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Media Release

## **WATER RECYCLING IN PENANG: PBAPP SIGNS MoU WITH IWK**

- **Collaboration between PBAPP and IWK to verify the viability of implementing water recycling projects in Penang at 3 strategic locations.**

PENANG, Friday, 17.3.2023: As part of its plan to ensure water supply security in Penang towards 2030, Perbadanan Bekalan Air Pulau Pinang Sdn Bhd (PBAPP) will work with Indah Water Konsortium (IWK) to study the viability of recycling sewage water for industrial re-use in Penang.

PBAPP and PBA Holdings Bhd CEO Ir. Pathmanathan K. and IWK CEO Mr. Narendran Maniam signed a Memorandum of Understanding (MoU) at the IWK headquarters in Kuala Lumpur yesterday. Witnesses at the signing ceremony included En. Mohd Zainal bin Zakaria (Chief Operating Officer, IWK), En. Azuan Ahmad Zahdi (Head of Corporate Planning Department, IWK), Dr. Mary Ann Harris (Chief Financial Officer, PBA Group), En. Mohd Zulkifli Abdul Hamid (Head of Human Resources Division, PBA Group) and Ms. Joyce Lee (Head of Corporate Affairs Division, PBA Group),

This MoU formalises a collaboration between PBAPP and IWK to explore the viability of recycling of treated sewage water that is currently being discharged from 3 existing IWK sewage treatment plants (STPs) in Penang into the sea.

“PBAPP discussed the possibilities of water re-cycling for industrial re-use with IWK in April 2022. Since then, we have identified 3 STPs for an in-depth study, located in Bayan Baru, George Town and Mak Mandin,” Ir. Pathmanathan K said.

“The combined treated sewage water discharge from these 3 STPs is estimated to be 260 million litres per day (MLD). In comparison, the treated water output from a modern conventional water treatment module in the Sungai Dua Water Treatment Plant is 114 MLD.

“As such, the potential yield from recycling water from these 3 IWK STPs could be equivalent to the water treatment output of 2.3 conventional water treatment modules in Sungai Dua,” he said.

He said the 3 identified STPs were chosen in accordance to the following 3 key criterias:

- Strategic locations;
- Potential yield (volume of recycled water output); and
- Relative proximity to potential non-domestic category consumers.

“Right now, Penang’s biggest challenge is the lack of raw water resources because we are a state with a limited land area of 1,049 sq. km. If we are able to recycle 260 MLD of treated sewage water for industrial re-use, we will effectively increase PBAPP’s maximum water supply capacity in Penang by 260 MLD, per se.

“This water recycling proposal reflects PBAPP’s commitment to think outside the box in planning ahead for the good of the state and its people. If it is viable, water recycling in Penang will support the achievement of the *Penang2030* vision while further reducing risks of water shortages during extended dry seasons,” Ir. Pathmanathan K said.

PBAPP and IWK will verify the viability of the proposed water recycling projects in Penang in terms of:

- Applicable water recycling technology;
- Technical water engineering requirements for constructing and operating water recycling modules adjacent to or near existing IWK STPs;
- Potential quality of the recycled water;
- Installing separate dedicated pipe and pump works to enable the supply of recycled water to industrial consumers;
- The overall costs of recycling sewage water and supplying the recycled water;
- Land availability for the construction of the recycled water treatment plant;
- Industrial consumers’ perceptions and acceptability of the recycled water;
- Number of consumers and demand required;
- Capital expenditure (CAPEX) and operations expenditure (OPEX); and
- Final cost of treatment per m<sup>3</sup>.

There are other smaller STPs that will need to be further studied again for engineering and financial viability.

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