ENVIRONMENT & WATER

I. MARKET OVERVIEW

As one of the rapidly growing economies in Asia, the Philippines faces various environmental challenges. The country's significant natural resources are seriously degraded due to poor management. Water and air pollution levels continue to worsen. Greenhouse gas emissions are rising due to activities from the transport and power sectors. The country is also considered as one of the world's most vulnerable to the impacts of climate change and natural disasters.

For the Philippines to pursue a path of sustainable development, the country must become more environmentally resilient as natural resources play an important role in the Philippines' economy. While agriculture, fisheries and forestry represented 9,49% of GDP in 2015, workers in the agriculture sector comprised the second largest group making up 28% of the total number of employed Filipinos.

Among the immediate areas that require serious attention include solid waste management, water supply management, and flood control solutions. Increase in the sheer volume of generated wastes needs to be addressed, while meeting the country's water demand, which is expected to increase by almost threefold to 86,5 BCM in 2025 from 30 BCM in 1996, is also a challenge. Frequented by an average of 22 typhoons annually, major areas across the country are prone to severe flooding.

Garbage production in Metro Manila is estimated at 8 000 MT per day. In the rest of the provinces, it is estimated at 40 400 MT per day. These figures add up to about 3 million MT per annum in Metro Manila and 15 million MT per annum in the provinces.

The water consumption in Metro Manila is supplied from the dams of Angat, Ipo, and La Mesa. However, their locations in seismic areas are threatened in case of disasters. In addition, the Philippine government has been engaging with the business sector to further improve water quality and public health services in urban areas. The Metropolitan Waterworks and Sewerage System has been tasked to develop alternative water supplies to mitigate such risks and to cope with the expected increase in demand; a feasibility study is near completion for the new centennial water supply source in Bulacan.

The Philippines has already started the implementation of flood control projects in the National Capital Region (NCR) under the 'Flood Management Master Plan for Metro Manila and Surrounding Areas'. Expected to be applied until 2035, this roadmap consisting of 11 recommended structural mitigation measures costs around €6,78 billion. The biggest project, worth €3,83 billion, is the Pasig-Marikina River Improvement and Dam Construction.

II. MAIN LEGISLATIVE AND STRATEGIC FRAMEWORK

To ensure protection of public health and environment, the state enacted Republic Act No. 9003 or the Ecological Solid Waste Management Act of 2000 to adopt a systematic, comprehensive, ecological and sustainable waste management program organized at the local government level.

Under R.A. 9275 or the Clean Water Act of 2004, the National Sewerage & Septage Management Program was created to improve water quality and protect public health in urban areas of the Philippines. R.A. 9275 provides for a comprehensive water quality management for the state to further pursue a policy of economic growth whilst protecting, preserving, and reviving the quality of the country's fresh, brackish, and marine waters.

Under a technical grant from the World Bank and AusAID, the Department of Public Works and Highways completed a flood management masterplan for the entire Metro Manila and surrounding areas, particularly, the provinces of Rizal, Laguna, and parts of Bulacan covering a total area of 4 354 sq. km.

III. MAJOR OPPORTUNITIES FOR EU BUSINESSES

Solid waste management

Although solid waste collection is now a common practice in Metro Manila, proper disposal, recycling and re-use of waste are still not extensively practiced in the rest of the

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country, highlighting the need for technology providers and operators that can build proper facilities throughout the country. Aside from municipal solid waste collection which is usually contracted to private entities, other opportunities include: treatment and disposal of hazardous and medical waste; recycling of paper, ferrous and non-ferrous metals, and plastic (HDPE, LDPE and PET); composting and biogas production from organic waste; and leachate treatment and re-use of landfill gas.

Water supply management and waste water treatment

Although various water supply projects, such as the Bulacan Bulk Water Supply Project, New Centennial Water Source-Kaliwa Dam Project, and Baggao Water Supply Project, are currently being implemented under a Public-Private Partnership (PPP) framework to meet increasing domestic water demand, there is a need for drinking water supply diversification as the current major water sources in Metro Manila are located in earthquake-prone areas, where a major disruption in the supply of drinking water could affect millions of population in NCR.

Technologies that can reduce sludge production, weight, and volume through dewatering, filter press, and other methods will be needed in the very near future. Co-digestion (mixing sludge with oil and grease collected from grease traps commonly used by food and beverage operators), co-generation, and even more advanced technologies are currently being reviewed by Manila Water to solve this issue. Manila Water has recently launched a neutral cost waste water program targeting to reduce operation costs for waste water treatment plants to zero; any technology providers that can help achieve this ambitious goal is welcomed to join.

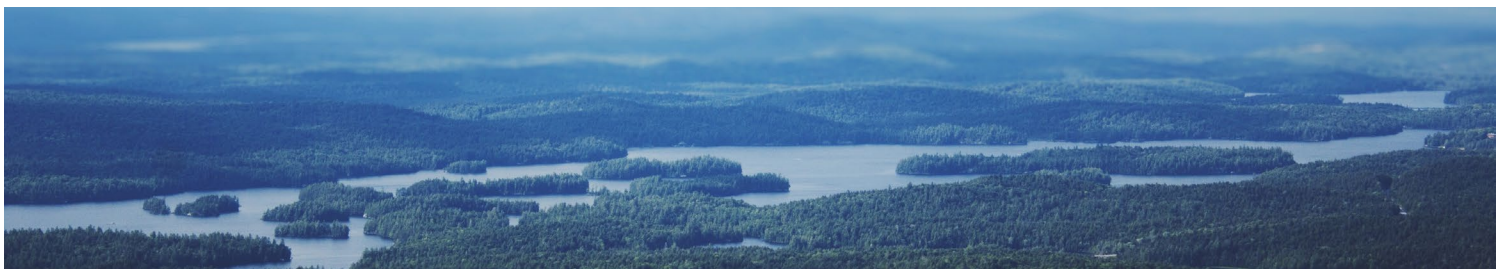
Technological solutions to reduce the ecological footprint of waste water treatment plants are similarly called for. Another market approach to be considered is to follow the steps of very large international technology providers and to supply them with otherwise difficult equipment to procure on the local market and then to establish locally a proper office or to rely on a local distributor.

Structural flood control measures

The state's existing flood management masterplan encompasses 11 projects: Pasig-Marikina River Improvement and Dam Construction; Meycauayan River Improvement; Malabon-Tullahan River Improvement; South Parañaque-Las Piñas River Improvement; East Mangahan Floodway (Cainta & Taytay River Improvement); West Laguna Lakeshore Land Raising; Land Raising for Small Cities around Laguna Lakeshore; Improvement of the Inflow Rivers to Laguna Lake; Manila Core Area Drainage Improvement; West Mangahan Area Drainage Improvement; and Valenzuela-Obando-Meycauayan (VOM) Improvement.

In addition, the rehabilitation and improvement of twelve existing pumping stations in Metro Manila amounting to €30,85 billion was likewise approved and released to the Metro Manila Development Authority. Other major flood control projects in the pipeline include: the Laguna Lakeshore Expressway Dike Project, Manila Bay Integrated Flood Control, and Coastal Defense and Expressway Project.

As most of these environmental projects fall under priority investment areas and are envisioned to be implemented through a PPP scheme, interested EU technology providers may take advantage of fiscal and non-fiscal benefits offered under the Investment Priorities Plan 2014–2016. EU environment-related firms could rely on the very innovative quality of their proposals to Philippine customers and also on their willingness to shoulder the risk to co-conduct pilot projects with local partners before fully setting up business locally.



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