PLANT SOFTWARE

EsyCloudSim

Simulation and AI software for biogas plants

Your plant, simulated.
Before it happens.

Cloud software that keeps a live virtual copy of your plant (a digital twin), predicts its output and cost with AI, and plans new plants. It also runs VEDA.



Twin
Physics model of your digester

AI
Forecasts yield and production cost

6 modules
From site planning to live monitoring

No install
Runs in any browser

THE CHALLENGE

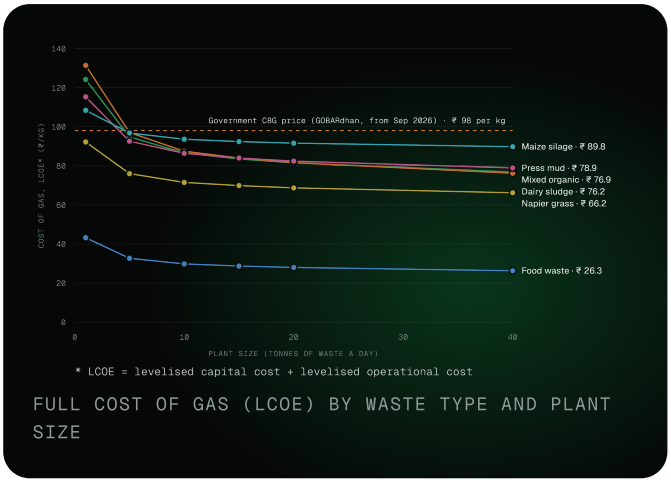
Most plants collect data but cannot predict what happens next. Alarms arrive after the fact, maintenance stays reactive, and models trained only on past data fail when conditions change. New plants are often sized and costed on guesswork.

OUR APPROACH

EsyCloudSim pairs a first-principles model of your digester with live data from VEDA. Measured and expected behaviour are compared continuously, AI turns the data into forecasts, and planning tools size new plants on real numbers.

HOW IT WORKS

1. **Plan**
   Choose a site, waste type (feedstock) and plant size; see gas output and cost.
2. **Connect**
   VEDA streams live plant data to the cloud.
3. **Simulate**
   A physics model predicts methane output, pressure and composition.
4. **Compare**
   Measured and predicted values are compared; deviations are flagged.
5. **Forecast**
   AI forecasts yield and cost; alerts appear on the dashboard.



FULL COST OF GAS (LCOE) BY WASTE TYPE AND PLANT SIZE

KEY FEATURES

- A live virtual copy of your plant (digital twin), fed by real data
- AI forecasts of yield and production cost, with key drivers
- pH stability and VFA/TAC analytics
- Planning: site, feedstock and economics (capex, opex, ROI)
- Browser-based, nothing to install; role-based access
- HTTPS, OAuth 2.0 and a full audit log
- Your model is exportable — no vendor lock-in
- One dashboard for many sites; reporting for SATAT, RED II and IS 16087

MODULES

Module	What it does
Location	Site selection, feedstock radius, PNG network overlay
Feedstock	Yield and cost of gas by feedstock
Economics	Capex, opex, cost of gas and ROI
Simulation	Physics digital twin of the digester
IoT	Measured vs simulated, via VEDA
AI	Yield and cost forecasts

BUILT FOR

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