

RENEWABLE ENERGY SNAPSHOT:



Empowered lives.
Resilient nations.

Bulgaria

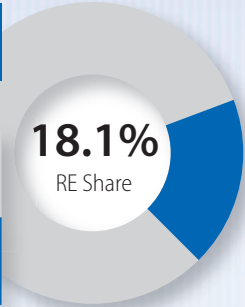


General Country Information

Population: 7,304,632
 Surface Area: 111,000 km²
 Capital City: Sofia
 GDP (2012): \$ 51 billion
 GDP Per Capita (2012): \$ 6,986
 WB Ease of Doing Business: 58

Electricity Generating Capacity 2012

	10,549 MW Total Installed Capacity
	1,909 MW Installed RE Capacity



- Biomass
- Solar PV
- Wind
- Small Hydro

Installed Renewable Electricity Capacity 2012 in MW

Technical Potential for Installed Renewable Electricity Capacity in MW

6.6	933	684	285¹
3,700	103,600	3,400	300²

Sources: EBRD(2009); WWEA (2013); EurObserv'Er (2013); ESHA (2009); World Bank (2014); ECS (2011); Republic of Bulgaria (b) (2011); EC (2013); Renewable Facts (2013); EIA (2013); Hoogwijk and Graus (2008); Hoogwijk (2004); JRC (2011); and UNDP calculations.

Key information about renewable energy in Bulgaria

Although Bulgaria's renewable energy already represents 18 percent of the country's total installed capacity, there is still potential to exploit renewable sources, particularly biomass. In 2012, Bulgaria experienced the world's tenth highest growth rate of new wind energy power plants (WWEA, 2013). In that year alone, 712 MW of installed solar capacity was added to the country's energy mix. Such exceptional growth was due largely to the adoption of a feed-in tariff for electricity produced from renewable sources. Plant operators may enter into a power purchase ob-

1 Value is from 2009
 2 Due to lack of data, the value represents the economic potential.

Feed-in tariff in Bulgaria ³		
Eligible technologies	Technology-specific thresholds	Tariff granted in €/MW-h
Wind	Up to 30 kW	89.92
	Up to 200 kW	83
	Up to 1 MW	77.4
	Exceeding 1 MW	62.64
Solar	Facades and roof-top installations between 5 kW and 1 MW	100.5 - 180.99
	All other installations depended on installed capacity	81.91 - 100.5
Hydro	Up to 10 MW and depended on the size of the plant	50.1 - 123.74
Biomass	Depending on fuel type	84.1 - 127.83

Source: ResLegal (2013) (Lev/€ exchange rate on 4 December 2013)

ligation with the grid operator ensuring the purchase of electricity for 20 (biomass and solar power), 15 (small hydropower) and 12 (wind power) years respectively. Bulgaria's State Energy and Water Regulatory Commission revises the tariff for new commissioned plants in June each year. The tariff for a specific plant is ensured for the entire eligibility period. The World Bank's Ease of Doing Business index ranks Bulgaria in 58th position (IFC& World Bank, 2014).

Legislation and policy

In line with EU Directive 2009/28/EC, Bulgaria established a binding national target for the share of energy from renewable sources in the gross final consumption at 16 percent by 2020. To reach that target, 20.8 percent of electricity shall originate from renewable sources (Republic of Bulgaria (a), 2011). The Energy from Renewable Sources Act and the Energy Act define the promotion of renewable energy sources. There are also other incentives for the development of renewable energy sources. The European Bank for Reconstruction and Development distributes loans of up to €2.5 million and grants up to 15 percent of the loan through its BEERECL programme. The European Regional Development Fund provides financing of eligible costs up to 100 percent for feasibility studies, investments in refurbishment, installation and maintenance of production technologies, and renewable energy equipment (ResLegal, 2013). If the grid operator cannot demonstrate that additional capacity from renewable energy threatens grid security, renewable energy plant developers have the right to a non-discriminatory connection to the power grid. The right to prioritized grid connection was abolished by the Energy from Renewable Sources Act in May 2011. Grid connection costs are born by the grid operator or the responsible utility until the connection reaches the property of the power plant operator. Renewable energy power plants with less than 5 MW capacity are exempt from an electricity production licence (KPMG, 2012). Fortunately, Bulgaria's Supreme Administrative Court overruled the retroactive grid usage fee, which would have required photovoltaic plant operators to pay back up to 39 percent of the original assigned feed-in tariff (ResLegal, 2013). However, in late 2013 the Bulgarian parliament adopted a 20 percent fee on the revenue of wind and solar installations in 2014 following a proposal by Budget Commission (Reuters, 2013). In addition, the State Energy and Water Regulatory Commission has introduced a new fee (€1.25 / MW-h) for transmission grid access for wind and solar power plants.

3 Electricity from Biogas is also eligible to receive a feed-in tariff (ResLegal, 2013).

Institutions

Organization	Responsibility	Website
Ministry of Energy and Energy Resources	- Governmental body shaping energy policy	www.old.mee.government.bg/eng/
State Energy and Water Regulatory Commission	- Energy Regulator determines the feed-in tariff annually - Grants permits and licences to companies within the power sector.	www.dker.bg/docsbg.php?d=8
National Electric Company	- Subsidy of state-owned Bulgarian Energy Holding, owning hydropower plants with total capacity of over 2,000 MW	www.nek.bg/cgi?d=1000
Electric System Operator (ESO EAD)	- As a subsidiary of Natsionalna Elektricheska Kompania - NEK EAD, ESO EAD is responsible for operating the national grid	www.tso.bg/default.aspx/eso/en
Invest Bulgaria Agency	- State investment agency, established to attract, consult and facilitate potential investors	www.investbg.government.bg/en

Opportunities to finance renewable energy projects in Bulgaria

Financing organization	Details	Website
Bulgarian Energy Efficiency and Renewable Energy Credit Line	Local enterprises can benefit from European Bank for Reconstruction and Development loans for small scale renewable energy projects (small hydropower plants up to 10 MW, Wind up to 5 MW, Biomass up to 10 MW and solar up to 1MW) up to €2.5 million and grants (excluding photovoltaic) up to 15percent of the received loan.	www.beerecl.com
Bulgaria Energy Efficiency Competitive Industry Financing Facility	Small and medium enterprises can receive loans for renewable energy projects of up to 20 percent through partnerships intermediaries (e.g. Allianz Bank Bulgaria, DSK Bank) and grants of up to 50 percent (max. 2 million Lev) of total eligible costs.	www.beeciff.org/
European Bank for Reconstruction and Development (EBRD)	Provides renewable energy developers with equity, loans and loan guarantees for projects with good commercial prospects of up to 15 years' duration.	www.ebrd.com/pages/workingwithus/projects.shtml
International Finance Corporation (IFC)	Private and environmentally and technically sound projects may apply for loans of up to 35 percent of the estimated projects costs, usually provided through partner intermediaries.	www.ifc.org/

Bulgaria

Financing organization	Details	Website
Bulgaria Energy Efficiency and Renewable Sources Fund	Provides loans and guarantees for Bulgarian municipalities, private persons and corporations in energy efficiency, and also to projects utilizing renewable energy sources.	www.bgeef.com
EU Means - European Investment Fund/ - European Investment Bank - Structural Funds	Loans and guarantees through Bulgarian financial intermediaries (e.g. Bulgarian Development Bank, Postbank/Eurobank EFG) and private equity/venture capital are available.	www.europa.eu/youreurope/business/finance-support/access-to-finance/

Recent projects

Company	Project	Status
PNE Wind AG (German) & Dobrudzha OOD (Bulgarian)	German PNE Wind signed a joint venture agreement to develop a 150 MW wind farm in the Dobrudzha region.	Under development
LG CNS (South Korea)	Constructed a solar power plant of 21.3 MW.	Commissioned

References

Energy Charter Secretariat (ECS), 2011: Bulgaria – Follow-up In-Depth Review of the Investment Climate and Market Structure in the Energy Sector. Available at: www.encharter.org/fileadmin/user_upload/Publications/Bulgaria_ICMS_2011_ENG.pdf

EurObserv'Er, 2013: Photovoltaic Barometer 2013. Available at: www.energies-renouvelables.org/observ-er/stat_baro/observ/baro-jdp9.pdf

European Bank for Reconstruction and Development (EBRD), 2009: Bulgaria – Country Profile. Available at: http://ec.europa.eu/energy/publications/doc/2013_pocketbook.pdf

European Commission (EC), 2013: EU Energy in Figures - Statistical Pocket Book 2013. Available at: http://ec.europa.eu/energy/publications/doc/2013_pocketbook.pdf

European Small Hydropower Association (ESHA), 2009: HYDI Database. Available at: <http://streammap.esha.be/>

Hoogwijk, M., 2004: On the global and regional potential of renewable energy sources. Utrecht: Universiteit Utrecht, Faculteit Scheikunde. Dissertation.

Available at: <http://igitur-archive.library.uu.nl/dissertations/2004-0309-123617/full.pdf>

Hoogwijk, M. and W. Graus, 2008: Global Potential of Renewable Energy Sources: A Literature Assessment. Available at: www.ecofys.com/files/files/report_global_potential_of_renewable_energy_sources_a_literature_assessment.pdf

International Finance Corporation (IFC) and World Bank, 2014: Doing Business – Measuring Business Regulations. Available at: www.doingbusiness.org/data/exploreconomies/bulgaria/

Joint Research Centre of the European Commission (JRC), 2011: Technical Assessment of the Renewable Energy Action Plans. Available at: http://ec.europa.eu/dgs/jrc/downloads/jrc_reference_report_2011_reap.pdf

KPGM, 2012: Investment in Bulgaria. Available at: www.kpgm.com/BG/en/IssuesAndInsights/ArticlesPublications/Brochures/Documents/2012-Investment-in-Bulgaria-web.pdf

Renewable Facts, 2013: Bulgaria. Available at: www.renewablefacts.com/country/bulgaria

Republic of Bulgaria (a), 2011: National Renewable Energy Action Plan. Available at: http://ec.europa.eu/energy/renewables/action_plan_en.htm

Republic of Bulgaria (b), 2011: Energy Strategy of the Republic of Bulgaria till 2020 – For reliable, efficient and cleaner energy. Available at: www.mi.government.bg/files/useruploads/files/esp/23_energy_strategy2020%6D%95ng.pdf

Reuters, 2013: UPDATE 2 - Bulgaria imposes 20 pct fee on solar and wind power. Available at: www.reuters.com/article/2013/12/05/bulgaria-renewables-idUJ5L5N0JK1BF20131205 (accessed 4 March 2014)

U.S. Energy Information Administration (EIA), 2013: Levelized Cost of New Generation Resources in the Annual Energy Outlook 2013. Available at: www.eia.gov/forecasts/aeo/electricity_generation.cfm

World Bank, 2014: Data Catalog. Available at: <http://datacatalog.worldbank.org/>

World Wind Energy Association (WWEA), 2013: 2012 Annual Report. Available at: www.windea.org/webimages/WorldWindEnergyReport2012_final.pdf