

5<sup>th</sup> World Convention on

# RECYCLING AND WASTE MANAGEMENT

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## Zero waste can be achieved through 5R principles of waste management

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It is necessary to adopt/focus on 5R principles (Reduce, Reprocess, Reuse, Recycle and Recover) of waste management for sustainable development. Port generates four types of wastes i.e., municipal solid waste, industrial waste, bio-medical waste and e-waste. Company has developed a vision of making APSEZ, a zero waste company. Domestic and industrial wastewaters are treated and reuse for horticulture purpose. Water free urinals are installed as part of water conservation measure. MSW includes paper, plastic, metal, glass, rubber; scrap etc., is segregated at source, sent for recycling. Non-recyclable waste is handled through combustion without use of fuel or electricity. Canteens generate biodegradable waste that is rich in carbon along with nitrogen, phosphorous and potassium is converted to manure using organic waste converter. Manure is used in-house for horticulture purpose. E-waste generated after the end of useful life is collected and sold to authorized recyclers. Other materials such as metals, plastic etc., are also sent to respective recyclers. Lubricating oil after useful life needs to be changed. Used oil/spent oil is collected and sold to government approved recycler. Downgrade chemicals are generated due to washing of on board tanks from ships before liquid cargo loading and sold to registered recyclers. Oily water received from vessels (slope) is pumped tangentially in the oil water separator. Separated oil is sold to registered recyclers. Cotton used for various maintenance and cleaning work gets contaminated with oil, grease, etc., are sent to cement industry for co-processing through cement kiln. Pig waste is collected and squeezed to remove the chemical contained. Recovered chemical is sent to recycler. Solid pig waste is sent for co-processing. These practices results in saving of land, resources, money, emission, pollution and help generate revenue in some cases. Time has come to focus on value added initiatives to make business sustainable.

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