

# Using Biogas to Reduce Carbon Emissions



# 30

+  
Years Of  
Manufacturing  
Experience



**BIOWATT-BIOGAS®** is committed to a secure energy future free of traditional landfill operations.

Reducing atmospheric carbon dioxide (CO<sub>2</sub>) levels has become one of the most pressing challenges we face in our time. As the main greenhouse gas, CO<sub>2</sub> directly contributes to global warming and climate change, and effective countermeasures are urgently needed. Among the many carbon removal strategies, biogas plays a vital role in many methods.

**BIOWATT-BIOGAS**'s mission is to advance sustainable energy solutions and is committed to tapping the potential of biogas, reducing carbon emissions and promoting the circular economy. By converting organic waste into biogas through anaerobic digestion, we can not only effectively capture and utilize methane, a potent greenhouse gas, but also reduce carbon dioxide emissions, thus forming an efficient closed-loop system for resource utilization.

**BIOWATT-BIOGAS** actively responds to the challenges of climate change, promotes the realization of a circular economy, contributes to building a sustainable future, and strives to find a balance between environmental protection and economic growth.



Processing capacity: Kitchen waste 400t/d



Processing capacity: Pig farm wastewater 900t/d



Processing capacity: Kitchen waste 150t/d



Processing capacity: cow dung 1,000t/d



Processing capacity: Chicken manure 300t/d



Processing capacity: manure and straw 1000 t/d



## TURN WASTE INTO WEALTH BIOGAS LIGHTS THE WAY

**BIOWATT-BIOGAS® Power Plant Solution**

## Powering Sustainability: Advanced Biogas Solutions for Agriculture & Industry

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2025/07/28



Economically attractive  
heat and power price



Unburdening your  
energy needs and focus  
on your core business



Become independent  
from fossil fuels,  
enhance sustainability



Reduction of carbon emissions,  
thus reduce your EU-ETS  
or local CO<sub>2</sub> tax





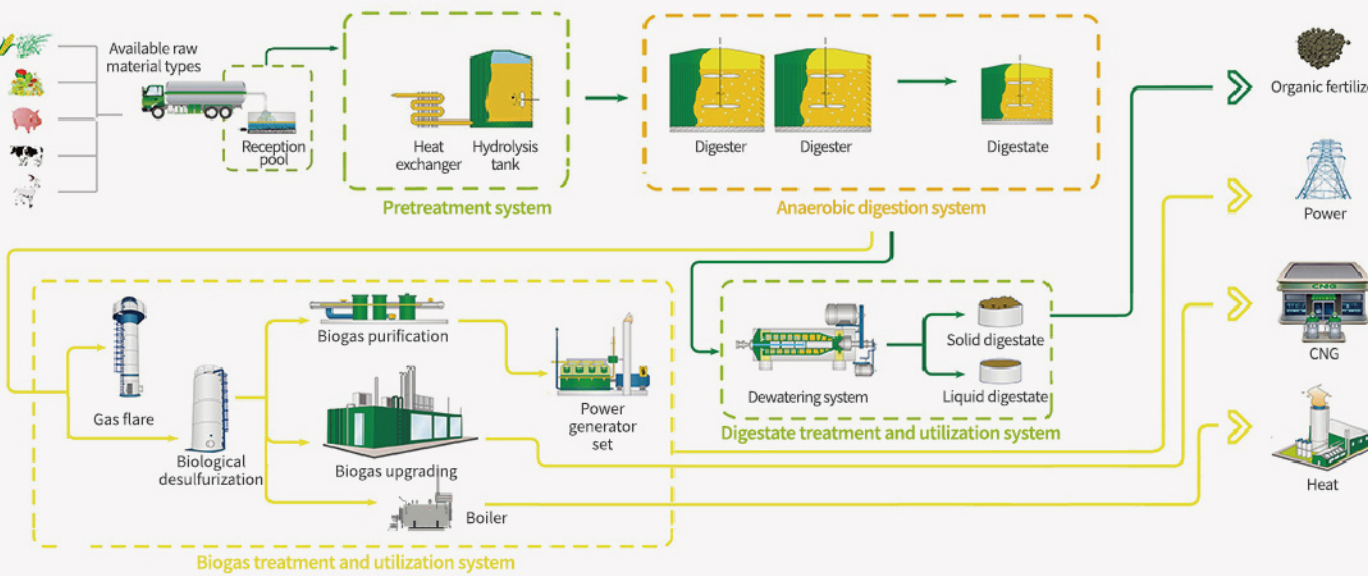
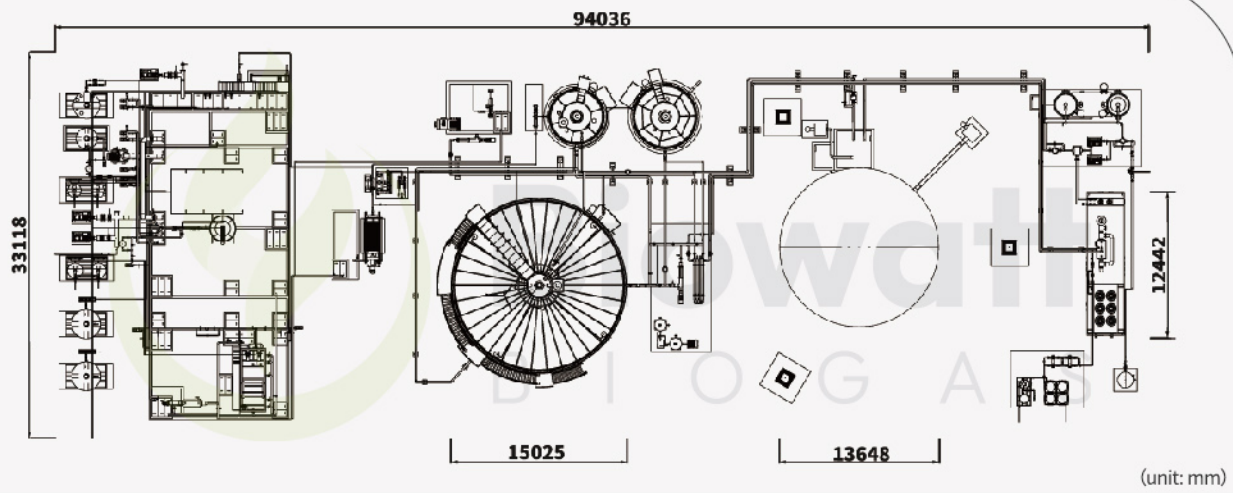
# BIOWATT-BIOGAS® POWER PLANT SOLUTION

Cow, Chicken, Pig Manure, Agricultural Wastes



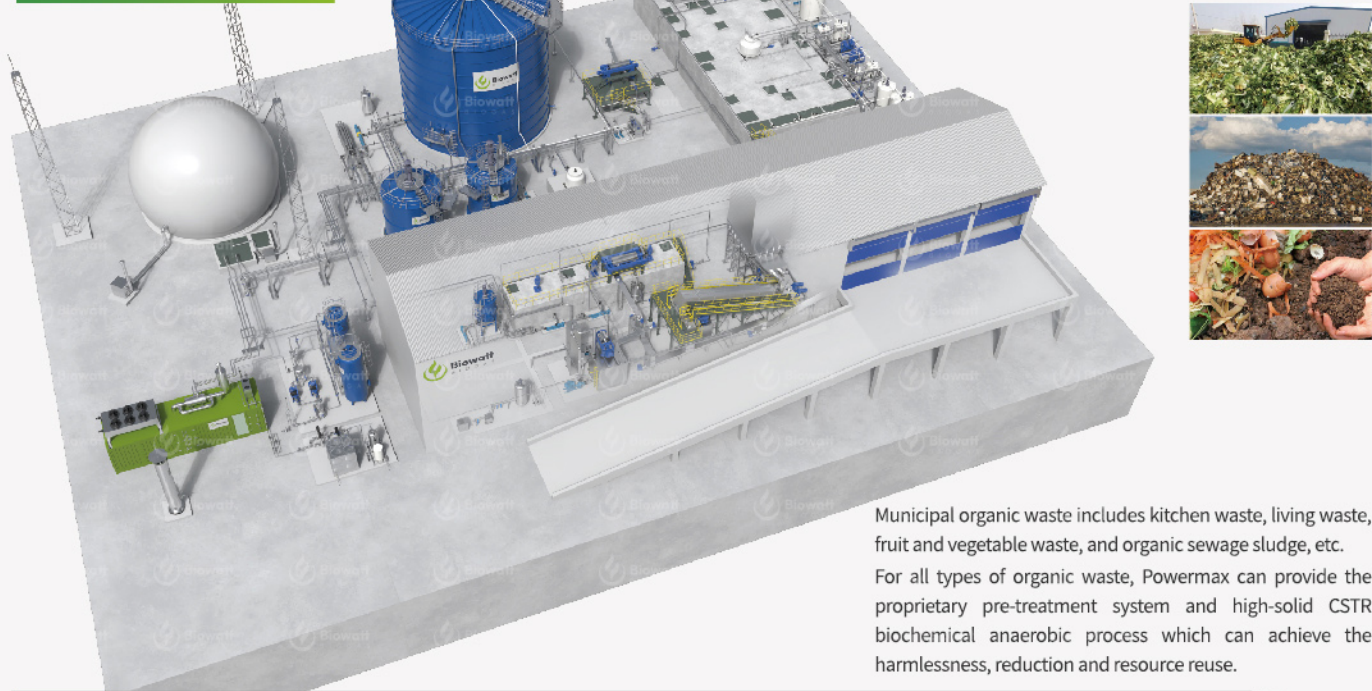
Agricultural wastes include agricultural straws, livestock and poultry manure, leftover vegetable waste and dead animals. The agricultural waste to biogas technology launched by Powermax can truly realize the resource and harmless disposal of such wastes, transforming waste into biogas and bio-organic fertilizer through the high-efficient degradation by the proprietary bacterium, which truly realizes the ecological recycle.

Layout Drawing



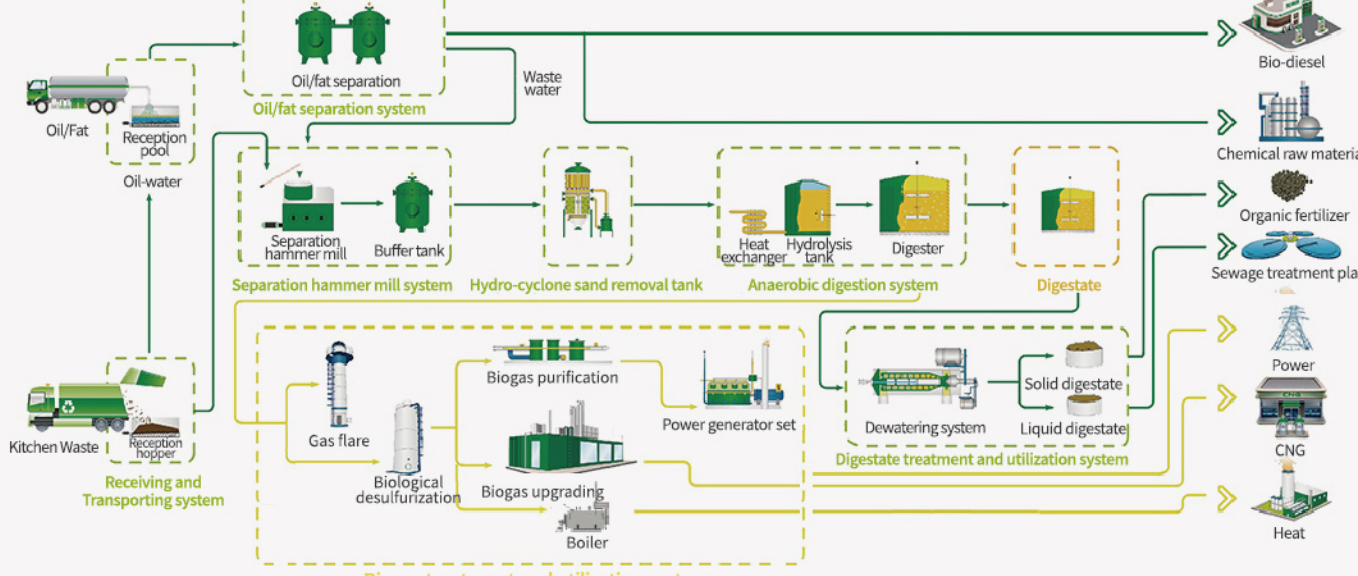
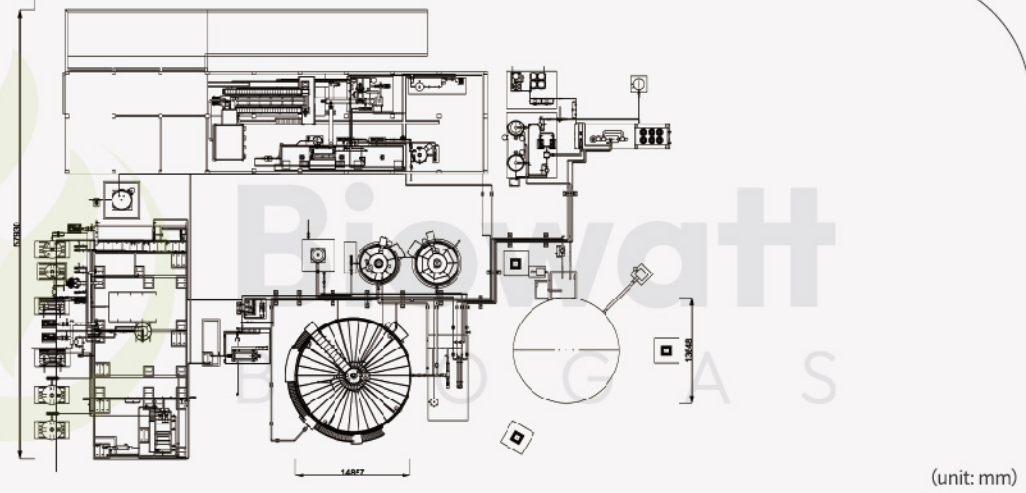
# BIOWATT-BIOGAS® POWER PLANT SOLUTION

Kitchen Waste



Municipal organic waste includes kitchen waste, living waste, fruit and vegetable waste, and organic sewage sludge, etc. For all types of organic waste, Powermax can provide the proprietary pre-treatment system and high-solid CSTR biochemical anaerobic process which can achieve the harmlessness, reduction and resource reuse.

Layout Drawing



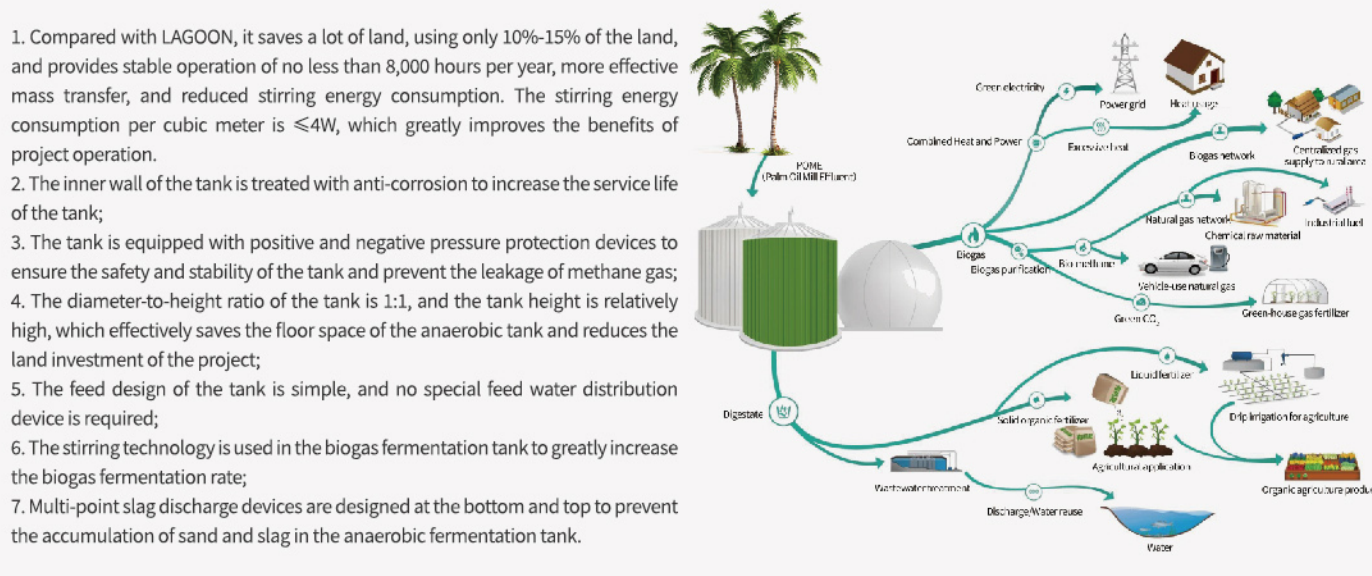
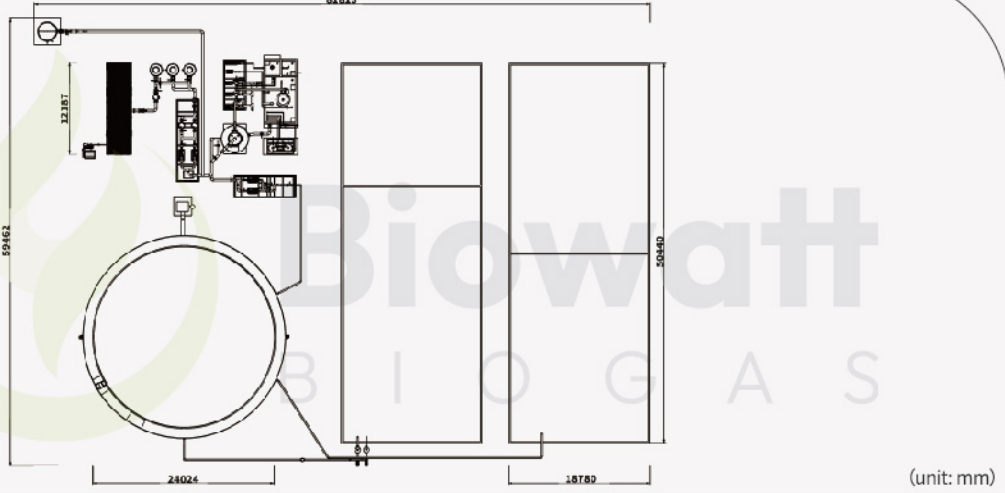
# BIOWATT-BIOGAS® POWER PLANT SOLUTION

POME (Palm Oil Mill Effluent)



Using CSTR (Continuous Stirred Tank Reactor) to treat POME (Palm Oil Mill Effluent) is a very mature and commonly used technical route in the anaerobic treatment of high-concentration organic wastewater, especially suitable for the application scenarios of biogas production capacity improvement and stability enhancement in palm oil mills.

Layout Drawing



1. Compared with LAGOON, it saves a lot of land, using only 10%-15% of the land, and provides stable operation of no less than 8,000 hours per year, more effective mass transfer, and reduced stirring energy consumption. The stirring energy consumption per cubic meter is  $\leq 4W$ , which greatly improves the benefits of project operation.
2. The inner wall of the tank is treated with anti-corrosion to increase the service life of the tank;
3. The tank is equipped with positive and negative pressure protection devices to ensure the safety and stability of the tank and prevent the leakage of methane gas;
4. The diameter-to-height ratio of the tank is 1:1, and the tank height is relatively high, which effectively saves the floor space of the anaerobic tank and reduces the land investment of the project;
5. The feed design of the tank is simple, and no special feed water distribution device is required;
6. The stirring technology is used in the biogas fermentation tank to greatly increase the biogas fermentation rate;
7. Multi-point slag discharge devices are designed at the bottom and top to prevent the accumulation of sand and slag in the anaerobic fermentation tank.