

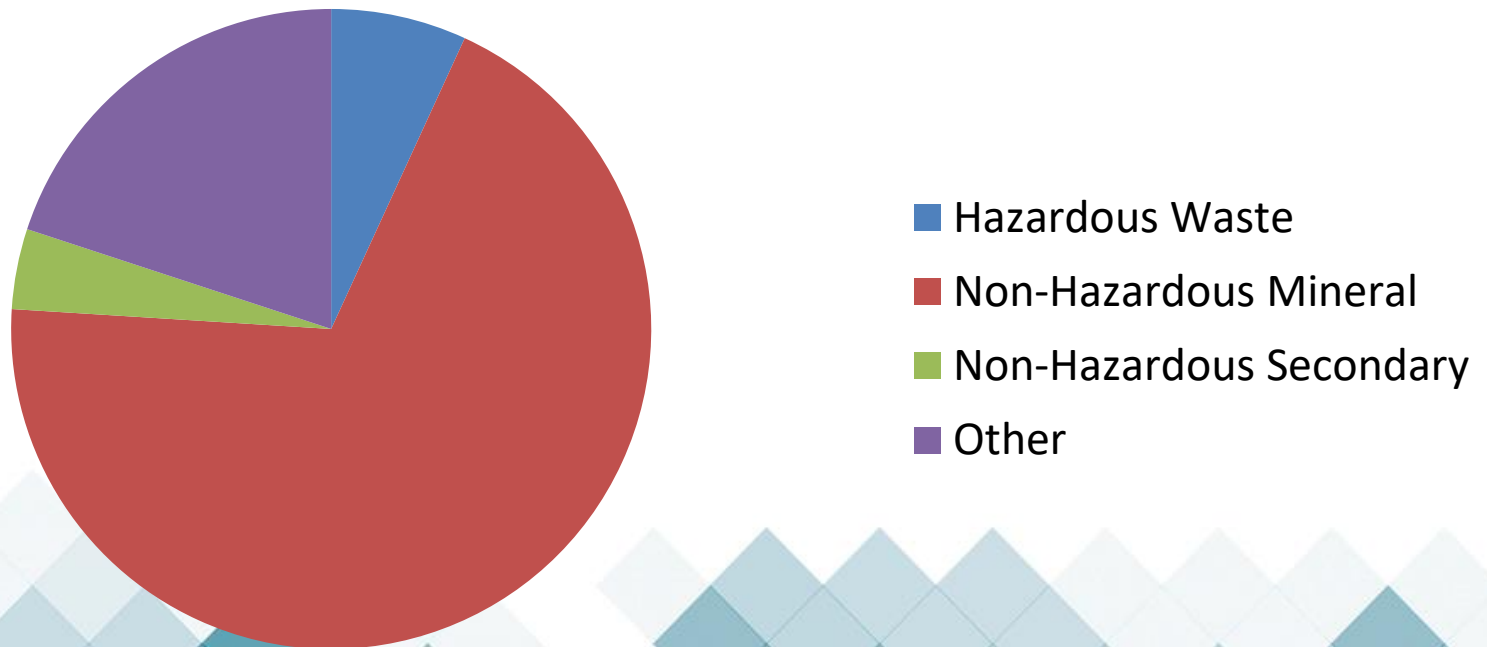
LANDFILL GAS MANAGEMENT IN THE MALTESE ISLANDS

Cocoon Seventh Interregional meeting in
Potsdam, Germany
February 2019

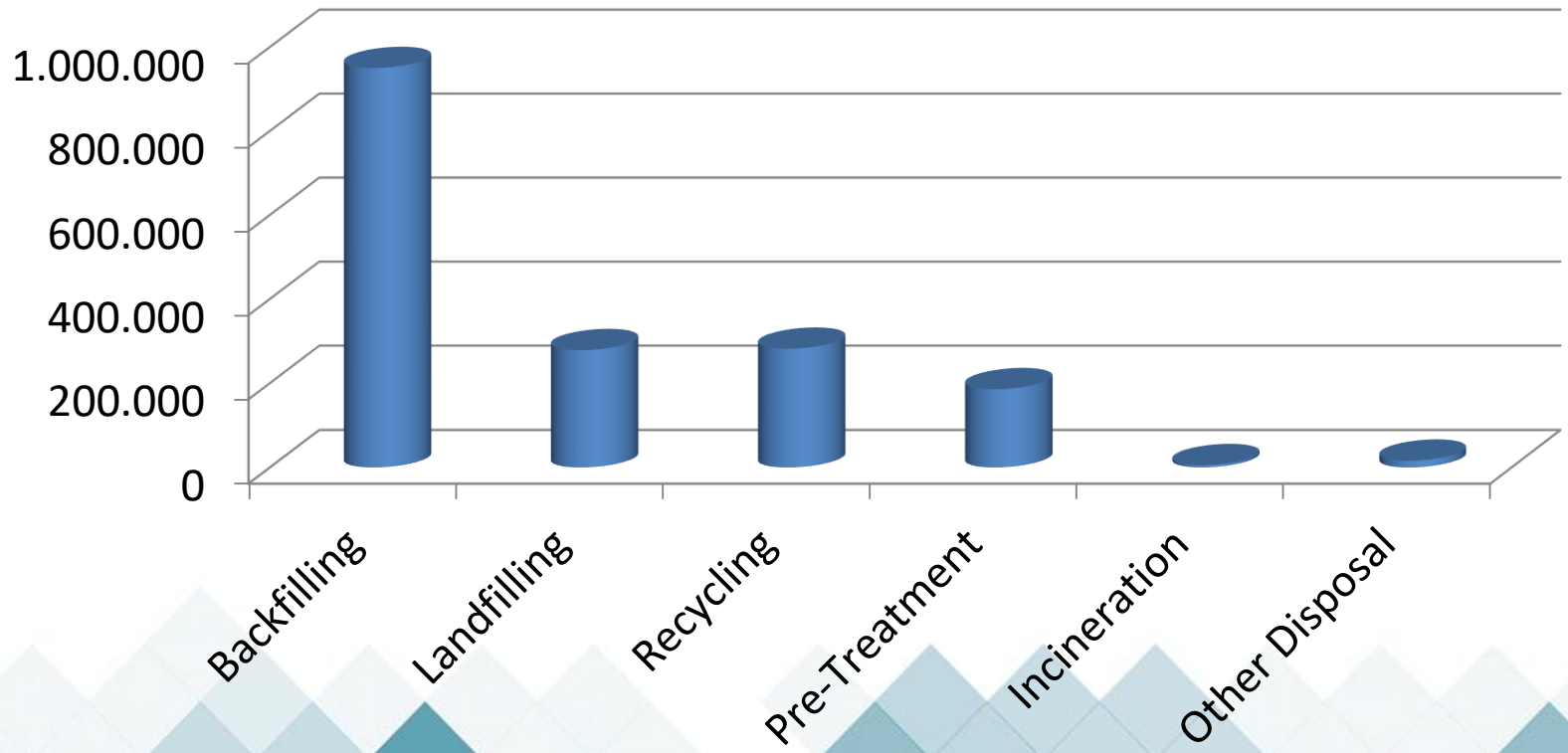
Waste Generation in Malta

Almost 2 million tonnes of waste is generated every year.

Waste Generation by Type



Waste Treatment in Malta



Maghtab Environmental Complex



Ghallis Non-Hazardous Engineered Landfill

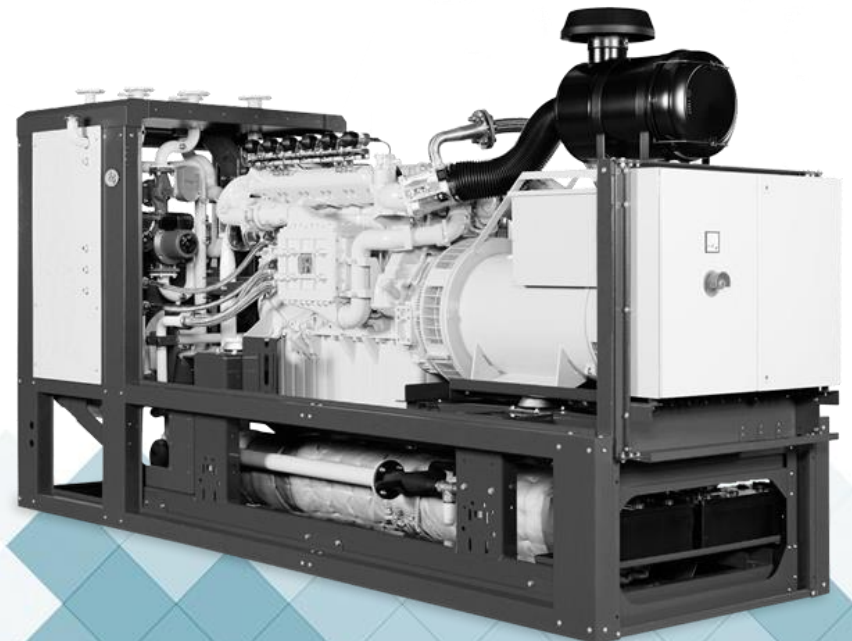
- The Ghallis Landfill has been in operation since 2007, with a projected total capacity of 3.02 Million tonnes.
- A total of 23 Gas extraction wells have been installed in its completed areas, 15 of them extract good quality landfill gas which is delivered in a land fill gas power generator.
- With a gas collection system that separates the better quality gas collected from wells with a higher calorific value, the lower quality gas is routed for treatment through a flare.
- Typical composition of good quality gas extracted:
CH₄ - 52%
CO₂ - 37%
O₂ - 0.2%
With a typical flow of 90m³/hr

Ghallis Landfill Gas Treated through Generator in 2018



Energy Generation

- A generator unit is set to operate 170 kWh.
- With a current efficiency of around 87%, the engine produces an average of 26,400 kWh units of power per week.
- Estimating a net profit of €70,000 per year.

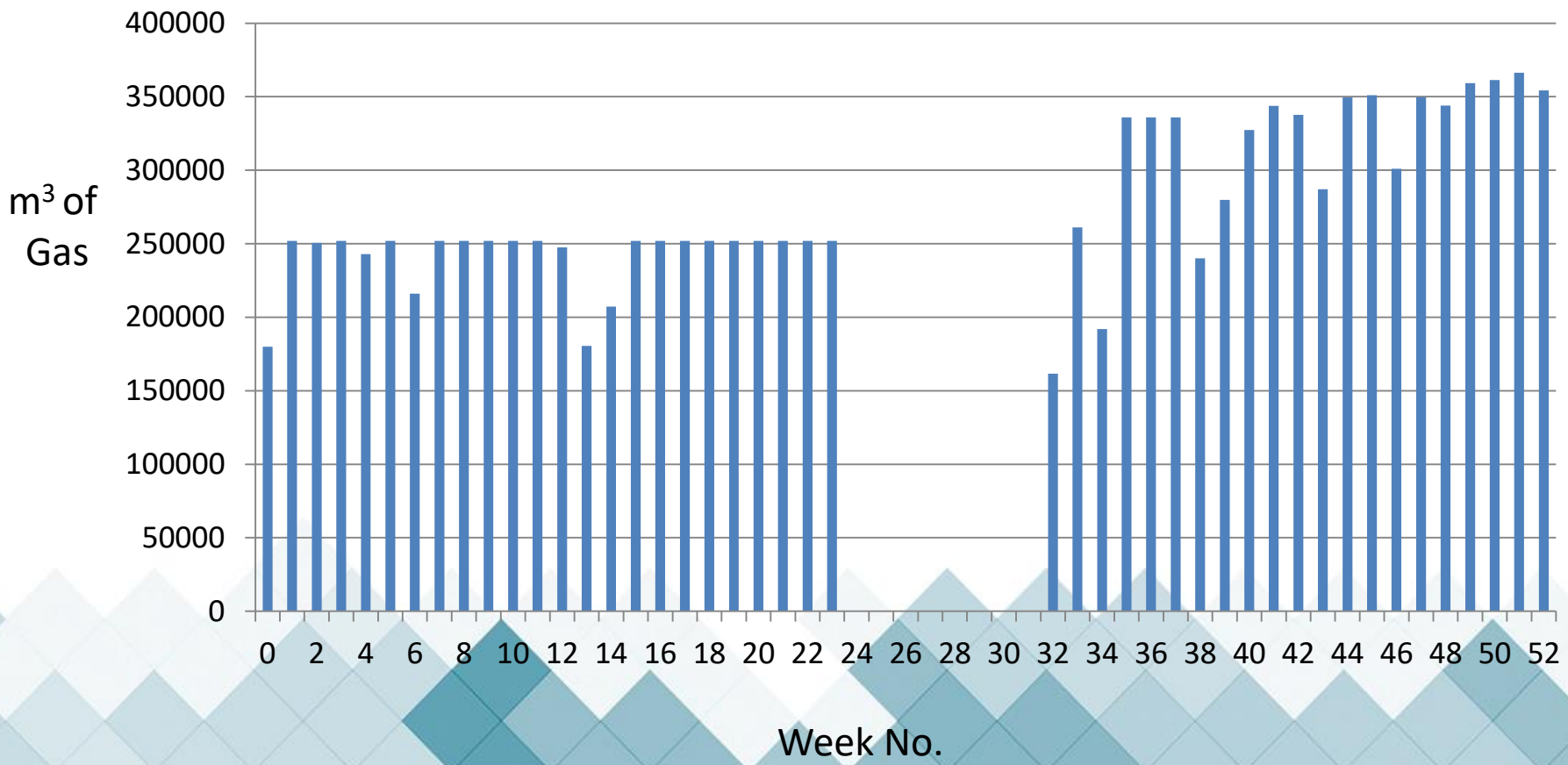


Maghtab & Zwejra Landfills

- The current Gas extraction system at Maghtab, mixes gases collected from the Zwejra and Maghtab Landfill.
- The mixture of gases is mixed with fresh air in order to retain a composition that is suitable for the Regenerative Thermal Oxidiser unit.
- Typical composition of the quality of the mixture of gas:
CH₄ - 0.6%
CO₂ - 2.1%

With a typical flow of: 2100m³/hr of gas
600m³/hr of fresh air

Maghtab & Zwejra Landfill Gas treated through RTO in 2018



Qortin Non-Hazardous Non-Engineered landfill

- The Qortin Non-Hazardous Non-Engineered landfill is situated in Gozo,.
- The current gas extraction system uses a Flare unit to treat the gas.
- The Calorific value of the gas is relatively low, as the landfill was in operation from 1968 till 2004.



Rehabilitation Projects

- Maghtab Non-Hazardous Non-Engineered Landfill, Zwejra Non-Hazardous Engineered Landfill, and Qortin Non-Hazardous Non-Engineered Landfill are undergoing rehabilitation.
- These landfills have been capped and closed off for any further waste disposal.
- The Gas Management Plan for these landfills, caters for well after the landfill has been capped
- The low quality gas from these landfills is treated either through the RTO or through a Flare.



THANK YOU

