

Summary of the Session on Water and Wastewater Treatment¹

1. The Session on Water and Waste Water Treatment was chaired by Mr. Pierre Portas from the Waste Environment Cooperation Centre (WE2C).
2. Dr. Chizuru Aoki, from the International Environmental Technology Centre of UNEP, began by citing figures regarding the global demand for water. It was noted that 884 million people are without access to drinking water; that demand for clean drinking water is increasing in virtually all countries, with a 10 per cent increase projected in 10 years; and that 2.5 billion people are without access to sanitation. This calls for the need to come up with new and innovative solutions for augmenting water supply and managing wastewater.
3. The market drivers at the country and/or international level for water and wastewater treatment included: population growth, especially in urban areas; industrial development and treatment needs; increasing emphasis of wastewater treatment; international commitments and targets, such as the Millennium Development Goals and Johannesburg Plan of Implementation; and Government policy, including on environmental sustainability and water security.
4. Although there are different ways of categorizing technologies and practices in this field, Dr. Aoki suggested that technologies could be categorized as follows: water storage and augmentation; water supply and distribution; water use and saving; and water reuse, recycling, and safe disposal/treatment. Examples of technologies were provided for each category, along with their overall environmental benefits.
5. Dr. Aoki presented two water-related projects that UNEP was currently implementing. The first involved modular reverse osmosis (RO) water treatment plants and distribution network in Iraq, and the second involved a community water system upgrade with intake protection and pipeline extension to augment rainwater in rural Jamaica. Both projects required an array of goods; some examples were provided with their associated HS codes. It was further noted that goods required in such projects often came as packaged systems.
6. The potential for growth in the water and waste water sector and the potential increase in market demand for related technologies was emphasized. In particular, with the likely impacts of climate change, the market for desalination technology was expected to increase from US\$ 3.8 billion in 2005 to approximately US\$ 30 billion in 2015. It was also noted that more investment would be required in order to meet the targets set by the Millennium Development Goals.
7. Turning to the experience of UNEP with non-tariff barriers (NTBs), it was noted that certain monitoring equipment required for water quality or delineation of water sources faced import prohibitions in certain countries. Another example of NTBs were the complications related to customs procedures which in some cases had resulted in a 3-4 month delay in the implementation of infrastructure development projects, as well as additional costs.
8. The economic benefits related to water and wastewater treatment were said to be quite significant. According to the WHO (2006), these ranged between US\$ 3-34 for each US\$ 1 invested in water and wastewater provision. The majority of economic benefits are health-related (e.g. avoidance of health care costs, due to less illness; avoidance of days loss for employment or other productive activities in the household; increased production; and more leisure time). As regards the development benefits, it was noted that improved water management and sanitation

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could contribute to poverty alleviation, food security, gender equality, industrial development with employment generation; and post-conflict stability building.

9. Dr. Suda Bunduwongse from Aquathai Co. Ltd in Thailand described the two main categories of goods in this sector, namely equipment or specific materials for the supply, treatment and transport of water; and equipment or specific materials for the collection, treatment and transport of wastewater. Several examples of goods were mentioned under each category. The services related to water and wastewater treatment included professional services (engineering services, integrated engineering services); and environmental services.

10. With respect to the potential benefits derived from goods and services in this sector, the following aspects were mentioned: access to improved water supply, safe drinking water, sanitation, hygiene; reduction of water-related diseases; promotion of better living and good environmental conditions; increased environmental and energy use efficiency; transfer of technology and technical know-how in water and wastewater technology; demand for related products and services; improved environmental standards for tourism; increased ability to meet overseas export standards and create competitiveness; creation of skilled and unskilled work for local workers, in design, construction and operation of the facilities; export of local expertise to other countries with similar needs and operating conditions; new opportunities to deploy skills and technologies for both local and foreign companies; enhanced export flows in sub-regional or regional markets; and potential increase in exports of environmental goods and services from developing countries with foreign direct investment flows.

11. Dr. Bunduwongse highlighted certain constraints related to trade and delivery in developing countries, including high tariffs. Regarding Thailand's domestic regulatory environment, the following aspects were highlighted: licensing requirements for performing design and project management in water and wastewater treatment-related works; endorsement of design and calculation to be certified by licensed engineers; limited time periods for work permits of expatriates; company structure (limited to 49 per cent foreign ownership); applicable tax and duties; technical specifications and requirements; and procurement procedures.

12. With regard to supportive policies and regulations to facilitate business in this sector, reference was made to progressive tariff liberalization; licenses, permits, qualifications and technical specifications to be based on a fair and transparent basis; contract conditions to be in accordance with international standards, such as FIDIC (International Federation of Consulting Engineers); and adequate procurement procedures.

13. Mr. Portas concluded by saying that the session had emphasized the complexity of ensuring access, transportation, treatment and distribution of water, especially in developing countries. Despite its significant potential for growth, at the same time the sector requires private and public investment for developing and using workable, sound, adequate and reliable environmental technologies. In this regard, trade can potentially play an important role in terms of facilitating access and deployment of such technologies. The presentations clearly highlighted the social, development and economic benefits to be gained in improving access to water and sound wastewater treatment and the direct effects on health improvement and job creation. Improved access to adequate and sound environmental technologies is considered a determining factor to meet the Millennium Development Goals for Water and Sanitation. From that perspective, it was useful that the session provided some technical background on a wide range of proven environmental technologies dedicated to water and wastewater treatment.