



Orpic Sustainable Leaders

Content

- **Orpic, WHO ARE WE**
 - Integration
 - Values
- **Orpic, Environmental Sustainable**
 - Projects under execution
- **Sustainable Orpic Community**

Orpic, WHO ARE WE?



- Orpic is a three Companies Integration with four plants (ORPC, AOL and OPP)
- Orpic is the largest Omani company in the sector
- It is rapidly growing businesses in the Middle East's oil industry
- Orpic provide fuels, chemicals and feedstock to Oman and to the world.
- Our team is around 1,600 employees - the majority Omanis
- Orpic works across four plants with a common goal of building an integrated business
- Orpic aim to build an Omani refining and petrochemicals business which the nation is proud of.

Our Four Plants

- **MAF Refinery Produce 105,000 BPD**
- **Sohar Refinery Produce 116,000 BPD**
- **Aromatic Plant Produce Paraxylene 700 kta,
Benzene 175 kta**
- **Polypropylene Plant Produce PP Pellets 340 kta**

Our Values

We put safety and the environment first

We bring the potential of our people alive

We aim for leading performance

We serve Oman with pride

Orpic, environmentally sustainable



While looking forward to achieve its goal to be a global leader in the field of oil refining and petrochemical industry:

- Orpic puts the environment as a top priority, and for being aware of the effects associated with its operations on the environment,
- Orpic works to reduce emissions harmful to the environment and complies with environmental requirements globally.
- In this term, the company has launched a number of environmental initiatives that will reduce the environmental impacts associated with its operations

Catalyst Recycling in Cement Industry



Disposal of FOBS (Fuel Oil Blend Stock) in an environmentally sound manner



Waste Water Treatment Improvement & Odour Release Control



Greenhouse Gas (GHG) Inventory Study and Reduction Plan



Sustainable ORPIC Community



Orpic CSR objectives and activities

- **Our Location in the community**
 - Villages surrounding us
 - Rest of regions
- **Our mission for the community and our Commitments**
 - Flare and smoke
 - Smell
 - Catalyst powder
- **Our CSR Community Projects**
 - 3 million \$ for the last two years

Community Projects

Sr.	Project Title	Approved Budget (USD)	Comments
1	Falaj Al Qabail Maintenance	124,667.23	Quick Win – completed
2	Ramadan Campaign	129,861.70	Quick Win – completed
3	AIESEC Partnership program	19,479.25	On going
3	Eyidia Campaign	129,861.7	Quick Win – almost completed
5	Football Tournament	31,166.81	Quick Win – will take place soon
4	Kick worldwide Outreach Program	317,901.44	On going
5	Tailoring Project	52,983.57	On going
6	Farmers Project	168,820.21	On going
7	Professional Education (To Provide training for employment for 90 technical Professional)	420,751.91	On going
8	Cyber Café (Learning & Recreation)*	197,389.78	*Budget approved project is under investigation and evaluation
9	Cultural week	129,861.70	Under investigation and evaluation

Sustainable ORPIC Leaders

- who is our leaders?
- How we engage our leaders?
- what`s there role?
- Leaders Commitments?

Thanks for Your Attention

Catalyst Recycling in Cement Industry

The disposal of spent catalyst is of major concern to oil refineries. In past years, the spent catalyst was sent to dumping site or landfills. However, with increasing environmental restrictions and concerns, other waste management techniques should be explored. This includes converting the material into a useful product in the manufacturing of cement. ORPIC and SEU coordinated with Oman Portuguese Cement Co in order to test production of concrete building blocks with cold site added catalyst (approx 4% cat in end product). These blocks have been tested by the Sohar branch of Ministry of Commerce and Industry on strength and a European based institute tested the block on leaching characteristics. All tests resulted in a positive outcome

Disposal of FOBS (Fuel Oil Blend Stock) in an environmentally sound manner

Slop oil generation from various process units such as crude unit 100 has become a real environmental concern; about 10-40 m³/day of crude oil is diverted to OWS (Oil water sewer system) as slop oil due to malfunctioning or upset of De-salter operation. Slop oil inventory from OWS and WWT keeps increasing in steel drums, FRP and Wet Slop Tank due to outside erratic delivery, causing FOBS piling up. Fuel Oil Blend Stock (FOBS) has been sitting round in FRP tanks and metal drums at Sohar Refinery for several years. It has been a potential environmental hazard. With an innovative approach to performance improvement, a cross-functional team was motivated to explore opportunities to find a method to remove the FOBS with value to the company. The FOBS was successfully blended into the refinery FO by end of June, 2011

SOx Emissions Reduction from Wet Gas Scrubber (WGS)

ORPIC have studied the performance of WGS in terms of three main problems; Low flue gas temperature, high Sox Emissions & Smuts Descending. Based on the KHI study, the ORPIC - Sohar refinery feedstock contains 2.1 - 2.4 wt % sulphur. This concentration is significantly higher than the design sulphur content (1.6 wt %) and the current SOx load on the WGS is about 50% greater than design and also noticed that the poor plume dispersion & flue gas exit temperature lower than design (65 C) temperature in normal operation. As a result, a detrimental impact on the refinery's overall emissions performance and with specific impacts at the RFCC WGS. In order to reduce SOx emission, it is necessary to increase sea water flow rate to the WGS (not less than 7000 m³/hr in normal operation) and also to increase the buoyancy of the flue gas exiting the WGS stack, it is necessary to increase the flue gas discharge temperature & this will be achieved by adding a secondary stream of hot air/flue gas

Greenhouse Gas (GHG) Inventory Study and Reduction Plan



The project entails identifying, quantifying and reporting of GHG emissions for ORPIC Sohar Refinery, Aromatics and PP plants. The study also requires developing a user-friendly interactive database which will be used by ORPIC for maintaining and generating GHG inventory reports for critical decision making on corrective actions and reduction plans. This proposal presents a detailed methodology and project execution plan and agenda to develop a comprehensive study on the GHG sources/sinks & Ozone Depleting Substances (ODS) for mandatory reporting under MECA guidelines and also for identifying potential project activities that may qualify for the Clean Development Mechanism (CDM) - one of the financial mechanisms of Kyoto Protocol for carbon abatement. Building a robust GHG inventory is a first step to assessing the current emissions from the facilities and subsequent monitoring of emission trends for mandatory reporting purposes. This exercise would also enable ORPIC in developing a strategic plan to mitigate and manage the GHG emissions at each of the three facilities.

Waste Water Treatment Improvement & Odour Release Control

Based on the findings of the Odournet investigation at the ORPIC-Sohar Refinery WWT, commissioned by KHI (K-Home International), an initial proposal for an emissions abatement scheme has been developed. This scheme involves the reduction of odorous emissions to atmosphere by means of the covering of certain tanks and vessels within the WWT from which high levels of odour were detected. The proposed scheme would incorporate the collection and dilution of the odorous air, and the subsequent discharge to atmosphere via a Regenerative Thermal Oxidiser (RTO) with 99% destruction efficiency would result in a reduction in odour emissions from the WWT to 45% of those estimated during the survey, a reduction of emissions of VOC's to 48%, and of hydrogen sulphide to 77%. The project is under FEED preparation for EPC and expected to be completed by Q1 of 2013.