

## Biogas Plant Rio Cuarto I



Location	Rio Cuarto, Argentina
Construction Period:	2013/2014; extension in 2017/2018
Input substrate	Corn silage, cattle manure, thin stillage
Fermenter:	Two steel tanks, (glass coated) 4,600 m <sup>3</sup> + 5,500 m <sup>3</sup> (extension)
Gas utilization	Two gas engines, 1.2 MW <sub>el</sub> + 1.2 MW <sub>el</sub> (extension)
Special Features:	First biogas plant using energy crops in Argentina, gas holder above secondary digester, mesophilic operation, heat usage in bioethanol plant

The biogas plant was built and is operated by Biomass Crop S.A. (BC). This is the first biogas plant using energy crops in Argentina. In 2017 the biogas plant was enlarged by an additional digester and a second CHP. As additional substrate thin stillage from ethanol production was added. The engineering of the biogas system is configured as a single-stage system with reception tanks for manure and stillage, a solid input device for reception for energy crops, storage and homogenization of the input substrates, a gas production unit with an upright digester with top mounted mixer and a secondary digester with a double-membrane gas holder roof. The produced biogas is combusted in the combined heat and power (CHP) gas engines. All electric energy produced is fed into the power grid. The excess heat, produced in cogeneration, will be used internally in the biogas plant for keeping a constant temperature in the digester and externally in the Bioethanol Plant BIO4. The start-up of the biogas plant was in 2014 and 2018 of the extended plant.