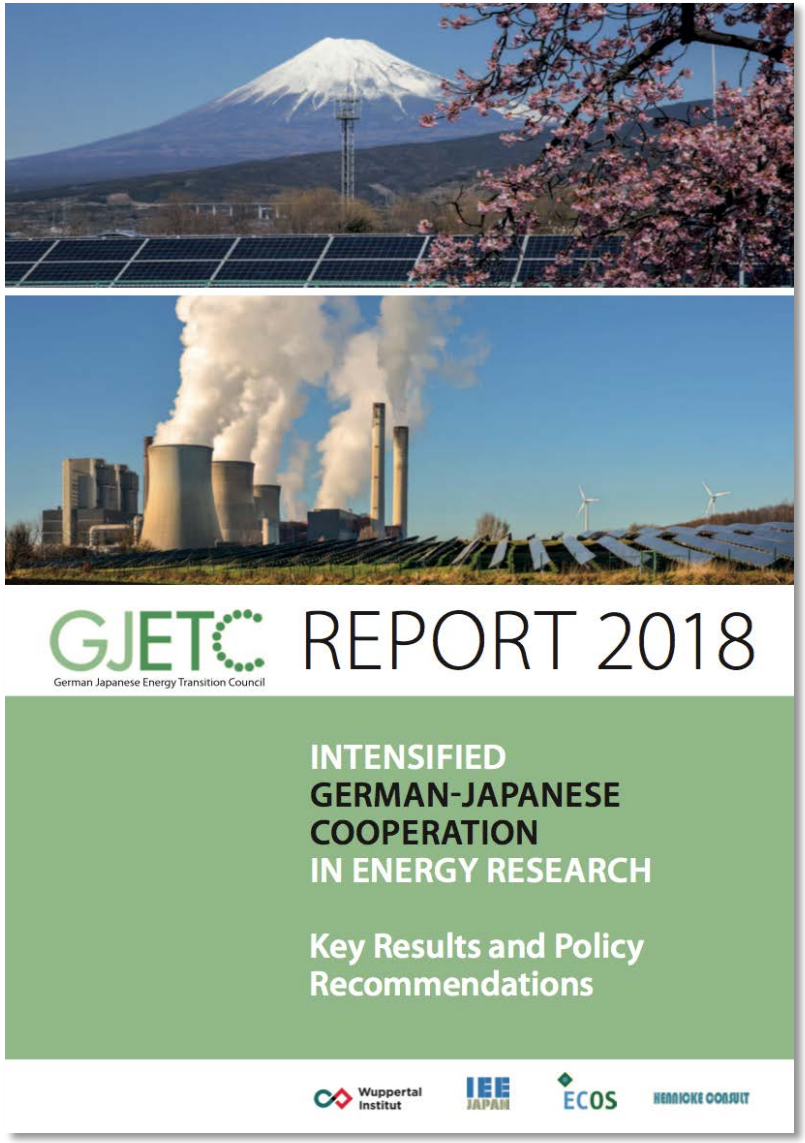
Comparative Analysis
Lessons Learned
Transferability Dissemination



4 comprehensive studies

Topic	Contractor
ST 1 Energy transition as a central building block of a future industrial policy - Comparison and analysis of long-term energy transition scenarios	Wuppertal Institut (DE) DIW Econ (DE) IEEJ (JP)
ST 2 Strategic framework and socio-cultural aspects of the energy transition	IZES (DE) Arepo Consult (DE) IGES (JP) Nagoya University (JP)
ST 3 New allocation of roles and business segments of established and new participants in the energy sectors currently and within a future electricity market design	IZES (DE) JEPIC (JP)
ST 4 Energy end-use efficiency potentials and policies and the development of energy service markets	Ecofys (DE) IAE (JP)

Output and results
(http://www.gjetc.org)



GJETC Report 2018
Intensified German-Japanese Cooperation in Energy Research

Key Results and Policy Recommendations

Funding and supporting the GJETC

Organization

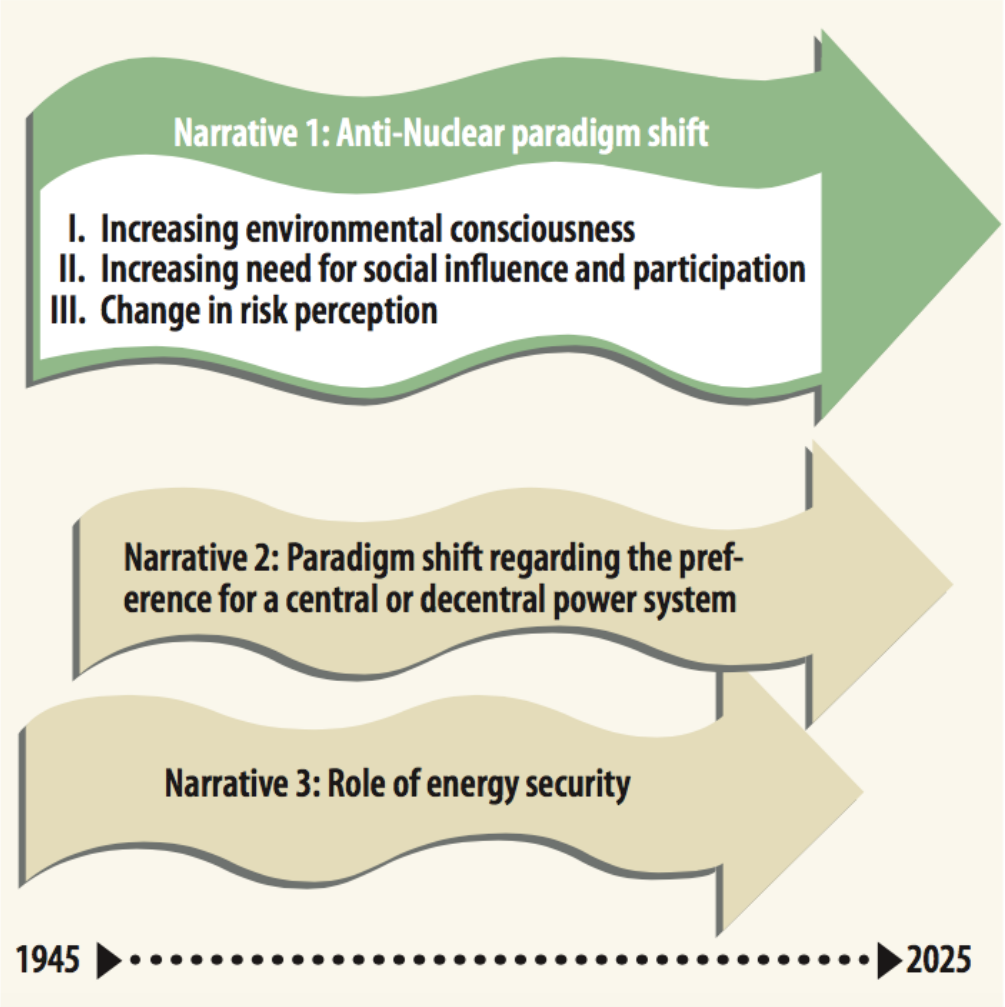
Funding

Support

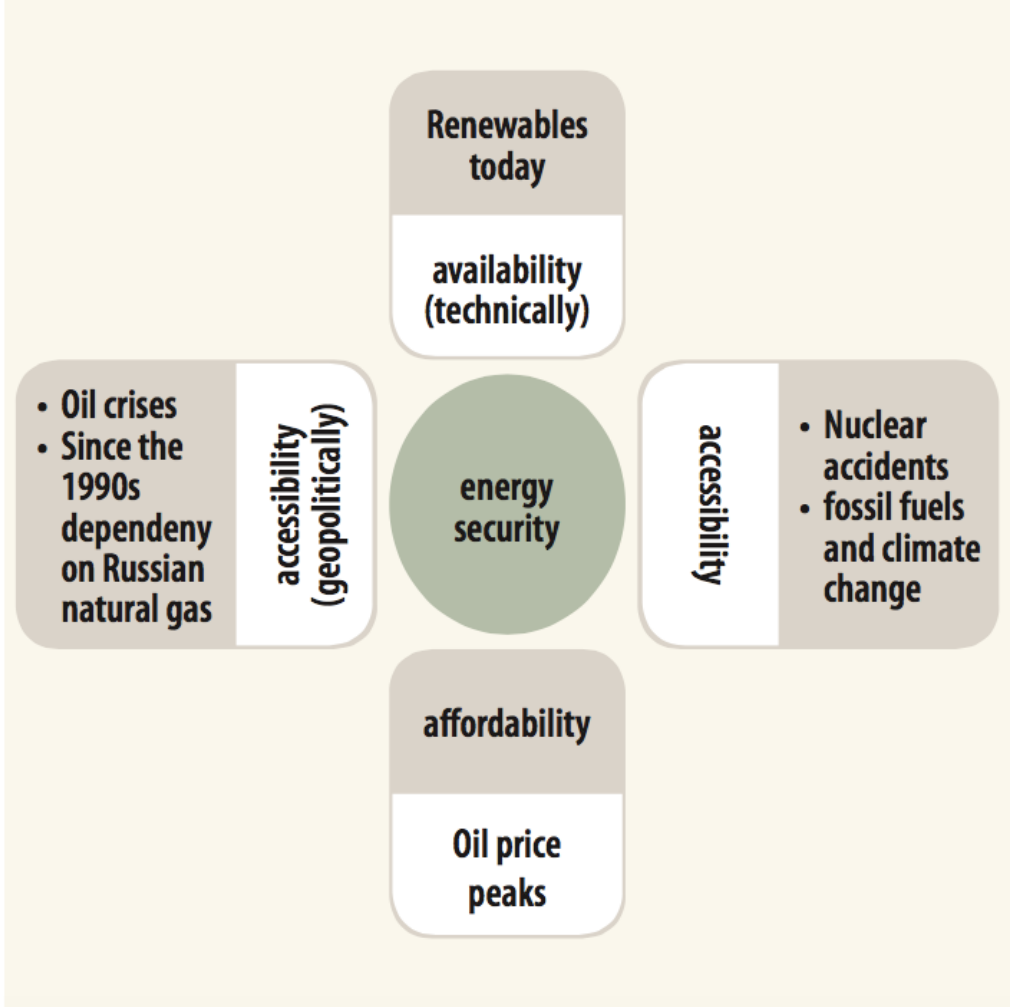
Planned 2nd phase (2018-2020):

Up-scaling activities; financial support e.g. by foundations, ministries and renowned company partners

The history and the narratives

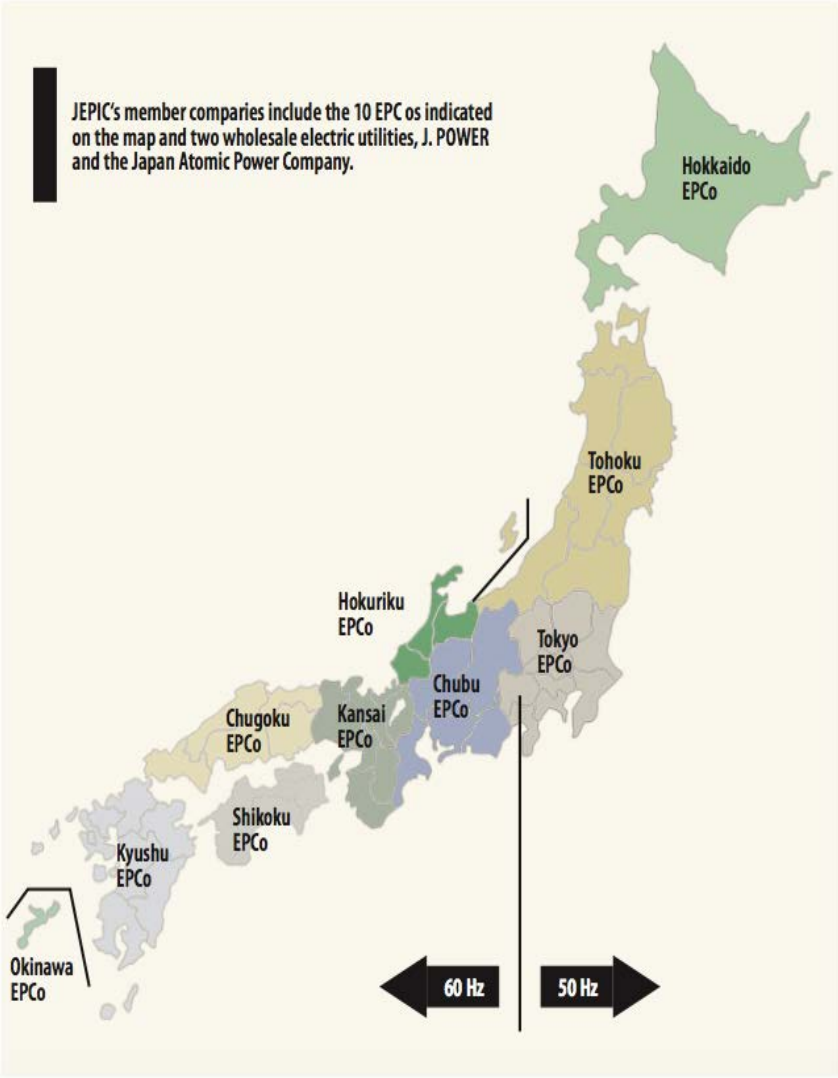


Social shifts underlying the "anti-nuclear-movement" narrative (Source: IZES/Arepo Consult/IGES/Nagoya University/NIES 2017)

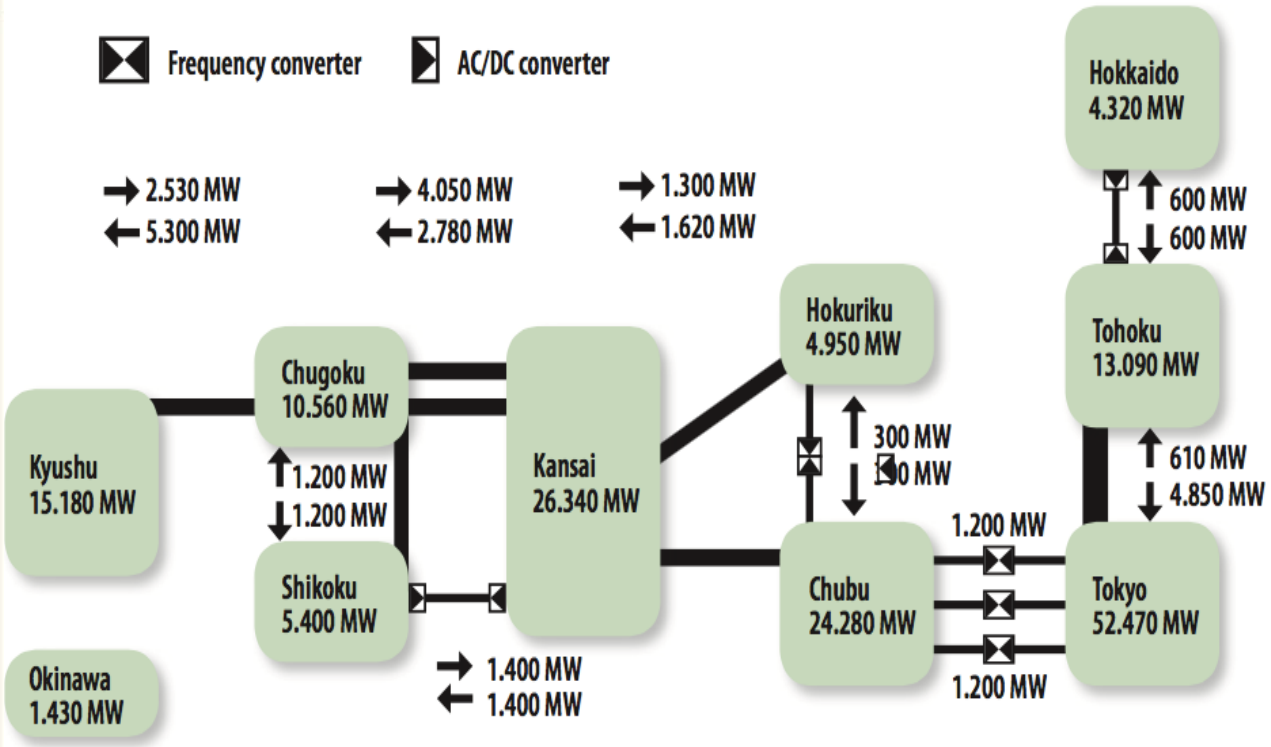


Energy security (Source: IZES/Arepo Consult/IGES/Nagoya University/NIES 2017) Energy security (Source: IZES/Arepo Consult/IGES/Nagoya University/NIES 2017)

Basic geographical frame conditions (J)

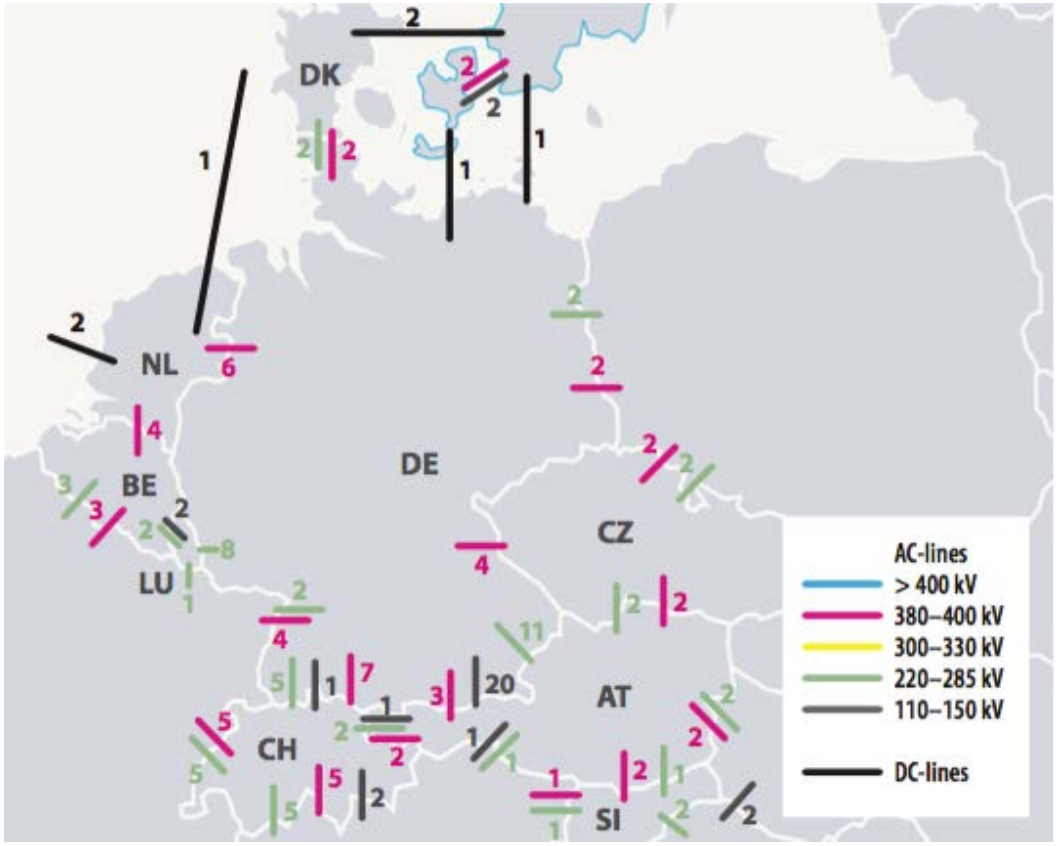


Ten electric utilities and their areas in Japan
(Source: IZES/JEPIC 2017)

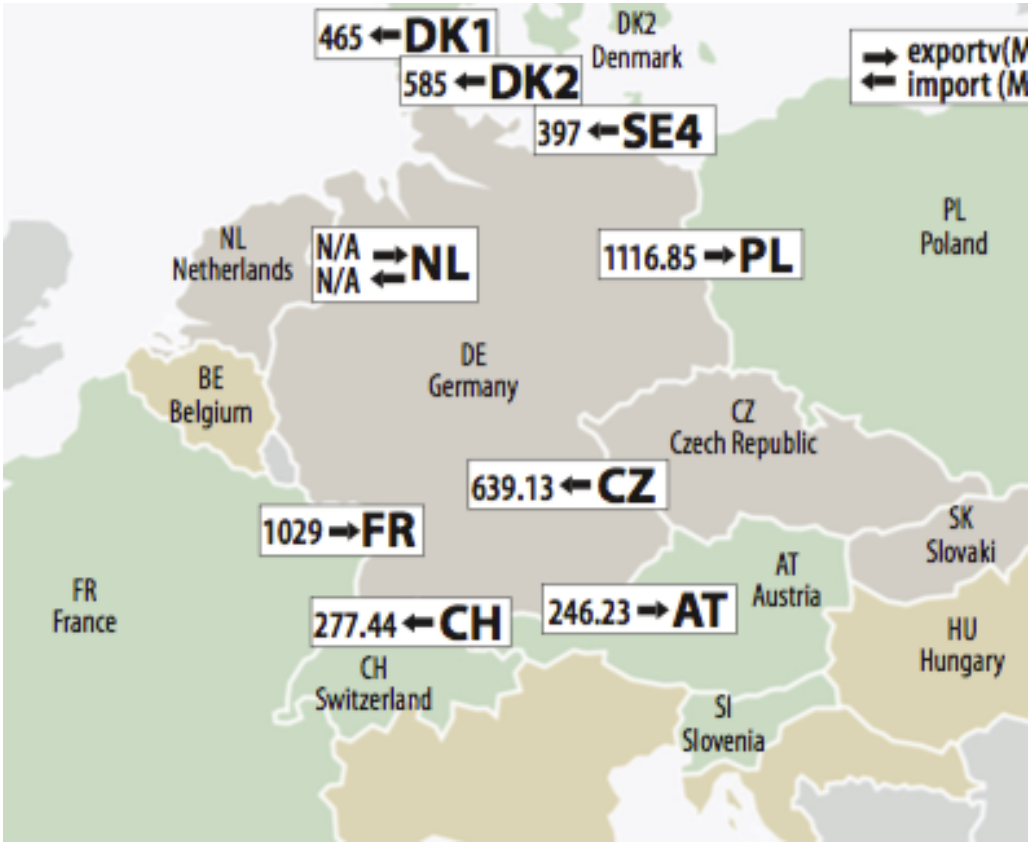


Transfer Capacity and Maximum Electricity Demand Forecast in Japan
(Source: IZES/JEPIC 2017)

Basic geographical frame conditions (G)



Cross-border transmission lines (as of end 2016) in Germany (Source: IZES/JEPIC 2017)

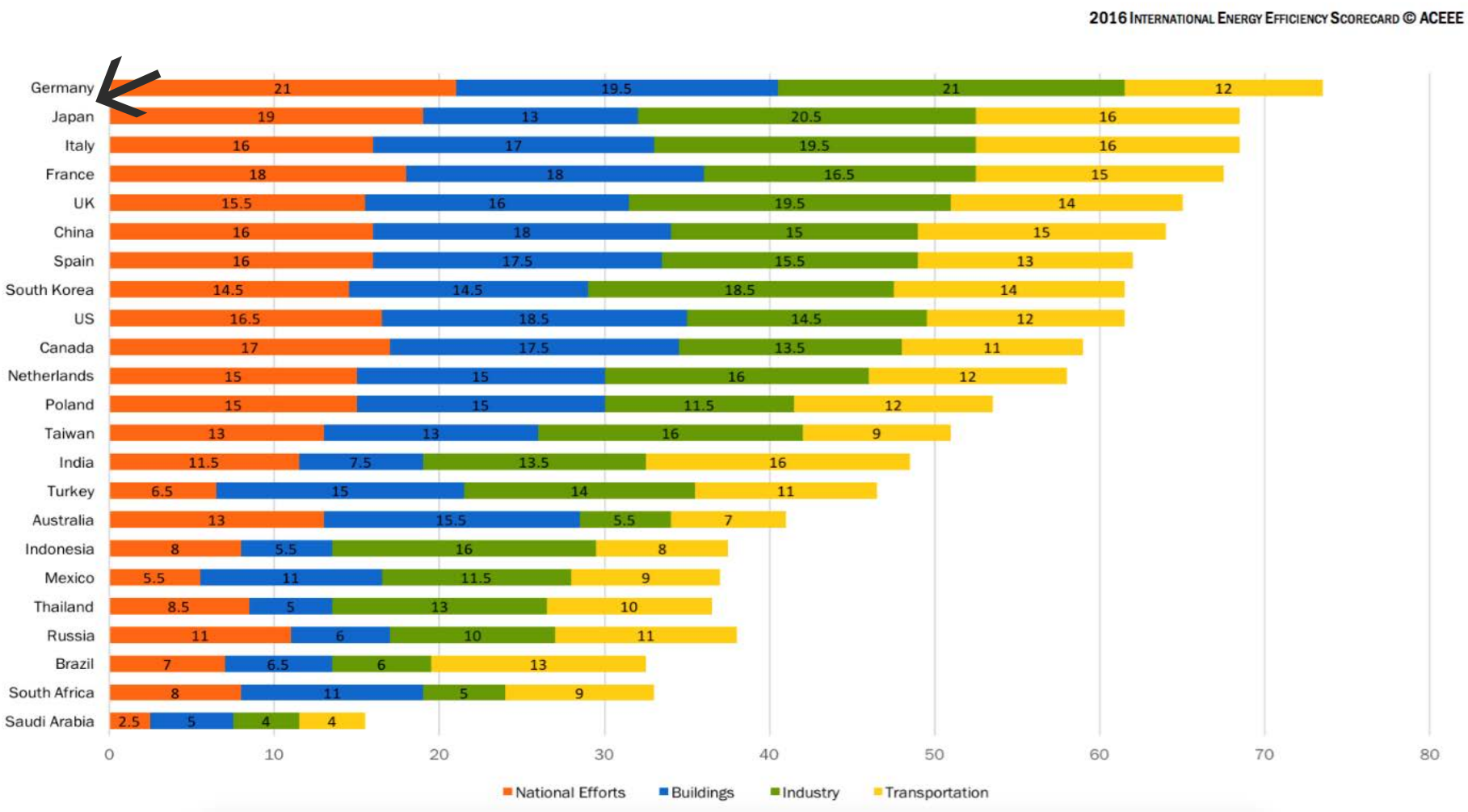


German cross-border flows with neighboring countries (Source: IZES/JEPIC 2017)

Comparing longterm perspectives

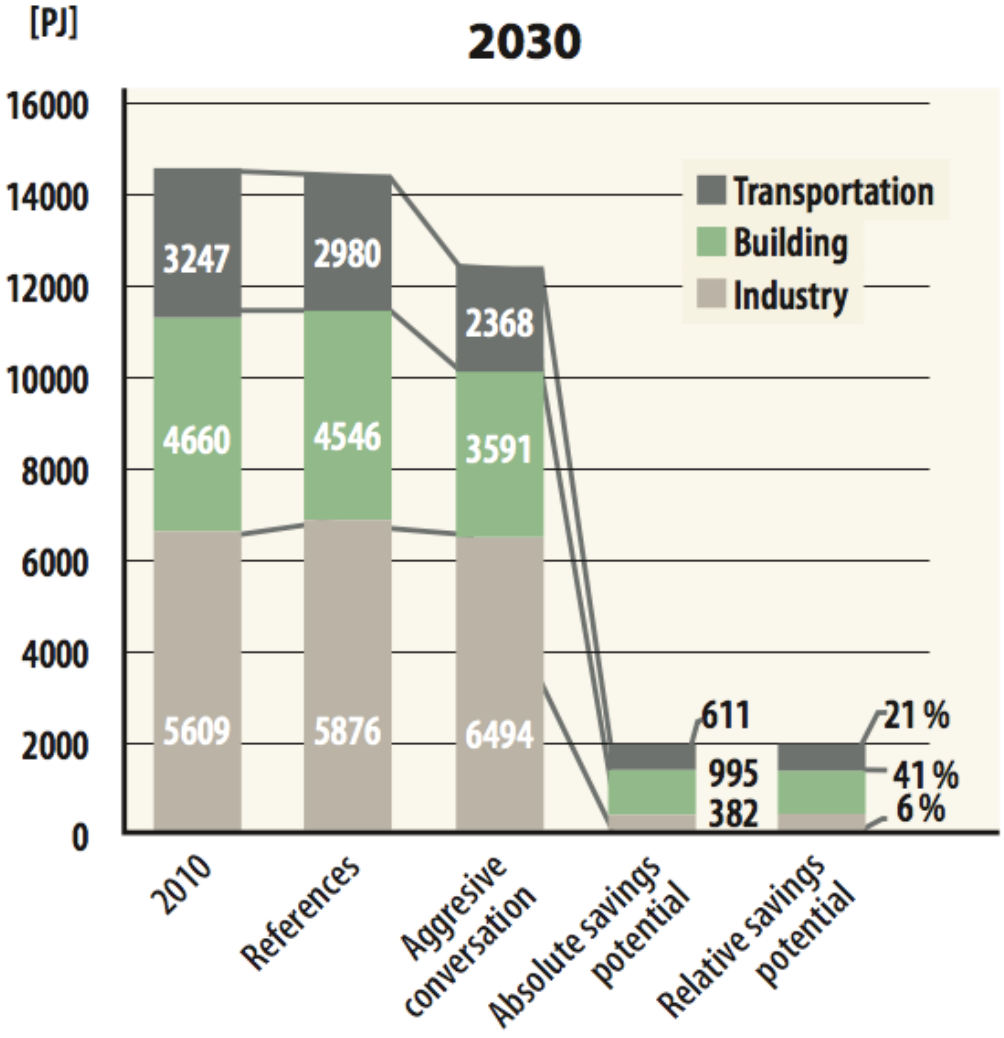
	GERMANY			JAPAN		
	ZS	KS 80	KS 95	METI (2012) multiple models and scenarios	IEEJ (2015) multiple scenarios	RITE (2015) multiple scenarios
Energy demand reductions						
Final energy demand reductions through energy efficiency	Strong reductions	Strong reductions	Very strong reductions	Reductions Moderately	Reductions	Reductions
Final energy demand reductions through behavioural changes	Not considered	Not considered	Moderately considered	considered	Moderately considered	Moderately considered
Changing the use of energy sources						
Increased use of domestic renewable energy sources	Strong use	Strong use	Strong use	Moderate use	Moderate use	Moderate use
Phasing out the use of nuclear power	Complete phase-out	Complete phase-out	Complete phase-out	Yes (in some scenarios)	Yes (in some scenarios)	Yes (in some scenarios)
Continuing the use of nuclear power	No	No	No	Yes	Yes	Yes
Substitution of fossil fuels through electricity	Strong substitution	Very strong substitution	Very strong substitution	Moderate substitution	Moderate substitution	Moderate substitution
Use of renewable energy based H2 or synthetic fuels as final energy carriers	No use (until 2030)	No use (until 2030)	No use (until 2030)	No use	No use	No use
Importing low-carbon or carbon-free energy sources/carriers						
Net imports of electricity	No net imports	No net imports	Moderate net imports	No trade	No trade	No trade
Net imports of bioenergy	No imports (until 2030)	No imports	No imports	No imports	No imports	No imports
Net imports of H2 or synthetic fuels	No imports	No imports	No imports (until 2030)	No imports	No imports	No imports
Using CCS						
Use of CCS technology to reduce industrial GHG emissions	Not used	Not used	Starting to be used in 2030	Not used	Not used	Not used
Use of CCS technology to reduce power sector GHG emissions	Not used	Not used	Not used	Not used	Not used	Yes

Starting as „best in class“ – more is possible

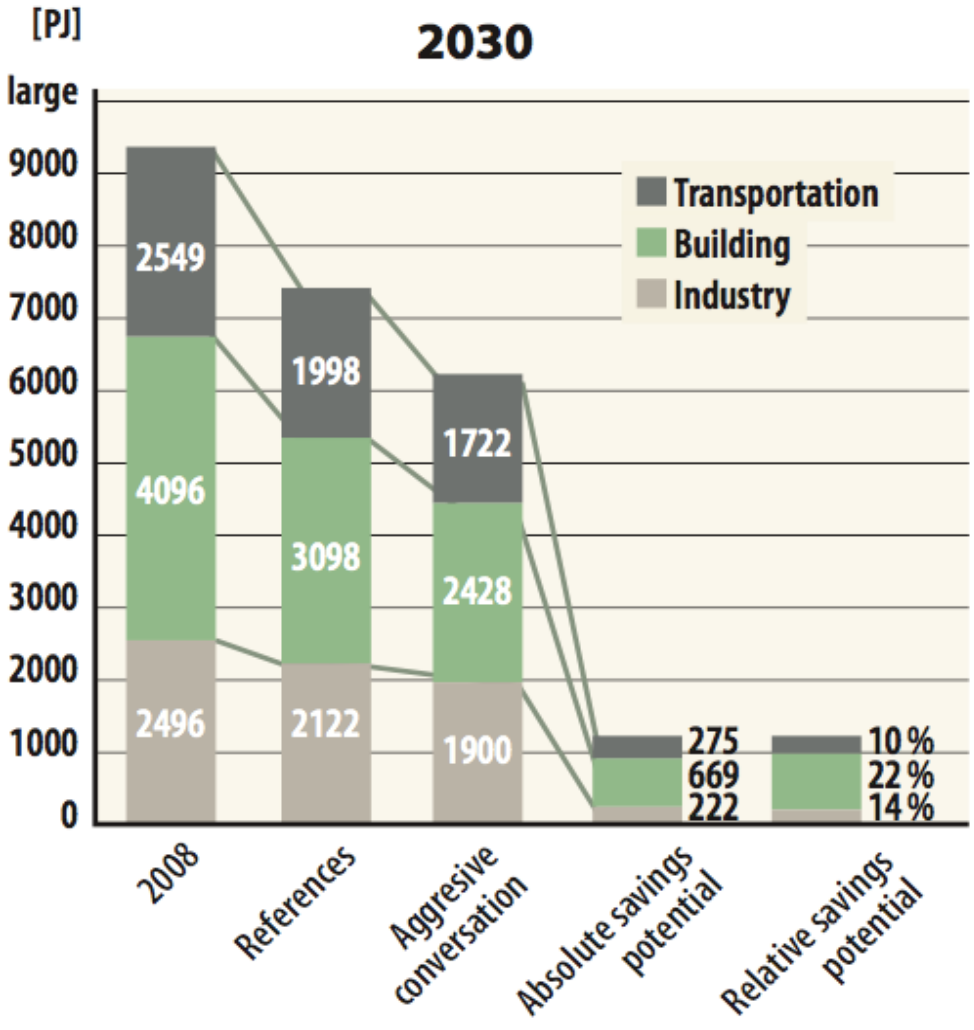


Germany and Japan on top of an efficiency rating (Source: ACEEE 2017)

Closing the efficiency gap



Energy efficiency potentials per sector **in Japan** based on a comparison of policy scenarios: Potential = difference between Reference 2030 and Aggressive Conservation 2030 (Source: ecofys/IAE 2017)



Energy efficiency potentials per sector **in Germany** based on a comparison of policy scenarios: Potential = difference between Reference 2030 and Aggressive Conservation 2030 (Source: ecofys/IAE 2017)

Key recommendations

GJETC

- Joint effort to decarbonize the energy system
- Efficiency and sufficiency
- Joint scenario modeling
- Robust and accountable target/goal, strategies, and the corresponding policy mix
- Energy renovation of building
- Continuous evaluation and involvement of all stakeholders
- Restructuring the electricity and gas sector
- Energy efficiency governance
- Disseminating low-carbon technologies to other countries
- Renewable energies and system integration
- Integrate energy and resource efficiency policy
- Bilateral agreement on an educational exchange program
- Centralized and decentralized energy system
- Thorough analysis and periodical review

Value of GJETC

- Scientifically independent
- Continuity and depth of research
- Dialogue on controversial topics
- Dissemination for better informed decision-making
- Joint development and deployment of innovations
- Deepening of personal network

What next?

Continue and extend our beneficial joint activity!

Benefit for Germany and Japan	Benefit for other countries
• Gain useful lessons from each other that enable and accelerate the energy transitions in both our countries.	• Establish GJETC as an international role model for bilateral cooperation.

Thank you very much for your attention!

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