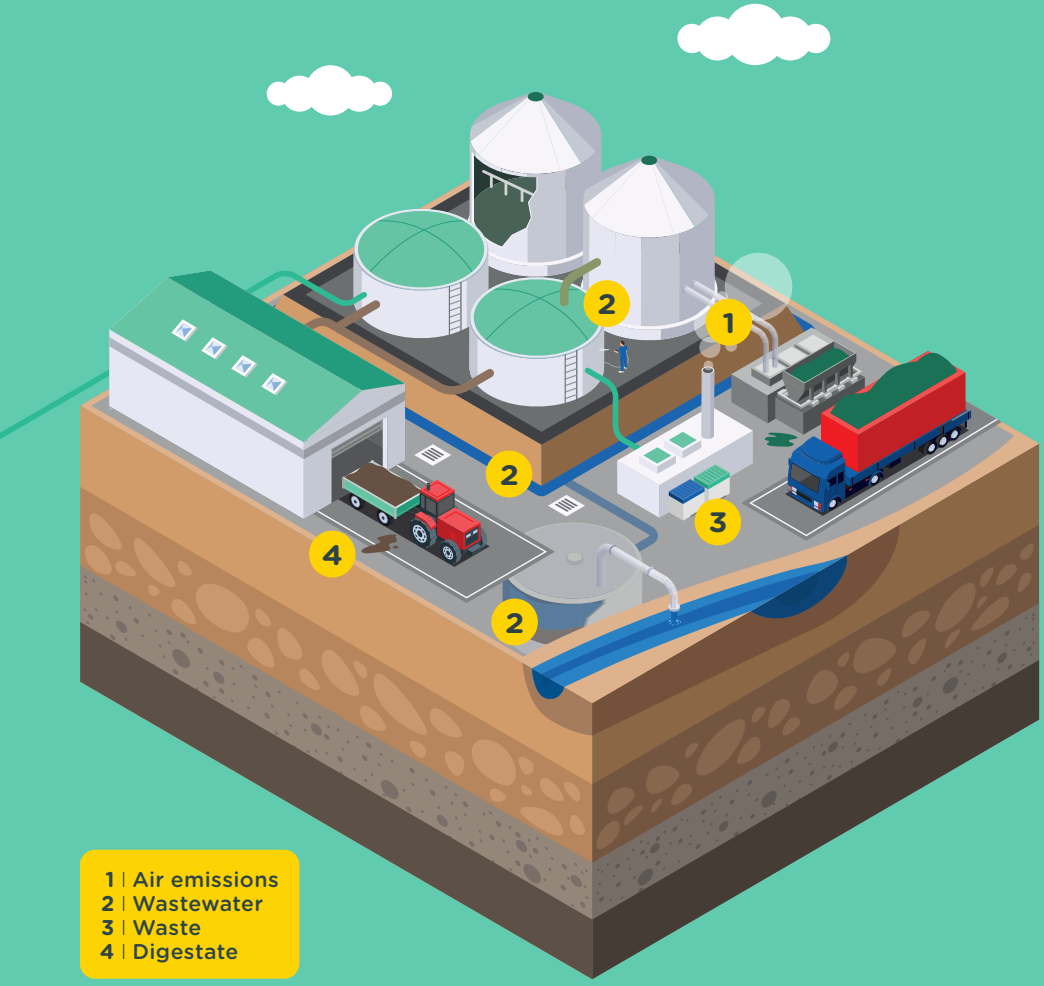


TotalEnergies

ENVIRONMENT

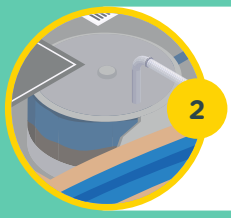
Mapping of potential discharges in the environment of a biogas facility

LEVER 3 - ENVIRONMENT

Nature and origin of potential discharges

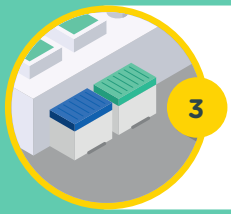
Air emissions

Where biogas is fueling a cogeneration unit, its combustion releases in the atmosphere, carbon monoxide (**CO**), and nitrogen oxides (**NO_x**). These emissions are periodically monitored. In case of plant maintenance or upset, the biogas contained in the digester is combusted in a dedicated flare, emitting the same compounds as above. Most sites manage odour emissions from feedstock through biofilters or chemical washing (scrubbers).



Wastewater

Rainwater and water from tank cleaning contain organic matter, they are collected and treated in a **sludge trap** before being recycled within the process to reduce discharges into the natural environment, thereby minimizing ecological risk (e.g. eutrophication).



Waste

Waste in biogas facilities primarily originates from the maintenance of installations, including **used oils, mechanical parts**, and **filters**. Additionally, waste can result from cleaning operations. Waste can be classified as hazardous or non-hazardous, it is accordingly sent to treatment facilities.

Digestate

When the digestion of feedstock (often third-party waste) for the production of biogas is completed, the process leaves behind digestate (sludge containing **organic residues and increased nutrient content**). There is variability in the digestate composition induced by the primary organic matter used for biogas production. This digestate can be classified as waste or used as fertilizer for agricultural applications and enables displacing the use of chemical fertilizers along with the GHG associated to their production.

Potential discharges in the environment of a biogas facility

Do you know your yearly discharges?
→ Try to fill the quiz!

What is the…

Volume of wastewater discharged to the environment after treatment

..... in cubic metres (m^3)

1

Quantity of hazardous waste produced by the site

..... in kilograms (kg)

2

Your site's waste recovery rate and the target

..... % VS ..... %

3

Quantity of waste produced by the site

..... in tonnes (t)

4

Quantity of digestate generated by the process

..... in tonnes (t)

5

Quantity of chemical fertilizers replaced by the digestate

..... in tonnes (t)

6

→ If you do not know the answers, please consult
the person responsible for environmental matters at the site.

Ask yourself

1. What are the main discharges and waste streams at my site?
2. What is the main equipment used to treat them?
3. Is everyone on site aware of those discharges and waste streams?
4. What is our plan to implement lever 3 and what results have we already achieved?

My resources

Public

- ↗ TotalEnergies sustainability and climate action towards the environment
- ↗ TotalEnergies ambition
- ↗ Environment webpage TotalEnergies

Private

- ↗ Our sharepoints on Water/Air/Circularity/Biodiversity/Soil
- ↗ Sustainability resource center Lever 3
- ↗ HSE toolbox
- ↗ Toolkits

Person in charge of environmental matters at the site

Entity:

Position:

Name:

Contact number: