NS-236 - Solar Energy Development in Uzbekistan

Uzbekistan

NAMA for Recognition

A Overview

A.1 Party	Uzbekistan
A.2 Title of Mitigation Action	Solar Energy Development in Uzbekistan
A.3 Description of mitigation action	The NAMA “Solar Energy Development in Uzbekistan” presents a specific action plan for the deployment of solar energy in Uzbekistan from 2015 to 2030, adapted to the country's energy needs and based on the Roadmap for the development of solar energy in the Republic of Uzbekistan which was approved by Uzbekistan’s Government. Solar energy deployment in Uzbekistan will help meet demand while avoiding burning fossil fuels. The use of solar energy technologies implies the reduction of greenhouse (mainly carbon dioxide CO2 and mono-nitrogen oxides NOx) and prevention of toxic (sulfur dioxide SO2 and particulates) gas emissions when compared with thermal power plants. Furthermore, its implementation will help the industrial development of the country, create new jobs, improve access to electricity and directly mitigate climate change.
A.4 Sector	[X] Energy supply [ ] Residential and Commercial buildings [ ] Agriculture [ ] Waste management [ ] Transport and its Infrastructure [ ] Industry [ ] Forestry [ ] Other
A.5 Technology	[ ] Bioenergy [ ] Energy Efficiency [ ] Hydropower [ ] Wind Energy [ ] Carbon Capture and Storage [ ] Land fill gas collection [ ] Cleaner fuels [ ] Geothermal [X] Solar Energy [ ] Ocean Energy [ ] Low till / No till [ ] Other
A.6 Type of action	[ ] National/ Sectoral goal [ ] Strategy [X] National/Sectoral policy or program [ ] Project: Investment in machinery [ ] Project: Investment in infrastructure [ ] Project : other [ ] Other

A.7	Greenhouse gases covered by the action	[X] CO2 [ ] CH4 [ ] N2O [ ] HFCs [ ] PFCs [ ] SF6 [ ] Other

B National Implementing Entity

B.1.0	Name	Join Stock Company Uzbekenergo
B.1.1	Contact Person 1	Magrifat Muminova
B.1.2	Address	Istiqlol str., 6, Tashkent, 100000, Uzbekistan
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B.1.5	Contact Person 2	Ravshan Artikov
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B.1.7	Phone	+998 71 233 60 23
B.1.8	Email	art_1204@mail.ru
B.1.9	Contact Person 3	
B.1.10	Address	
B.1.11	Phone	
B.1.12	Email	
B.1.13	Comments	

C Expected timeframe for the implementaion of the mitigation action

C.1	Number of years for completion	15
C.2	Expected start year of implementation	2016

D Currency

D.1	Used Currency	AED Conversion to USD: 1

E Cost

E.1.1	Estimated full cost of preparation
E.1.2	Comments on estimated full cost of preparation
E.2.1	Estimated full cost of implementation
E.2.2	Comments on estimated full cost of implementation • Development and construction of six solar plants. This includes the solar plant already under development in Samarkand. • Development of local capabilities and technology improvement in Uzbekistan. • Land and associated infrastructures (water, grid improvement, access, etc.) • Improvement of R&D infrastructures, demonstration projects and test bed facilities • Rural electrification projects • Capacity building
E.3.1	Estimated incremental cost of implementation
E.3.2	Comments on estimated incremental cost of implementation

F Estimated emission reductions

F.1	Amount	10.8

F.2 Unit	MtCO2e
F.3 Additional information (e.g. if available, information on the methodological approach followed)	According to the latest official consumption data available in Uzbekistan (2011), CO2 emissions amounted to around 115 million metrics tons. The increase in demand (will lead to increased generation what means GHG emissions growth. This NAMA plan, forecasts that in the next 15 years the production of solar energy in Uzbekistan will rise up to 3.4 TWh/year. The use of solar energy technologies means reduction on the greenhouse gases (mainly CO2 and NOX) and prevention of toxic gas emissions (SO2 and particulates). As demand grows and the need to modernize old plants increases, supplying part of this demand with new solar energy plants will reduce GHGs emissions. To estimate CO2 emissions is necessary to take in account energy generation growth forecasts and emission factor expected for that period. In order to estimate CO2 emissions it has been used the projected emission factor developed for UNDP project "Supporting Uzbekistan in transition to a low-emission development path" by Ministry of Economy of Uzbekistan.

G Other indicators

G.1 Other indicators of implementation	• Installed capacity. For small facilities and commercial plants. • Electricity generated. For small facilities and commercial plants. • Meeting pre-existing government targets. • Policy impact indicator. Promote the principles of good governance and using impact assessment procedures and monitoring and indicator systems as aids to policy integration and effective policy-making. • Deployment status indicator.

H Other relevant information

H.1 Other relevant information including co-benefits for local sustainable development	Benefits for the environment: • Reclamation of degraded land • Reduction of the required transmission lines of the electricity grids • Reduction of pollution • Decrease gas leaks (part of solar energy replace energy produced by conventional natural gas plants) From a socio-economic viewpoint the benefits of the exploitation of solar energy technologies comprise: • Increase of the regional/national energy independency • Provision of significant work opportunities • Diversification and security of energy supply • Support of the deregulation of energy markets • Acceleration of the rural electrification in developing countries

- Uzbekistan, due to its background, already acquired experience in solar technology and its strategic situation in Central Asia could become a regional knowledge, technology, and energy and production hub.

Even though the Roadmap focus on large scale power plants. In Uzbekistan, remote regions require different assistance: fresh water supply, house heating and stable electricity supply to improve and guarantee the quality of life.

I Relevant National Policies strategies, plans and programmes and/or other mitigation action

I.1 Relevant National Policies	Presidential Decree of the Republic of Uzbekistan № 4512 dated by March 1, 2013 "On measures for further development of alternative energy sources.". Approved by Presidential Decree of the Republic of Uzbekistan dated by March 4, 2015 № УП-4707 the "Program of measures for structural reforms, modernization and diversification of production in 2015-2019". Presidential Decree of the Republic of Uzbekistan dated by May 5, 2015 № ПП-2343 "On Measures Program for reducing the energy consumption, the introduction of energy saving technologies in the economy brunches and social sphere for 2015-2019"
I.2 Link to other NAMAs	

J Attachments

J Attachments	Title	Description
	NAMA, англ_final.pdf	NAMA "Solar Energy Development in Uzbekistan"
	Road Map_ eng.pdf	This Roadmap: identifies barriers and risks
J.1 Attachment description	This Roadmap: identifies barriers and risks; proposes actions and sets priorities to reach plausible solar development goals and targets for Uzbekistan taking into account the main stakeholders involved. An action plan up to 2030 is proposed.	
J.2 File	Browse...	