

Interconnecting Greece – The role of IPTO

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3rd Tirana Energy Forum

30 May 2024

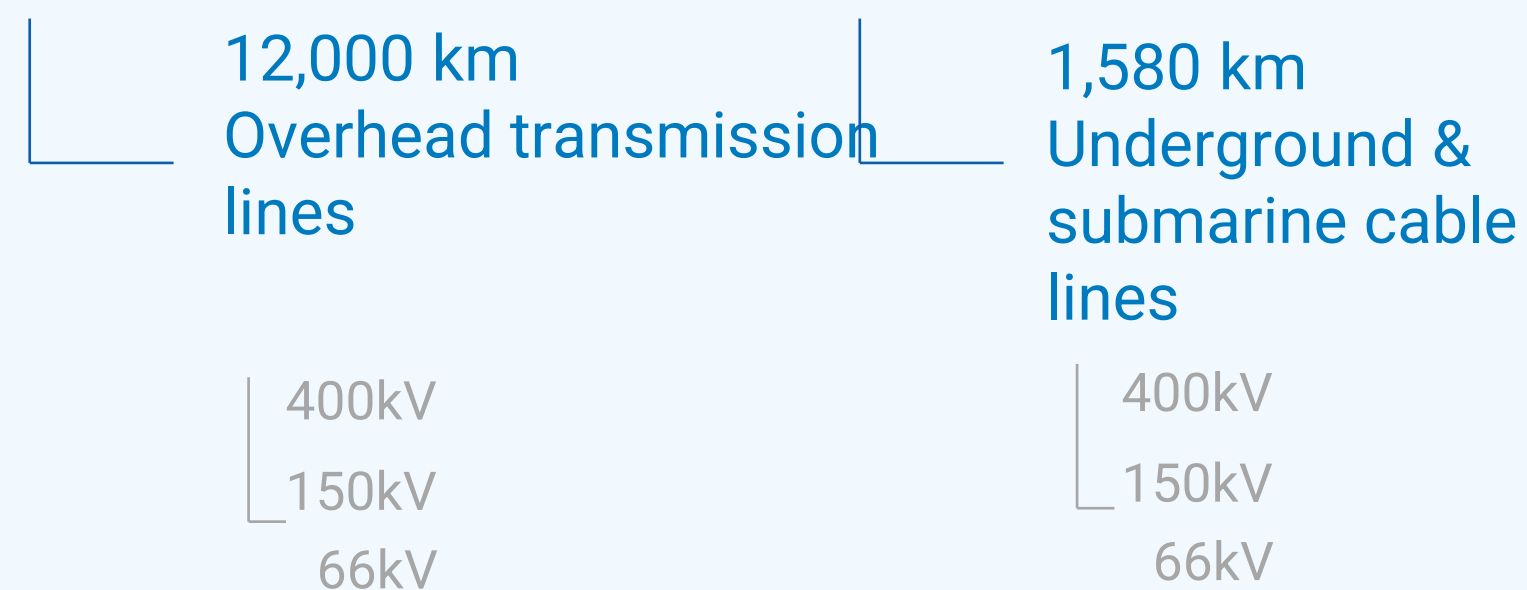


IPTO at a glance

IPTO was established in 2011 as the **owner and operator of the Greek Electricity Transmission System.**

13,580 km

Total length of transmission lines and cables



~57%

Share of RES in the energy mix

Our vision

Our strategic vision is to become a leading EU TSO by providing sustainable added value to our System Users and all stakeholders, while serving the environment and the Greek society.

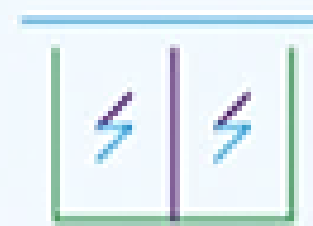
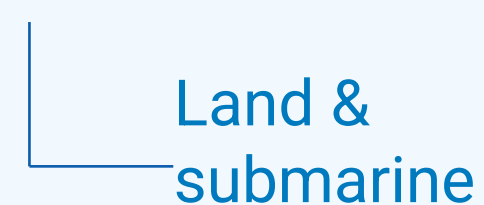
Our key mission

To ensure the safe, efficient and reliable energy supply of Greece, promoting free competition in the Greek electricity market, and ensuring the equal treatment of System Users.



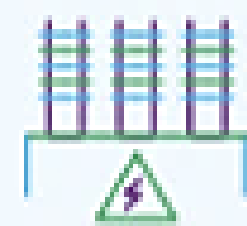
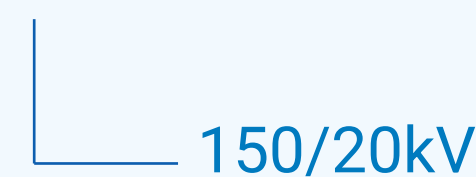
4,500 km

Fiber optic network



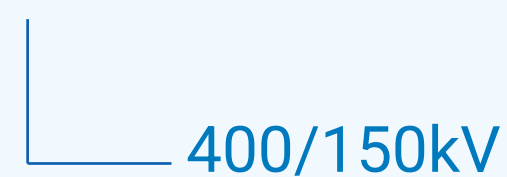
348

Substations with IPTO assets



27

High Voltage Substations (HV S/Ss)



IPTO invests ~5.5B€



National Development Plan Major Internal Projects

Project description	Expected commissioning
Dodecanese interconnection	2029
Crete - Attica interconnection	2025
Northeast Aegean interconnection	2030
Southern & Western Cyclades interconnection	2025
Santorini, Folegandros, Milos, Serifos	2025
2 nd 400kV branch to Peloponnese	2025
EHV S/S Thesprotia and its connection to the 400kV System	2031

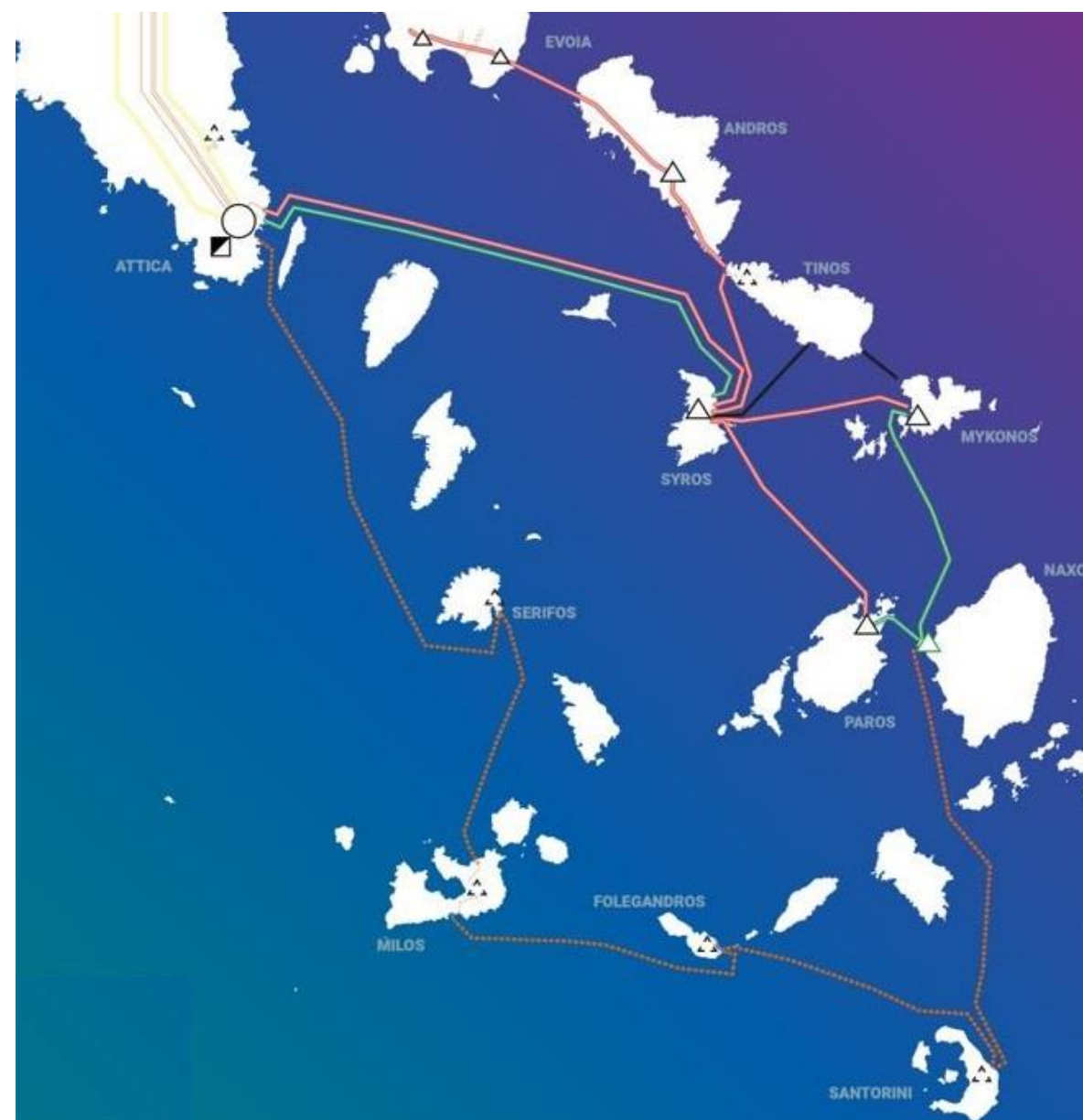
Offshore transmission network development:
Responsible for all stages of offshore transmission network assets for OWFs connection



Greek islands interconnections

Interconnection Crete-Peloponnese (completed 2021)

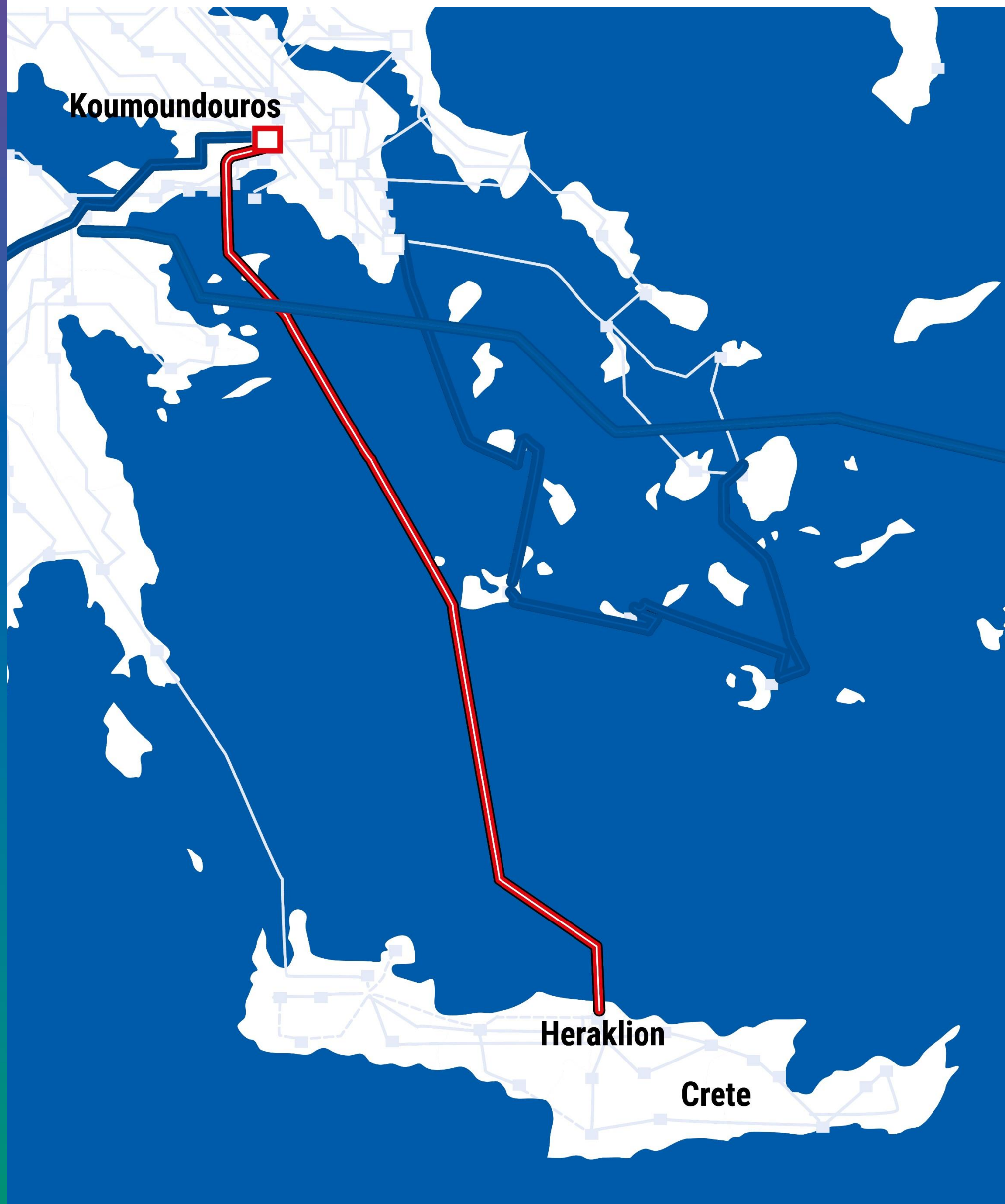
- The 1st phase of the interconnection of Crete with the HETS (150kV AC 2x200MVA)
- The longest AC submarine cable for island interconnection worldwide (135km each cable)
- The deepest HV submarine 3-pole XLPE cable worldwide (1,000m)
- Budget 372M€



Interconnection of Cyclades - phases A, B and C (completed 2020)

- The first 3 phases of the interconnection of Cyclades islands with the HETS
- Interconnected islands: Paros, Syros, Mykonos, Naxos, Andros, Tinos
- Budget 453M€

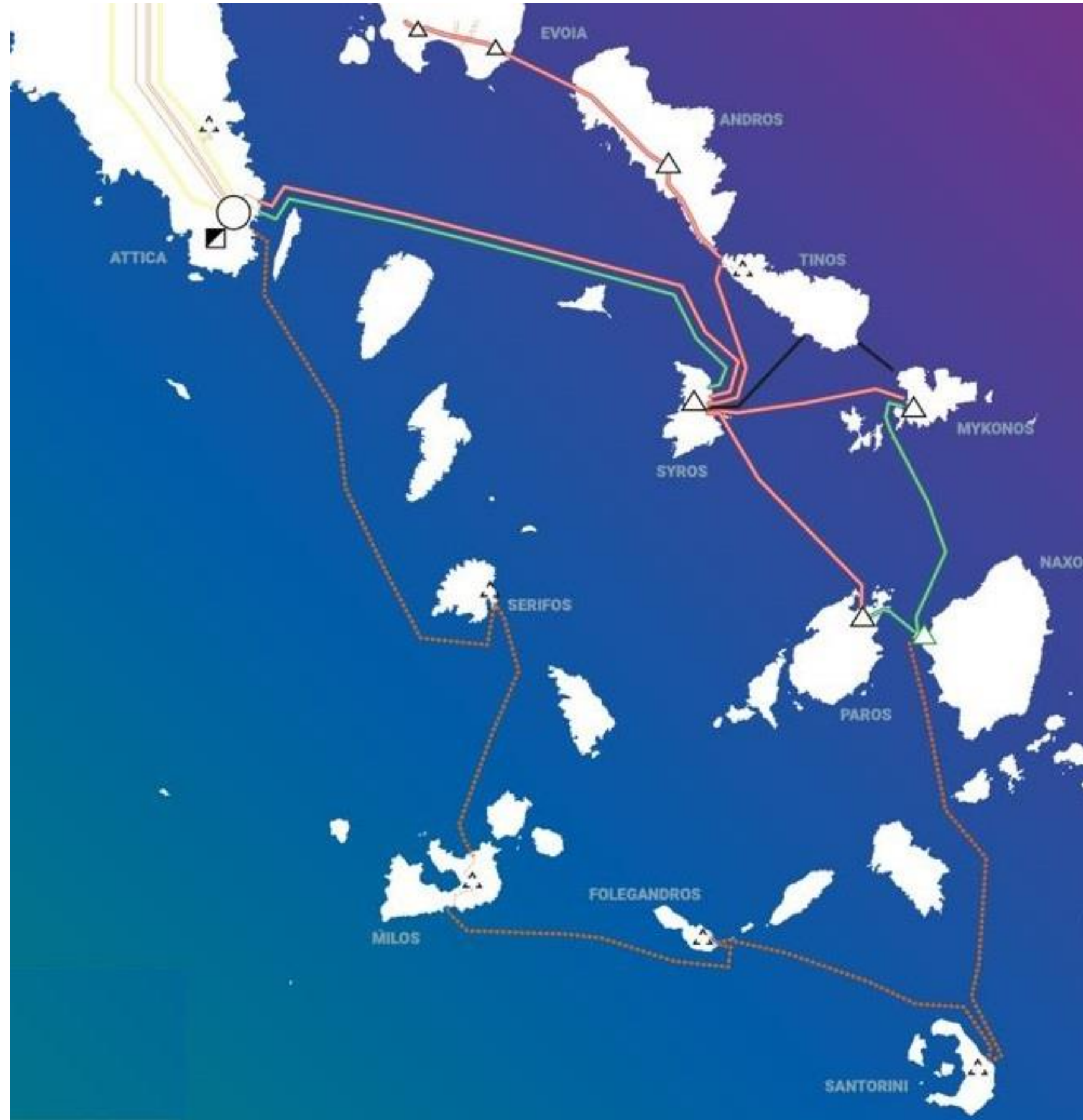
Greek islands interconnections



Interconnection Crete-Attica (expected 2025)

- The 2nd phase of the interconnection of Crete with the HETS (2x500MW HVDC \pm 500kV)
- Ariadne Interconnection SPSA
- PMI
- Interoperability with Great Sea Interconnector
- The 1st of its kind in Mediterranean (500kV DC cables and VSC)
- Among the top 3 deepest interconnections worldwide (1,250m)
- Largest energy infrastructure ever in GR
- Budget 1B€

Greek islands interconnections



Interconnection of Cyclades - phase D (expected 2025)

- The 4th -and final- phase of the interconnection of Cyclades islands with the HETS
- Islands to be interconnected: Santorini, Folegandros, Milos, Serifos
- Budget: 470M€

Existing International Interconnections

Seven 400kV interconnections

Italy

- Submarine HVDC link, 500MW, Arachthos - Galatina

Albania

- 400kV OHL, 1,400MVA, Kardina - Zemblak

North Macedonia

- 400kV OHL, 1,400MVA, Meliti – Bitola
- 400kV OHL, 1,400MVA, Thessaloniki - Dubrovo

Bulgaria

- 400kV OHL, 1,400MVA, Thessaloniki – Blagoevgrad
- 400kV OHL, 2,000MVA, Nea Santa – Maritsa

Türkiye

- 400kV OHL, 2,000MVA, Nea Santa - Babaeski

One 150kV interconnection

Albania

- 150kV OHL with Albania, 138MVA, Mourtos - Bistrica



New International Interconnections

2nd 400kV Interconnection with Albania

- New 400kV OHL, 2000MVA, expected in 2031

2nd Interconnection with Italy

- New HVDC link 1000MW, expected in 2031

Great Sea Interconnector (GR – CY – IL)

- Phase 1: Submarine HVDC link 1000 MW between Greece and Cyprus, expected in 2029

2nd Interconnector with Türkiye

- New 400kV OHL, 2000MVA, expected in 2031

Under Consideration

GREGY Interconnector (ELICA S.A.)

- New submarine interconnection between Greece and Egypt, estimated capacity 3 GW

Saudi Greek Interconnection

- New interconnection between Greece and Saudia Arabia

Green Aegean Interconnector

- New HVDC interconnection with Germany, estimated capacity 3 GW (Stage 1)

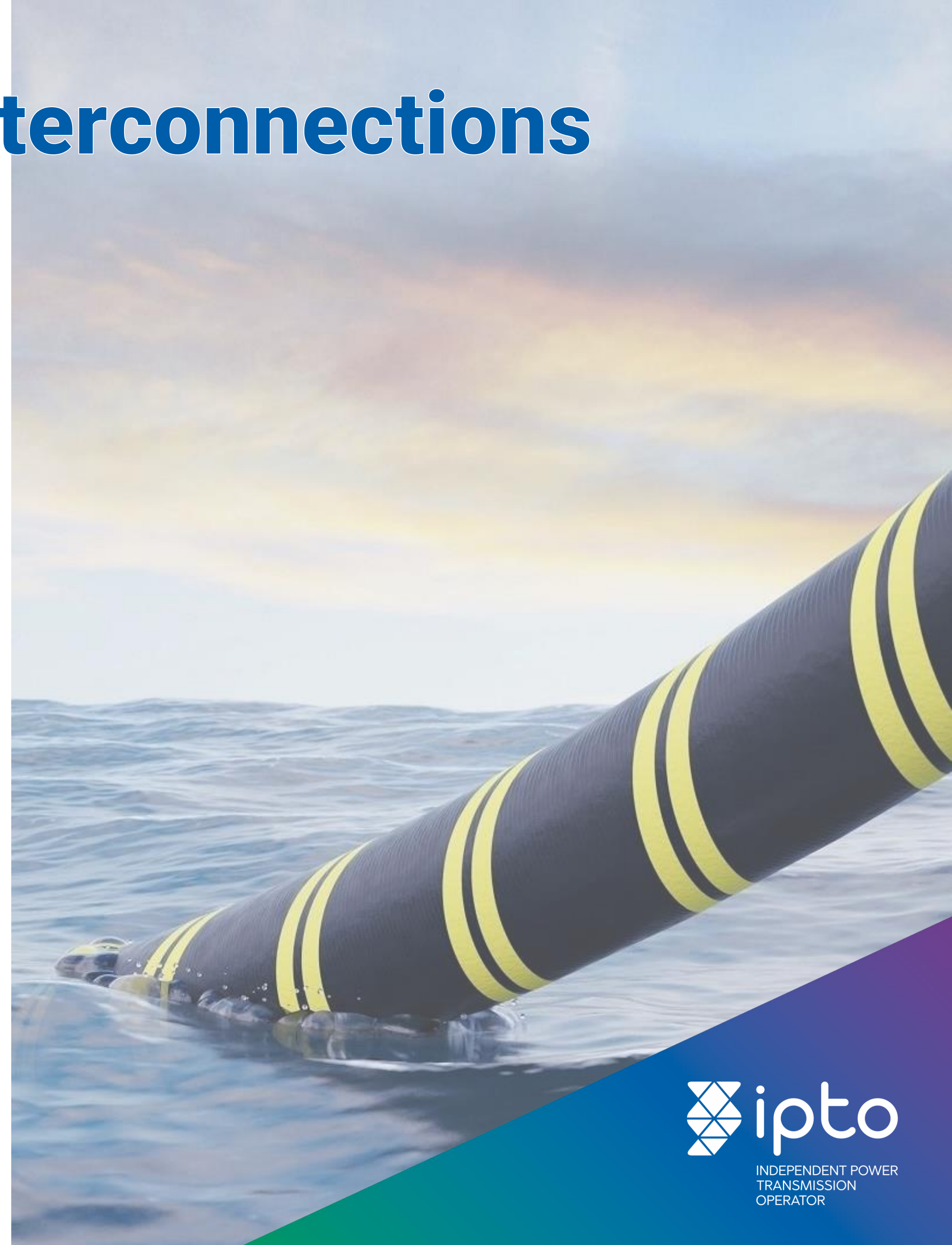
Increase of NTC with North Macedonia

- Upgrade of existing 400kV OHL Meliti (GR) - Bitola (NMK)



Benefits of international interconnections

- Integration of renewable sources
- Security of supply
- Regional and local socio-economic welfare
- Economic cooperation
- Reduction of CO₂ emissions
- Sharing of resources (production capacity, flexibility, reserves etc.)
- Reduction of the electricity costs.



Thank you!

