



Dimasa Group Biogas cleaning system has been awarded with 1st award from Tecnoenergía 2012 best technological product of the year.



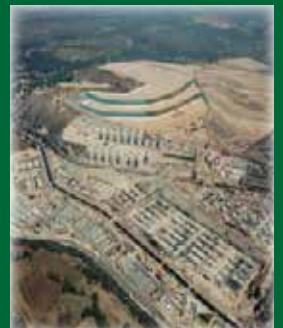
## **Biogas: cleaning and conditioning** Reduce operational expenses on biogas treatment plant.

- Increase the biogas quality produced and **prolongs the life of the biogas engines. Dimasa Grupo Biogas Cleaning guarantees the reduction of harmful components for engines and the environment (steam, solid parti-cles, H2S, siloxanes and VOCs).**
- **Energy consumption reduction from 50 % to 60 %** using in biogas cleaning and conditioning.
- Cost saving by increasing 3 times more the active carbon duration. **Reduction of the operational cost expenses** due to the reduction of the active carbon refill.

**Dimasa Grupo** has developed a **biogas cleaning technology** which reduces operational expenses, ensuring the best gas quality for electricity and/or heat production, extending the life of engines with the lowest maintenance.



Energy Recovery



Biogas cleaning and conditioning of industrial water treatment plant (WWTP) of the world's largest (under construction) located in Atotonilco, Mexico, with capacity to treat 14 000 Nm<sup>3</sup> / h.

**Biogas:** gas mixture, mainly formed by methane (CH<sub>4</sub>), CO<sub>2</sub>, steam and other components traces (H<sub>2</sub>S, siloxanes NH<sub>3</sub>, volatile organic carbons, etc.) Humidity, and harmful compounds for engines must be removed, ensuring the best biogas quality in order to increase the life of engines using that biogas.

Dimasa Grupo biogas cleaning module guarantees the reduction of such components (water steam, particulates, H<sub>2</sub>S, siloxanes and VOCs)

**Conditioning:** Obtention of cleanliness, humidity temperature and pressure degree required for the further biogas application.

**Cleaning:** Partial or total removal of undesirable biogas components, for obtention of the best conditions to its application.

## Innovative Dimasa Grupo biogas cleaning and conditioning plant:

Aims to remove undesirable compounds such as siloxanes, H<sub>2</sub>S, VOCs, humidity (steam), halogenated compounds, NH<sub>3</sub> and particles.

Novel processes following the next steps:

- Pre-cooling to 25°C. Reducing the energy required by the energy recovery equipment.
- Cooling to 2-4 °C. Reduce humidity as well as partial removal of VOCs and siloxanes.
- Gas washing to reduce acid gas (H<sub>2</sub>S) and ammonia (NH<sub>3</sub>).
- Post-cooling to ensure the best conditions to be used.
- Complete removal of siloxanes and VOCs by activated carbon.



Pipes

Heat Exchanger

Condensate pots

## Advantages:

- Reduced operational expenses
- Reduction of pollutants emission.
- Easy to install, operate and maintenance.
- Compact plant and latest technology equipment generation.
- Modular system based on the customer requirement
- Suitable for any biogas effluent.
- Continuous and stable operation since its commissioning.
- Simultaneous reduction of temperature, water steam, H<sub>2</sub>S, NH<sub>3</sub>, siloxanes and VOCs.
- Biogas quality assurance in its use for engines.
- Capable to work in impulsion or aspiration.
- Particle and drops separation system integrated.

## Success stories



Biogas produced from Municipal solid waste landfills

Biogas from sludge digestion of WWTP



Biogas from agricultural waste

Biogas from Industrial waste

