Waste-to-Energy

Biomass Valorization • Green Energy • Low Energy Depuration

RWL Water℠

rwlwater.com

RWL Water produces biogas from biomasses to provide clients with innovative waste-to-energy solutions.

rwlwater.com/waste-to-energy

RWL Water's experience, skills, awareness of, and attention to energy savings have led to optimal completion of the industrial cycle by recycling process waste. We are experts in the installation of anaerobic treatment systems and the development of cost-effective solutions for our customers. RWL Water offers customized plants for the production of biogas, starting from the analysis of the type and quantity of biomass to be treated, in order to optimize the solution according to customer needs.

Every Biomass is a Resource

Biomass treatment by anaerobic digestion produces biogas, which allows the simultaneous generation of electricity and thermal energy. With RWL Water's technological solutions, ordinary livestock manure, vegetable silage, and more complex biomasses, such as waste generated from the food industry, can become a resource. Waste generated from the food industry can include waste from: slaughterhouses, whey, beer, and fruit juice production.

RWL Water personnel are experts in designing biomass plants and maximizing biogas production performance. We install digesters that continue to work throughout routine or unexpected maintenance. The digesters are engineered to allow continuous operation, independent of maintenance operations.

Every client, whether industrial or agricultural, is different, and, consequently, the biomasses produced have different characteristics. Before designing the plant, RWL Water tests the biomass capacity to produce biogas in our laboratory and performs an economic analysis to establish the investment return in the local environment.

Biogas Desulphurization

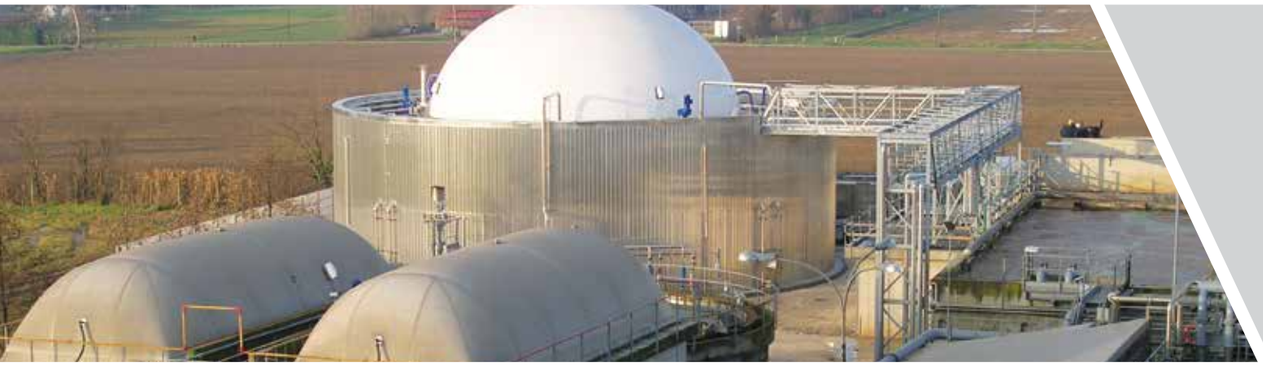
Biogas is rich in hydrogen sulphide, which is harmful to cogenerators and boilers. Unlike its competition, RWL Water's biogas desulphurization systems do not involve air blowing into the digester dome or traditional scrubbing of the biogas with chemical reagents.

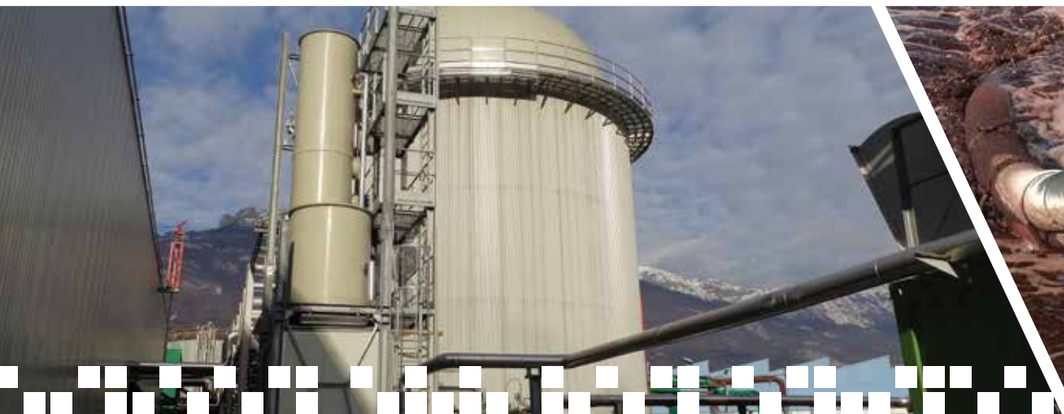
The scrubbing process adopted by RWL Water exploits a synergic process of transfer of the H_2S from the gas to the scrubbing solution and a solid sulphur oxidation phase, guaranteeing greater efficiency in wet removal of the hydrogen sulphide and a drastic reduction in the consumption of reagents and in operation costs. This RWL Water solution is the most cost effective in the market.

Nitrogen Conversion

Anaerobic fermentation reduces much of the organic carbon contained in the biomass but leaves the nitrogen content unchanged. Disposal of the digestate on farmland is therefore a problem, especially in regions where the amount of nitrogen that can be spread is restricted.

With its expertise in the removal of nitrogen from wastewater, RWL Water proposes both traditional nitrification-denitrification and a more innovative, completely autotrophic biological process, which does not require organic carbon. Both processes convert the nitrogen of the digestate into gaseous nitrogen without using acids or other chemicals and without generating any by-product.





Case Studies

- **Project: The Birra Peroni Group**
  The Birra Peroni Group, of SABMiller Group, produces 53 million gallons of beer annually at the Peroni facility in Bari, Italy. The company sought to increase production and, therefore, needed to enhance its factory by replacing its existing wastewater treatment plant. RWL Water supplied a new Expanded Granular Sludge Bed (EGSB) anaerobic reactor, which, together with the two existing anaerobic digesters, produces thermal energy for the factory boiler. The plant is also equipped with aerobic treatment and final clarification. The waste-to-energy plant yields 3,700 m^3 of methane/d. This is sufficient to provide power to about 280 homes.

- **Project: Italcanditi**
  Italcanditi is a candied fruit manufacturer in Italy. The wastewater produced during the manufacturing process is treated by RWL Water's custom-designed system. It includes pretreatment and final treatment in an External Forced Circulation (EFC) anaerobic reactor generating biogas. A cogeneration system, supported by biological oxidation and final clarification, turns the biogas into electrical and thermal energy. It is then fed back into the plant, reducing energy costs. Finally, the remaining wastes are treated by an aerobic stage. The output is clean and environmentally safe water. Italcanditi saves about US$411,000 each year with our anaerobic digester solution – a 35-40% cost reduction compared to the previous treatment plant.

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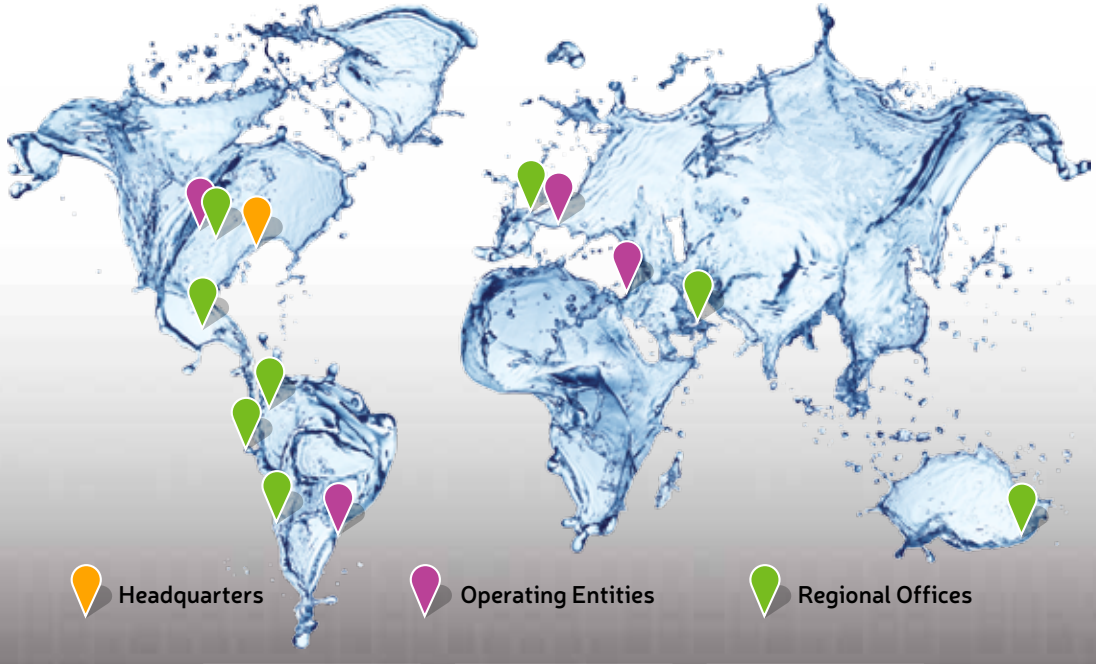
Founded by Ronald S. Lauder, RWL Water was established with a vision to become the leading global water, wastewater, and reuse solutions provider in the middle market. Our mission is to provide leading-edge sustainable, solutions by deploying our internationally experienced and highly responsive team, dedicated to achieving clients' economic and operational goals.

We have designed and built more than 7,000 plants for clients on all seven continents. RWL Water has a reputation for innovative engineering and fast deployment to meet the needs of industrial and municipal clients around the world.

Each custom system is individually designed and built, considering the existing water or wastewater characteristics and effluent quality requirements. We perform a cost-benefit assessment, balancing investment costs with ongoing operation and maintenance costs to build a solution that is right for you.

Our core operations are strategically located in North & South America, the Middle East, and Europe to provide rapid response through our network of sales, service, technical, and engineering professionals worldwide.



7,000+ INSTALLATIONS

200+ EMPLOYEES

70+ COUNTRIES WITH INSTALLATIONS

RWL Water offers any combination of tailored finance packages, as well as operation and maintenance services, for its treatment plants.

Email or visit us online.
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RWL Water℠

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