

## Sustainable Municipal Waste Management

### Integrated municipal waste management for Aramco Refinery in Jazan Economic city

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Sustainable Waste Management is crucial to Achieving Environmental Sustainability in Arab Cities, without Sustainable waste management Programs, we can't build sustainable and livable cities. Sustainable Waste Management Constitutes an Effective Approach for Controlling Material Flows in the Industrial and Economic Systems in our cities and Contributes to Preserving Energy and Natural Resources such as minerals and ores, fossil fuels, soil, water and biological resources, land, atmosphere and ecosystems by increasing resource productivity, reducing material throughputs, and reusing & recycling materials to such a degree that depletion of natural Resources is minimized and ecosystem services are maintained. Ultimately leading to Environment Protection and achieving Sustainable Development Goals.

Waste Management Project for Jazan Refinery is a practical Example of integrated waste management practices that was implemented in one of the leading strategic projects South KSA. In Middle of 2015; SEPCO Environment has developed and implemented an integrated waste management plan for Jazan Refinery and Marine Terminal construction Project. The plan was designed to provide integrated waste management solutions to the new project and to improve waste management efficiency through implementation of Sustainable Waste Management Program and Best Practical Environmental Options, waste minimization, source segregation and material recycling, Efficient resource utilization, and environmental awareness program, To alleviate resource use, waste generation, Diverting waste from disposal in landfills and incinerators, redirecting recyclable recovered resources to manufacturing processes, Redirecting usable materials to appropriate industrial systems, Energy and Natural Resources Conservation and Recovery, Preventing pollution by reducing the need to collect new raw materials; Reducing greenhouse gas emissions and Mitigate global climate change, Mitigate environmental impacts and promoting sustainability practices in this vital sector.



The environmental awareness program was developed as one of the most important factors necessary to ensure that all concerned parties comply with the implementation of sorting and recycling programs. An integrated environmental awareness program has been developed based on sustainable environmental management of municipal waste, construction waste and demolition.

The project consists of Major milestones including technical, environmental, geotechnical, topographical and design studies, building of a central integrated municipal waste management complex, development and implementation of an integrated plan for collection, transport, sorting, treatment and recycling of municipal waste and construction and demolition waste for 5 years.

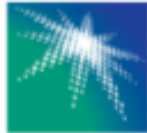


The technical studies included the technical and engineering design, technical and construction specifications of the municipal solid waste management complex, the construction and demolition waste management complex as well as the construction, operation and closure plans and environmental monitoring plans, integrated environmental studies to assess the expected environmental impacts of the project and the environmental contingency plans. Evaluation of project impacts, mitigation and monitoring procedures to reduce the environmental impacts of the project, collection of data and information on the location and activity of the project, implementation of geotechnical studies, topographic survey, climate study, water and energy sources, study of natural life in the surrounding area, Emissions or pollutants and to identify methods and processes for the treatment of environmental pollutants according to the highest international environmental standards. An integrated complex for the management of municipal solid waste was constructed on a total area of 1.200.000 square meters, including a municipal waste management center, one for Construction and demolition waste, areas for future expansion. The existing complex includes many facilities including geometrical cells lined in accordance with the highest International environmental standards, A waste recycling and recycling center for waste disposal and waste disposal, construction waste management center with a capacity of 100,000 cubic meters, a center for sorting and recycling of Recyclable municipal waste with operational capacity 400 tons per day, Landfill Leachate collection and treatment system, surface water collection ponds to protect the complex against flood and rain hazards, Landfill gas collection system. Central Maintenance Center, Equipment Washing and Sterilization Center, Waste Reception and Weighting Center. Project administrative buildings.

## Integrated Waste Management for Jazan Refinery

**Project Owner**

أرامكو السعودية  
Saudi Aramco



**Employer**

**HITACHI**  
Inspire the Next



**Contractor** الشركة المنفذة

**Saudi Gulf Environmental  
Protection Company  
(SEPCO Environment)**

**sepcو**  
**سيبكو**  
environment البيئة

الشركة السعودية الخليجية لحماية  
البيئة  
(سيبكو للبيئة)



