

Project Fact Sheet

Project Title **Renewable Energy Action: A Sustainable water-energy nexus Partnership for Higher Education in Central Asia (RE.Act)**

Keywords Renewable energy, water-energy nexus, educational cooperation, sustainable development

Project Details

Project Start	2024	Duration	4 Years
Grant Scheme	SDG Partnership		
Funding Authority	DAAD	Project ID	57703798
Project Budget	393.937,29 €		
Project Leader	Prof. Dr.-Ing. Wilfried Zörner		
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Project Partners

Tashkent Institute of Irrigation and Agricultural Mechanization Engineers - National Research University (TIIAME-NRU) in Tashkent, Uzbekistan

Naryn State University named after Satybaldi Naamatov (NSU) in Naryn, Kyrgyzstan

Description

The RE.Act project aims to enhance the quality of renewable energy (RE) education and research in two prominent higher education institutions: the Tashkent Institute of Irrigation and Agricultural Mechanization Engineers - National Research University (TIIAME-NRU) in Tashkent, Uzbekistan, and Naryn State University named after Satybaldi Naamatov (NSU) in Naryn, Kyrgyzstan. The project operates in collaboration with the Institute of new Energy Systems at Technische Hochschule Ingolstadt (THI-InES).

The project is built upon three main pillars. Firstly, it involves establishing the RE.Act Forum to engage stakeholders from various backgrounds. This forum serves as a platform for collaboration, knowledge exchange, and partnership formation in the field of renewable energy. Secondly, the project aims to support the enhancement of RE teaching in the participating institutions. This includes developing and updating curriculum, providing training for educators, and integrating practical experiences and case studies into the learning process. Lastly, the project focuses on strengthening research capacity in the water-energy nexus, emphasizing interdisciplinary approaches and promoting collaborative research activities between the involved institutions.

The water-energy nexus concept recognizes the interdependence and interconnectedness of

water and energy systems, where changes in one system can have significant impacts on the other. The project's objective is to promote sustainability and reduce energy consumption by integrating RE sources into water treatment processes. This integration involves utilizing RE technologies such as solar-powered pumps, desalination plants, and wastewater treatment facilities, providing benefits such as energy savings, cost reductions, and improved resilience.

Central Asia, encompassing Uzbekistan and Kyrgyzstan, faces challenges related to aging infrastructure, energy efficiency, and water scarcity. Both countries also encounter issues regarding water management and access, highlighting the urgent need for action. RE.Act addresses these challenges through a comprehensive academic approach that emphasizes the interconnected nature of water and energy systems. The project aligns with several United Nations' Sustainable Development Goals (SDGs), including SDG 6 (Clean Water and Sanitation), SDG 7 (Affordable and Clean Energy), SDG 9 (Industry, Innovation, and Infrastructure), and SDG 13 (Climate Action). By integrating the water-energy nexus approach into policy and implementation, the project aims to advance multiple SDGs simultaneously.

The partnership between TIIAME, NSU and THI-InES demonstrates a shared commitment to enhancing education and research in RE, with a specific focus on the water-energy nexus. Through this trilateral collaboration, the project aims to address challenges and contribute to sustainable development in Central Asia.