



SUSTAINABLE ENERGY FOR ALL

AFGHANISTAN

Country Presentation

SE4ALL Consultation Workshop

14 June 2015, Manila, Philippines

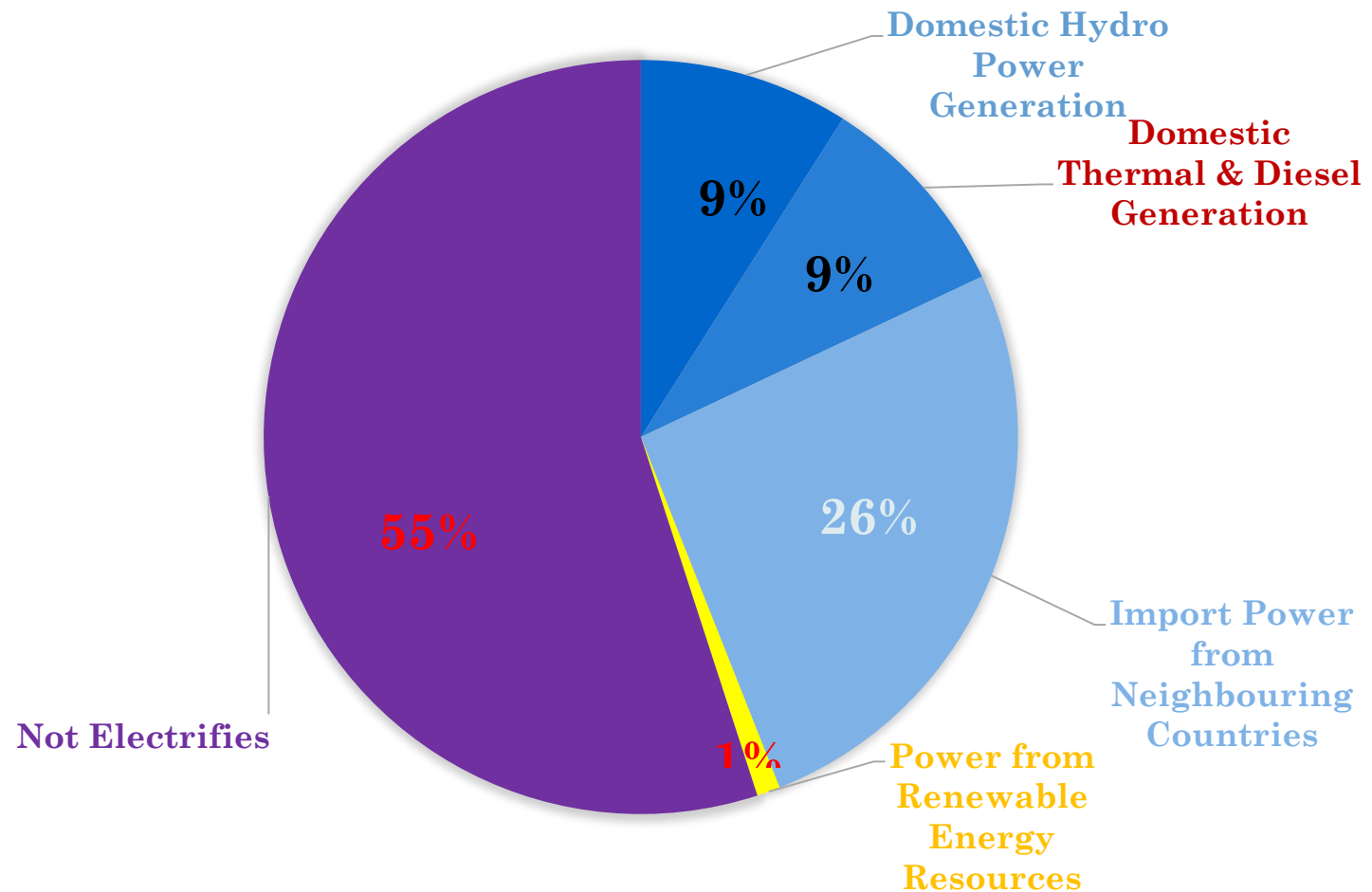
Presentation outline

- Afghanistan Energy Context
- Ongoing / proposed activities within SE4All sectoral action areas
- Afghanistan SE4All program status
- Challenges
- Next steps

Afghanistan is building its energy sector after decades of conflict

- Grid electricity reaches reaches only 30% population
 - Grid supply mostly in urban centers.
 - Access to rural energy about 16%.
- Majority of electricity is imported (mostly from Central Asia). Domestic resources are inadequately developed.
- Limited measures adopted on Energy Efficiency, but efforts are increasing due to energy shortages even in grid-connected areas.

Current Electrification Status of the Country



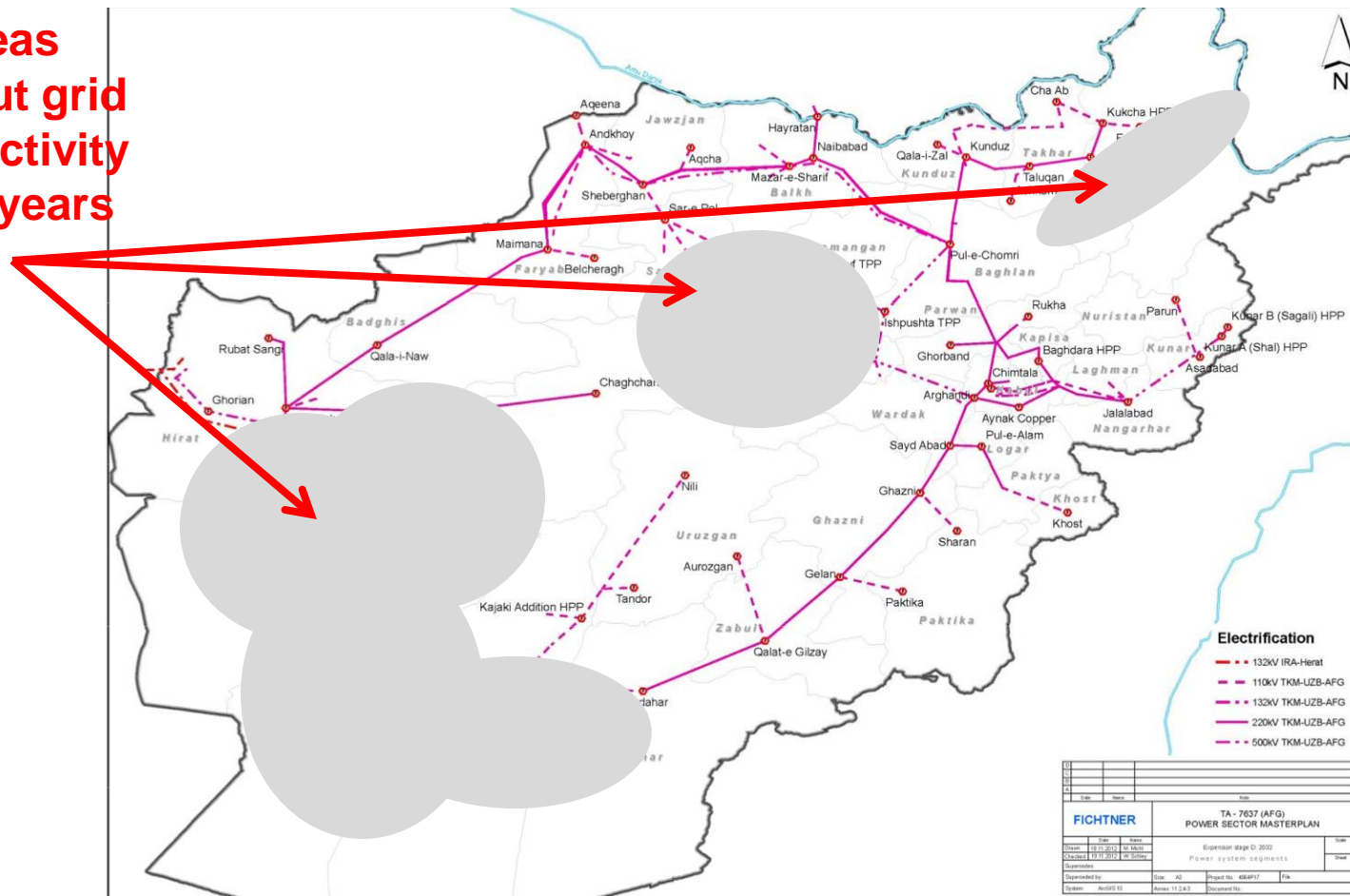
Energy access is a key focus of national development programs

- **National Priority Programs (NPP)**
 - National Energy Supply Program (NESP) on Infrastructure Cluster
 - National Water and Natural Resources Development Program : where Energy for Rural Development in Afghanistan is one component : ARD Cluster.
- **Power Sector Master Plan prepared**
 - 20 year grid expansion planning
- **Gas sector plan is under formulation stage**
 - Options to efficiently utilize country's significant natural gas resources for electricity, transport, and heating/cooking
- **Development of coordination bodies**
 - Rural Energy Coordination Committee
 - Inter-ministerial Commission for Energy

There is also a recognition that there are large parts of the country that the grid will not reach in the next 20 years

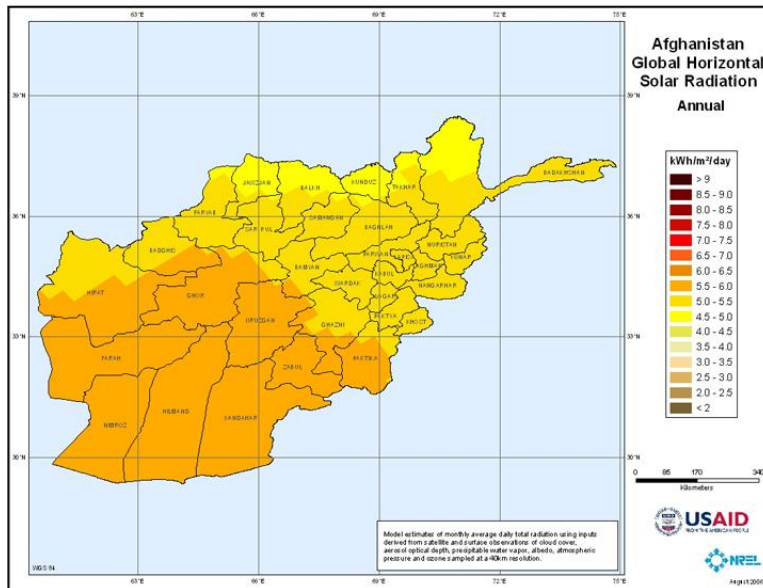
20 Year Grid Expansion Planning – Power Sector Master Plan

Areas
without grid
connectivity
in 20 years

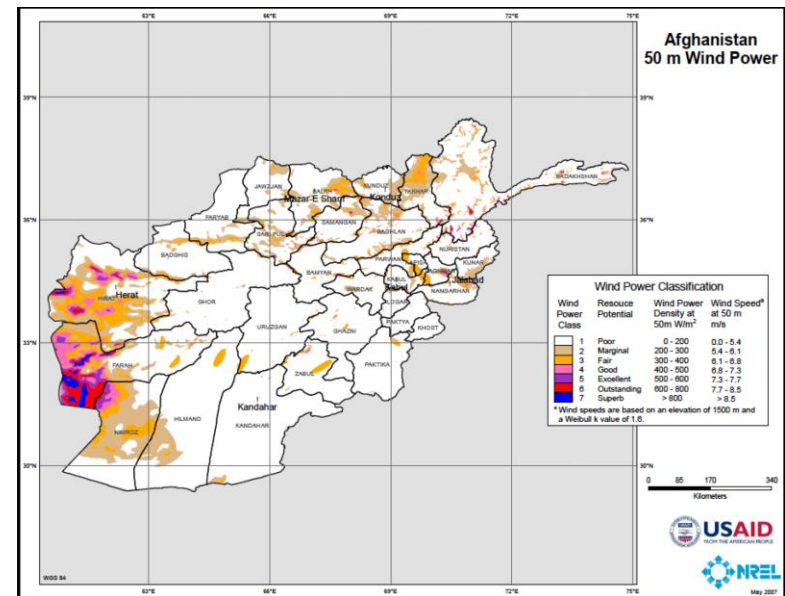


However, Afghanistan has significant renewable energy potential

Solar Radiation Assessment

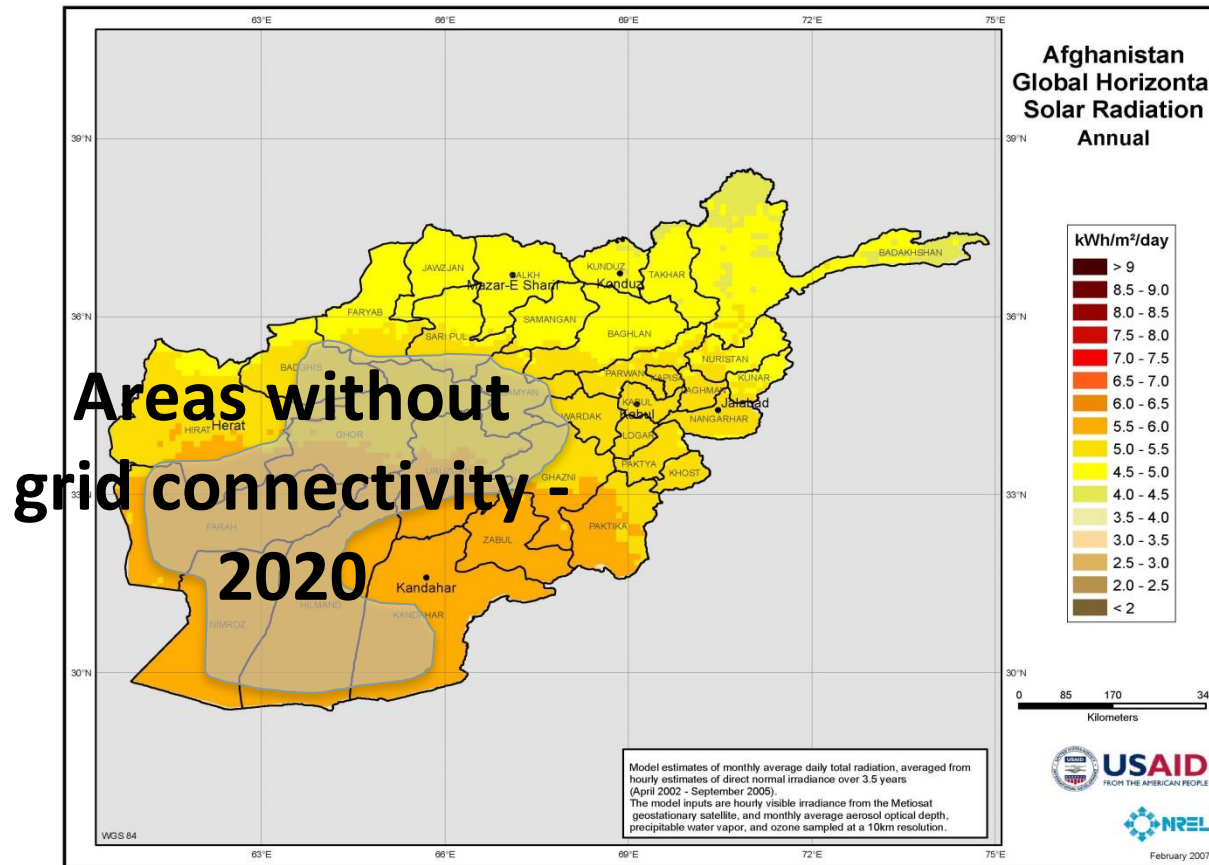


Wind Potential Assessment



Type	Potential (USAID / NREL)
Solar PV	• 220 GW
Wind	• 66GW
Hydro Power	• 23 GW (600 MW of microhydro)
Significant biomass and promising geothermal potential	

Renewable energy potential complementary to areas that grid will not reach



Energy for All of Afghanistan will require an effective mix of off and on-grid solutions

SE4All can be an effective platform to help harmonize ongoing efforts

Private Sectors:

- Investment in RE Projects
- Supply of RE products
- Manufacturer of small scale RE products

Other Partners:

- UNOPS, UNDP, MC, KFW, JICA, Indian Gov., US-Corps of Army, PRTs etc.

GIZ-ESRA:

- PEC
- MHP and Solar Projects (44 kW – 500 kW)
- CB workshops
- Policy and Advisory Service

Government (MP and NPP):

- 20-25 % electrification by RE
- Pilot RE Project + Fund
- DABS
- MRRD, NEPA
- Kabul Municipality

World Bank:

- Establish RE Curriculum
- Lighting for Afghanistan
- ABC Model – Privatization of RE

ADB:

- TA Fund
- Finance RE Projects – MFF 3/4
- Wind and Solar Atlas and Investment Plan

Regional Coordination Bodies:

- SAARC
- ECO
- Workshops, Seminars, Studies

FAO:

- 7 MHP Projects in Kabul
- 17 MHP Projects in Bamyan
- O&M Plan to hand over to community

New Zealand:

- Financed 1 MW Solar Off-Grid Power Plan – 5th largest off-grid solar plant



**SE4All
objectives**

The Government is committed to providing an enabling environment

Planning and Policies

- Electricity Services Law
- Rural Renewable Energy Policy - draft
- RE Strategy – draft
- Wind & Solar Atlas and Investment Plan - draft
- RED ToR
- RED Five Year Action Plan
- RE Guidelines

Capacity Building + Knowledge Sharing

- RE Industry Study – Under process to be developed
- RE Potential Maps
- RE Online Database
- RE Magazine
- RE Association of Private Companies
- Energy Working Groups – 5 Provinces

Business + Technology model demonstrations

- Provincial Electrical Concepts – Badakhshan, Takhar and Balkh
- Demonstration projects (3kW grid connected solar project inaugurated)
- Invitations / tenders for public-private partnerships

Afghanistan Position on SE4ALL

- Government of Afghanistan through MRRD and MEW had expressed commitment to SE4ALL target through UN mission.
- Afghanistan initiated discussions and agreements, coordination among government bodies/donors to create a platform for ramping up action in selected energy area of interest for the country and with a view to achieve universal energy access for all by 2030.
- RA/GA is ongoing with support of UNDP and other international development partners
- After RA/GA, detailed action plan will be prepared in consultation with stakeholders.

Challenges

- Huge challenges to achieve the targets, requires much international technical and financial assistance.
- Attracting private sector investment and developing local industry in parts of the country with security concerns.
- Developing financially sustainable mechanisms and move away from purely grant models.
- Increasing awareness – both for renewable energy and importance of energy efficiency
- Improving coordinated monitoring and evaluation mechanisms to increase collective knowledge

Next steps

- Completion of RA/GA and energy planning roadmaps
 - Harmonized with other government and development partner programs
 - Continuing partnership of programs of GiZ / KfW, USAID, WB, etc.
 - ADB (+multi-donor trust funds) MFF component on renewable energy
 - Afghanistan Sustainable Energy for Rural Development (ASERD) – UNDP
- Continued efforts to provide conditions to encourage private sector involvement and build capacity
 - First private sector licenses for RE issued
 - Harmonized technical standards and training programs (ANSA/MEW standards committees functioning, package of 20 RE international standards are adopted as a national standards/*implementation mechanism is to be developed*)
- Continue learning from experience of others to help Afghanistan achieve Energy 4 All its people



Thank you!