IRENA

International Renewable Energy Agency

Renewable Energy Prospects for South East Europe

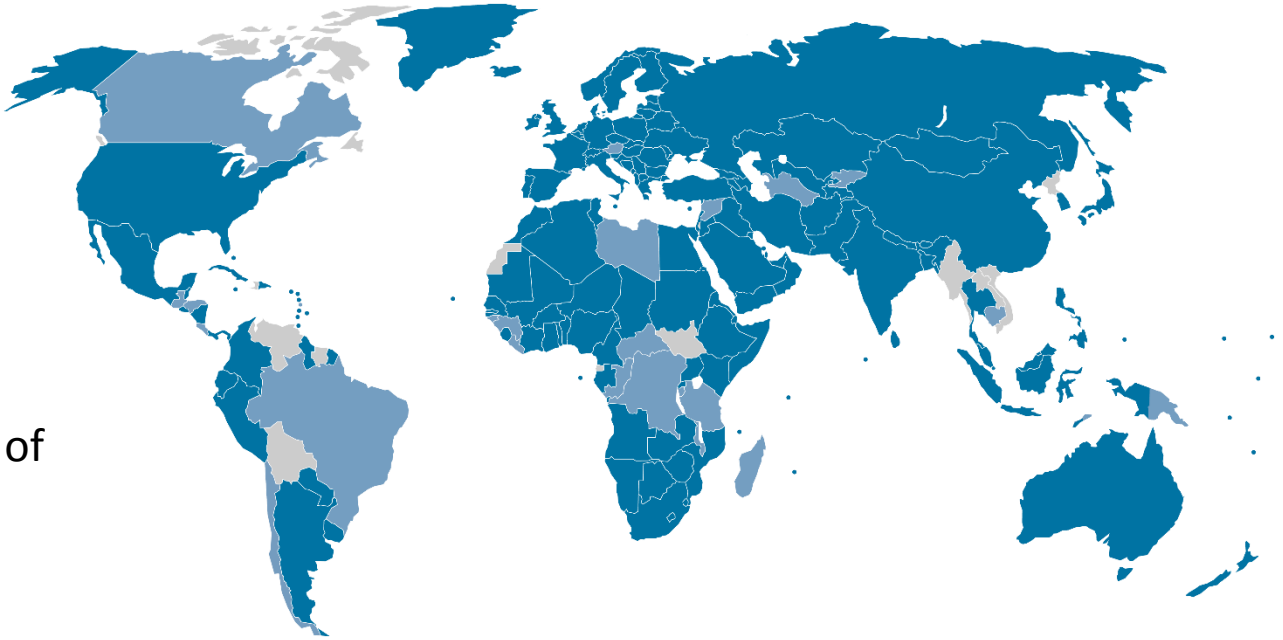
Thessaloniki – 26 June 2018

11th South East Europe Energy Dialogue

About IRENA

Established in 2011.

157 Members and
25 States in accession.

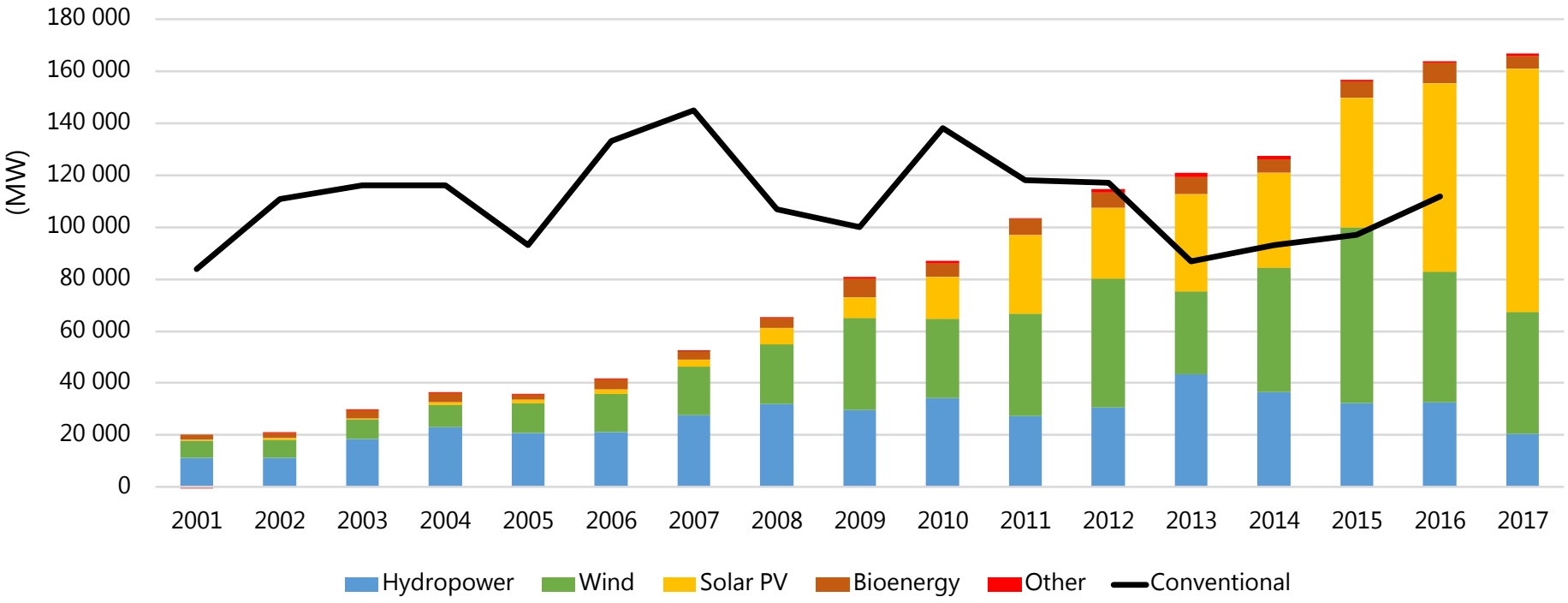


Mandate: to promote the widespread adoption and sustainable use of all forms of renewable energy

IRENA serves as:

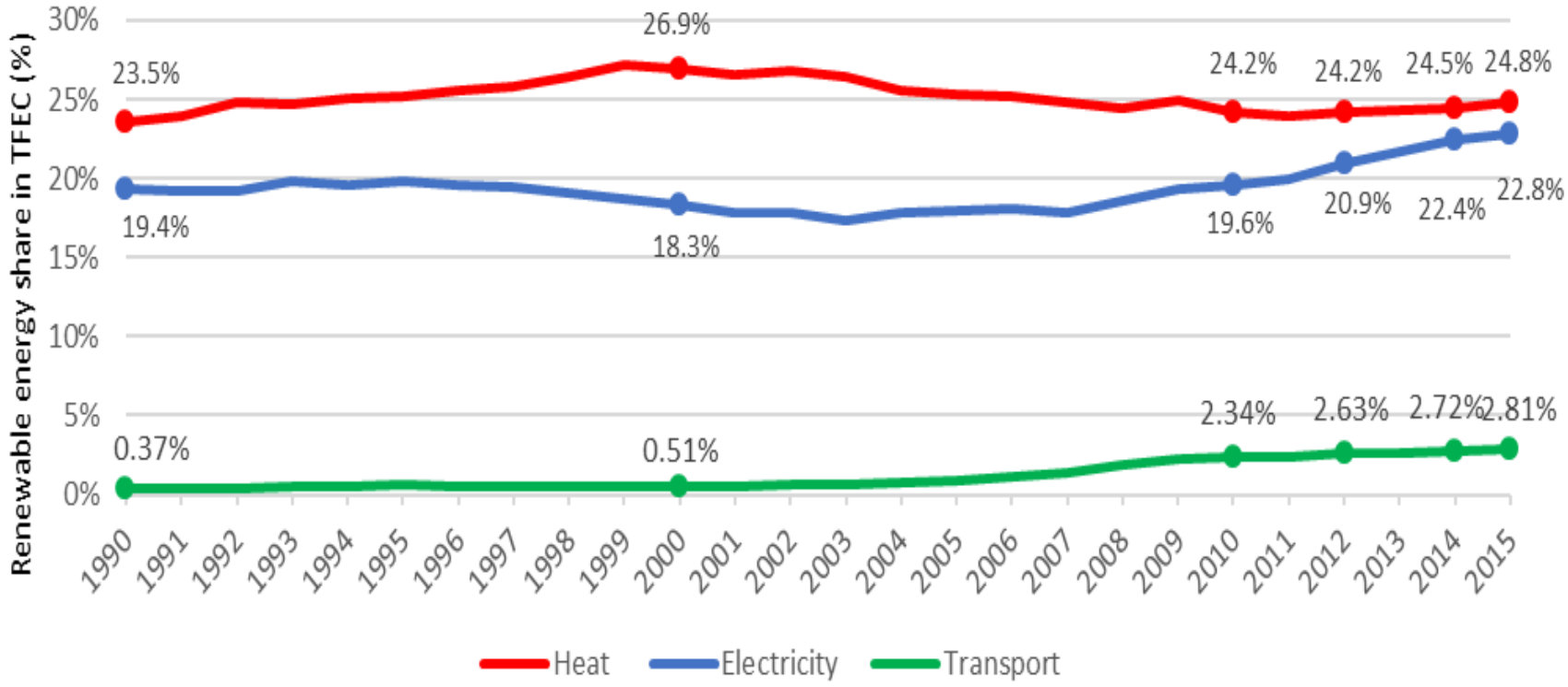
- The principal platform for international co-operation
- A centre of excellence and the repository of knowledge on RE policy, technology, resource and finance
- Technical advisory & capacity building support to Members

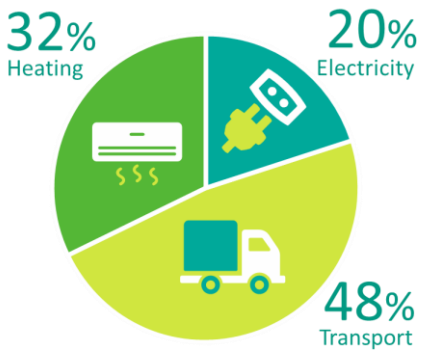
RE power capacity additions constantly exceed conventional power



- Wind and solar PV led the uptake of RES.
- Solar PV accounted for more than 56% of total RES additional installed capacity in 2017.

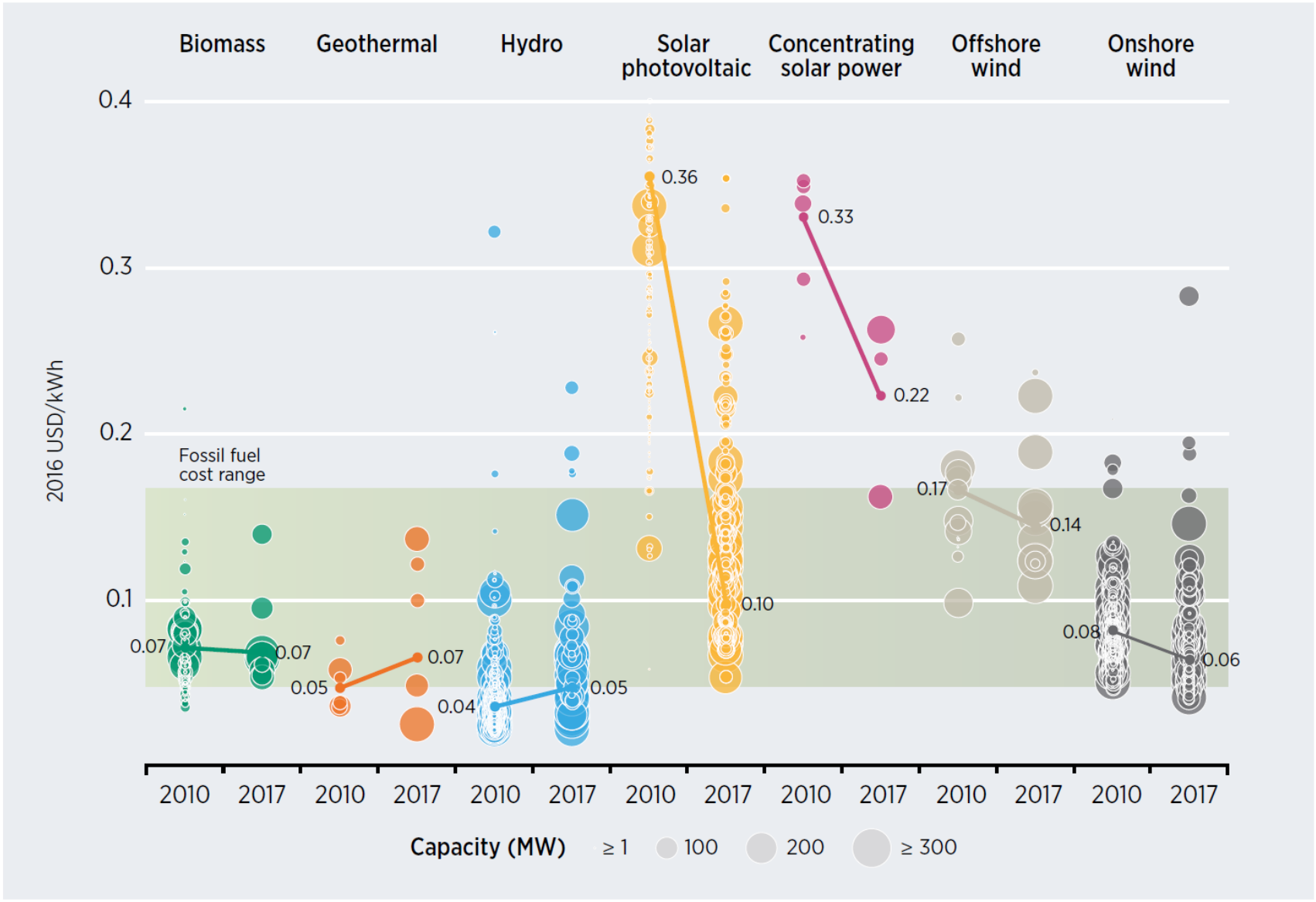
RE penetration in heating and transport requires boosted efforts.





- Progress in the power sector is not being matched in transport and heating – which together account for 80% of global energy consumption.

RE technology costs drastically declined.



Source: IRENA Renewable Cost Database.

Socio-economic benefits of renewable energy

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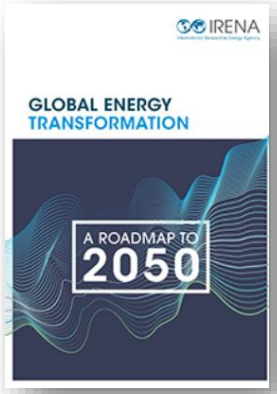
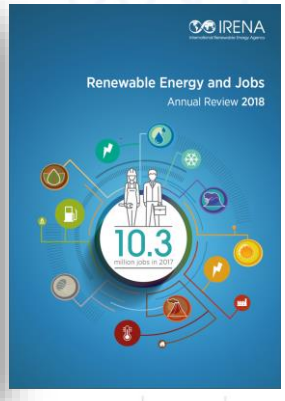
GDP
+ 1.0 %
+ 2.06
USD trillion

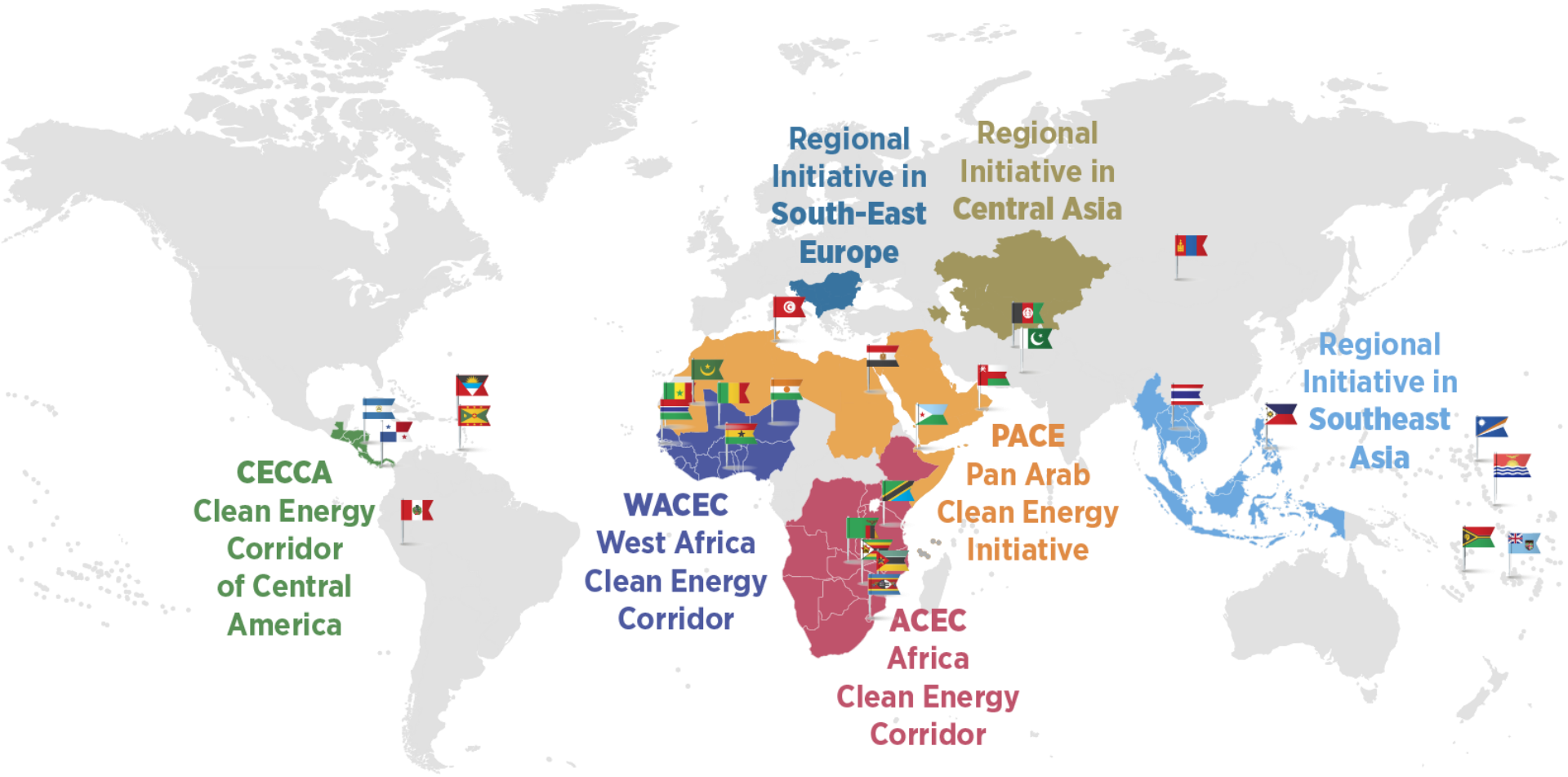
Jobs
+ 0.14 %
+ 11 million
in the energy sector

Welfare
+ 15 %





IRENA's Regional Engagement



South East Europe Regional Initiative

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International Renewable Energy Agency

Abu Dhabi **Communiqué** on Accelerating the Uptake of Renewables in South East Europe

Abu Dhabi, 13 January 2017

Action Areas

- Resource assessment
- Long-term planning for RE deployment
- Enabling frameworks: technical, policy, regulatory, institutional
- Market based RE support schemes
- Socio-economic benefits vs. affordability
- Access to financing for RE projects

European Commission

Energy Community

European Bank for Reconstruction and Development

UNECE

European Investment Bank

giz Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

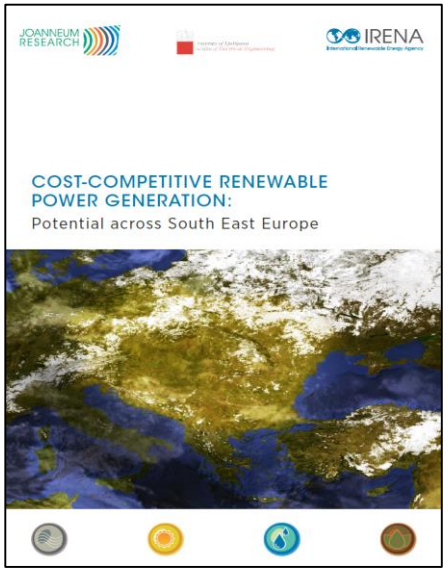
KFW

International Energy Charter

CEER Council of European Energy Regulators

Cost-Competitive Renewable Power Generation

Potential across South East Europe



Assessment of the overall renewable electricity potential

Identification of cost-competitive RE potential – focus on wind & solar PV

Inform policy makers in the process of undertaking new commitments and developing long-term strategies for RE

On behalf of:
Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety
of the Federal Republic of Germany

Cost-Competitive Potential

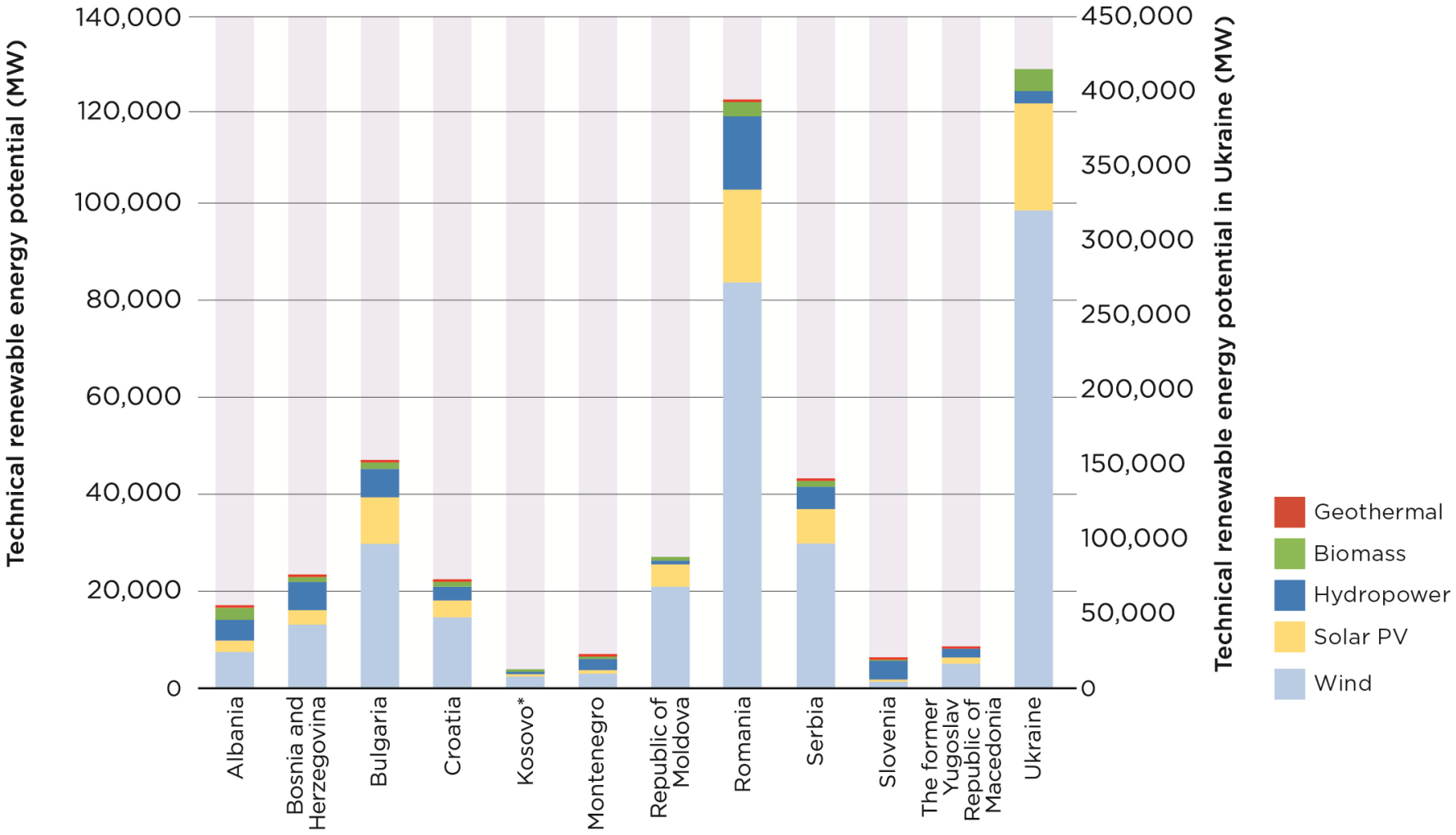
✓ LCOE within the ranges of the fossil-fuel supply options

✓ Level of cost-competitive potential today, 2030 and 2050

✓ Sensitivity analysis for cost of capital

Technical potential suitable for development

740 GW Technical renewable energy potential in South East Europe



NREAP Targets vs. Cost-competitive additional potential

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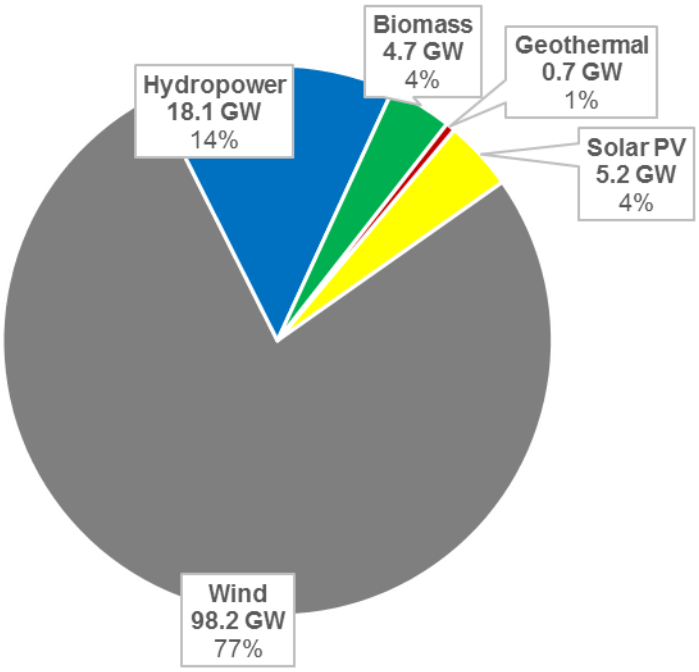
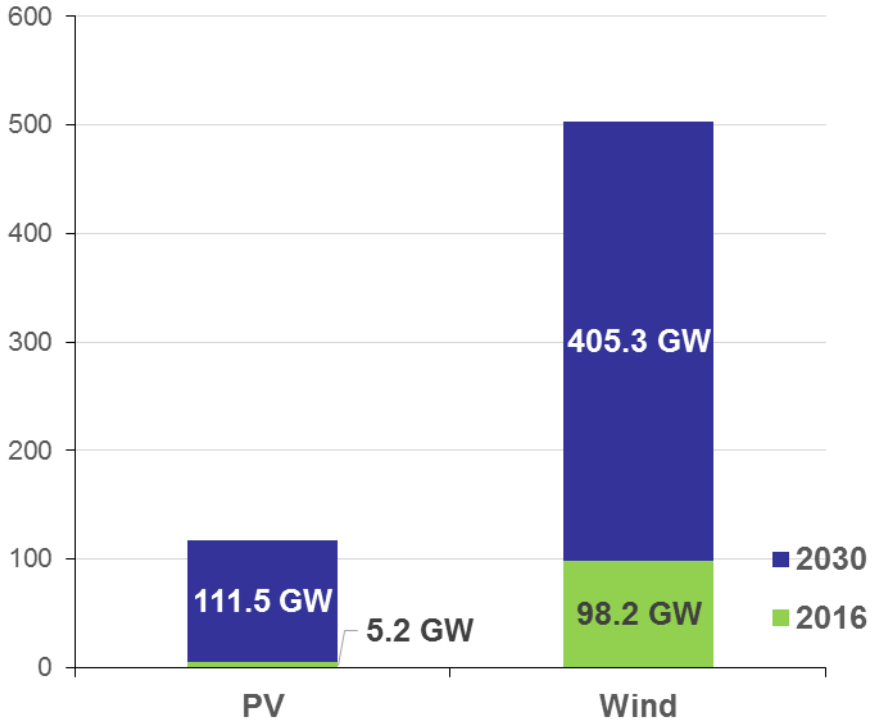
8.2 GW

Gap to achieve cumulative RE deployment target for 2020 (based on NREAPs)

127 GW
Renewable Energy today



620 GW
Wind and Solar PV by 2030



Based on: Medium cost of capital scenario

REmap 2030 for the CESEC Region

Supporting the process to establish post-2020 RE targets

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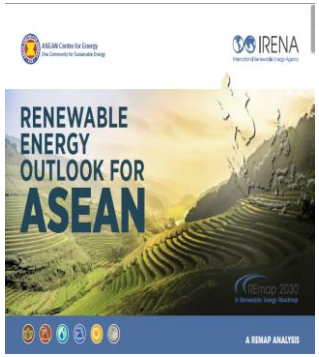
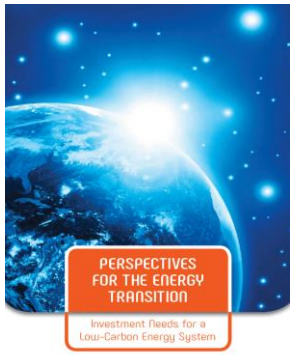
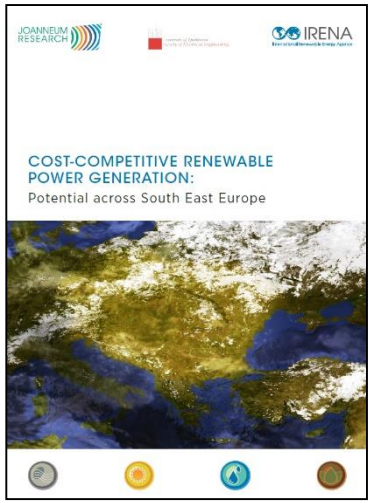
Identification of **feasible options for scaling up RE deployment** in power generation and end-use sectors

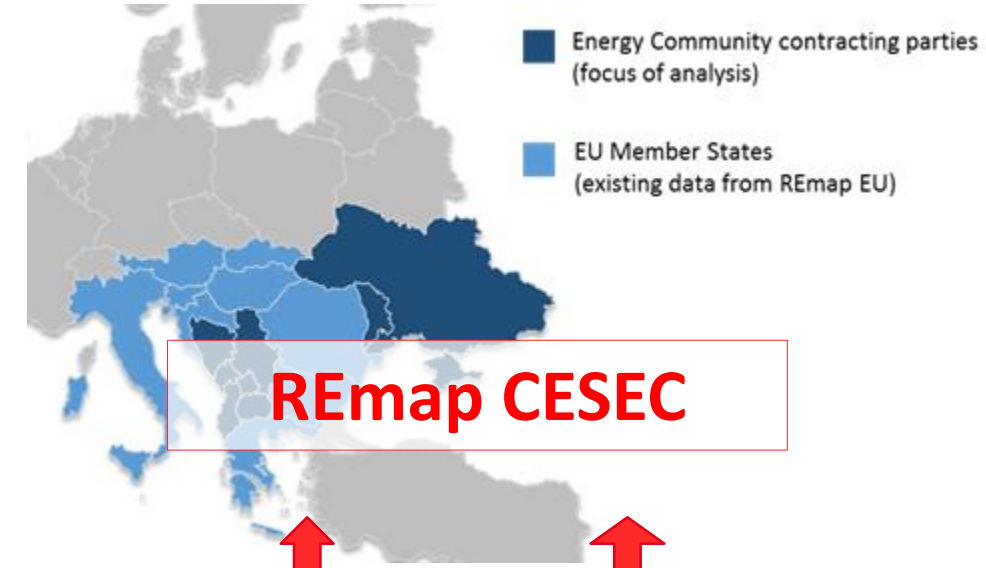
REmap 2030
A Renewable Energy Roadmap



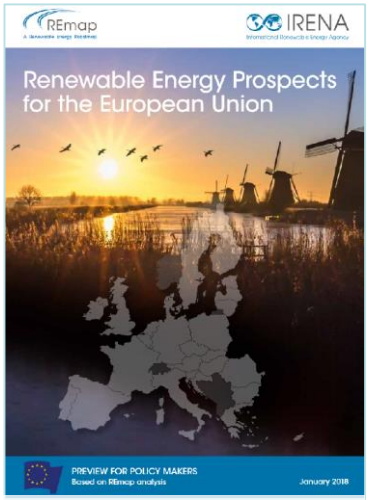




SEE has vast **renewable power** potential largely untapped.



REmap CESEC



The EU can double its **renewable share to reach 34% by 2030**, cost-effectively

RE Support Schemes

Supporting the transition to more market-based schemes

Regional Workshop on RE Auctions

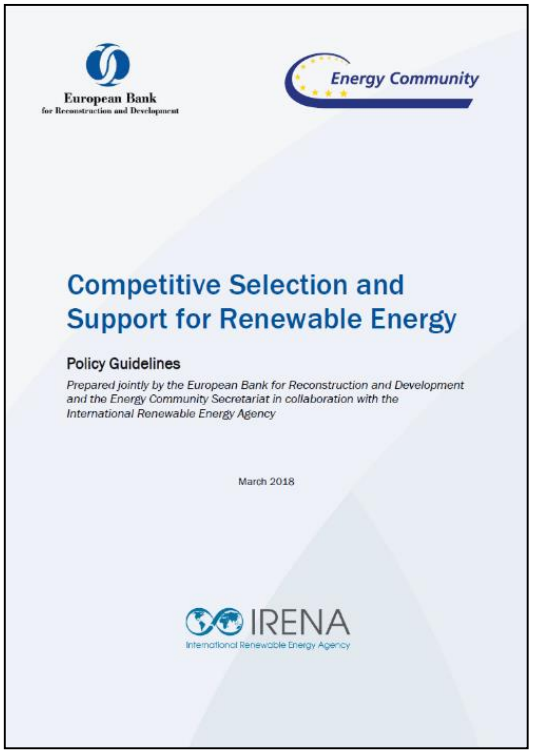
March 2017

- RE support instruments
- Best practices on auction-based support schemes
- Implications of different auction approaches

RE Auctions Guidelines

March 2018

- ✓ Developed by EBRD and the Energy Community in collaboration with IRENA
- ✓ Targeting Energy Community countries



- ✓ Key principles of implementing auctions that are:
  - bankable
  - in line with the EU law
  - consistent with the international best practice on auctions

RE project facilitation support

Improve bankability and facilitate access to finance in the region

- Regional workshop to share best practices and global experience on **financing and risk mitigation** for renewable energy projects – Serbia, June 2018
- Increased utilization of the RE project facilitation tools in the region

IRENA PROJECT NAVIGATOR

- ✓ A comprehensive platform giving project developers the tools – **at no cost** – to create robust, **bankable renewable energy project proposals**
- ✓ Regional training on solar PV module

SUSTAINABLE ENERGY MARKETPLACE

6.3 billion US $ — Total investment cost

2892.34 MW — Combined installed capacity (power generation projects only)

142 — Projects

82 — Financing instruments

- ✓ Online platform to support project initiation, development and **access to financing**
- ✓ Operational in the non-EU countries of Southern and Eastern Europe

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Gurbuz Gonul

Acting Director
Country Support and Partnerships

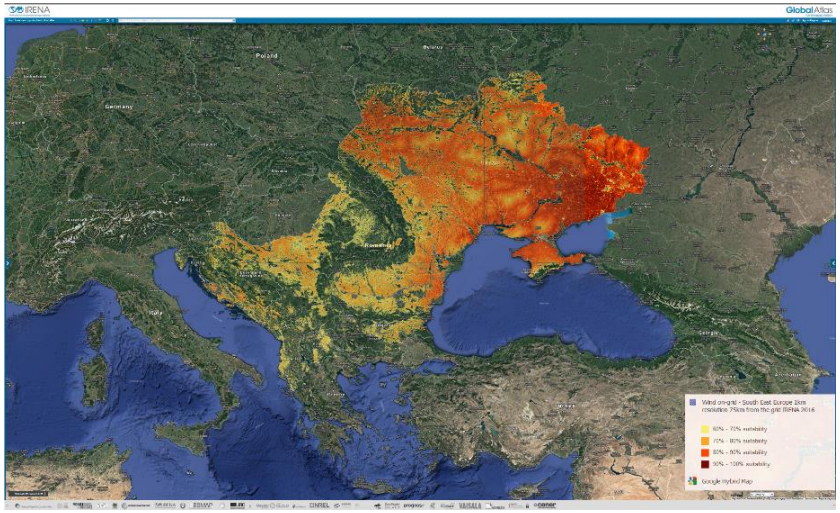
Strengthening of Enabling Frameworks

Policy, regulatory and technical

Capacity building	**RE Support Schemes**
Capacity building	**RE Socio-Economic Benefits**
Capacity building and advisory	**Streamlining Administrative Procedures**
Capacity building and advisory	**RE Grid Integration**

Resource assessment and cost analysis

Suitable locations
for **Wind** investments in SEE



Global Atlas
FOR RENEWABLE ENERGY

What is a good site?

- Renewable energy resource intensity
- Topography
- Population density
- Distance to the grid
- Land cover
- Protected areas

IRENA COSTS
Renewable Energy Costs, Technologies and Markets

Renewable Power Generation Costs in 2017

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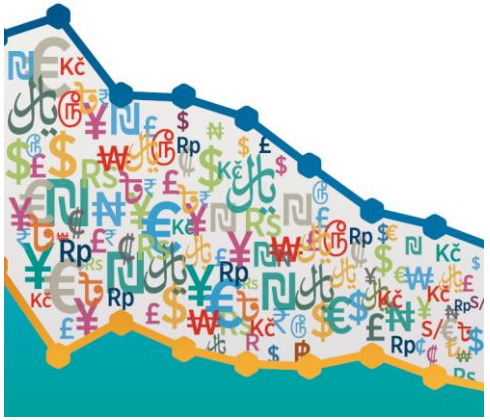
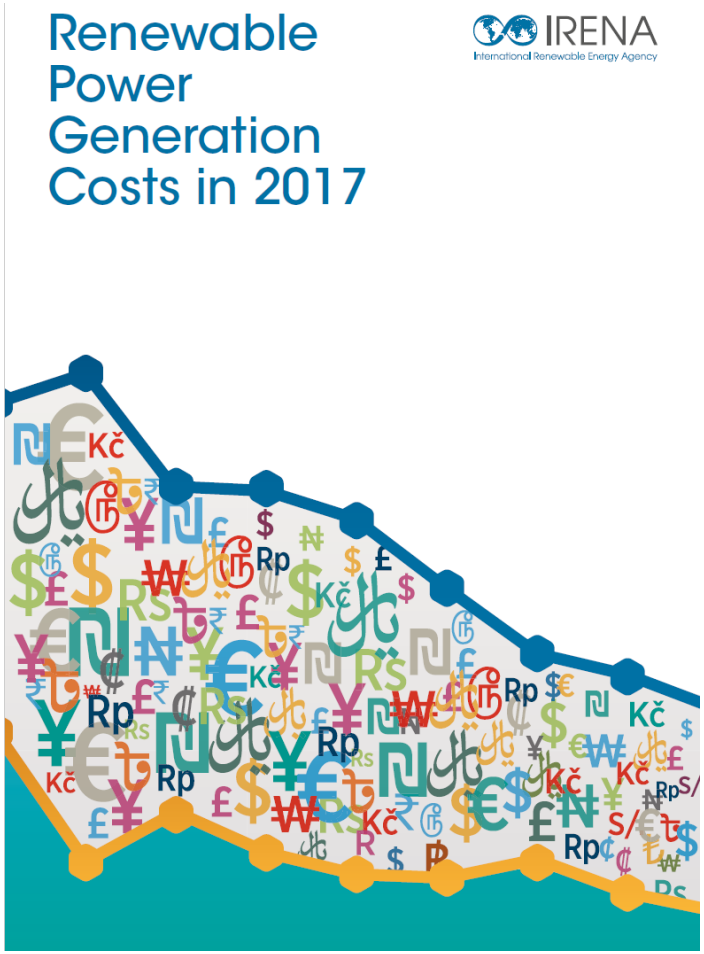


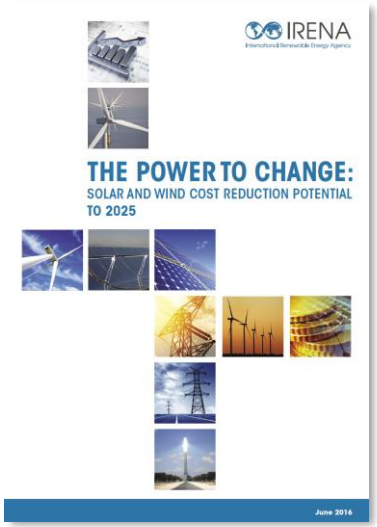
IRENA Renewable Costing Alliance
IRENA Renewable Cost Database
based on data from
15,000+ utility-scale RE projects

Recent cost evolution (1)



- Latest trends in the cost and performance of renewable power generation technologies
- Global results to 2017, country/regional results to 2016
- Detailed analysis of equipment costs and LCOE drivers
- Integration of project LCOE and Auction results to look at trends to 2020

RE costs expected to continue falling



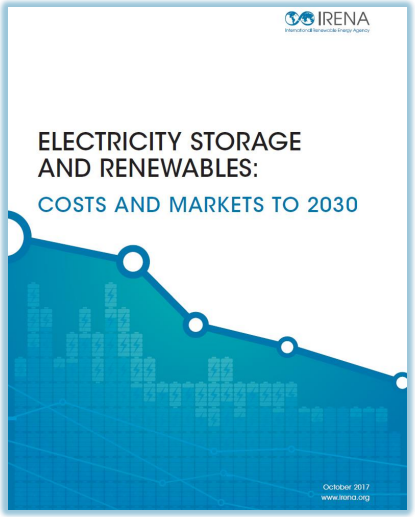
Potential for further reduction by 2025:

- Solar PV - 59%
- Onshore wind - 26%
- Offshore wind - 35%

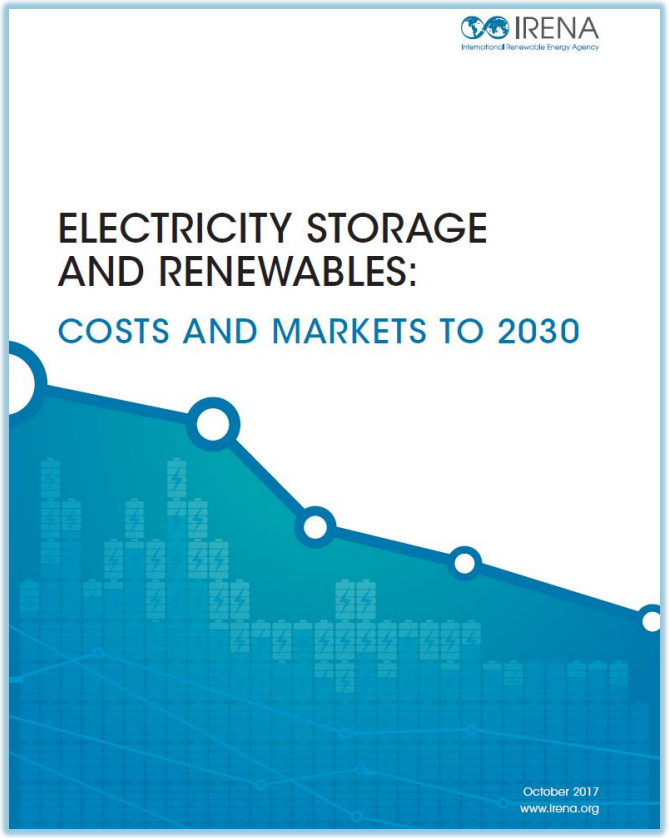
All commercial RE power to be competitive by 2020/22

Installed energy costs of battery storage systems to fall by **50-66% by 2030**

Performance improvements



Storage – stationary applications



Installed energy costs of battery storage systems to fall
50-66% by 2030

Performance improvements

Market to support range of technologies

Overall market for electricity storage to grow 2-3X by 2030
Battery storage to grow 17-38X by 2030