



The Mediterranean gateway to the energy union

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Nicola Melchiotti

Head of European Public Affairs and Regulation



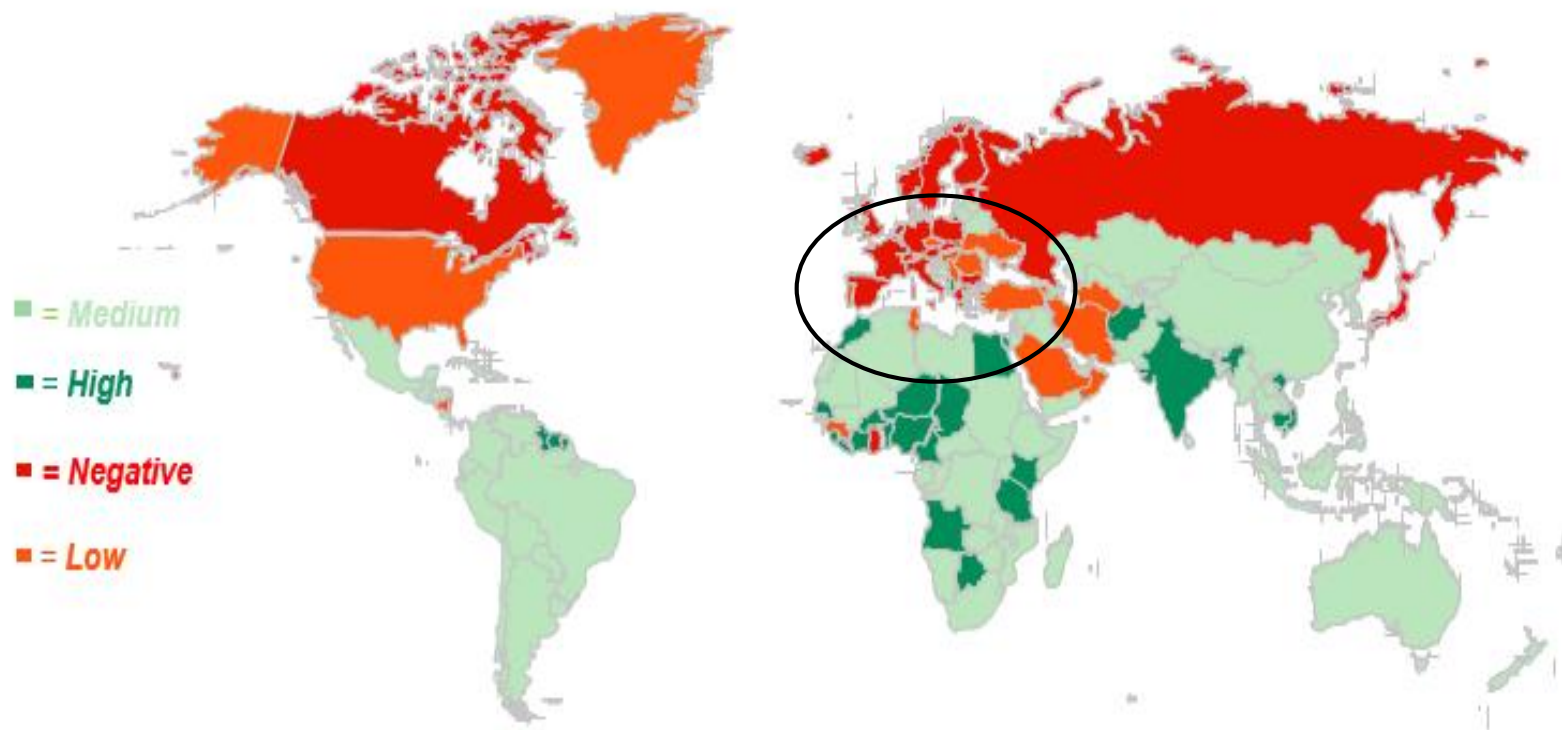
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The North and the South hemisphere are experiencing the energy transition in different ways



Growth in electricity demand



What we see in the North

- **Stable or negative demand of electricity**, thanks to energy efficiencies and shift to services
- **Accelerated deployment of RES** as the cheapest source of electricity
- **Electrification** of transport and the industry
- **Accelerated digitalization**
- **Up-take of flexibility services**, demand response and distributed generation
- **Existing asset base not compatible** with the need to reduce CO2, on-going transformation

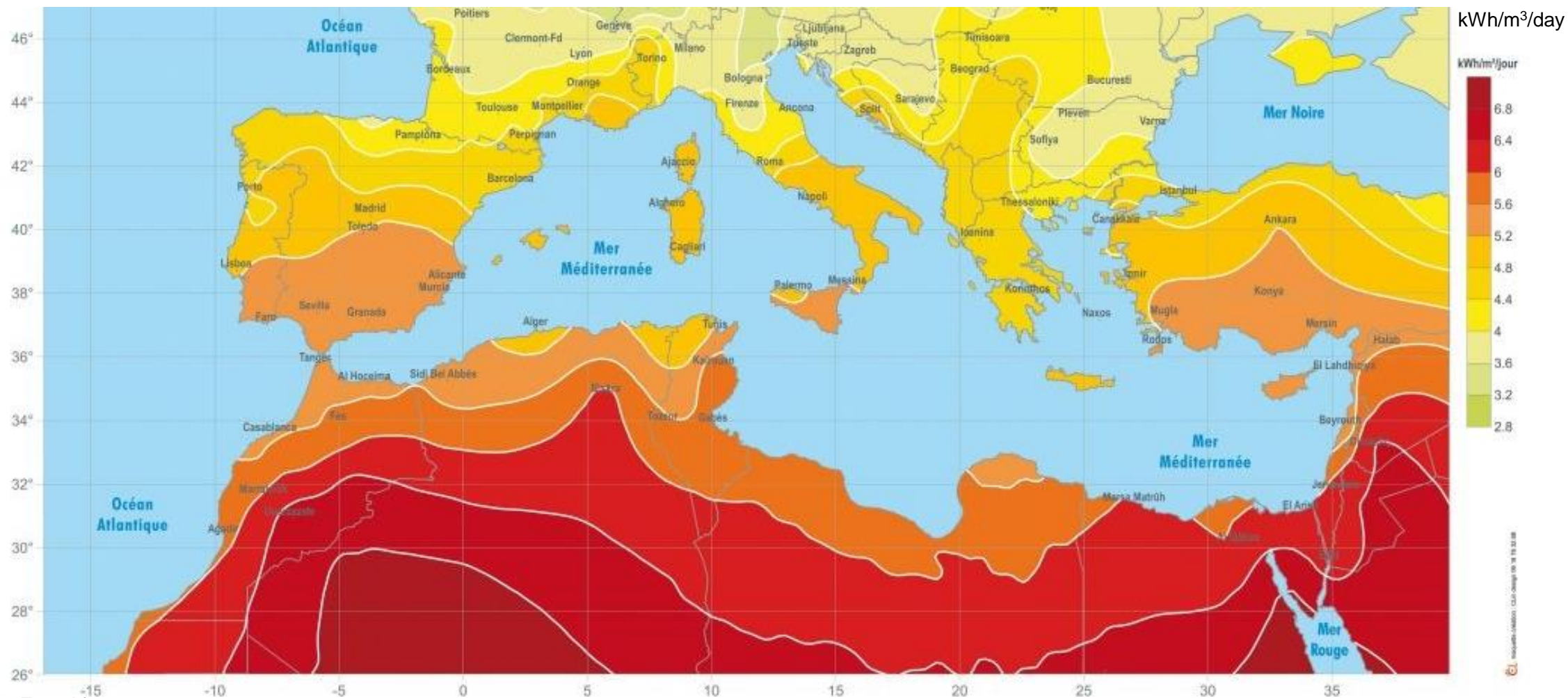
What we see in the South

- **Growing demand for electricity**
- **Accelerated deployment of RES** as the cheapest source of electricity
- **Access to electricity** boosting mini-grids and decentralized generation
- **Development as a key driver for investments**: focus on social sustainability

The South Mediterranean is blessed by strong renewable resources



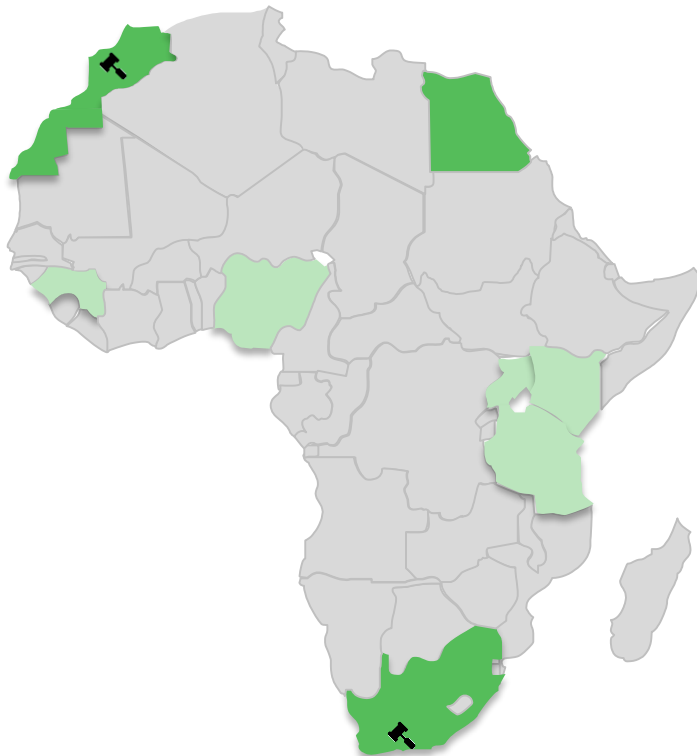
Solar Potential



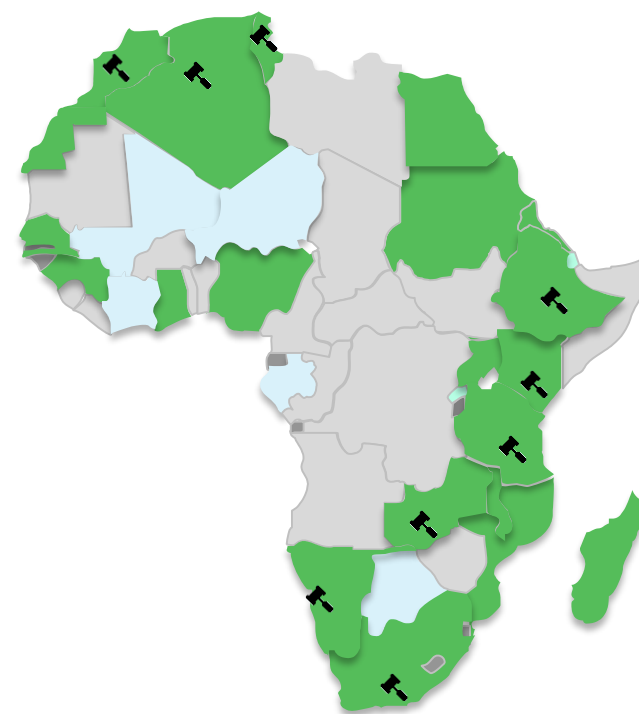
A potential that is being developed through competitive RES auctions



Yesterday



Today



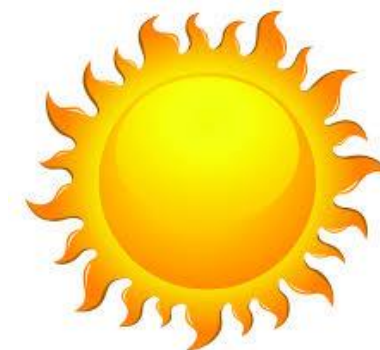
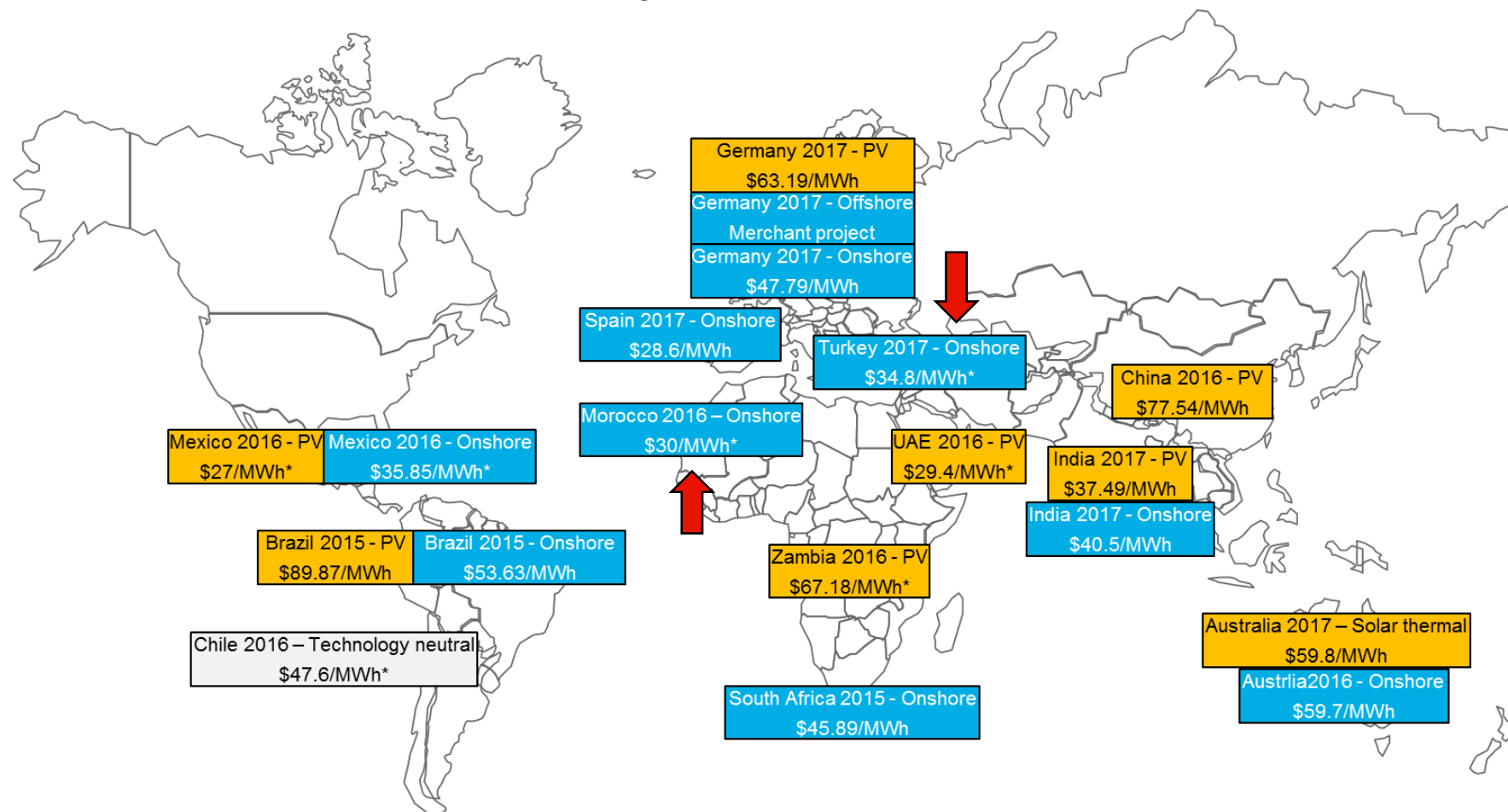
- RES Target and support mechanisms
- RES development thanks to auctions or support mechanisms
- RES Target but NO support mechanisms
- Auctions

RES auctions are delivering stable and record-low prices for electricity



2017 selection of record winning bids

Abundant Resources

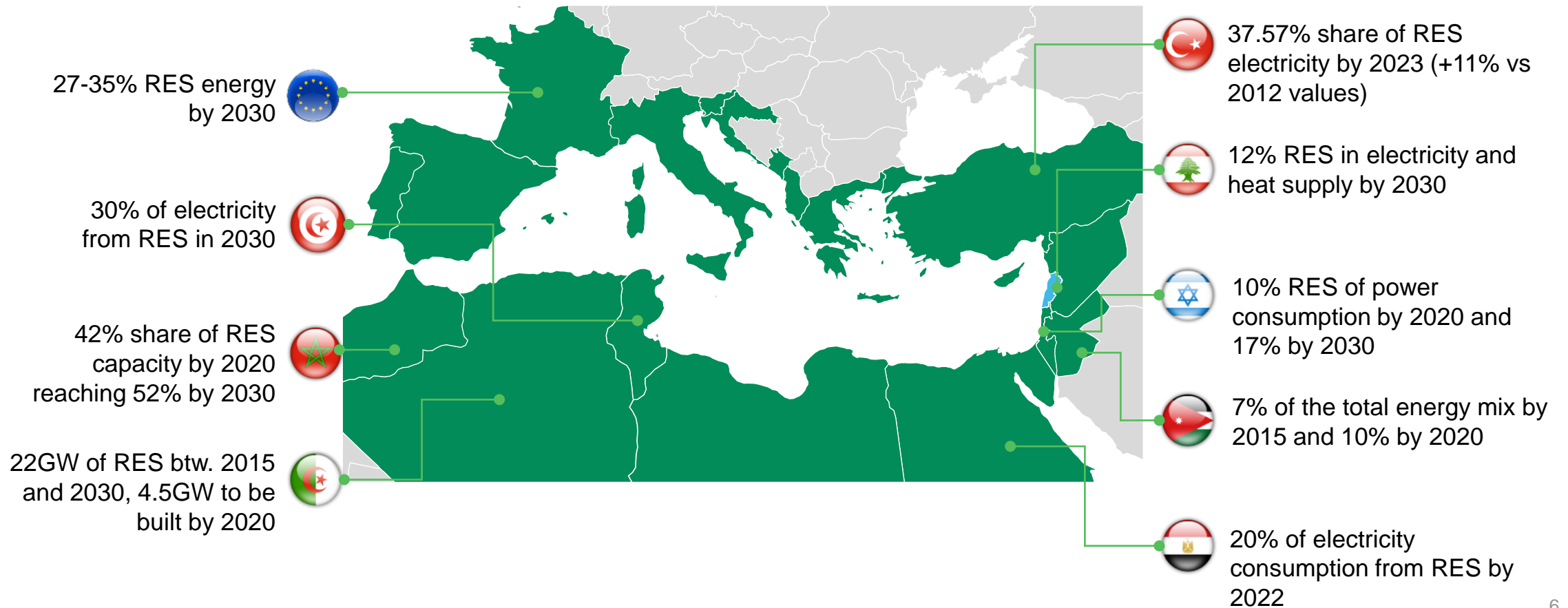


The Mediterranean is embracing renewables

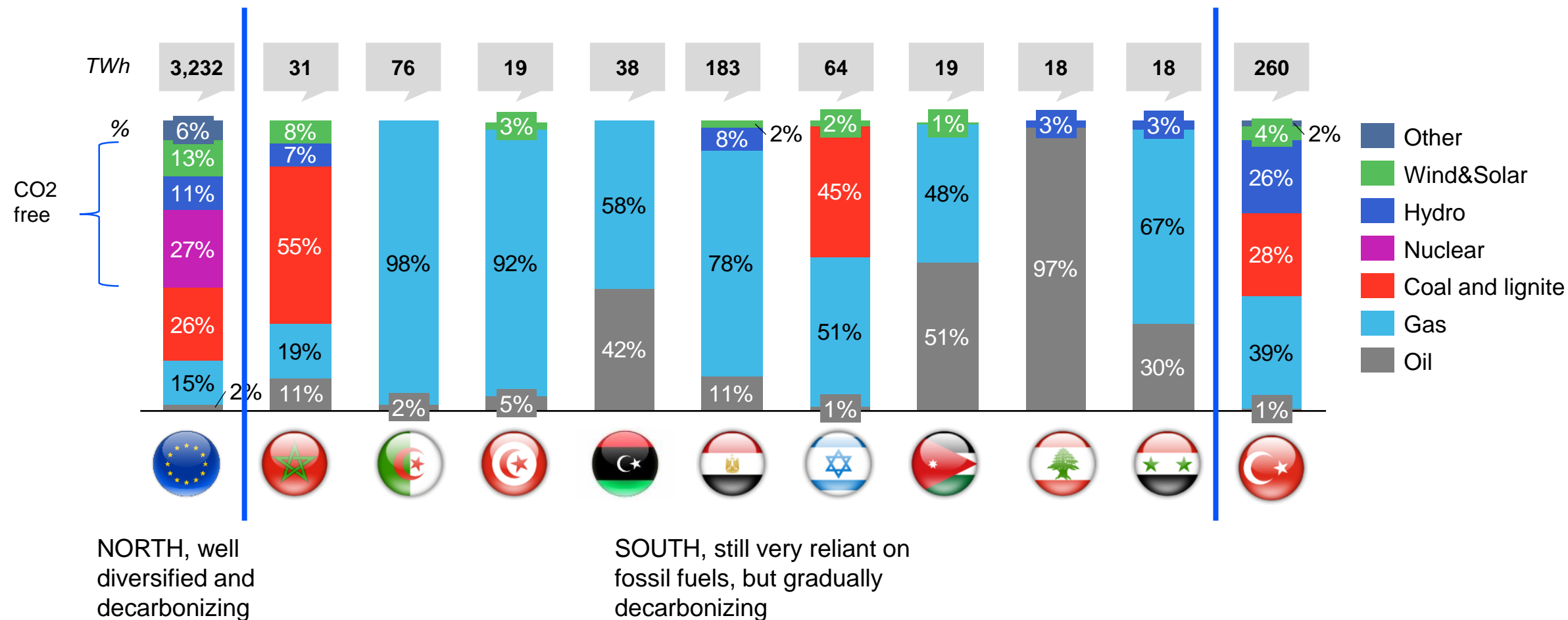
Energy and climate objectives



RES targets



Although the North and the South start from different energy systems...

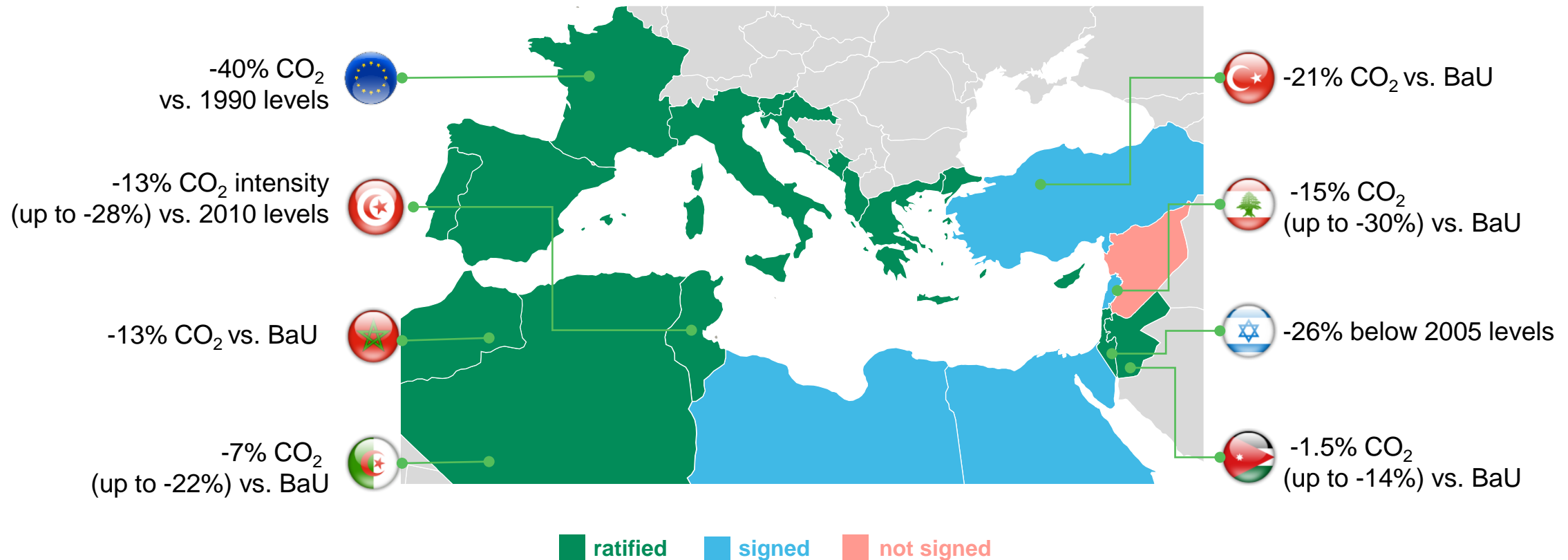


... they share a common path to decarbonization

The Region is committed to deliver on the Paris Agreement



2030 CO₂ target reduction

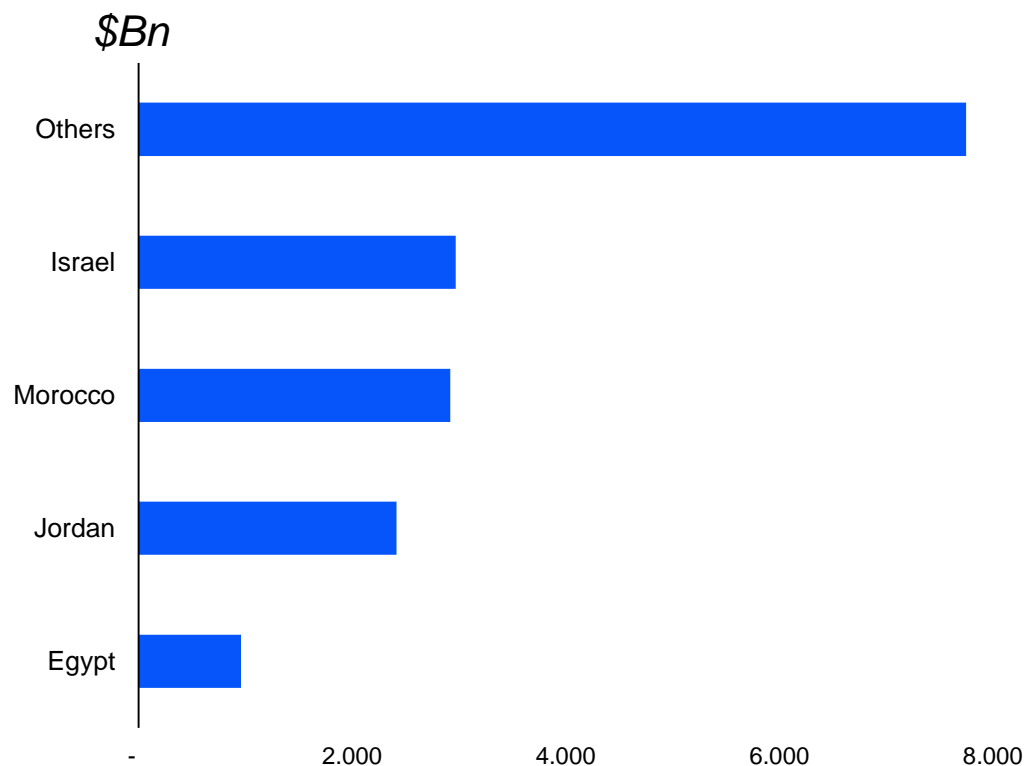


A path that is attracting significant RES investments

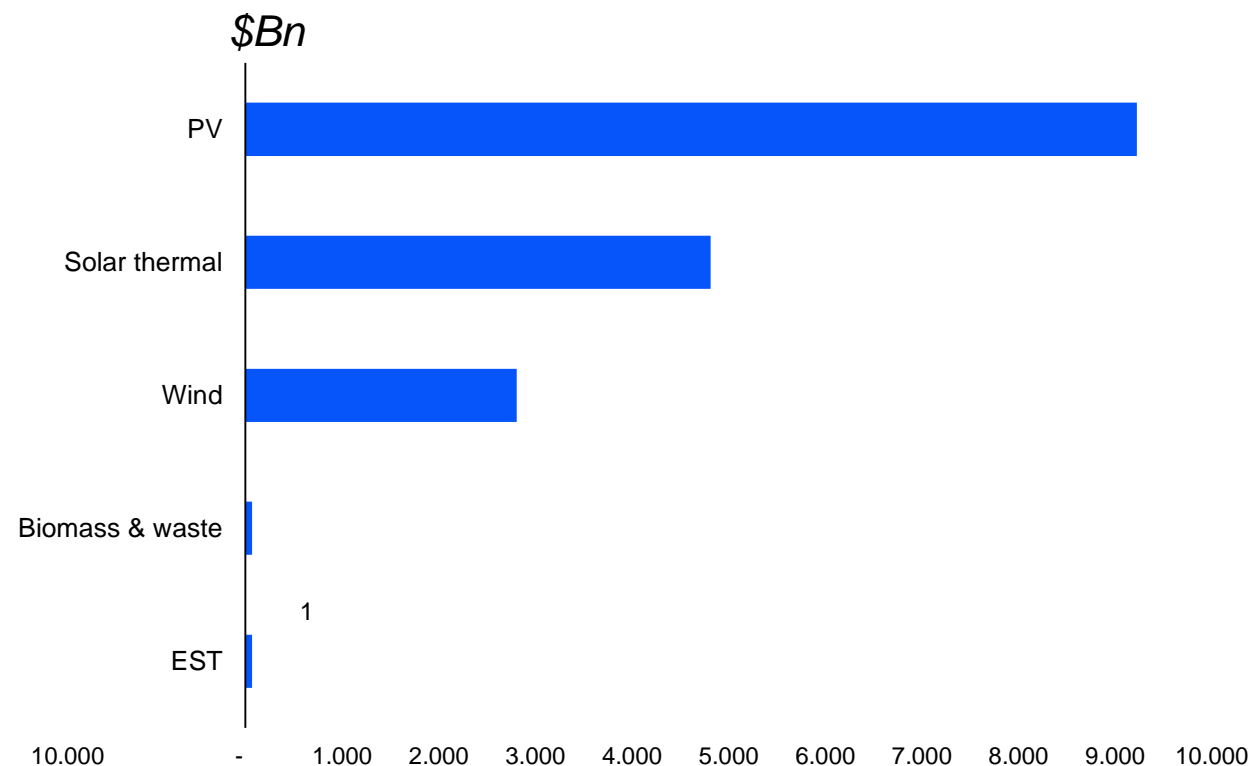
Investment flows depend on specific opportunities



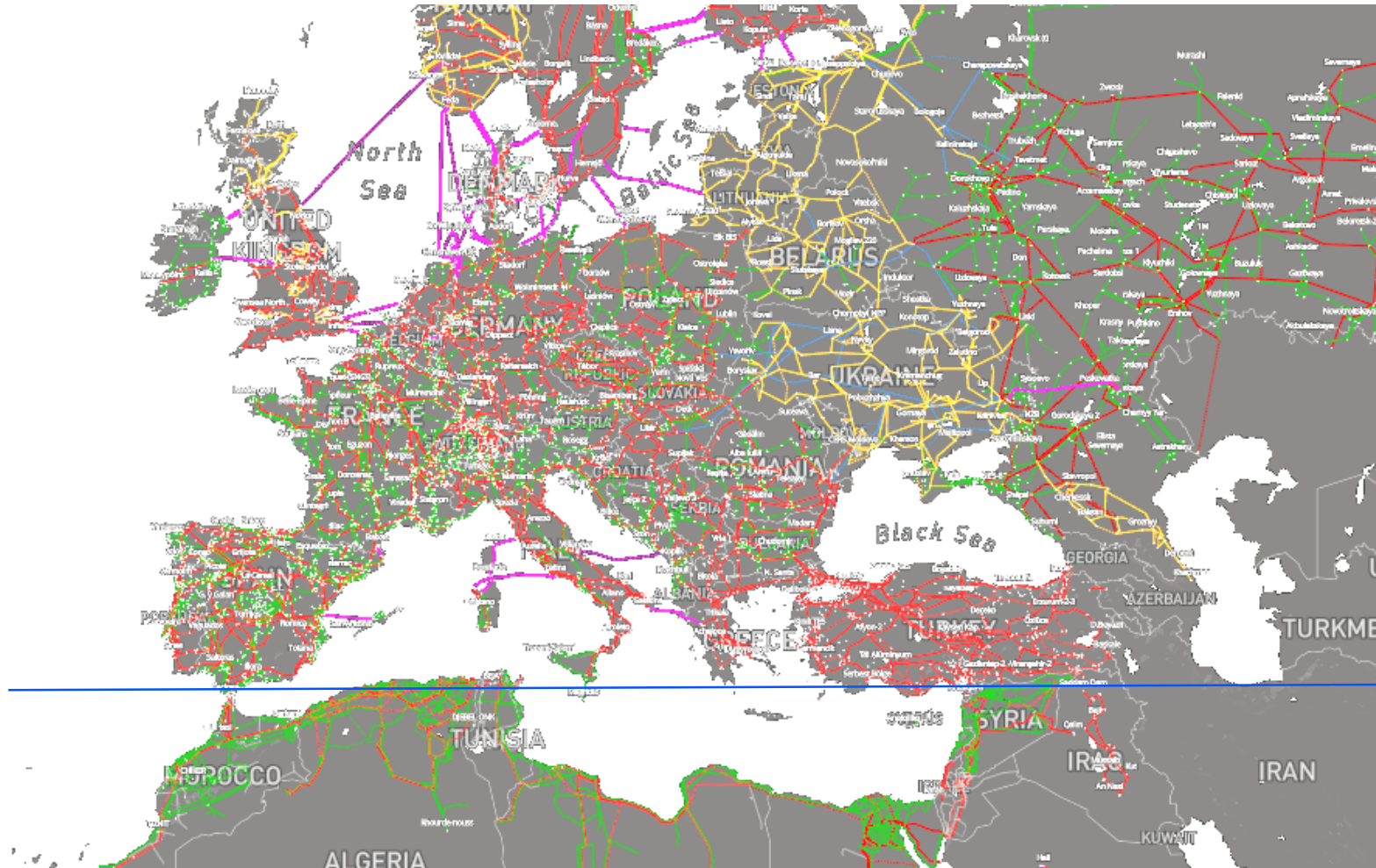
Clean Energy Investments by country
2014-2016: 17 \$B



Clean Energy Investments by technology
2014-2016: 17 \$B



Electric interconnections between the two sides of the Mediterranean are still very limited...

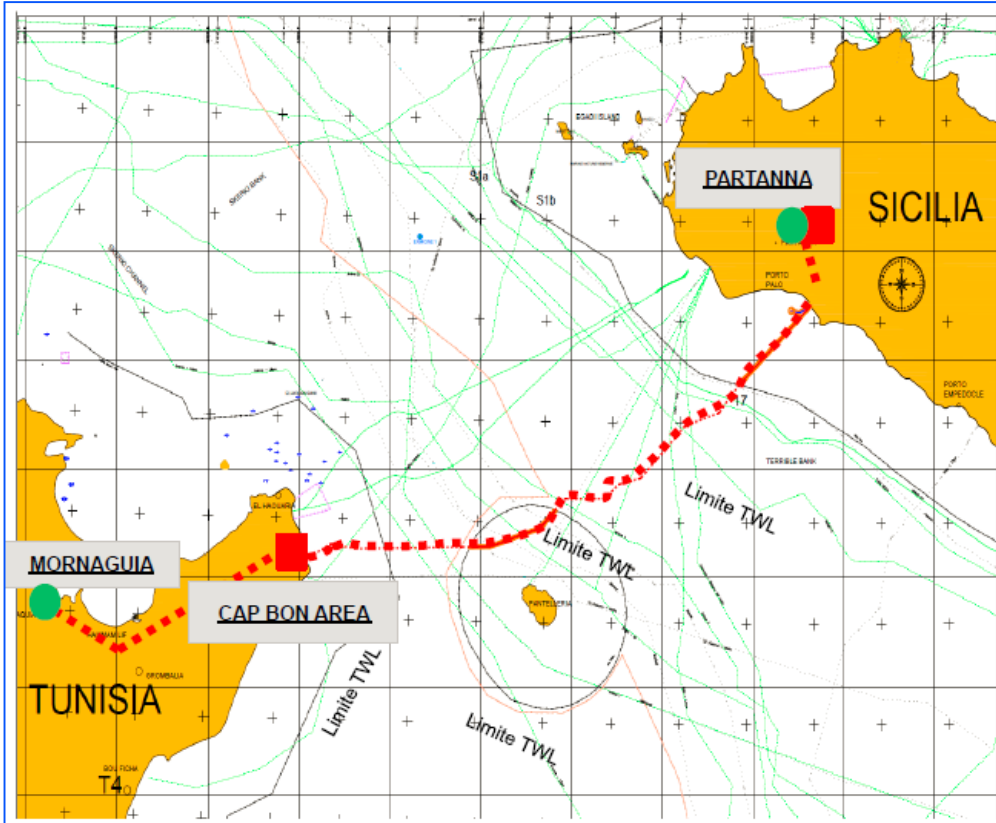


**NORTH
MEDITERRANEAN**

**SOUTH
MEDITERRANEAN**

... but can be reinforced with reasonable efforts

Case: Electric interconnection Italy-Tunisia - EU Project of Common Interest



Key facts








- **600 MW**, 200 km HVDC cable, **€600mn estimated investment**

Economic/strategic rationale

- Addresses **overcapacity in Italy & shortage risks in Tunisia by Italian exports to Tunisia**
 - **Italy**: Demand decline and growth of renewables leading to underuse of thermal units, negative impact on system balance because of low load
 - **Tunisia**: Strong demand growth, shortage risk if capacity increase does not keep up
- Interconnector is beneficial because it:
 - **Uses cheaper power generation** by energy exports from Italy to Tunisia
 - Helps to **integrate 1 GW renewables** in Tunisia
 - **Increases operational security** (for both Italy and Tunisia)
 - **Ensures security of supply** for Tunisia
 - Security/diversification of supply, sustainability, reduction of network congestions for **Malta**
 - Positive knock-on effects in **other Member States** (e.g. France) as shown in the cost-benefit analysis
- Long-term: Renewable energy from Africa

Investments in RES infrastructure can be coupled with economic and social development



Enel commitments to the global SDGs		Delivery	2017E	2015-17E ¹
	400,000 people by 2020		~200,000	~500,000 
	3 million people by 2020, mainly in Africa, Asia and Latin America		~400,000	1.7 million
	1.5 million people by 2020		~300,000	1.5 million 
	< 350 gCO ₂ /kWh _{eq} by 2020 (-25% vs base year 2007)		399 gCO ₂ /Kwh _{eq} ²	n.a.

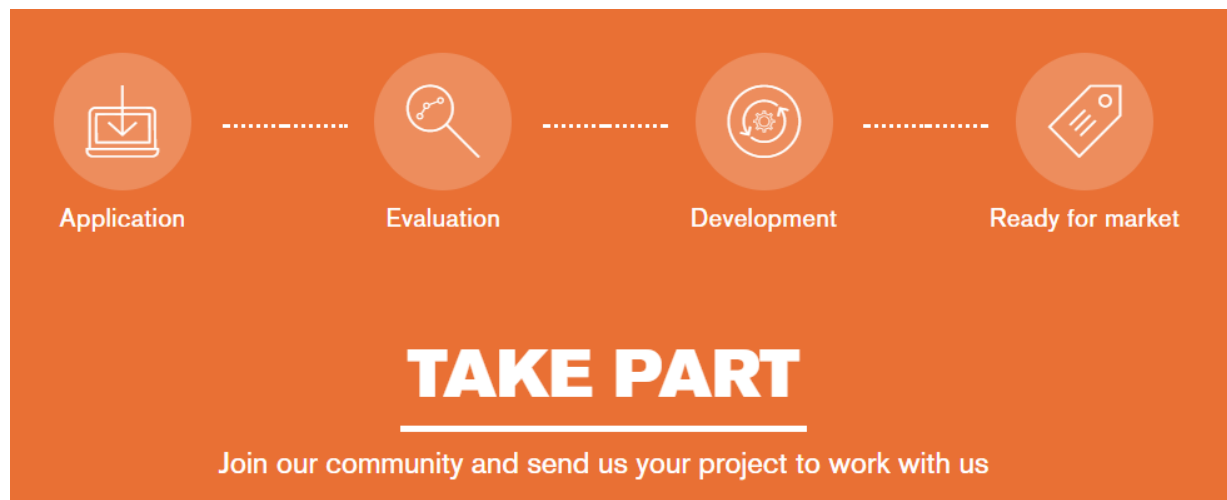
1. Cumulated figure
2. -14% vs base year 2007. Including BSO

The Mediterranean is also a fertile ground for innovation, a key ingredient for the energy transition



ENEL FOR START-UPS

- Enel Innovation Lab opened in July 2016 in Tel Aviv and in March 2017 in Catania
- Project evaluation launched for cyber security, Internet of Things (IoT) and software for smart home and family care solutions
- 8-10 boot-camps per year to meet with 15-25 start-ups
- Future focus on renewable energies, mini-grids, electric mobility and block-chain



Closing messages



The two sides of the Mediterranean are quite **complementary**, both have a lot to offer



The energy transition is an opportunity for the region, which should keep moving in the same direction to **create a synergic low-carbon economy** and modernize infrastructure



A stable and transparent institutional and regulatory framework is a critical element to accelerate investments and deepen collaboration between the different countries



De-risking is extremely important, more than the simple access to capital. Financing facilities should take this into account to effectively support investments



Thank you



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