

# Bulgaria's Green Energy Challenge

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Introductory Comments by Costis Stambolis, A.A. Dip. Grad.,  
MIE, Executive Director  
Institute of Energy for S.E. Europe (IENE)

INSTITUTE OF ENERGY  
FOR SOUTH EAST EUROPE



## The South East Region Defined



# SE Europe Basic Economic & Energy Parameters (2009)

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<input type="checkbox"/> Population	137.02 million
<input type="checkbox"/> GDP	1.585.6 USD billion
<input type="checkbox"/> Installed Electricity Capacity	110.926 MW
<input type="checkbox"/> Oil Consumption	1.759.050 bbl/day
<input type="checkbox"/> Oil Production	168.650 bbl/day
<input type="checkbox"/> Gas Consumption	69.95 BCMs
<input type="checkbox"/> Gas Production	14.84 BCMs



## SE Europe's Capacity Mix 2009,2020

### Installed Capacity in GW

	2009	2020	Additional Capacity (GW)
<b>Oil</b>	5,5	3,3	-2,2
<b>Solid Fuels</b>	39,7	45,8	+6,1
<b>Nuclear</b>	3,5	10,3	+6,8
<b>N. Gas</b>	25,1	32,1	+7,0
<b>Hydro</b>	32,5	37,6	+5,1
<b>RES</b>	4,1	14,5	+11,4
	<b>110,4</b>	<b>143,6</b>	<b>36,4</b>

# RES in S.E. Europe



RES in Gross Final Energy Consumption						Target
%	2005	2020	% diff	2030	% diff	2020
Albania	32.6	25.7	2.8	26.0	5.3	?
Bosnia	18.8	20.9	4.7	24.4	7.9	?
Bulgaria	11.1	23.5	12.2	34.3	18.1	16%
Croatia	13.6	16.3	2.9	18.7	5.2	?
Greece	7.6	17.8	7.1	22.5	10.1	20%
FYROM	15.7	22.8	5.8	25.6	10.6	?
Romania	18.9	25.8	6.8	29.0	8.2	24%
Serbia & Montenegro	18.9	19.5	4.3	18.7	5.1	?
<b>Balkans excl. Turkey</b>	<b>14.9</b>	<b>21.4</b>	<b>6.5</b>	<b>24.8</b>	<b>8.9</b>	
Turkey	15.5	13.3	3.7	14.6	5.4	?
<b>All SEE</b>	<b>15.2</b>	<b>17.0</b>	<b>5.6</b>	<b>19.0</b>	<b>7.5</b>	
EU27	8.6	20.0	5.2	22.2	3.8	20%

# Some Latest Important Developments



## Renewable Energy Sources

- Steep rise in RES installed capacity over last 3 years
- Solar PV installed capacity in Greece ~ 1.000 MW and Bulgaria ~ 600 MW (September 2012)
- Wind in Greece, Bulgaria, Romania, Turkey ~ 5.200 MW of total installed capacity (May 2012)
- Small Hydro – Albania, Montenegro, Croatia, Serbia, Romania, Greece, Turkey, Bosnia – Herzegovina ~1700 MW



## Anticipated Total Energy Infrastructure Investment Per Sector in SE Europe



Sector	Investments (€ Million)
<b>Oil Upstream(Reaserch, Exploration and Productions</b>	<b>33,820</b>
<b>Oil Downstream/Midstream (incl. Liquid biofuels</b>	<b>23,100</b>
<b>Electricity</b> <ul style="list-style-type: none"> <li>▪ Thermal Plants</li> <li>▪ Nuclear Plants</li> <li>▪ Lignite Mine Development</li> <li>▪ Grid-Upgrade &amp; Expansion (incl. metering systems)</li> </ul>	<b>89,692</b>
<b>Gas</b> <ul style="list-style-type: none"> <li>▣ Main and branch gas pipelines</li> <li>▣ Gas storage</li> <li>▣ LNG Terminals &amp; Liquefaction plants</li> <li>▣ Town grids</li> </ul>	<b>24,955</b>
<b>▣ RES (Wind, PV, Biomass, Mini Hydro, Geothermal)</b>	<b>47,633</b>
<b>Intraregional mega Projects</b> <ul style="list-style-type: none"> <li>▣ Oil Pipelines</li> <li>▣ Gas Interconnectors</li> <li>▣ Main gas pipelines</li> </ul>	<b>20,800</b>
<b>▣ Total</b>	<b>240,000</b>



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**Thank you for  
your attention**

[octombelic@iene.org](mailto:octombelic@iene.org)