



Abstract

Title: Creating Employment and Value from Waste: Challenges and Opportunities

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Waste management is a challenging issue for the Sultanate of Oman because of its adverse impacts on environment and public health. With population of almost 3 million inhabitants, the country produced about one million tons of Non-hazardous waste in 2012¹. The per capita waste generation is about 1.2 kg per day, among the highest worldwide.

Solid waste in Oman is characterized by very high percentage of (potential) recyclables which represent about 50% of total Municipal Waste, primarily paper and Cardboard (15%), plastics (21%), metals (1.8%) and glass (4%).² However the country is yet to realize the environmental and employment benefits from recycling of its municipal waste stream. Currently most of the solid waste is sent to authorized and unauthorized dumpsites for disposal which is creating environment and health issues. Solid waste management in Oman is marked by lack of collection and disposal facilities. Solid waste management is among the top environmental priorities of Oman government which has mapped out a robust strategy to resolve waste management problem in the Sultanate. However, to realize this strategy investments totaling Omani Rial 2.5 billion are required to put this waste management strategy into place³; and this strategy does not take in to full consideration the issue of resource recovery and employment opportunities that can be created.

In January 2013 a report from the European Union (EU) stated that full implementation of EU waste legislation would save €72 billion a year, increase the annual turnover of the EU waste management and recycling sector by €42 billion and create over 400,000 Employment opportunities by 2020.⁴

¹ Excluding Construction & Demolition waste and Waste Tyres

² [Waste Quantification and Characterisation, be'ah 2012](#)

³ <http://www.bioenergyconsult.com/waste-oman/>

⁴ "Waste – a short cut to job creation and lower costs" (http://europa.eu/rapid/press-release_IP-12-18_en.htm)



EU Environment Commissioner Janez Potočnik said: *"We need to see waste as a resource – and to bury that resource in the ground is worse than short-sighted. This report shows that waste management and recycling can make a big contribution to economic growth and job creation. If the existing legislation was implemented properly, we could avoid costly clean-up operations, pollution and health problems. And let's not forget that recycled materials are cheaper than virgin ones – and that they reduce greenhouse gas emissions and our dependence on imports."*

However, to change the path of waste management in the Sultanate an initial situational assessment of current conditions is necessary to begin changes. This assessment should focus upon the development of a secondary waste management industry oriented around resource recovery. Whilst the assessment should address the opportunities it is clear that it is necessary to look at some of the barriers that need to be researched so that the environmental benefits and employment opportunities can be actualized.

The success or failure of such initiatives depends upon identifying, assessing and evaluating challenges (gaps) in knowledge of science and technology and their limitations, policy and regulatory inadequacies, lack of skill and expertise in the work force, community rejection of ideas (aka. NIMBY syndrome⁵) Therefore, the following potential barriers to the sustainable development (SD) of the waste management sector need to be evaluated.⁶ The main SD topics where careful identification, assessment and evaluation of the barriers are in the following areas:

- Science
- Technology
- Political/Regulatory
- Economic
- Social

For without understanding these barriers the development and implementation of a resource recovery industry will falter and invariably fail – thus exacerbating the deleterious impacts on the environment and also not realizing the employment opportunities.

⁵ NIMBY = Not in my backyard

⁶ By addressing these challenges support will also be garnered for the promotion and implementation of cleaner production and sustainable consumption in Oman as required under the United Nations Conference on Sustainable Development (Rio+20) June 2012 10-Year Framework of Programme on Sustainable Consumption and Production (10YFP).



Outcome of Project:

- i. What further research is required to identify, address the barriers to the development and implementation of a resource recovery waste management strategy in Oman?
- ii. What National policy, regulation and institutional integration are required to maximize the environmental benefits and employment opportunities?
- iii. Which waste streams can realistically be used for resource recovery, the valorization of waste and what markets and products could be created?
- iv. What needs to be done in terms of awareness-raising of the socio-economic benefits, in particular, the employment opportunities arising from the adoption of a resource recovery industry
- v. What are the associated environmental benefits associated with resource recovery?
- vi. Identify how resource recovery can assist Oman in meeting its International Obligations under the UN Climate Change framework?⁷
- vii. How can the recommendations from the study be developed into an action plan and implemented?

⁷ <http://www.unep.org/ietc/informationresources/publications/wasteandclimatechange/tabid/79353/default.aspx>