

## Biogas Plant RIO CUARTO II



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| Location             | Rio Cuarto, Argentina  |
| Construction Period: | 2017/2018  |
| Input substrate      | Thin stillage, a residual material from bioethanol production  |
| Fermenter:           | Steel tank, (glass coated) 8,000 m <sup>3</sup>  |
| Gas utilization      | Biogas output: 6 MW;<br>2 x 1.2 MWel in CHP; option to use in a boiler for heat production   |
| Special Features:    | Reception tank for aggressive media (pH, temperature), main digester with central agitator, secondary digester with gas holder roof, external desulphurization, heat usage in bioethanol plant |

The biogas plant was built and is operated by Biomass Crop S.A. (BC). It is built beside the bioethanol plant. Thin stillage from the bioethanol production is used as substrate. Thin stillage is delivered with hot temperatures (65° C) and low pH values. Therefore, the plant equipment needs to be designed accordingly. The biogas plant is designed with main digester and secondary digester. The main digester is a glass coated steel tank with top mounted mixer. The secondary digester has a double-membrane gas holder roof. The produced biogas is treated in an external biological desulphurization unit and then partially combusted in two combined heat and power (CHP) gas engines. All the electrical energy generated is fed into the power grid. The excess heat is 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.