



Project title	Building resilience by Converting Overhead Transmission lines to Underground transmission lines and constructing new GIS substations in Khuzestan Regional Electricity Company (KHREC)			
Result areas	Sector	Total financing, USD	GCF financing, USD	Financial instrument
[Buildings, cities, industries, and appliances]	Public/Private	[USD 198,688,787]	[USD 71,005,917]	Grant/Loan
Description of specific climate change problem and how the project will address it	<p>Khuzestan Regional Electricity Company is responsible for supplying electricity to Khuzestan and Kohgiluyeh-va-Boyer Ahmed provinces with more than 5 million inhabitants and 80,000 square kilometres areas. The total network electricity demand in Khuzestan Regional Electricity in around 8400 MW that Ahwaz city network capacity is around 2800 MW.</p> <p>Major and vital industries such as oil, gas, petrochemical, steel, rolling, sugar cane, etc. in Khuzestan province, have made this province as one of the industrial poles in the country, whose continuity depends on the continuity and improvement of electricity quality in the above industries.</p> <p>Not converting transmission lines to underground cables will increase the probability of shut down the system. In fact, the impacts of climate change increase the frequency of the dust and sand storm phenomenon resulting sitting the layers of dust which combine with moisture on the equipment will amplify continuously the hazard to the electrical system that cause extension blackout and create socio-economic disaster specially on agriculture and water resources, hospitals, schools and airports and etc. for the entire region.</p> <p>All the activities related to the underground construction from overhead transmission line to underground cables and infrastructure will be design, implemented and supervise by Iranian engineering companies. The package of GIS substations and other necessary equipment will be purchased from well-known international manufacturers.</p>			
Alignment with key country priorities and stakeholders engaged	<p>The project total estimated cost is around 198,688,787 USD that it is expected to receive from GCF thought grant and loan for 71,005,917 USD that is 64% co-financing will provide by Tavanir it is indicate that the project is inline with the national priority and energy strategy of the country.</p> <p>By the rule the Department of Environment (DOE) is a coordinating body inside the government structure to coordinate and synergize all the relevant activity of the ministries in line with the overall objective of on the INDC to ensure the INDC will be effect since 2016. And DOE is responsible for the adaptation projects in Iran. One of the focuses in INDC is to develop the Early-warning and monitoring systems of climate extreme events, dust and sand storms and access to global satellite data.</p>			

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Building resilience by converting Overhead Transmission lines to Underground transmission lines and constructing new GIS substations in Khuzestan Regional Electricity Company (KHREC)

Activities

- Converting the overhead transmission line to underground cables for 60 km.
- Construction of new transmission GIS substations.
- Human resource capacity building.
- Stockholder engagement.

Expected outcomes

1. Removing the effect of EMF on people health.
2. Improvement of the landscape by rehabilitation of the existing OHTL.
3. Conservation of wild life by removing the death of birds by crashing to OHTL.
4. Securing the reliable energy for investors in new job creation and sustainable income generation.
5. Improving the social welfare and life condition in Ahwaz and Dasht-e-Azadegan cities with 493,500 population.
6. Possibility of converting about 1500 km overhead transmission line to underground cables in Khuzestan province.
7. Possibility of converting about 100 new transmission GIS substations around Khuzestan province.
8. Possibility of development residential and commercial area.
9. Secure and sustainable energy.
10. ecological impacts.
11. Less voltage drop.
12. Low maintenance.

Paradigm shift potential

- These projects can be scaled up to several surrounding provinces that involving in dust and sand storm resulting from climate change. (West and south provinces of Iran with about 14.5 million populations).