



W O I M A

CORPORATION

USE CASE



LANDFILL REHABILITATION FOR  
HOUSING PURPOSES



## LANDFILL REHABILITATION FOR HOUSING PURPOSES

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**Urbanization is an ever-accelerating trend especially in the developing world. People are moving to cities in search of a better future and thus burdening the already struggling utilities and waste management systems to their limits. Excess waste is simply discarded in street corners or dumped in over-stretched landfills in the midst of residential areas, even though this space would be sorely needed for housing or infrastructure development purposes.**

Landfills have historically been founded, or formed, on the edge of towns and cities. The less waste collection infrastructure there is, the closer the landfill typically is. Modern cities are now expanding around, and sometimes even on top of, the old landfills. Even the non-toxic waste is potentially detrimental to people's health and the environment. Concentrated waste on landfill is especially hazardous due to leachate leaking into groundwater, biowaste luring pests carrying diseases and landfill gases forming noxious compounds sometimes igniting or even exploding.

Moving the landfill site to another location further away from the expanding city is an obvious solution for new waste, but it does not solve the issue with the current landfill. Transporting existing waste to another location creates both a congestion and logistics challenge, not to mention the cost associated with such an endeavor. Thus, a robust and cost-efficient solution is required.

Covering the old landfill reduces air emissions significantly, but does not create a solid foundation for housing development, nor does it solve the groundwater pollution problem. It just lays the problem in the hands of future generations, who will also suffer the consequences of polluted soil and groundwater.

The modular *wasteWOIMA*® waste-to-energy power plant offers a simple solution for the problem. The waste on old landfills is simply incinerated into energy on site. The plant utilizes up to 200,000 tons of waste, corresponding to 600,000 m<sup>3</sup> of uncompacted waste, for fuel annually. Thus, even a large landfill can be emptied in five to ten years, after which the modular plant can be relocated to the next site and the former landfill area freed for e.g. housing development. Sophisticated emission control systems ensure safe operation even in densely populated areas.

The modular *wasteWOIMA*® power plant uses non-toxic municipal, institutional, commercial and/or industrial waste to produce super-heated steam, electricity, thermal energy and/or potable water. The required waste quantity is roughly 170 tons per day, which translates to 3.4 MW<sub>e</sub> of electrical power or 2.0 MW<sub>e</sub> / 10 MW<sub>th</sub> in co-generation. The plant is easily delivered, quick to install, cost-efficient to run and simple to maintain offering all stakeholders significant benefits.

## BENEFITS:

### WASTE MANAGEMENT

- Creating new business potential
- Simplifying waste logistics
- Reducing environmental impacts
- Matching future regulations
- Postponing landfill investments
- Green image benefits



### POWER & UTILITY

- Decentralizing power generation
- Enabling off-grid solutions
- Offering fuel & production flexibility
- Harnessing endless fuel source
- Utilizing carbon credit schemes
- Fast plant delivery

### INVESTORS

- Excellent return on investment (ROI)
- Scalable business model
- Diversified investment portfolio
- Vendor arranged funding
- Fast project roll-out
- Plant relocation option



### OTHER STAKEHOLDERS

- Turning waste into local welfare
- Health & environmental benefits
- Local reliable energy supply
- Educational & job opportunities
- Improving living conditions
- Implementing development funding



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