Project Summary

Project Background
Some 85 per cent of the rural population of Afghanistan have no access to modern sources of energy and are heavily dependent on inefficient use of fossil fuels. Electrification of the major cities has improved while rural electrification continues to be hampered due to lacking awareness and capacities of decision makers and planners, poor quality in implementation and insufficient capacities on management, operation and maintenance. The programme has three components:

1. Policy advice and planning of rural electrification
2. Standardization of electrical components
3. Rural electrification and sustainable operation

Based on its involvement in phase 1 of the programme INTEGRATION is contributing to component 3 through the development of renewable energy schemes for rural electrification, with both mini hydro power and PV-Diesel hybrid mini grids. Furthermore INTEGRATION contributes to component 1 through advisory services for energy planning.

Project Objectives
The objective of the project is to plan, design and implement quality decentralized rural electrification through photovoltaic-Diesel hybrid and mini hydro power schemes. Furthermore to ensure the sustainable operation of the developed schemes through training, model improvement and improved framework conditions. Potentials for wind power will be monitored in selected sites in the Northern provinces.

Project Activities
INTEGRATION is responsible to implement one mini hydro power schemes (500 kW) as well as for the development of two PV-Diesel hybrid systems with a total peak PV capacity of 240 kW. Furthermore to improve the operation of six mini hydropower schemes with capacities the range of 112 to 450 kW supplying 63,000 people. For the existing and upcoming schemes altogether some 50 staff members of operating crews will receive technical training and support. INTEGRATION is supporting the programme development in related activities, i.e. energy planning on provincial level, through advisory services and expertise.

Implementation Features
A conflict sensitive planning and implementation approach has been developed. A gender balanced training on efficient and safe electricity use as well as a promotion scheme for productive uses will be implemented. By 2012 the project won the prestigious ‘Ashden Award for Sustainable Energy’ for its innovative implementation approaches and the promotion of ‘Productive Use of Renewable Energies’ (PURE).

Services Provided
• Planning and construction supervision of one mini hydropower (500 kW), two PV-Diesel hybrid schemes (240 kWp) and electrification of the communities
• Capacity development for operating crews (50 staff)
• Gender balanced training on save and efficient electricity use
• Promotion of measures for productive use of electricity
• Development of an electrification concept for the province of Takhar
• Training and study tour on planning of rural electrification
• Project management

Afghanistan

Energy Supply in Rural Areas of Afghanistan (ESRA), Phase II

Client
German International Cooperation (GIZ)

Duration
01/2011 - 06/2013

Personnel
• 1 internat. LTE (29 PM, Team leader)
• 1 reg. LTE (25 PM)
• Pool of intl. STE (48 PM)
• Pool of reg. STE (3 PM)
• Pool of nat. STE (110 PM, engineers)