

Islamic Republic of Afghanistan

# Afghanistan Energy Sector Investment Business Opportunities

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# Energy Sector Policy



Afghanistan's Energy Sector Strategic goal is to provide sustainable power supply, at affordable prices, and in an environmentally sound manner, for economic growth, and to improve living standards

- Direct policies and regulations
- Make maximum use of domestic resources
- Initiate sector regulation
- Promote private sector participation and investment in the electricity sector
- Encourage the expansion of access to underserved and rural communities
- Stimulate the rational use of Renewable sources of energy

# Afghanistan Energy Potential

No	Type	Potential
1	Hydro Power	<ul style="list-style-type: none"><li>• 23,000MW of Energy</li><li>• 125 sites been identified for MHP, with potential of over 600MW of electricity</li></ul>
2	Wind Energy	<ul style="list-style-type: none"><li>• 158,500 MW installed capacity i.e. 5MW/km<sup>2</sup></li><li>• 31,600km<sup>2</sup> windy land area i.e. 5% of Afg. total land area</li></ul>
3	Solar Energy	<ul style="list-style-type: none"><li>• 300 Sunny day in one year, i.e. 3,000 Hours of Sun</li><li>• 6.5 kWh/m<sup>2</sup> per day solar radiation average</li></ul>
4	Bio-Mass	<ul style="list-style-type: none"><li>• More than 85% of Afghanistan's energy needs are met by traditional biomass, mainly wood and dung</li></ul>
5	Geo-Thermal Energy	<ul style="list-style-type: none"><li>• Prospects of low to medium temperature geothermal resources are widespread all over Afghanistan.</li><li>• Power plants to be built in Afghanistan could range from 5 to 20MW each</li></ul>
6	Gas and Coal	<ul style="list-style-type: none"><li>• 3000 MW*– 4000 MW*</li><li>• Prefeasibility Studies, Sites Identification of coal power plants</li><li>• 8 out of 12 gas wells been surveyed</li></ul>

# Major Successful Energy Projects

- **10 MW Solar Kandahar:** USAID backed (capital subsidy) Solar project .
- **50 MW Mazaar Gas IPP:** Gas power plant supported by IFC/WB.
- **100 MW REN Package:** 30 Projects in 20 Provinces (0.5 – 30 MW)
- **100 MW Naghlu Solar-Hydro Hybrid:** 4 x25 MW Grid Tie Solar Project
- **100 MW Kajaki Hydro Project:** Hydro IPP in Helmand Province.
- **12 MW Solar Diesel Farah Project:** Off-Grid Solar project in Farah province.
- **2 MW Solar-Wind Hybrid Project:** Heart Province Renewable Energy project.

# Major Energy Projects in Pipeline

- **CASA 1000**: 1300 MW from the Central Asia to South Asia through Afghanistan - 300 MW will be used in the country.
- **TAPI**: Turkmenistan, Afghanistan, Pakistan and India Gas pipe line.
- **TAP 500**: Turkmenistan, Afghanistan and Pakistan 500 KV TL project.
- **240 MW Hydro IPP Project**: Hydro project in Kapisa province.
- **29 Hydro Projects**: 6No Projects RFPs announced, 15No projects to follow soon.
- **500 MW REN Projects**: Part of self-sufficiency plan.
- **National Grid Expansion**: Connection every province to grid in the next 5-10 years

# Legislation

## General Works done and in Progress

### Regulatory + Policy + Strategy

- Electricity Services Law
- Renewable Energy Policy and Strategy
- Rural Renewable Energy Policy -draft
- Energy Efficiency Policy - draft
- Energy Efficiency Building codes
- Wind & Solar Atlas and Investment Plan
- Energy Transition and Self-sufficiency Plan
- REN Road Map – under process
- INDC
- Fed-in Tariff
- Power and Gas Sector Master Plans

### Coordination

- National Energy Coordination plan – under process
- Inter Ministerial Commissioning of Energy
- Renewable Energy Coordination Committee
- REN Potential Maps
- REN Online Database
- REN Magazine
- REN Union of Private Companies
- Energy Working Groups – 5 Provinces
- Energy Database
- Technical Energy Working Groups
- Bilateral, Trilateral and Quadruple EWGs

### Demonstration

- 50 MW REN projects – off grid
- Provincial Electrical Concepts – 3 provinces
- REN Exhibition and Road shows
- Regional REN workshops and seminars – SAARC & ECO
- REN Park and Farms– under development
- Solar and MHP Guidelines
- Investment Packages for private investors
- Institutional development plan

## What we Offer for Investors

- Long Term Land Lease
- 25% Tariff Subsidy
- Tax Incentives
- Security Assistance
- Long term PPA
- Right to Buy
- Attractive Tariff

# Energy Sector Development

## Energy industry with private sector participation will require



## Underpinned By

Political Will

Regulatory Environment

Investment

Coordination (Govt / Devpt Partners / Private Sector)



# Challenges and Wayforward

No	What	How
1	Resource Assessments	<ul style="list-style-type: none"><li>• Site specific resource assessments</li><li>• Evaluation of grid-connectivity options</li><li>• Grid-tied / mini-grid / stand-alone balance assessment</li><li>• Market (+tariff) assessments</li></ul>
2	Technology Development and Demonstration	<ul style="list-style-type: none"><li>• Pilot/demonstration programs (stand-alone / mini-grid / grid-tied)</li><li>• Standards development</li><li>• International technology transfer</li><li>• Grid Code</li></ul>
3	Commercials	<ul style="list-style-type: none"><li>• Business model innovation + demonstration</li><li>• Demonstrate cost-recovery by private sector</li><li>• Financial risk mitigation for PPPs</li><li>• Mechanisms to access capital</li></ul>
4	People	<ul style="list-style-type: none"><li>• Awareness programs</li><li>• Developing Curricula / certifications</li><li>• Advertisements</li></ul>

# What Needs to be Done

No	What	How
5	Political Will	<ul style="list-style-type: none"><li>• Awareness for Energy investment opportunities</li><li>• Coordination with government at different levels</li><li>• Demonstration of benefit to constituents</li><li>• Demonstration of economic benefit</li></ul>
6	Regulatory Environment	<ul style="list-style-type: none"><li>• Develop legal basis for private sector</li><li>• Transparent guidelines</li><li>• Technical standards</li><li>• Oversight/monitoring (especially O&amp;M)</li></ul>
7	Coordination	<ul style="list-style-type: none"><li>• ICE / RECC</li><li>• IRENA</li><li>• ECO</li><li>• SAARC</li><li>• CAREC</li></ul>

Thank You

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