INVESTBULGARIA
AGENCY

Sostenibilità Ambientale

Camera di Commercio Italiana in Bulgaria

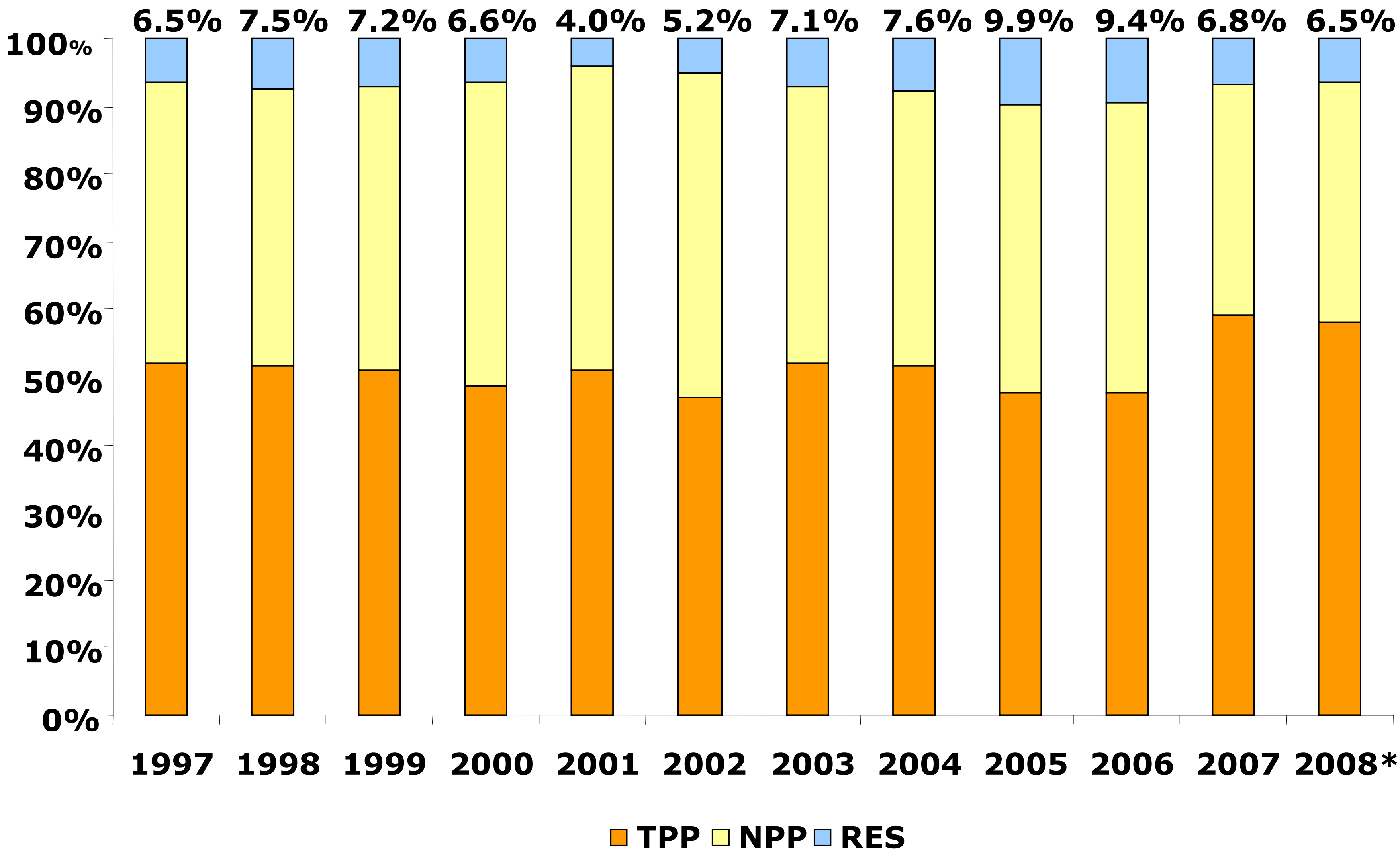
Italian Chamber of Commerce in Bulgaria

Assocamerestero

INVESTBULGARIA AGENCY

RES Sector in Bulgaria

Gross electricity production-structure



Source:MEE

RES-based electricity production- Installed capacities (MW)

Type of RES	2005	2006	2007	2008
Hydroelectricity (incl. small HPP)	1508(164)	1524(176)	1539(198)	1535(205)
Wind turbines	7,50	25,50	57	101
Solar PV	0,00	0,00	0,03	0,1
Total	1515,5	1549,5	1596	1636

Source: MEE,EWEA

Wind power parks' installed capacities rose about 8 times for the period 2005-2007.

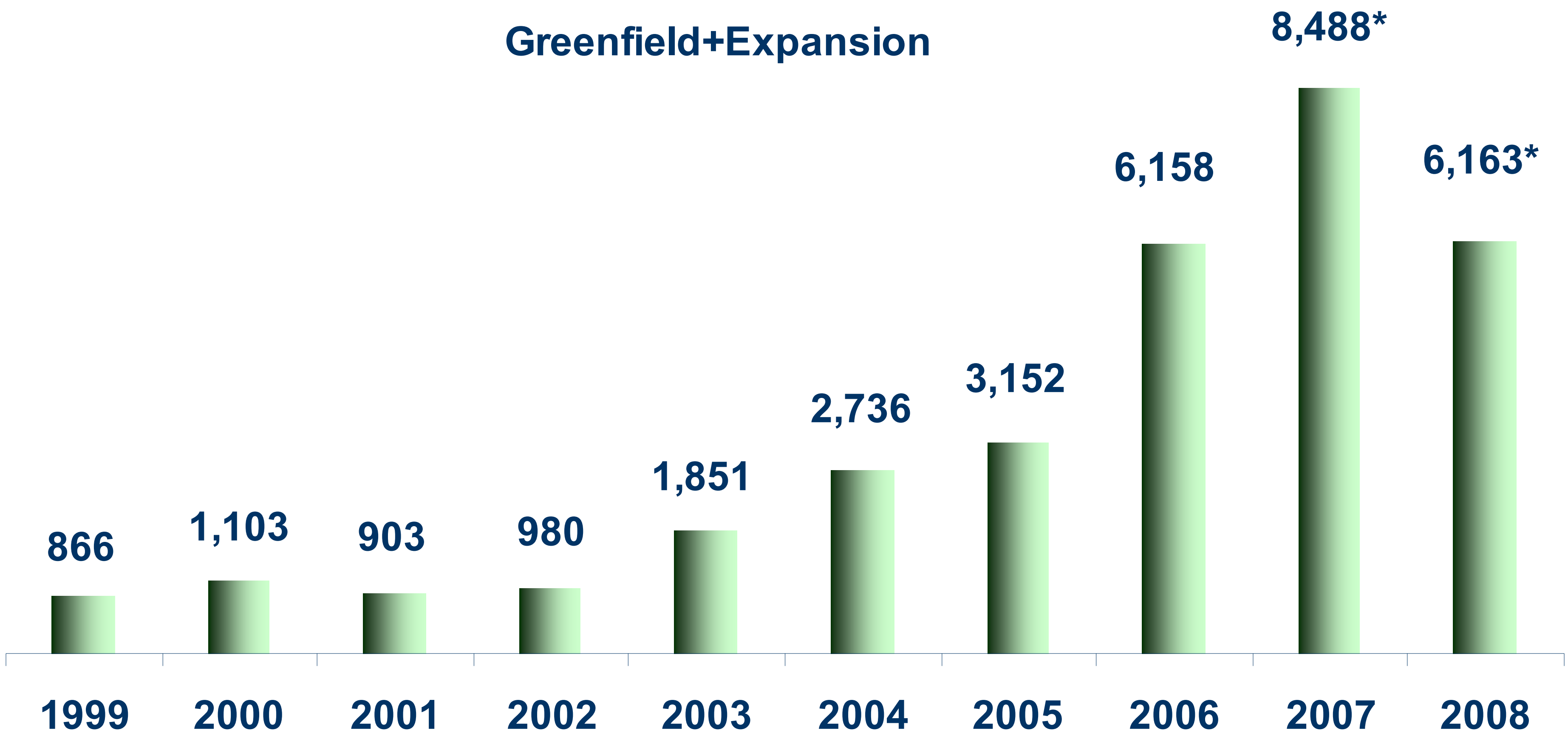
Electricity production (GWh) from RES (2005-2008)

Type of RES	2005	2006	2007	2008
Hydroelectricity (incl. small HPP)	4336,5(548)	4238(520)	2873	2769(527)
Wind turbines	4,5	20	47	122
Solar PV	0,00	0,00	0,01	0,02
Total	4 341	4 258	2919	2 892

Source:MEE

Wind power parks production increased over 10 times for the period 2005-2007
The average annual electricity production from RES for the period 1997-2007 amounts to ca. 2977 GWh.

Record inflow FDI in 2006 - 2008, EUR m



* Preliminary Data

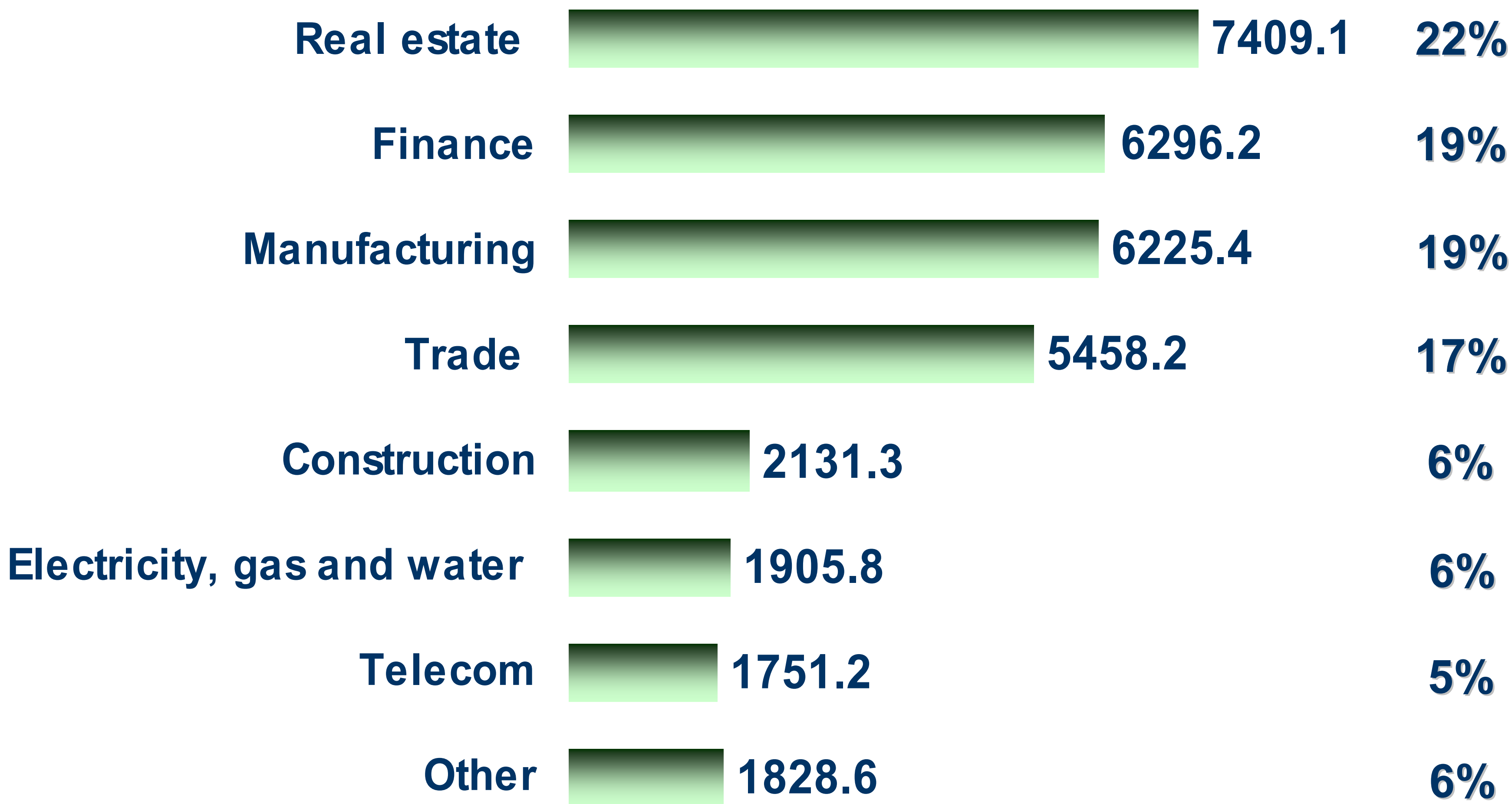
Source: BNB, IBA

FDI stock by country,1996 – 2008, %, EUR m

Austria	the Netherlands	Greece	Un. Kingdom	Germany
16% 5426.5	12% 3949.0	9% 3070.3	8% 2741.4	6% 2185.5
Cyprus	Belgium & Luxemburg	USA	Hungary	Italy
5% 1752.7	5% 1577.1	4% 1218.7	3% 1157.8	3% 1091.7

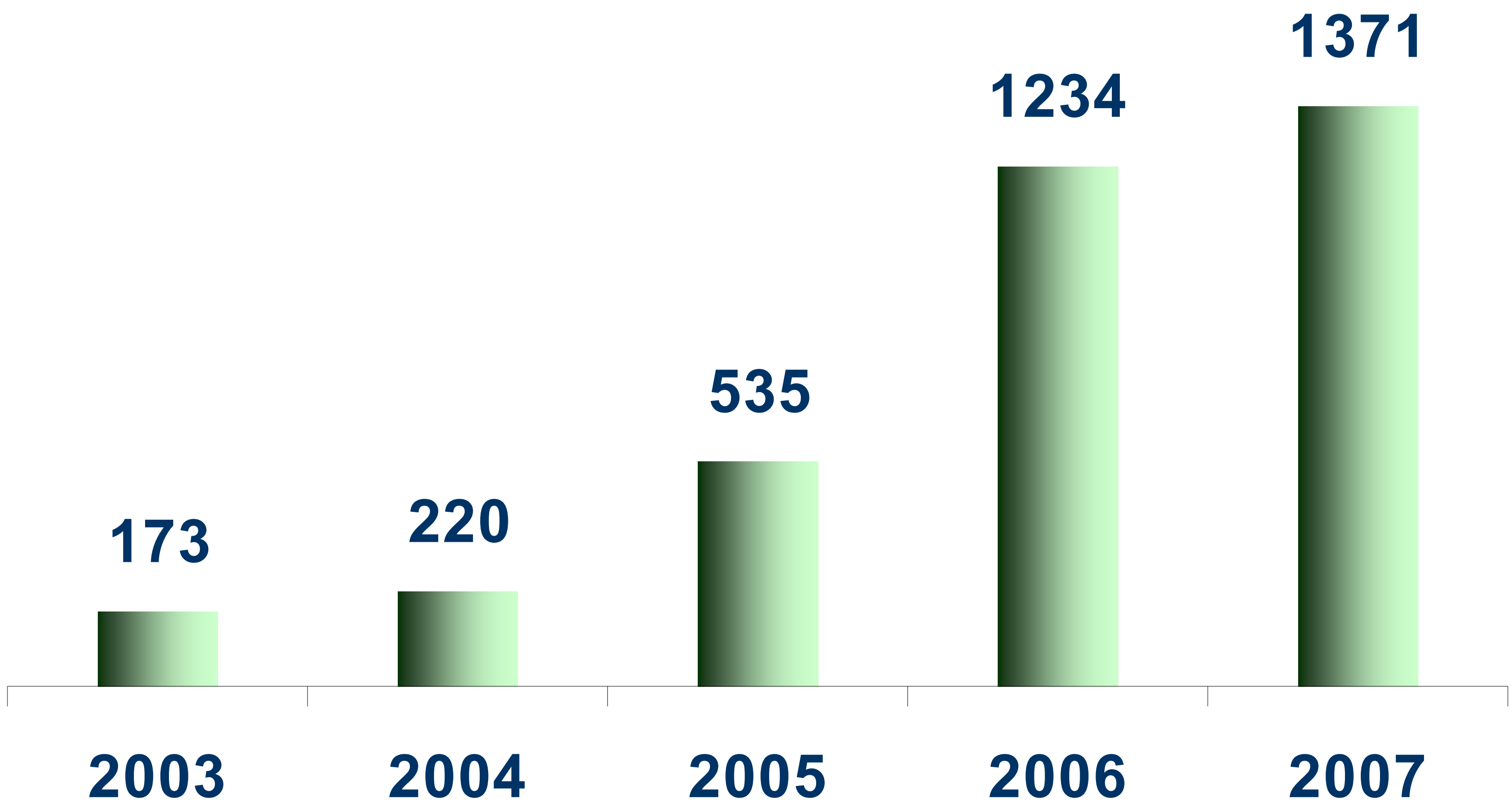
Source: BNB, IBA

FDI stock by sector, 1998 – 2008, %, EUR m



Source: BNB, IBA

FDI inflow in the energy sector (Mio. USD)



Source: NSI

RES potential in Bulgaria

Advantages of Bulgaria as RES investment destination

- **Availability of potential energy sources-hydro, wind, solar, geothermal, biofuel and biomass**
- **Booming RES Sector**
- **Favourable national energy legislation completely harmonized with EU's**
- **Targeting at 8% reduction of greenhouse gas emissions 2008-2012 under the Kyoto Protocol**
- **Propitious climate conditions for wind- and solar-based electricity production**
- **Biomass- 60% of land is agricultural, and about 30% is forest cover**
- **Geothermal- ca. 140 thermal springs in Bulgaria, used mainly for balneotherapy**

Bulgaria-RES potential

- Bulgaria-approaching its RES-Electricity target for 2010.
- Large-scale hydro power - the main source of RES-Electricity
- Total wind energy capacity of around 2,200 - 3,400 MW could be installed.
- Solar potential available in the East and South of Bulgaria
- 200 MW could be generated from geothermal sources.

Certified Projects by InvestBulgaria Agency in RES 2004 - 2009

Investor	Project	Value (EUR mln)	Capacity (MW)
Kaliakra Wind Power AD, Sofia (Mitsubishi Heavy industries, Japan)	Kaliakra Wind Park	47	35
Vyataren Park Stanata EOOD, Dobrich (WE2 and WPD, Germany)	Wind farm Odartsi	38	32,5
Balkan Energy AD, Sofia	Dobrin Wind Park	121	80
Eolica Bulgaria, Sofia (Eolica Navara, Spain)	Wind Farm “Suvorovo”	89	60
AES Geo Energy OOD, Sofia	Wind Farm Sveti Nikola – Kavarna Municipality	184.8	160
Eko Bio Fuels Industry AD	Bio Energy and Fuels – Vidin	102	51
Enemona AD Kozluduy	Energy Utilization of agricultural Biomass in North Bulgaria	50	10
Vetrocom EOOD Sofia	Wind Park Vetrocom , village of Enina	85	50

Source: IBA

Other projects in perspective

Project Title	Technology	Capacity, MW	Status	Sponsor
Elika Bulgaria Wind Park	Wind	236	planned	Elika Bulgaria
Lyubimets Solar Park	Solar PV	50	planned	Sinosol Group
Dolna Arda, Bulgaria Hydro Rehab	Hydroelectric	331	construction	VA TECH Hydro
Plambeck Bulgarian Wind	Wind	250	planned	Plambeck Neue Energien AG
Bulgarian Biofuels by Verbio	Biofuels	n.a	planned	Verbio AG (Verbio Vereinigte BioEnergie AG)

Source: EBRD Renewable Energy Initiative, SEWRC

Wind capacity in SEE countries(MW)

End 2007		Installed 2008	End 2008
Bulgaria	57	101	158
Croatia	17	1	18
Czech Republic	116	34	150
FYROM	0	0	0
Greece	871	114	985
Hungary	65	62	127
Romania	8	2	10
Slovakia	5	0	3
Turkey	147	286	433

Bulgaria ranks 3rd among SEE countries by installed wind power capacities by end of 2008

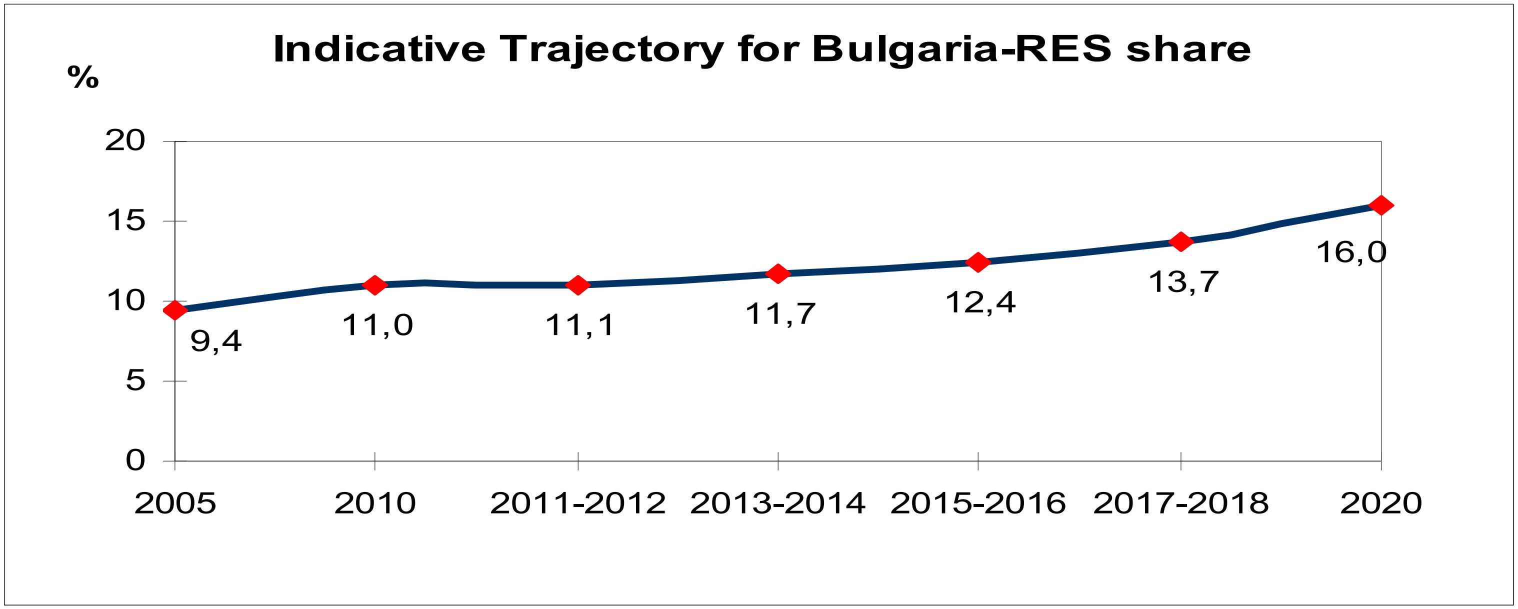
Source: EWEA

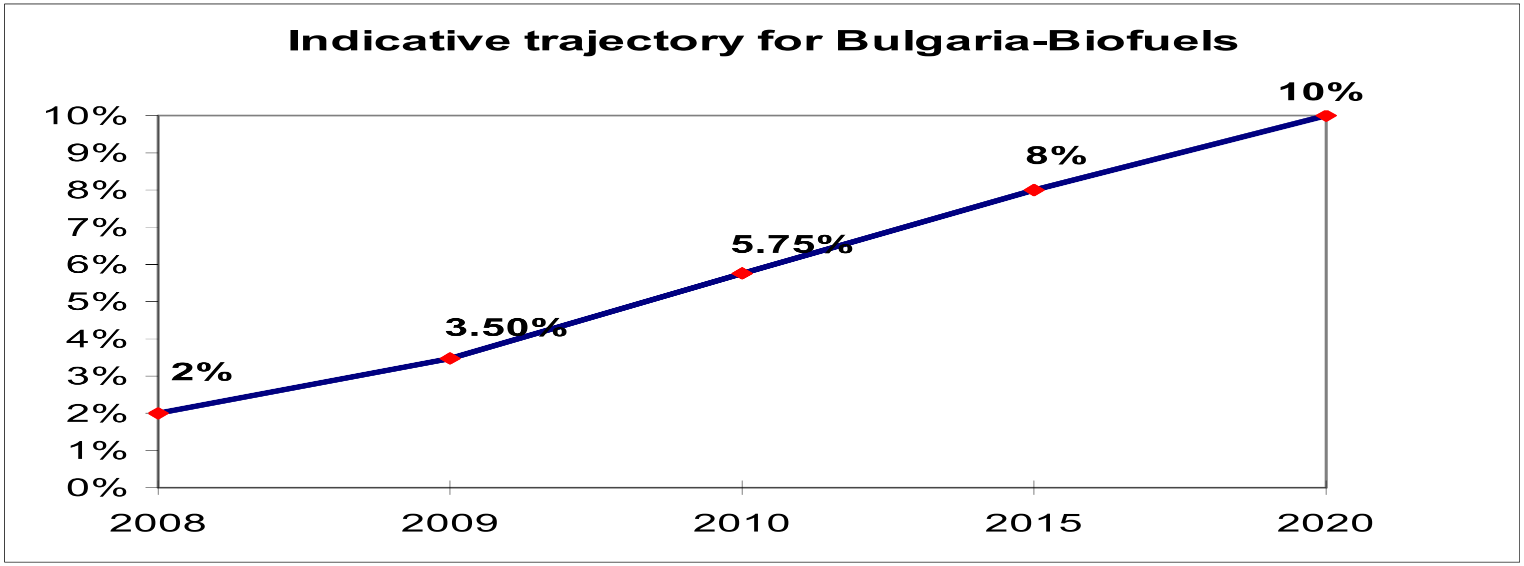
Support mechanisms

RES Policy-Indicatives

- ***Main EU objective*:**
  - By 2020 renewable energy should account for 20 % of EU's final energy consumption
- ***RES Target according to 2001/77/EU Directive***
  - 11% Share of RES of gross electricity consumption by 2010 in Bulgaria
- ***Biofuels Target according to 2003/30/EU Directive***
  - 5.75% share of the biofuels in the fuel consumption in the transport sector in 2010.
- ***Mandatory targets set by the newly proposed RES Framework Directive from 2008***
  - 16 % share of RES of the final consumption of energy in Bulgaria in 2020.
  - At least 10% share of biofuels of final consumption of energy in transport in Bulgaria in 2020.

Indicative Trajectory





Legislation Framework-harmonized with EU-Directives

Directive 2001/77/EU
Directive 2006/108/EU

Directive 2003/30/EU

Renewable and Alternative Energy Sources and Biofuels Act
National long-term programme for support of RES utilization 2005-2015

Main goals

- **Support of the development and utilization of technologies for production and consumption of RES and AES energy and consumption of biofuels**
- **Reduction of the expenses for energy resources import**
- **Increase of the capacity of the small and medium enterprises, RES and AES energy producers and biofuels producers**
- **Diversification of energy supply**
- **Creation of conditions for achievement of sustainable development on local and regional level**
- **Environmental protection**

Support for RES Electricity-tariffs

Resource	Installed capacity/type of biomass	Preferential price, €/ MWh
Wind	New wind plants with installed capacity under 800 kW with induction generator and cage rotor	**74,14**
Wind	New wind plants with installed capacity 800 kW or more with working hours per year up to 2250	**96,63**
Wind	New wind plants with installed capacity 800 kW or more with working hours per year over to 2250	**87,94**
Solar PV	with installed capacity up to 5 kWp	**420,79**
Solar PV	with installed capacity over 5 kWp	**386,02**
Small Hydropower plant	with installed capacity up to 10 MW	**53,69**
Biomass	Wood-waste up to 5 MW	**110,95**
	Vegetal waste from the agriculture up to 5 MW	**84,87**
	Energy crops up to 5 MW	**95,61**

Note: VAT not included in the above prices

Source: State Energy and Water Regulatory Commission (SEWRC)

Support mechanisms for RES energy production

- **Long-term period for obligatory purchase of RES-based electricity:**
  - ***25 years: for solar and geothermal RES electricity***
  - ***15 years: for RES electricity from HPP's with installed capacity up to 10 MW and for any other RES electricity***
- **Feed-in tariffs set by State Energy and Water Regulatory Commission**
- **Obligatory connection to the electricity grid of the RES producers**
- **Guarantees of origin not only for the electricity produced by RES but for the heat and cooling energy also**
- **Tax exemption for biofuels**
- **Obligatory blending for the distribution companies of biofuels with mineral fuels in quantity maximum allowed by the fuel quality standards.**

Financial support for all RES

- EBRD Initiatives (www.beerecl.com):
  - Bulgarian Energy Efficiency and Renewable Energy Credit Line (BEERECL). 141 projects submitted for financing under the BEERECL; of them 126 have already been financed; receiving loans worth more than EUR 85 million and worth a total project value of over EUR 135 million.
  - Kozloduy International Decommissioning Support Fund (KIDSF) - Small RES projects eligible for a 20% grant of the loan under the BEERECL facility. 79 project sponsors have received Incentive Payments totaling EUR 14,406,000 provided by EBRD from the KIDSF.
- A bill is foreseen for 2011 on the market mechanisms for encouraging production of electricity and heating power from renewable energy sources.