

**South East Europe Regional Consultation Meeting
Bucharest, Romania
6 – 7 October 2016**

Session IV: Identifying Priority Actions

RESOURCE ASSESSMENT

Resource assessment

Solar PV and Wind suitability analysis

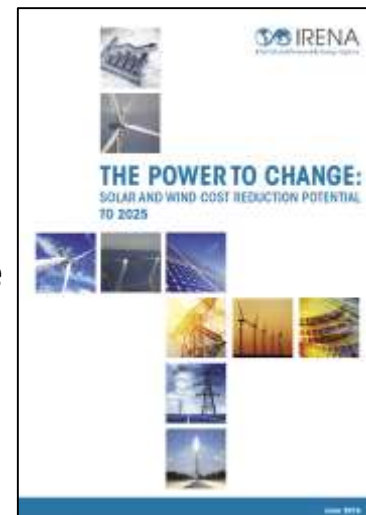
Global Atlas FOR RENEWABLE ENERGY

Suitability analysis for solar PV and wind



IRENA COSTS Renewable Energy Costs, Technologies and Markets

IRENA Renewable Costing Alliance
IRENA Renewable Cost Database
based on data from over
9,000 utility-scale RE projects



**IRENA's report on
cost-effective
renewable energy
potential in SEE**
(to be released in
December 2016)

Guiding questions

- **How can the policy makers build on the results of the analysis on cost-effective solar PV and wind potential?**
- **How the outcomes of the analysis on cost-effective solar PV and wind potential can be integrated with planning efforts to design a National Renewable Energy Action Plan and set a RE target for 2030?**
- **How can we improve the data availability on the biomass, geothermal, and hydropower potential in the region?**
- **How can the Global Atlas further support the region in resource assessment?**

ENABLING FRAMEWORKS
Policy, Regulatory, Institutional

Enabling frameworks

- **Eliminate administrative barriers and improve market access**
 - Complex administrative procedures
 - Lack of “One-Stop-Shops”
- **Create attractive and consistent RE support schemes**
 - Retroactive measures
 - Setting appropriate support levels
- **Improve PPA structure**
 - Early grant of the final PPA
- **Address grid integration challenges**
 - Grid access
 - Insufficient experience with non-hydro technologies
- **Enhance skills and capacities**
 - Academic
 - Technical
 - Planning and operational
 - Entrepreneurial
 - Policy



Renewables Readiness

Assessment (RRA) identifies the actions needed to overcome a country’s barriers to renewable energy deployment, with IRENA providing technical support and expertise to facilitate consultations among **different national stakeholders**.

Post-RRA Support:

- ✓ Technical Assistance
- ✓ Advisory
- ✓ Capacity Building

SAVE THE DATE

LEGISLATORS FORUM 2017

12-13 JANUARY 2017
ABU DHABI, UNITED ARAB EMIRATES

If you are interested in participating, send an email now to legislators@irena.org and join us in 2017 for the second edition of the Legislators Forum.

Guiding questions

- **Can the Renewables Readiness Assessment contribute to strengthening of the enabling frameworks for renewables in your country?**
- **What are the specific policy and regulatory areas that require support (RE target setting, RE support schemes, administrative barriers, regulatory approval processes, PPA etc.)?**
- **Which activities can be undertaken at regional vs. national level?**

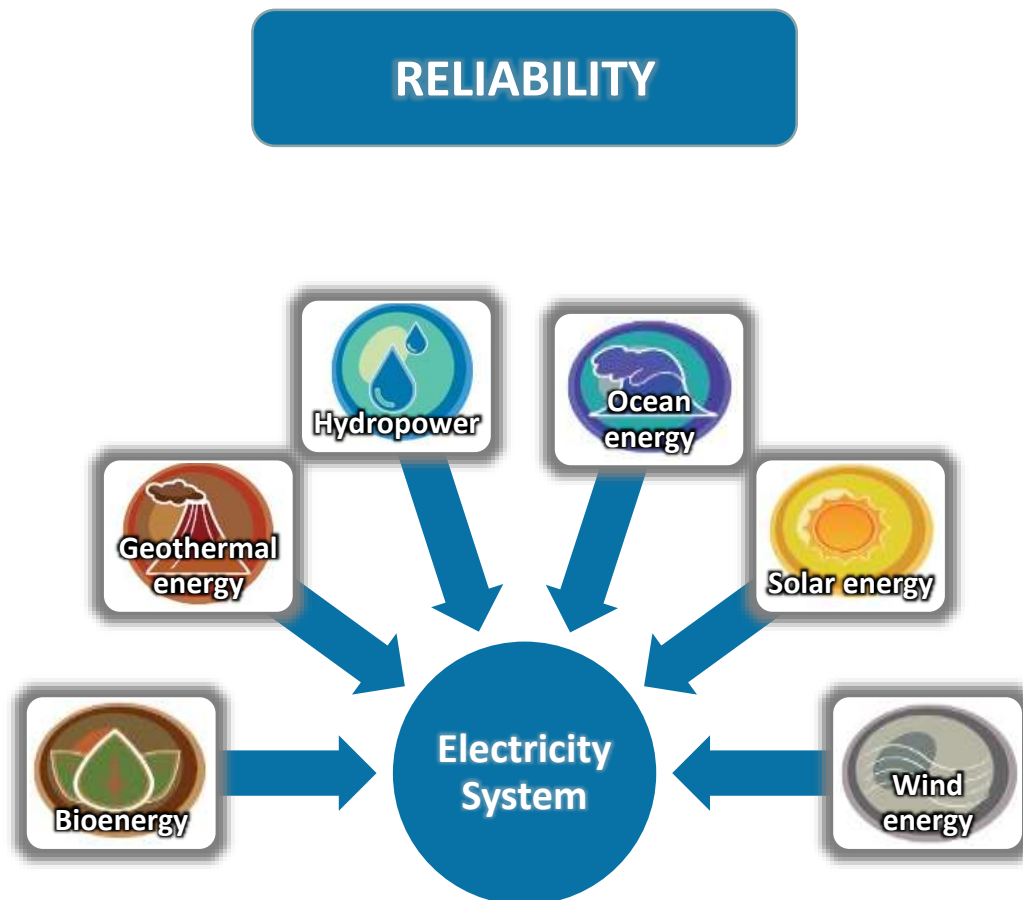
GRID INTEGRATION

Grid integration

- Renewable power capacity has accounted for **more than half** of capacity additions in the global power sector since 2011.
- At the end of 2015, renewables comprised **28.9%** of the world's generating capacity – enough to supply **23.7%** of global electricity.

Without relying on battery storage, renewables produced **38% of Spain's** electricity from January to October 2015.

41% of Danish electricity demand was met with wind (roughly 40%) and solar (2%) last year. A level of **87%** is expected just nine years from now, including 61% wind power and 3% solar PV.



Grid integration – examples of work

Clean Energy Corridor for Central America

Technical capacity building activities for grid operation

Technical assessment of control centres, operation practices and tools for a reliable integration of VRE into the system

Conducting a diagnostic on the maximum penetration levels of VRE under secure conditions in the regional system

Grid Integration Study:

- How much VRE can be integrated without major system upgrades?
- Is it feasible to achieve the target shares of VRE?
- What is required to achieve the target shares of VRE?

Until now focus on small islands but moving towards larger interconnected systems

Dominican Republic,
Antigua & Barbuda,
Barbados

Central America,

Samoa, Cook Islands,
Palau, Kiribati, Fiji,

Vanuatu

Seychelles



Guiding questions

- **Is grid integration a key challenge for TSOs in the region today?
If so, how serious?**
- **How the experiences of Bulgaria and Romania on grid integration can be used for the benefit of the rest of the region?**
- **How can IRENA and other development partners complement the work of ENTSO-E and national actors?**

ACCESS TO FINANCE

Access to finance

Cumulative additional cost-effective RE potential for SEE - 2016

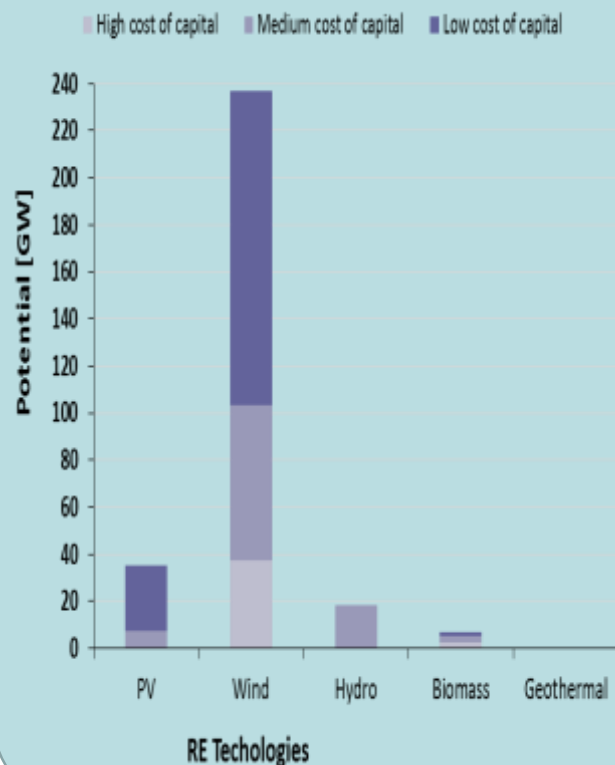


Table 2. Definition of key investment risks

Political Risk	Risks associated with political events that adversely impact the value of investments (e.g. war, civil disturbance, currency inconvertibility, breach of contract, expropriation, non-honouring of obligations).
Policy or Regulatory Risk	Risks associated with changes in legal or regulatory policies that have significant, adverse impacts on project development or implementation (e.g. incentive programs, interconnection regulations, permitting process)
Counterparty Risk (Power Off-Taker Risk)	Credit and default risk by a counterparty in a financial transaction. For renewable energy investments, it is related to the risk of default by power off-taker, typically the electric utility.
Grid and Transmission Risk	Limitations associated with limitations in interconnection, grid management, and transmission infrastructure.
Technology Risk	Risk associated with use of nascent technology or inexperienced and unskilled labour deploying it.
Currency Risk	Risks associated with changing or volatile foreign exchange rates that adversely impact the value of investments and arises when there is a currency mismatch between assets (revenues) and liabilities (debt financing).
Liquidity Risk	Possibility of operational liquidity issues arising from revenue shortfalls or mismatches between the timing of cash receipts and payments.
Refinancing Risk	Risk that a borrower is unable to refinance the outstanding loan midway through the life of a project due to inadequate loan terms (the maturity of the loan is mismatched with the lifetime of the asset).
Resource Risk	Risk associated with uncertainties around the availability, future price and/or supply of the renewable energy resource (e.g. risk related to geothermal energy projects).

IRENA analysis



Project development tools



Access to financing and risk mitigation instruments

IRENA ADFD
Supporting Energy Transition

Concessional loans



Guiding questions

- **How to support local financing institutions to scale up RE financing?**
- **How feasible to scale up energy cooperatives, crowdfunding for RE financing in the region?**
- **Can IRENA's financing tools be useful for the SEE region?**
 - **Project Navigator to help develop bankable RE projects**
 - **Sustainable Energy Marketplace to facilitate access to finance**
 - **IRENA/ADFD project facility as a source of concessional financing**