

BIOGAS



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MANY BENEFITS FROM BIOGAS

Interest in biogas is currently great and biogas production plants are being planned or built in many places. Earlier, biogas was largely produced at municipal sewage treatment plants, where it was only a by-product of sludge treatment. Today, biogas is recognised as valuable resource with a potential to reduce the usage of fossil fuels. Biogas is formed in natural processes. These take place for example in the stomach of cows, in rice fields and in landfill. The gas mainly consists of methane (55-75 %) and carbon dioxide, which makes it to a burnable gas, where methane is the energy carrier. Biogas may be produced from food waste from industry and house-holds, or from raw material from farming activities.

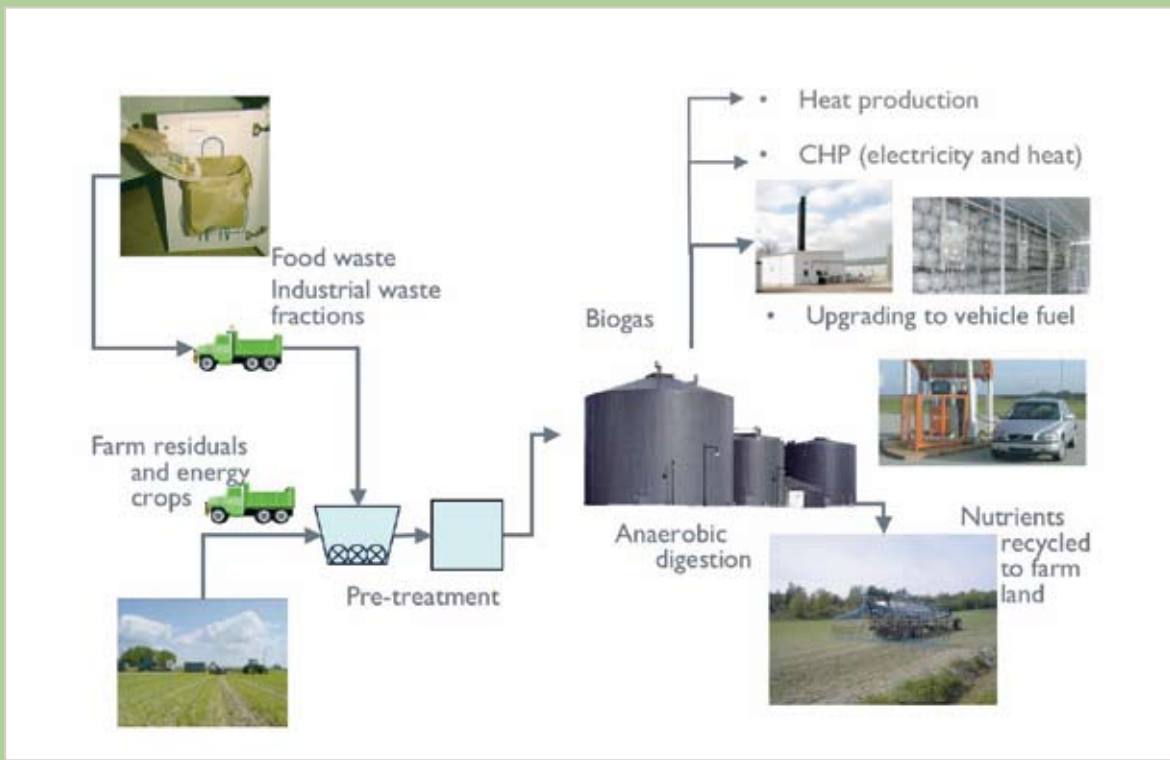
WSP and Multiconsult provide joint capabilities

Biogas projects are complex and entail many different technical areas. Multiconsult and WSP together have broad as well as specialist knowledge and experience from a wide range of activities in the biogas field.

We provide biogas services for all the phases in a project. From the early market and strategic analyses and permit applications to engineering, project and facilities management. Our services include:

- Strategic and regional studies, evaluation of the scope of the project;
- High level feasibility assessments; technical appraisal of available technologies;
- Process studies; mass- and energy balances; estimated biogas potential;
- Preliminary and detailed design of appropriate processes and auxiliary systems for complete biogas system;
- Project management and procurement;
- Implementation and commissioning;
- Training of plant staff; monitoring of performance.

We also add extra value to your project by our experts in financing, environmental strategies, communications, mobility management and gas use.



Biogas is formed in natural processes, for instance in the stomachs of cows.



Multiconsult has extensive experience from large oil and gas projects, and have all the technical capabilities required for the implementation of biogas plants.

A FEW EXAMPLES OF OUR MANY BIOGAS ASSIGNMENTS

Large scale co-digestion plant in Sundsvall

Sundsvall in northern Sweden has a lot going on in the biogas area. A large-scale, regional digestion plant is being planned for co-digestion of food waste, sludge and residual fractions from the pulp and paper industry. WSP was assigned to perform large parts of the feasibility study and has also provided strategic advice and overall analysis throughout the project.

Increased biogas production at the Stockholm Water wastewater treatment plants

WSP has performed several major studies for the Stockholm Water company concerning biogas at the Henriksdal and Bromma wastewater treatment plants. These include a study on all the potential process related possibilities to increase the biogas production at Henriksdal; and studies to increase biogas production at both plants through co-digestion of sludge and food waste.

Regional biogas plant, Karlstad Energy Company

WSP has carried out a feasibility study and a detailed pre-design study for a regional biogas plant for Karlstad and 6 surrounding smaller municipalities. The possibilities to establish a common digestion plant for food waste, energy crops and manure have been investigated. In addition to technical and economical analysis, aspects such as organisational and legal aspects were studied.

EU-project Biogasmax

WSP was assigned by the Environmental department of the City of Stockholm to write the final report to the WP5 of the EU project Biogasmax. Biogasmax concerns measures to increase the usage of biogas as vehicle fuel. In addition to Stockholm, the cities of Gothenburg, Lille, Rome and Bern are included in the project; and Torun in Poland and Lombardia in Italy also participates.

WSP Analysis and Strategy elaborates detailed plans for tank station and biogas

The city of Stockholm has decided that the waste trucks shall be run on biogas. As a result of this, WSP Analysis and Strategy has been assigned to elaborate a detailed plan to enable a tank station for primarily biogas within the industrial area of Högdalen.

FOR MORE INFORMATION ABOUT BIOGAS, PLEASE CONTACT:

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MULTICONSULT is one of Norway's leading consulting companies with more than 20 offices in Norway and abroad. MULTICONSULT offers multidisciplinary consulting and engineering services to public and private clients nationwide and overseas.



WSP Sweden offers multi-disciplinary services to local and global clients. WSP Sweden is part of the WSP Group which has extensive international experience in America, UK, Europe, Africa, the Middle East, and Asia. Our over 9000 employees in 35 countries work with clients to create built and natural environments for a sustainable future.

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