Two critical environmental issues targeted at once

1. COSTLY AND POLLUTING WASTE

High-mineral content waste and agricultural residues pollute the environment, yet they are difficult to get rid of. Why?

- Recycling is not (yet) possible for many materials
- Incineration of waste has low energy efficiency and requires long distance transportation
- Landfills are reaching maximum capacity and also raise environmental issues

Finding a way to recover these waste products is critical, given their potential economic value and, without recovery, the potential threat they pose to people and the environment.

2. HIGH CO_2 EMISSIONS FROM INDUSTRY

Energy-intensive industries are major producers of CO_2 emissions. Since the EU Emissions Trading System (ETS) came into effect in 2013, these industries must purchase emission allowances or implement complementary solutions to reduce their CO_2 emissions.

A 50% substitution of fossil fuels by renewable syngas in the European glass industry would reduce CO_2 emissions by 5.8 million tons per year. Similarly, a 70% substitution in the European tiles and bricks industry would reduce CO_2 emissions by 13.1 million tons per year.

Find more information:

www.xylowatt.com/life-oxyup

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FROM WASTE TO GREEN INDUSTRIES

Biomass gasification for CO_2 emissions reduction and bio-waste recovery in energy-intensive industries.

LIFE OxyUp

Transform bio-waste into locally produced syngas through small-scale gasification

Suited for fossil fuel substitution in energy-intensive industries

Bio-waste

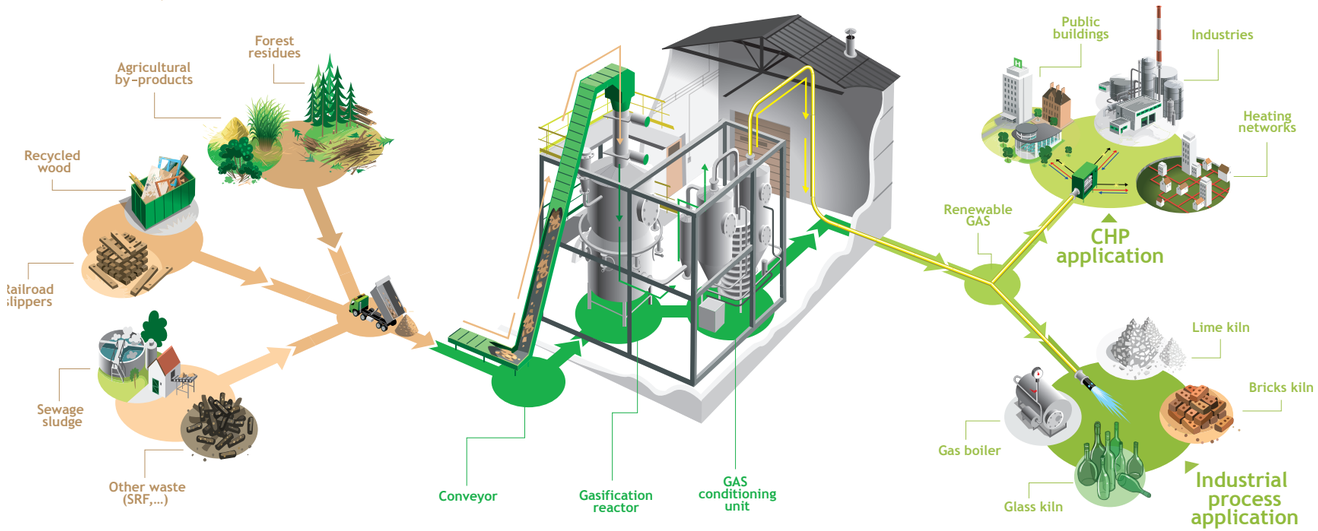
- Contaminated
- High mineral content

NOTAR® oxy-gasifier

- 0.2 – 4 MW syngas production
- Clean gas (99.995% tars destroyed)
- Compact installation

Clean & green energy

- Heat
- Electricity
- Natural gas substitution

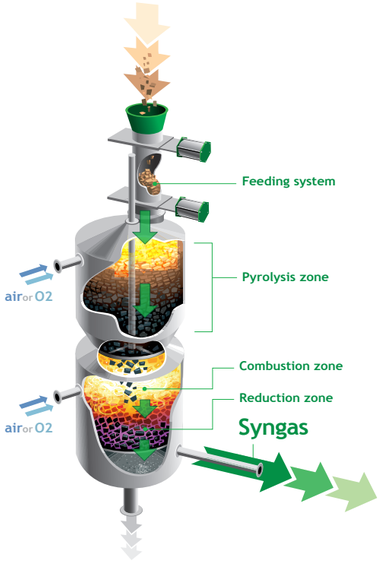


Bio-waste gasification is the thermochemical conversion of carbon-containing materials into a combustible syngas. This syngas can be used in combined heat and power applications, or as a direct substitute for fossil fuels in industrial applications.

Oxy-gasification - in which oxygen replaces air in the process – increases the energy density of the syngas, thereby reducing syngas production costs and extending the range of possible gas uses.

Objectives of the LIFE OxyUp project

- Increase unit size and validate the resulting OXY4000, a 4MW oxy-gasification unit.
- Optimize the gas combustion conditions and maximize the fossil fuel substitution rate in the brick making and glass packaging industries.
- Validate the effective gasification of various sources of bio-waste. Three kinds of waste water treatment plant sludge and three kinds of agricultural waste are planned for testing.



XYLOWATT developed the NOTAR® oxy-gasifier, a multi-stage downdraft gasifier able to convert polluted and/or high-mineral content biomass and waste into a clean, combustible gas virtually void of tars.