

# Clean Water, Green Power

A circular technology  
solution for sewage  
sludge reduction and  
energy recovery





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Developed about a decade ago, the Newlisi process allows for over 70% reduction of sludge for disposal as well as for a significant increase in biogas production from anaerobic digestion. The Newlisi process can be exploited in both urban and industrial waste water treatment plants, with benefits in terms of risk mitigation and operating costs reduction.

With a highly effective hydrolysis process, patented in 38 countries, we can ensure economic, social, and environmental benefits for water treatment operators and the entire community.





# Newlisi's Thermochemical Hydrolysis

It is a two-steps (acid and alkali) or one step (alkali) oxidative thermochemical hydrolysis carried out at low temperature (80°C) and atmospheric pressure. Differently from other hydrolysis, the use of an oxidizing agent enhances the solubilization of the organic sludge fraction, thus making anaerobic digestion and dewatering more effective.



# Key benefits

- **Sludge volume reduction up to 75%: up to 55% removal of Total Suspended Solids and better dewatering (up to 40% dry solids content in the sludge for disposal)**
- **Up to 40-50% gain in biogas production**
- **Compatible with WWTP without anaerobic digestion (two-step process)**
- **Better sludge stabilization and elimination of pathogens**
- **Low space requirements (suitable for retrofitting)**
- **Carbon footprint reduction**
- **No odor nuisance**
- **Considerable tax benefits: the system meets Industry 4.0 requirements**



# Operating Conditions

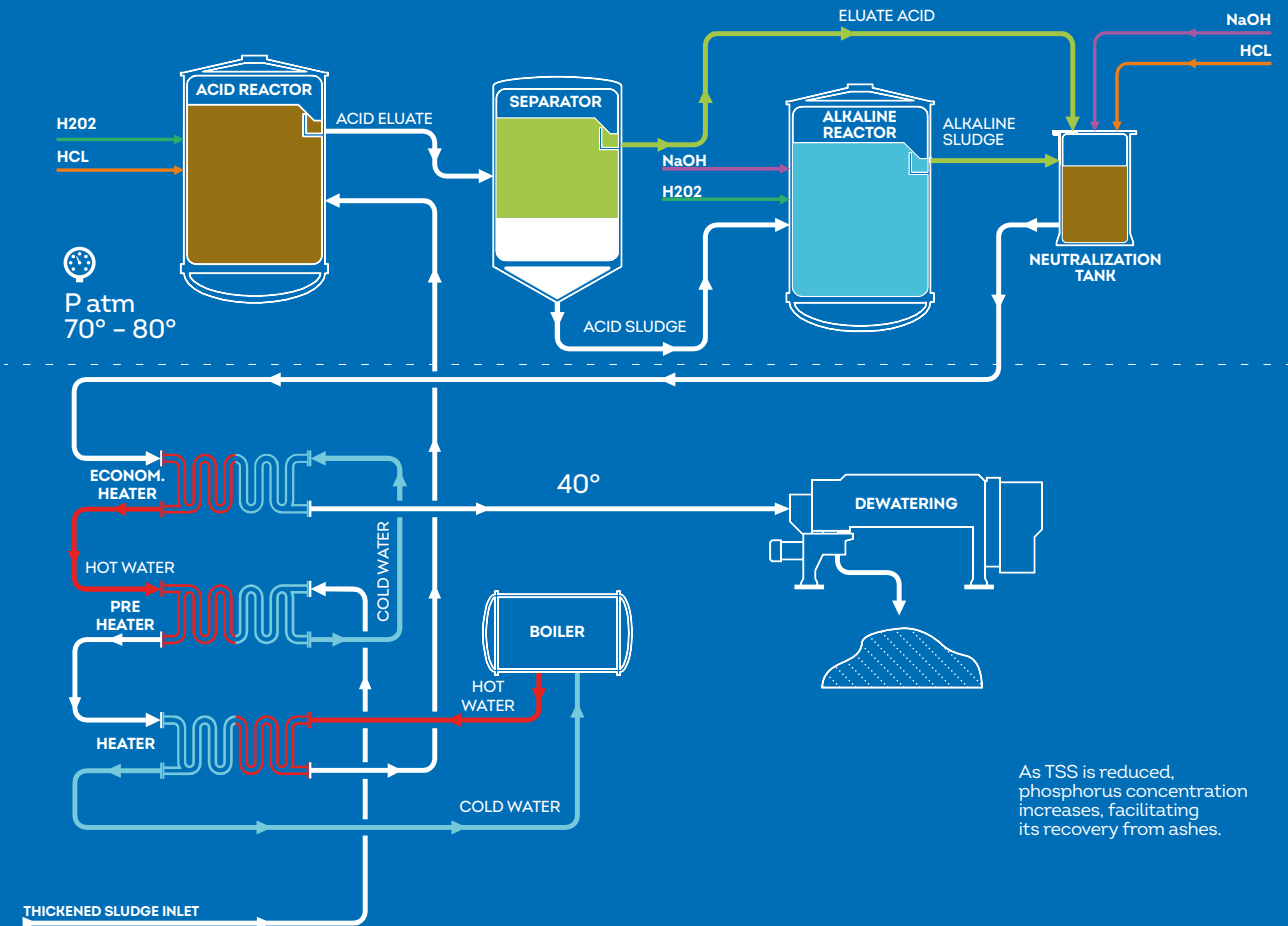
- The Newlisi Process is a continuous process, easy to operate and maintain
- It requires relatively low temperatures and atmospheric pressure. It is a safe system which can be run by the operators of the WWTP (no special qualification needed)
- The plants are equipped with remote control systems allowing Newlisi staff to monitor remotely the correct functioning of the machinery



# Newlisi Full

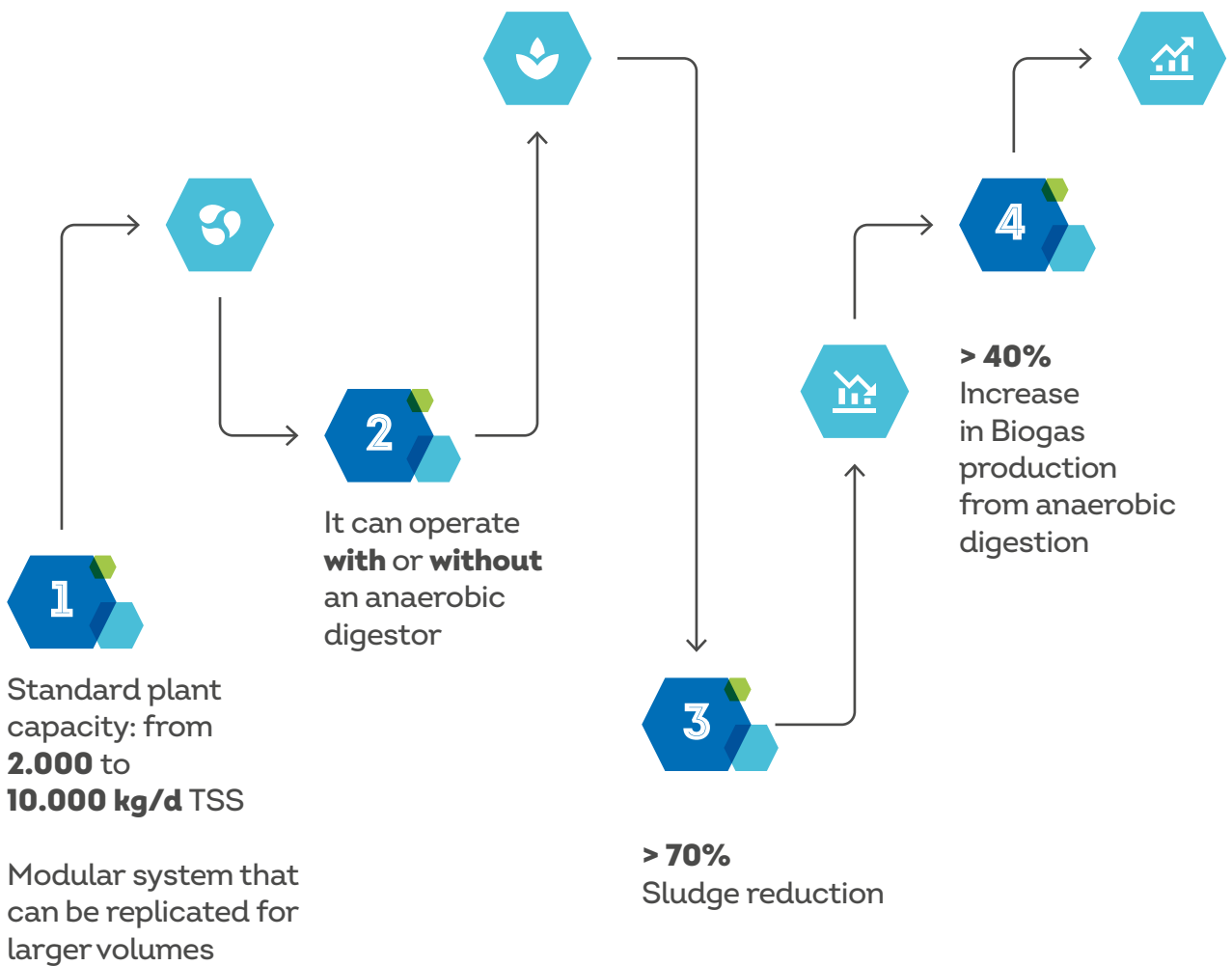


## Patented

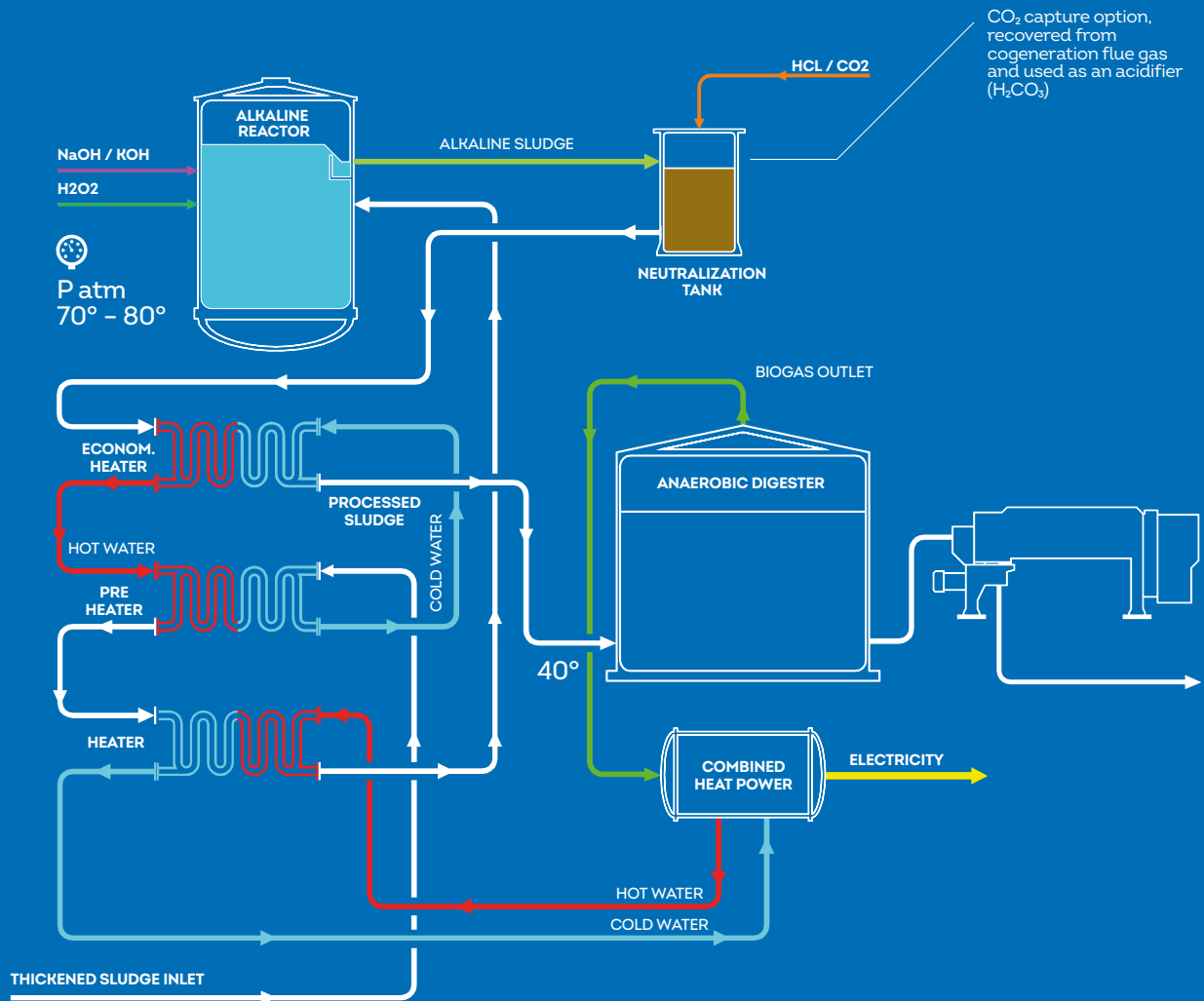


- Inlet sludge with 4-6% TSS concentration
- Acidic (strong acid) phase treatment with oxidative conditions
- Separation by gravity
- Alkali phase treatment (soda or potash) with controlled dosing of an oxidant
- Neutralization
- Outlet for anaerobic digestion or, if there is no digester, for the dewatering phase

# Benefits



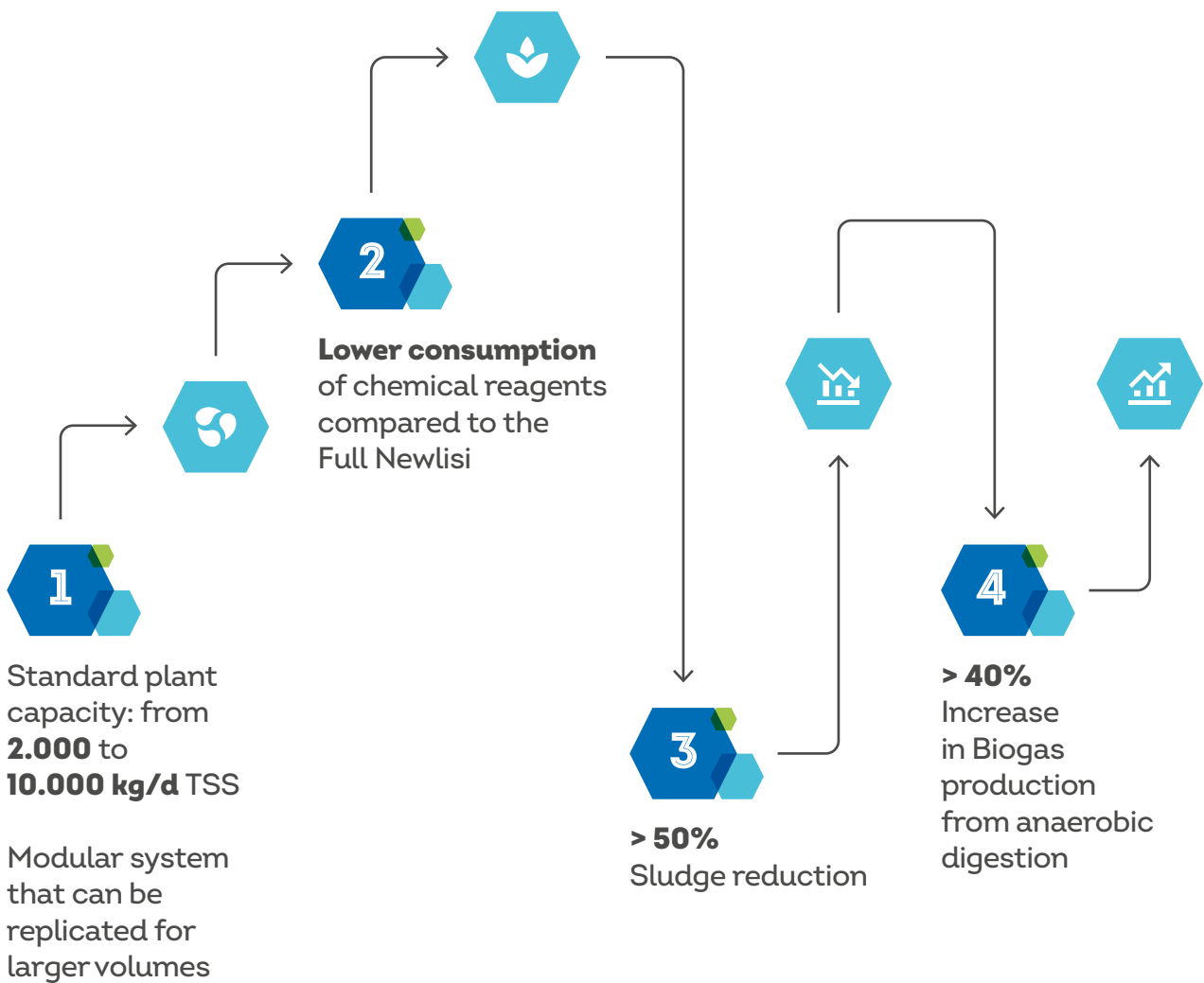
# Newlisi Light



- Inlet sludge with 4-6% TSS concentration
- Alkali phase treatment (strong base) combined with controlled dosing of an oxidant agent
- Neutralization
- Outlet for the anaerobic digestion phase



# Benefits



# Entirely automated system

## The Newlisi system meets industry 4.0 requirements

- **Maximun safety**
- **24/7 process control**
- **Motors 100% connected to an inverter**
- **Controlled dosing of chemicals**

The Italian Industry 4.0 Transition Plan provides for a considerable tax credit as a percentage of investments in 4.0 assets

The tax credit is granted only for direct purchase or finance lease





# Newlisi successful track record

In 2015 Newlisi signed a multi-year full-service contract with Acquedotto del Fiora S.p.A. (ACEA Group) for an hydrolysis to be installed at the **Ponte a Tressa WWTP**. This resulted in an **average reduction of sludge for disposal of over 70%** and in subsequent significant savings in terms of operating costs.

In 2017 Newlisi signed a service contract with Acquedotto Pugliese S.p.A. for the treatment of sludge at the **Lecce WWTP**. The plant was **installed in a record 2 month time** and allowed for a **65% average sludge reduction**. On top, given the presence of an anaerobic digester, we were able to deliver a **44% increase in terms of biogas production**.

In Grosseto, we were awarded the first supply and installation project of the Newlisi system. The **Grosseto WWTP** was chosen by Acquedotto del Fiora to become a hub, and Newlisi is treating both sludges generated directly in Grosseto and dewatered sludges from other plants in the area. The plant was started in August 2021 and since then we have consistently **achieved over 65% sludge reduction**.



# Contact us



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