

ISLAMIC REPUBLIC STATE OF AFGHANISTAN



Ministry of Energy and Water

Country Presentation

By

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ISLAMIC REPUBLIC STATE OF AFGHANISTAN

Part 1

About Afghanistan

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Renewable Energy Framework





ISLAMIC REPUBLIC STATE OF AFGHANISTAN

Part 1

About Afghanistan





ISLAMIC REPUBLIC STATE OF AFGHANISTAN

- **Location:** located between Central and South Asia
- **Population:** Around 29.7 M
- **36%** of population **living in poverty** (UNDP)
- **Agriculture** is the **largest sector** contributing **23%** of GDP and employing **78.6%** of labor
- Over the past three decades, **forest cover** has decreased by **50%**. Today forests cover only **2% of Afghanistan** (UNEP 2013)
- One of the most vulnerable countries to climate change (UNEP 2014)



ISLAMIC REPUBLIC STATE OF AFGHANISTAN

Name of Country	Islamic Republic of Afghanistan
Nationality	Afghan
Population, total (millions)	29.7
Surface area, sq. km. (thousands)	652.9
Fiscal year	Starts 21 Dec-
GDP, current US\$ (billions)	20.30
Poverty headcount ratio at national poverty lines (% of population) (2013-14)	54.5
GDP growth (annual %)	3.6
Share of GDP in Agriculture (% of GDP)	23
Share of GDP in Industry (% of GDP)	21.1
Share of GDP in Energy (% of GDP)	0.1





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Part 2

Renewable Energy in Afghanistan





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RENEWABLE ENERGY IN AFGHANISTAN

No	Type	Potential
1	Hydro Power	• 23,000MW of Energy • Current collective installed capacity of Hydro Power energy is over 270 MW. • 125+ sites have been identified for MHP, with potential of over 600MW of electricity • Micro/Mini hydropower (MHP) prefeasibility studies plants have been done in nine provinces.
2	Wind Energy	• Commercially exploitable wind resources exist in many parts of the country. • 68000 MW Potential, 5MW/km² • 31,600km² windy land area i.e. 5% of Afg. total land area. • The most windy areas of Afghanistan are; Herat, Farah, Balkh, Naimroz and Takhar Provinces.



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RENEWABLE ENERGY IN AFGHANISTAN

No	Type	Potential
3	Solar Energy	• Afghanistan has excellent solar energy resources throughout its regions. • 300 Sunny day in one year. • 3,000 Hours of Sun. • 6.5 kWh/m² per day solar radiation average • Over 100,000 (over 650 Villages) solar home systems (SHSs) have been installed in various parts of the country. • Solar street lights have been put in place at different parts of the country. • Solar water pumps at different part of the country used for irrigation and drinking water.





RENEWABLE ENERGY IN AFGHANISTAN

No	Type	Potential
4	Bio-Mass	• More than 85% of Afghanistan's energy needs are met by traditional biomass, mainly wood and dung, however this has led to severe deforestation. • Other sources of Biomass in Afghanistan are; Human/Animal waste, Municipality Waste (Garbage) etc. • An estimated 350 small biogas digesters have been installed in different parts of Afghanistan.
5	Geo-Thermal Energy	• Prospects of low to medium temperature geothermal resources are widespread all over Afghanistan. • 3 big possible regions of geothermal (Heart-Panjshir, Chaman – Moqor and Sarobi – Altimore) • Tectonic structure of Afghanistan suggests the presence of vast hot water circulation systems underground - 27 Geysers has been identified • Power plants to be built in Afghanistan could range from 5 to 20MW each



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RENEWABLE ENERGY PLANED PROJECTS

- 1- Helmand Solar Project
- 2- 100 MW Naglu Solar Project
- 3- 10 MW Uljeto – Mazare Sharif Wind Project
- 4- 5 MW Ghor Solar Project
- 5- 5 MW Daykondi Solar Project
- 6- 30 MW Kabul Milli Project
- 7-Nurestan Solar –Wind
- 8-Biomass Projects for 4 cities (municipal and agricultural residue)
- 9-10 MW Parwan Wind Project
- 10-125 MHP projects





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RENEWABLE ENERGY PLANED PROJECTS

- 11- 15 MW Urozgan Solar project
- 12- Gazni (Jaghori & Malistan) solar Project
- 14- Sar e Pol (Sangcharak) Solar Project
- 14- 15 MW Zabul Solar Project
- 15 - Bamyan Solar Project
- 16- 3 MW Logar Solar Project
- 17- 20 MW Helmant Solar Project
- 18- 15 MW Farah Solar Project
- 19- 20MW Nimrooz Solar project
- 20- 10 MW Helman Solar project





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RENEWABLE ENERGY PROJECTS WHICH WILL BE IMPLEMENTED BY THE GOVERNMENT AND PRIVATE SECTOR IN UPCOMING YEAR

- 10 MW Kandahar solar project (contract has been signed)
- 15 MW Kandahar solar Project (contract has been signed)
- 15 MW Kandahar solar Project (contract has been signed)
- 40 MW Hisar e Shahi solar project (will start in 2018)
- 15 MW Kabul Solar Rooftop
- 10 MW Khost solar project (will start in 2018)





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RENEWABLE ENERGY PROJECTS WHICH WILL BE IMPLEMENTED BY THE GOVERNMENT AND PRIVATE SECTOR IN UPCOMING YEAR

- 5.5 MW Daykondi solar project (will start in 2018)
- 5 MW Ghor solar project (will be announced in current year)
- 1 MW Shindand Solar Project
- 2 MW Herat Hybrid Solar –Wind Project (completed)
- 2 MW Bamyán Solar Project (completed)
- 20 MW Naghlu Solar PV (ADB-IFC)





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Part 3

Renewable Energy Framework





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Name of the Document	Dated and Version	Remarks
AREP(Afghanisatn Renewable Energy Policy)	2016, Approved	
PSMP(Power Sector Master Plan)	2013, Final	
RAGA	2015, Draft	
Strategy and Guidelines for Implementation of AREP	2015, Draft	
Energy Service Law	2015, Approved	
Feed-in-Tariff Policy	2015, Final Dari Version	
Investment Policy	2015, Final Dari Version	
RREP(Road Map for Renewable Energy Projects)	2014, Draft Version	
EOI for 100 MW	2016, Final Version	



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Thank
You

