Biomethane technology for grid injection

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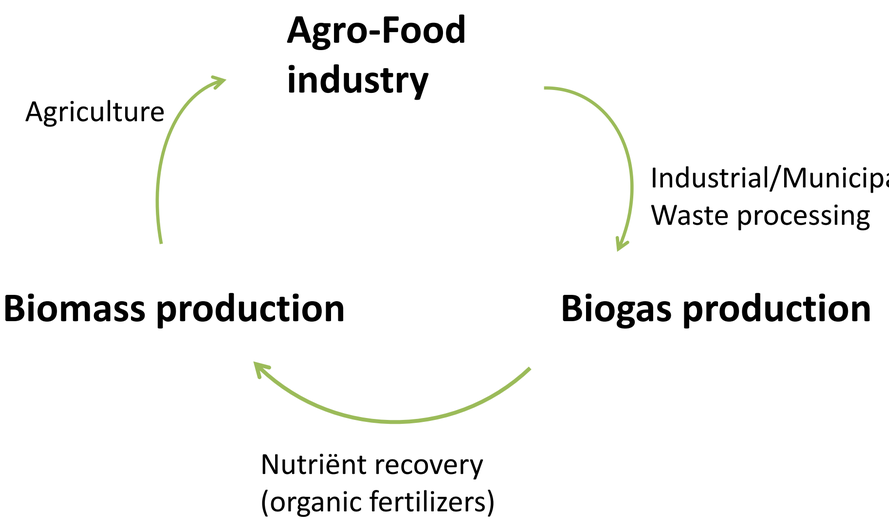
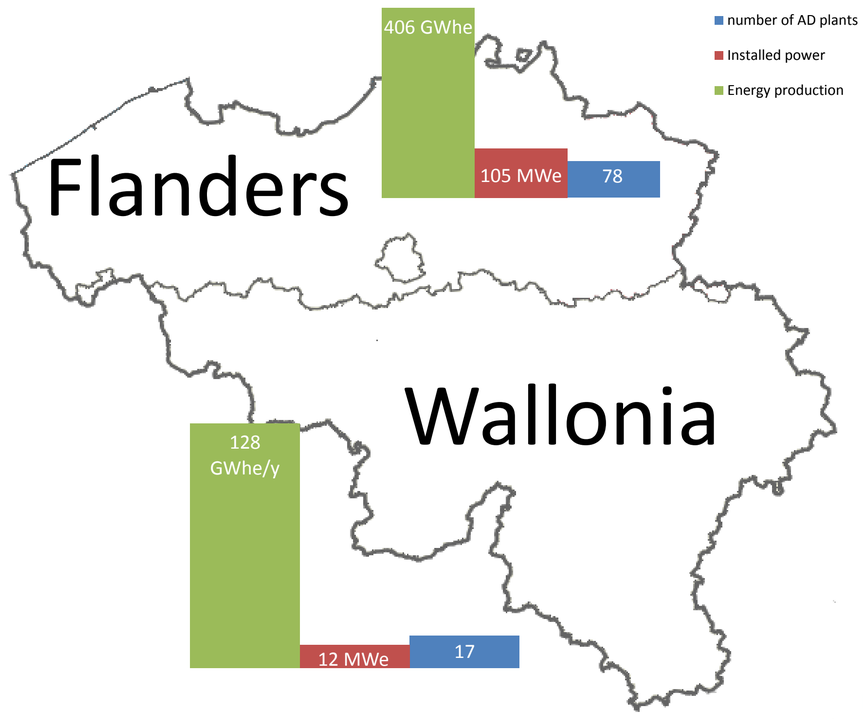
Biogas: Integrated renewable energy production





Belgian Biogas Competence Centers

OWS
Organic Waste Systems

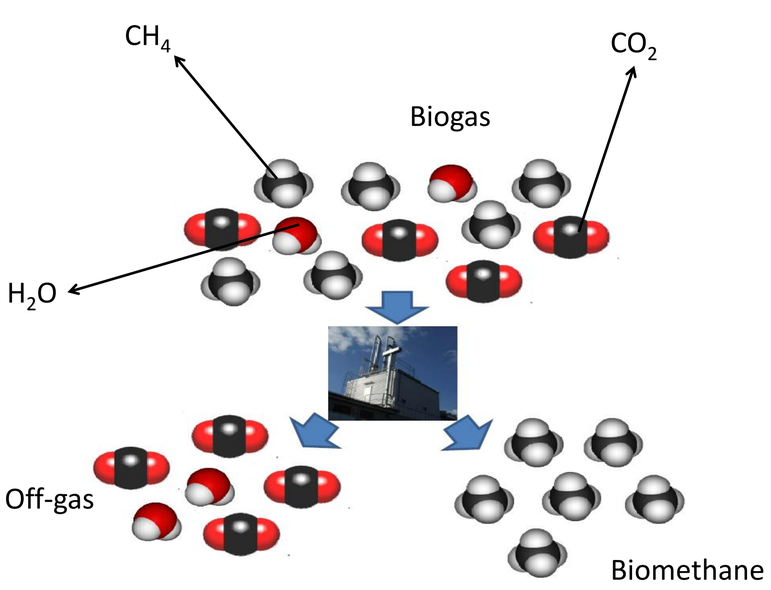
GreenWatt
(spin off University Louvain UCL)
GreenWatt Biomethanization & Cogeneration

Xylowatt
(spin off University Louvain UCL)

Waterleau
WATERLEAU water·air·waste·newenergy

Biomethane: New Valorization strategy

Upgrading: removal of CO2 and H2O



Purification: removal of trace elements

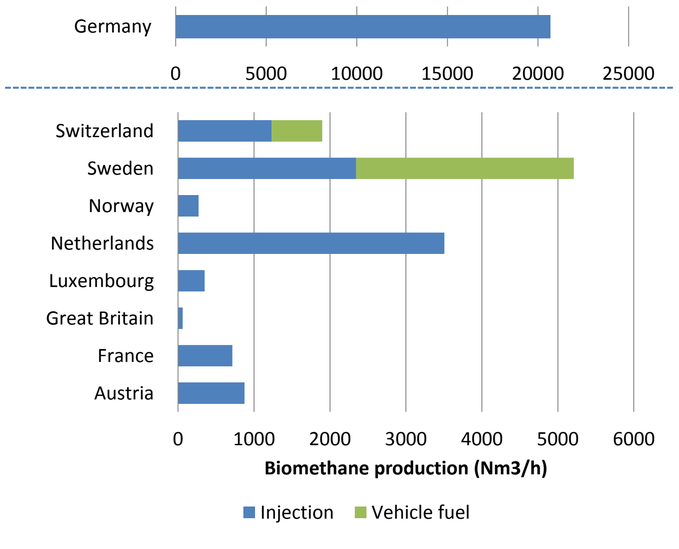
	Raw biogas	Biomethane
CH_4 (%)	60-70	>97,2
CO_2 (%)	30-40	< 1,0
O_2 (%)	< 0,1	< 0,2
N_2 (%)	< 1,0	< 1,6
H_2S (ppm)	30 -3000	< 5 mg/Nm³)

Standardisation

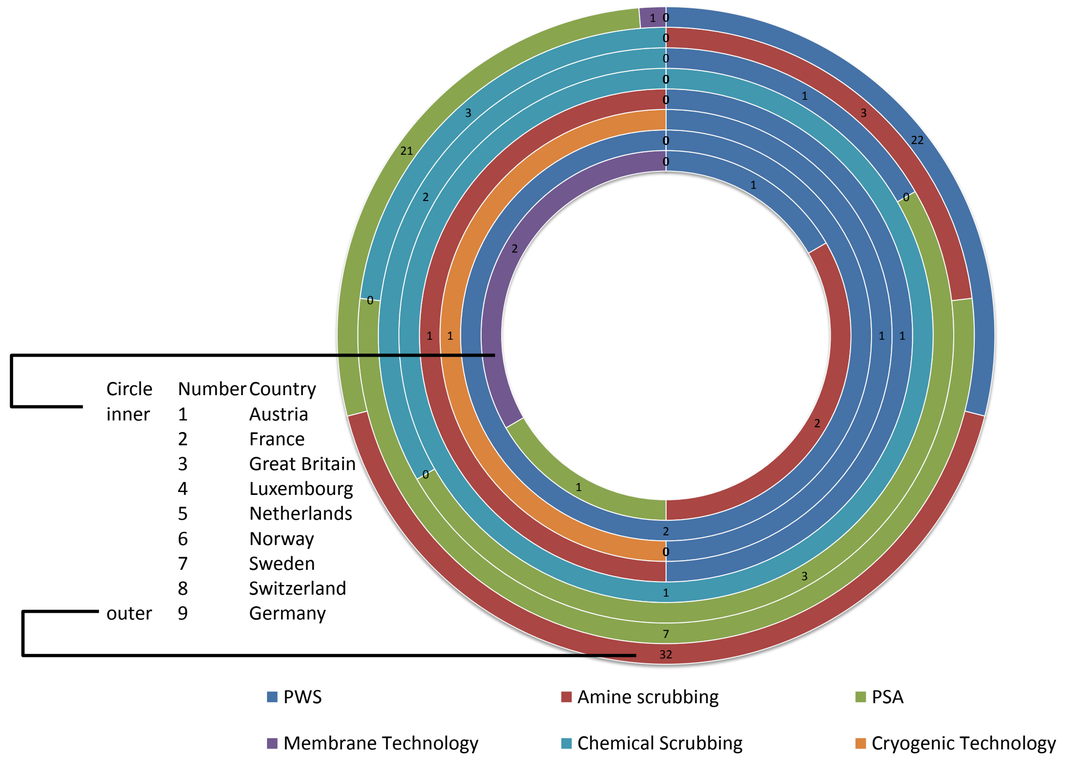
- Addition of propane for
  - increasing calorific value
  - adjusting Wobbe Index
- Addition of odourant (e.g. Mercaptane)
- Removing dust particles if necessary
- Quality control
  - density measurement
  - GC analysis

State of the art technology*

Biomethane and its use



Upgrading facilities



Belgian Biomethane Knowledge Centers

ValBiom valorisation de la biomasse asbl

Biogas-E vzw

ENBICHEM RESEARCH GROUP

* Biogaspartner, 2011