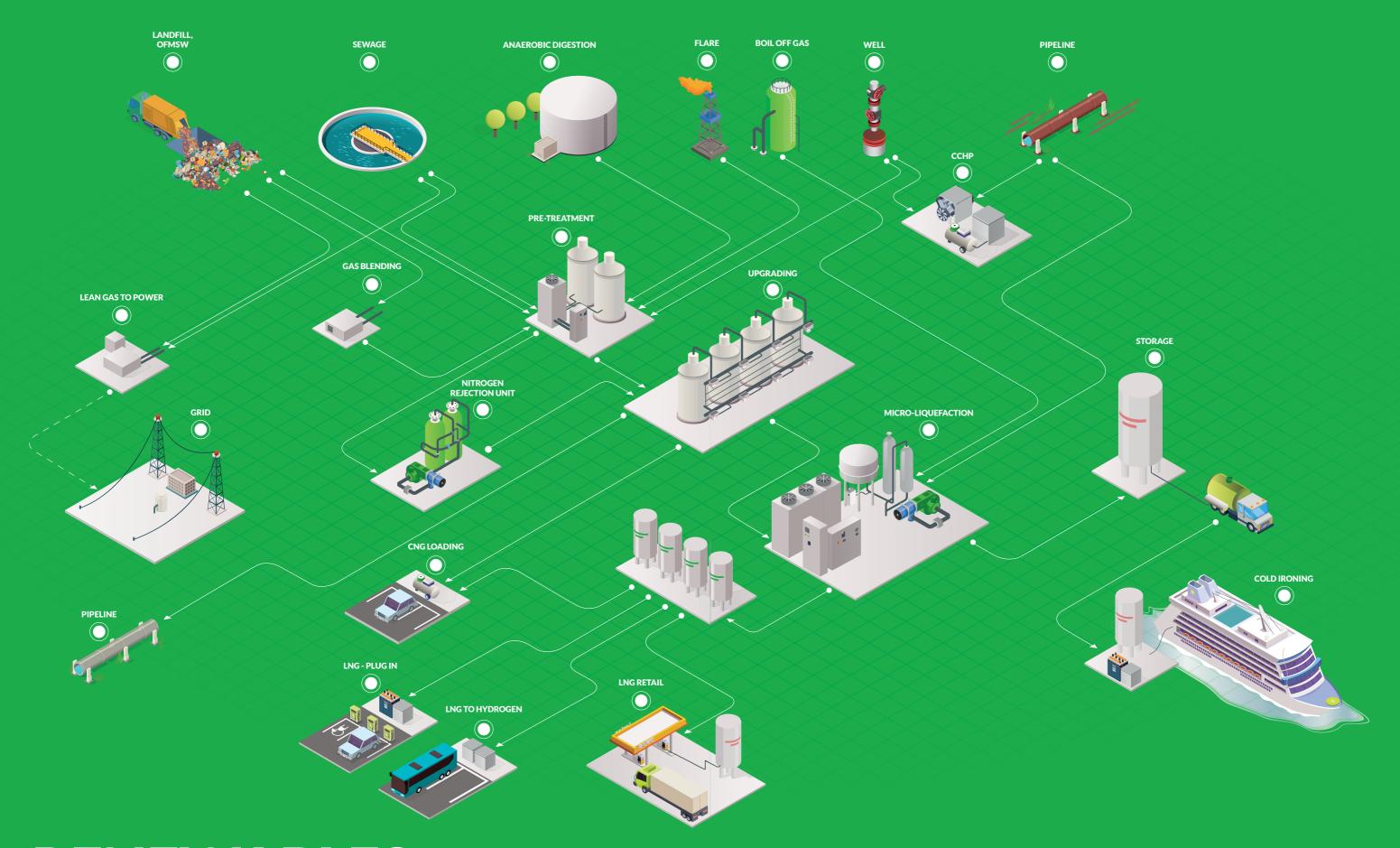


RENEWABIES



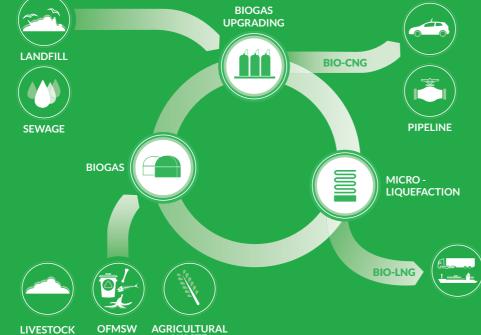
RENEWABLES SOLUTIONS



Our technologies are applied to renewables to support the circular economy and decarbonization.

We tackle **climate change** through our solutions for *in site* production & supply of **green fuel** and **sustainable energy**.

Thanks to our **360° approach** we are able to follow our clients along the entire value chain, from the technical feasibility study to after sales services.



LEAN GAS TO POWER

Thanks to the LG2P system we are able to turn lean gas into viable-energy. Lean gases feature CH_4 under 1,5% content, typical of mature landfill and off-gas. They are usually problematic waste that must be burnt in a flare, adding costs and greenhouse emissions.

The process, based on oxidation catalysis with no NOx emission, produces heat & power with lower cost and footprint versus bio-filters.

BIOGAS PRE-TREATMENT & UPGRADING

Advanced system to remove H₂S and other contaminants based on an optimized solution of the vacuum PSA process that guarantee high efficiency and low consumption. The system is able to treat a wide range of biogas composition (from OFMSW, agricultural plants, sewage sludge and landfill). The purified gas is ready to be injected into the grid gas network. CO₂ sequestration can be an add-on package.





NITROGEN REJECTION UNIT

This system offers a solution for the selective absorption of either Methane or Nitrogen, depending on needs, reducing Nitrogen down to grid gas network standards.

With a high tolerance for biogas impurities fluctuations and with low cost of adsorbent material, this system has simplified operational and maintenance activities.

BIOMETHANE MICRO-LIQUEFACTION AND STORAGE

Turn-key solution for the production and supply of BIO-LNG as high-quality fuel for truck and marine transportation, reducing mobility footprint. Our micro-liquefaction system, with capacity ranging from 1 to 50 tons/day, is based on a patented optimization of a Linde cycle with no use of cooling media (Nitrogen or Mixed Refrigerant).

Fully tested and skid-mounted for faster installation and startup, the system embeds a polishing stage, with off-gas recirculated to the upgrading unit.

LNG TO HYDROGEN

Solution for *in situ* conversion of BIO-LNG into purified Hydrogen via reformer and polishing.

This system allows true zero emission green mobility without the inconvenience of cumbersome and dangerous high-pressure transportation of Hydrogen. The CO₂ sequestration, from the off-gas of the reformer, is easy and with minimal cost.

LNG TO POWER

Application package for direct *in situ* conversion of BIO-LNG to true zero emission power via fuel cells enabling silent and combustion-less electricity generation. Virtually zero-infrastructure solution, with no need for power grid, operating in "island mode" with battery backup.

The CO₂ sequestration, from the off-gas of the reformer, is easy and with minimal cost.





CLEAN ENERGY, FUEL FOR THE FUTURE

HEADQUARTERS Via Circonvallazione, 14 15050 Alzano Scrivia (AL) Italy

T +39 0131 854611 F +39 0131 854617 E info@ecospray.eu

