



# Investment in Improvement of Energy Efficiency

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## Background

- The Improvement of Energy Efficiency (IEE) project aims at a substantial and sustainable reduction of overall and specific energy consumption in the water sector in Jordan (water pumping), constitutes an effective impact on the environment and positively supports Jordan's efforts to mitigate climate change.
- The Water Authority of Jordan (WAJ) is the largest electricity consumer in the country for water pumping, using about 15% of Jordan's entire electricity production.
- An Energy Assessment in the Jordanian Water Supply regarding energy consumption and energy efficiency was performed by GIZ/KFW.
- The main focus of efficiency improvement under the IEE comprises wellfield abstraction facilities (24 WF), pumping stations (28 PS).



## Assessment Result

Assessment Results	
Investment costs	21,300,000.00 JOD
Energy saving potential (per year)	42,100 MWh
Cost saving potential (per year)	3,060,000.00 JOD
CO2 reduction (per year)	30,637 tons
Amortisation period	approx. 7 years
Number of Wellfields to be rehabilitated	10
Number of Pumpstations to be rehabilitated	15



## Energy Service Performance Contracting” (ESPC)

- ESPC stands for a contract between an Energy Service Company (ESCO) and WAJ/water company aiming at the reduction of energy costs for water pumping.
- The ESCo provides the funding for the repair and replacement of the pumping equipment, designs and installs the equipment, and takes over operation, maintenance and repair processes for a defined period.
- The remuneration of the ESCo for its services depends on the reduction of specific energy consumption (kWh/m<sup>3</sup> pumped) during the contract period.



## Approach to achieve assessment results

- In pre-selected pumpstations and wellfields contracts shall be carried out, which are based on an Energy Contracting concept.
- In order to test the Micro-BOT model in combination with energy contracting and extended maintenance contracts, Miyahuna, GIZ and the consortium of two private companies (Wilo SE, Engicon) have agreed on a pilot project within a Development Partnership with the Private Sector (DPP) approach.
- The DPP acts as a strategic pilot project for potential Micro-BOT contracts within which private sector companies would take over all tasks related to an optimal operation of a pumping station.
- Saving potentials for Wala / Lib DPP Project:
  - 280,000 EUR/y
  - Expected reduction of CO<sub>2</sub> emissions of 1,882 t CO<sub>2</sub>/y

Thank you for your attention