

Memorandum of Understanding

**Utilization of Sewage Sludge to Generate Electricity for the Jordanian
Industrial Sector**

between

Water Authority of Jordan (WAJ)

(First Party)

And

(Second Party)

1. Glossary Parties

- A. **WAJ:** The Water Authority of Jordan was originally established to pursuant the Water Authority Law No.18 of 1988. it has a legal personality with financial and administrative independence and was directly linked with the Minister of Water and Irrigation. The main feature of this law was that the Water Authority took over all responsibilities of the entities responsible for water and wastewater. According to Article 6 of the mentioned law the Water Authority was responsible for the public water supply and wastewater services, as well as for the overall water resources planning and monitoring.

The above-mentioned entity is hereinafter together referred to as (the “First Party”); and

- B.

The above-mentioned entity is hereinafter together referred to as (the “Second Party”).

2. Background

In Jordan, more than 105,000 tons of dried sewage sludge (DS 100%) were produced in 29 wastewater treatment plants in 2020 and are expected to increase to up to 139,000 tons per year of dried sewage sludge (DS 100%) by 2035. Most of these quantities are either stored and dumped onsite or transported to unsanitary landfills. This unsanitary storage and dumping of sludge do not only affect the quality of surface and ground water but also causes high GHG emissions due to the high methane formation during biodegradation.

In this context, (WAJ) considers the utilization of the sludge-based products in close cooperation with the industrial sector in Jordan. This will improve the economic and ecological sustainability of sludge management in Jordan through the deployment of technology-based upcycling solutions to produce upcycled as well as allow the velarisation of upcycled sludge as an alternative energy carrier/ industrial fuel, or as industrial raw material. The *Second Party* has expressed keen interest in receiving sludge from wastewater treatment plants (WWTPs) in northern and middle Jordan to construct a sludge-based power plant with a capacity of 16 MW based on a prefeasibility assessment.

Following the preliminary conversations, the *Parties* have decided to enter into this MoU in order to frame and set the terms of their cooperation, and the required next steps. This includes conducting a full-fledged feasibility study on utilizing sludge as an energy carrier for power generation. The feasibility study should show for both *Parties*, the required sludge quantities, quality, transportation scenario and investment costs.

This MoU is a comprehensive and represents an agreement between the *Parties*. The progress and execution of the Project (as defined below) are subject to the (as per the *Second Party's* assessment) successful outcome of the studies and assessments conducted by the *Second Party*. Any legally binding agreement is subject to the conclusion of final, binding agreements and the final investment decision of the *Second Party*.

3. Agreed terms

The *Second Party* is aiming to carry out a feasibility study to construct a new power generation plant that uses sewage sludge as an energy carrier in Al-Muwaqqar Industrial City to cover part of its electricity requirements. The feasibility study will be conducted taking into consideration that the *First Party* will commit to provide dry sludge to the *Second Party*, from Ekaider cluster (northern governorates WWTPs) and Ghabawi WWTP at 85% dryness as well as from Ghabawi cluster (middle governorates WWTPs) and As Samra WWTP at 55% dryness

Parties agreed that the *First Party* must commit to signing an offtake agreement for 30 years, to supply the sludge agreed quantities to the *Second Party* free of charge, only if the results of the feasibility showed that no additional and transportation costs are to be covered by the *First party*. In case the results show that the scenario is not feasible to the *Second party*, and the *First party* needs to contribute with the transportation costs, or any additional costs, then the MoU gives the *First party* the freedom to either reject the proposal or go for a public tendering process.

The *Parties* agreed that the *Second Party* shall coordinate development and assessment of the Project, including the costs of the feasibility study. The *Parties* agree that the *First Party* shall act as facilitator to enable successful development of the feasibility study, including via, facilitation of (i) efficient collaboration between the *Parties* and other relevant Jordan authorities, (ii) access and two-way sharing of existing data and studies of relevance to the Project.

4. Reporting

The partners intend to update each other on a regular basis on the progress of the agreed activities. They shall notify each other about important matters on their own contributions.

5. Term and Termination

Except as otherwise agreed by the *Parties* in writing, this MoU will automatically terminate 12 months after the Effective Date (as defined below).

6. Non-binding nature

This MoU in no way restricts either Partner from pursuing similar activities on its own or from participating in similar activities with other public or private agencies, organizations, and individuals and shall not provide exclusivity between the Partners in the scope of any cooperation, does not endorse a specific entity, does not create any rights in any person, and does not create any obligations for any third party.

7. Costs and Expenses

The *Second Party* shall bear their own costs and expenses incurred in execution of the feasibility study.

8. Governing law and dispute resolution

This MoU is governed by the laws of the Hashemite Kingdom of Jordan. Any conflict or dispute arising out of the validity, execution, enforceability, implementation, interpretation, termination, rescission, or invalidity of the provisions of this MoU, in connection therewith, or as a result thereof, shall be

resolved amicably. In all cases, no Party shall have the right to pursue, either directly or indirectly, any financial claims and/or compensation against the other Party in connection with this MoU.

9. Amendment

This MoU may only be varied or replaced by mutual agreement of the Parties by virtue of a written instrument duly executed by all Parties.

10. Assignment

A Party may not assign or dispose of any right under this MoU without the prior written consent of the other Parties, save for good faith assignments to fully owned subsidiaries of the Second Party. Any purported dealing in breach of this section will be of no effect.

11. Entire Arrangement and Validity

This MoU constitutes the entire arrangement between the Parties for its subject matter, and its validity will be as of the date of signature (the **Effective Date**).

**Water Authority of
Jordan (WAJ)**

Amman, [REDACTED]

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Mr [REDACTED]

WAJ

Amman, [REDACTED]

.....

Second Party

Mr: [REDACTED]