



Results of the MOIT/GIZ Commercial and Industrial Rooftop Solar Project (CIRTS)

Philipp Munzinger, GIZ Energy Support Programme Director
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Ministry of Industry and Trade



Global Solar Power Development

The world is now entering a new era of solar PV deployment

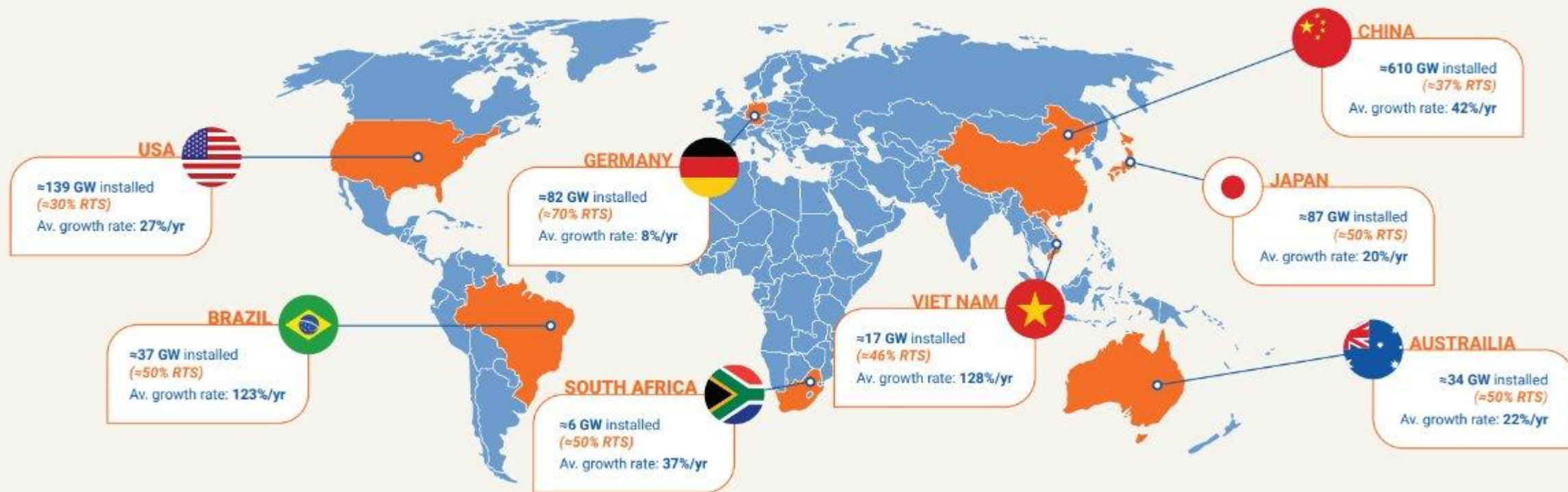


Chart 1: Solar PV installation in key global markets / average growth rate from 2013 to 2023

(Source: GIZ elaboration based on IRENA Renewable Capacity Statistics 2024 & Energy Institute Statistical Review of World Energy 2024)



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Hợp tác Đức

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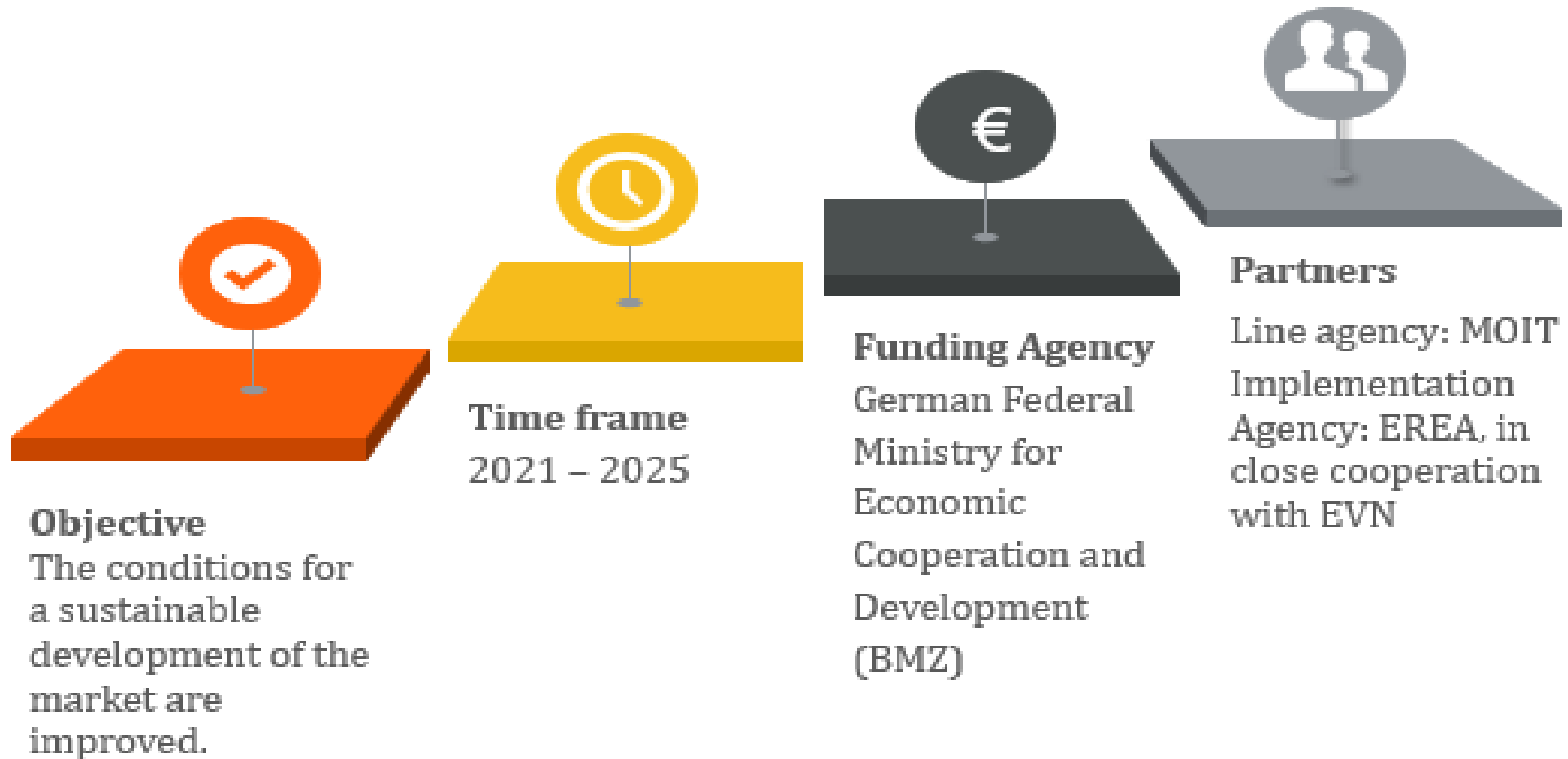




Introduction of the Project

01

GIZ Commercial and Industrial Rooftop Solar Project



CIRTS Projects Ouptus

Legal and Regulatory framework

- Study on recycling of PV modules including policy recommendations
- Legal and regulatory landscape analysis the RTS sector
- Recommendations for remote monitoring and control requirements for RTS
- Techno-economic potential of solar PV for self-consumption in residential & public building in Vietnam

Capacity development

- Virtual trainings: PV grid integration trainings
- E-learning: Typical situations and solutions in distribution grids with high RTS penetration
- Quality and safety guidelines and trainings
- Annually exchange between transmission and distribution system operators (TSO-DSO)

Technology cooperation

- Assessing and improving EVN information base for operation of grid with high penetration of RTS
- Upscaling methodology for rooftop solar power forecasting
- Assessing rooftop solar hosting capacity for distribution grids
- Investigation of virtual power plant demonstration



Project's key achievement

02

3,355 PARTICIPANTS have improved awareness, knowledge and tools to operate RTS in the Vietnamese power system through:



13 TRAINING COURSES
with _____
506 participants (18% female)



**01 E-LEARNING ON
RTS GRID INTERGRATION**
with _____
63 EVN technical experts



20 TECHNICAL EVENTS
with _____
2,786 participants

10 STUDIES providing recommendations on mechanism, administrative and technical to optimise the management and use of RTS and to improve the integration into the power system.



**(i) RTS operation and
maintenance packages**
(handbook, maintenance checklist,
safe practices, performance ratio
calculation tool)



**(ii) Techno-economic
potential of solar PV
for self-consumption
in residential & public
buildings in Viet Nam**



**(iii) Recommendations
for remote monitoring
& remote control
requirements for
RTS PV systems
in Viet Nam**



**(iv) Framework assess-
ment & action plan for
solar PV module waste
recycling in Viet Nam**





Impacts

03

IMPACT HIGHLIGHTS



Reduced GHG emissions and environmental impact of RTS

- The electricity output from RTS is optimised, increasing the share of renewable energy in the system.
- The environmental impact of RTS is reduced through high quality operation & maintenance and end-of-life best practices

Strengthened Viet Nam human resources supporting the solar PV sector

- EVN leaders are better equipped to manage the energy transition.
- EVN engineers & technicians have better skills / knowledge to manage RTS.
- Students at national vocational colleges can receive up-to-date training.
- Vietnamese youth are encouraged to enter the RTS sector.

Updated policies for solar PV development and integration

- The RTS market is restarting.
- Clear options contributing to PDP8 targets are available.
- The grid integration of new RTS capacity is facilitated.

THANK YOU!



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