German Cooperation with Afghanistan

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One small step for solar power. One giant leap for Afghanistan's energy supplier?

Kabul, Afghanistan, 8th April 2015 – Today, Mr. Ghulam Faruq Qazizada, acting minister for Energy and Water, officially opened Afghanistan's first project for grid-tied solar power in Kabul. The pilot project is the first of its kind to test the ability to feed solar power generated by individual users into the country's national grid. The benefits of grid-tied solar power systems are that they help reduce dependency on public power sources while helping to reduce load on the grid itself. Grid-tie systems, like the one opened today, link to the main grid to feed excess energy back into the power supply. The planned capacity for the pilot project is 3 kW. Financial and technical assistance for the installation comes from the German government.

As Mr. Ghulam Faruq Qazizada said at the opening in Kabul, "This 3kW PV grid-tie system contribution may appear to be insignificant to the grid, but it is a first step and serves to provide insights in the functioning of such a project. This unique project will certainly raise awareness on the benefits and opportunities of solar energy. It will surely show that in Afghanistan – a country with more than 300 days of sun a year – the benefits of solar power are almost as infinite as the energy of the sun itself."

The purpose of the pilot project is to study, learn and verify the challenges grid-tied systems could potentially face in Afghanistan. The pilot will also test and analyse performance and integration restrictions and solutions for grid-tied solar power systems in use with the general grid. The lessons learned from the project can be used by university students, the private sector, government and other renewable energy actors to develop and expand solar energy technology in the country.

Afghanistan has excellent solar energy potential with more than 300 sunny days in a year and an average solar radiation of 6.5 kWh/m2 per day. Besides offering a solution for environmentally friendly generation of power for households, businesses and public facilities, solar power users can also sell surplus energy to the utilities company, helping to reduce their own electricity bills while providing the grid with clean power.

The system works as follows: If the building consumes more than what the solar system produces, the supplement is taken from the utility grid. If the solar system generates more than the buildings' demand, the surplus is led back to the utility grid and the utility company can credit the power bill (through net-metering). In the event of a power cut with available sunlight, the system with the PV modules and battery bank can provide power to the building.

The solar power grid-tie pilot in Kabul is part of a programme financed by the German government in cooperation with the Afghan Government to help supply both urban and rural areas in Afghanistan with renewable energy. As the power shortages in Kabul in February, March and April illustrated, Afghanistan is still highly dependent on imported electricity; however, the country has huge potential for installing electrical grids based on renewable energy sources, like solar, wind and water power. Also, since many of Afghanistan's smaller, rural communities are still too remote to be connected to the main electricity grid, solar power can play a key role in supplying the country's isolated districts and villages with energy, both now and in the future.

Since 2007, as part of the German Cooperation with Afghanistan, the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH has been supporting the Afghan Government in its effort to build capacities in the renewable energy sector. One of the objectives of this programme financed by the German Federal Ministry for Economic Cooperation and Development (BMZ) is to advise the Afghan Ministry of Energy and Water on policy for use, operations and maintenance of decentralized renewable energy technologies.

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