

COST-COMPETITIVE RENEWABLE POWER GENERATION: Potential across South East Europe

A Snapshot of Findings

Gurbuz Gonul Senior Programme Officer, Regions



Brussels - 29 March 2017

Unlocking the Potential for Renewable Energy and Energy Efficiency in South-Eastern Europe

GEOGRAPHIC SCOPE

Contracting Parties of the Energy Community

- Albania
- Bosnia and Herzegovina
- Kosovo*
- Montenegro
- Republic of Moldova
- Serbia
- The former Yugoslav Republic of Macedonia
- Ukraine

Members of the European Union

- Bulgaria
- Croatia
- Romania
- Slovenia













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 (WACC)

RESOURCE ASSESSMENT SOLAR PV AND WIND SUITABILITY ANALYSIS



Suitable locations for **Solar PV** investments in SEE



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

COST ANALYSIS DRAMATIC DECLINE IN SOLAR PV & WIND COSTS





Significant cost reductions since 2009:

- Solar PV module costs by 80%
- Wind turbine prices by a third

Potential for further reduction by 2025:

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



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

TECHNICAL POTENTIAL



740 GW Technical renewable energy potential in South East Europe





8.2 GW

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



IMPACT OF COST OF CAPITAL



Additional cost-competitive potential in 2016



How to improve the risk perception of the region?

- Eliminate administrative barriers and improve market access
- Create attractive and consistent RE support schemes

- Address grid integration challenges
- Enhance skills and capacities
- Facilitate access to finance

Improve PPA structure



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

Action Areas

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

	TO RENA
	benefit with the second second
DRAFT ACTION PLAN	TO SUB-
ENERGY DEVELOPME	NT IN SOLUTION AND A
	SOUTH EAST EUROPE
Descrite or share	
East Europe (SEE)" is still in its interne	vment, renewable energy development
capacity, which escends ago. Out of	at capt for the large tyckopower capacity mostly
hydropower tokes the ilon's shore (old	- read and power period in
The South East Europe region has on	
National Renewable Energy Action No.	
oursent renewable ensure take of	
and Energy Policy Promework for the	O IREINA
The international and a rear convertments of	
Renevable Power Generators Polen	Apu coost, vrimo arco amarco a anarge in ecumator andre
cost-effective manner already index	O January 107
consideration by policy material	ARII DUARI GOL
the revision of renewable energy action	UPTAKE OF DEMONIQUÉ ON ACCELEDATING THE
Grap Analysis	THE OF RENEWABLES IN SOUTH EAST FUDORE
IPPNA conducted in testing	COROPE
further deployment and determine on	Heads of Delegation to the High-Level Mark
governments to strengthen the technic	alrape, from Albania, Rosnia and Herzegovina, Crastin Madanay in South Cast
renewables. This analysis was a set of	12 January 2017, to discuss the chollenges in Fault United Arab Emboles on
efficient use of security angraged in the	International Benevable Energy Agency (allobation opportunities between to a
ond complete	The line of renewable energy.
7 Hor Mar page care of Multi activity while it was to while and it is a standard activity of Multi activity while it was to while and it is a standard activity of Multi ac	socing up teneworks among that the South Soat Events
reference to enzano la trica do caro esta la caro reconsero de a present	development of National Benevable Energy Action Branchists for 2000 process
	renewable energy development, in line was interference (NSGAPs) to achieve higher
	The survey of th
	me weads of Delegation emphasized angoing afforts arms to
	anobing homeworks for anewooks energy uptots and to capte more conducted
	They noted that increasing deployment and early
	photovoticic and wind energy the content of the con
	impad of renewable energy deployment, doing with priorities in acrossion prior
	health and environmental costs, and addression manufacturing capacity, maid
	The Heads of Delegation took note of the second climate change.
	the region's voir resource of the results of ISBNXs publication. CashCompatitive
	can be deployed in a cost effective money cheater, which solar PV and biomers and
	The Heads of Delegation also commended (second forday).
	context, recorded to technical deployment of receivables in the most
	in regional consultative process undertaken by IRBNA.





of the Federal Republic of Germany

This project is part of the International Climate Initiative (IKI). The Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMUB) supports this initiative on the basis of a decision adopted by the German Bundestag.

Thank you.

Energy Community Renewable Energy

- targets for 2020 \rightarrow NREAPs
- Alignment with 2030 Energy and Climate framework of the EU
- 30% RE share in regional electricity mix; but mostly hydro installed decades ago
- Limited share of solar PV and wind despite the dramatic cost decline
- Ongoing discussions on the future electricity mix



Solar: 3,5 GW

9%

Wind:

4,9 GW 14%

Biomass: 0,3 GW





SEE COST-COMPETITIVE WIND POTENTIAL









