

Sewerage: Turn sewage into energy

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THE paid sanitation or sewerage services come in two forms: connected and non-connected services.

Connected service is where sewage and household wastewater goes straight to Indah Water Konsortium (IWK) or local government-operated plants.

The non-connected service is where old housing and rural areas have individual septic tanks that treat only sewage.

These septic tanks need periodic desludging. If it is not done, the sewage will flow into drains or rivers, thus polluting our water resources.

According to Malaysia Water Industry Guide 2010, a total of 6,434,483 individual septic tanks and 5,519,616 pour flush systems are operating in Peninsular Malaysia and Labuan.

The pour flush system has higher damaging capacity on the environment compared with the individual septic tank. This is because the pour flush is discharged directly into the environment. Both these systems have to be gradually shifted to a sustainable connected system. This requires long-term planning and huge investment.

For the connected system, sewage in cities is collected in centralised mode, and is treated and discharged at either Standard A or B based on Department of Environment's wastewater discharge standard. This is an untapped resource, especially for water-stress locations. About 50 to 80 per cent of water use in domestic houses goes into the sewerage system.

Australia, Middle East countries and Singapore are harvesting this resource for both potable and non-potable use. Malaysia has huge potential to develop this field in domestic, commercial and industrial areas.

This treated sewage wastewater can be used to cool machines and other non-food processing plants and water parks. Dedicated pipes can be linked to high-demand areas.

Much can be done to harvest methane from sewage to reduce sewerage treatment plants' dependency on electricity. This means that sewage can be turned into a sustainable, renewable energy resource. There is also the possibility of converting the sludge into fertilisers for non-edible plants.

The Association of Water and Energy Research Malaysia calls on the Energy, Green Technology and Water Ministry to re-look this sector. Putting more monetary return on waste generated would reduce operational cost of sewerage treatment plants and enhance the use of technology. It makes more economic sense as the resources will never be depleted.

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