

Biogas Plant Rio Cuarto II



Location	Rio Cuarto, Argentina
Construction Period:	2017/2018
Input substrate	Thin stillage (corn silage, vinasses), residual material from ethanol production
Fermenter:	Steel tank, (glass coated) 8,000 m ³
Gas utilization	Total: 2,927 kWel: 1,200 kWel in CHP, 1,727 kWel in a boiler for internal consumption of the bioethanol process
Special Features:	Reception tank for aggressive media (pH, temperature), digester, secondary digester with gas holder roof, solid input device, external desulphurization, heat usage in bioethanol plant

The biogas plant was built and is operated by Biomass Crop S.A. (BC). It is build near the bioethanol plant. Together with corn silage thin stillage from the bioethanol production is used as substrate. Thin stillage will be delivered with very hot temperatures (65° C) and low pH-values. Therefore the plant equipment as well needs to be designed accordingly. The engineering of the biogas system is configured as a single-stage system with a tank and a solid input device for reception, storage and homogenization of the input substrates, a gas production unit with an upright digester (glass coated steel tank) with top mounted mixer and a secondary digester with a double-membrane gas holder roof. The produced biogas is partially combusted in a combined heat and power (CHP) gas engine. All electric energy produced is fed into the power grid. The excess heat will be used internally in the biogas plant for keeping a constant temperature in the digesters and in the bioethanol plant. The remaining biogas is used for heat production in the nearby bioethanol plant in a gas boiler. The start-up of the biogas plant was in 2018.