

1880

EARLY DAYS (1880s-1960s)

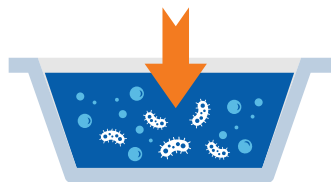
Wastewater treatment **removes contaminants from sewage water** and converts it into an effluent that can be returned to the water cycle.

Wastewater treatment **started with sedimentation tanks only**. Basically, gravity was doing the job and only suspended solids were removed. This first treatment is called primary treatment (1880s-1960s).

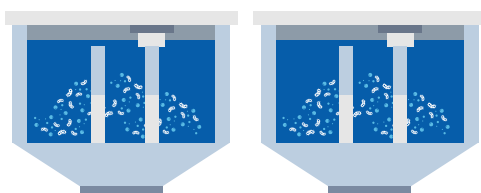


1960

THE RISE OF BIOLOGICAL TREATMENT (2nd half of 20th century)



BIOLOGICAL TREATMENT



Rising population and urbanisation required large scale solutions. From the 60's **inorganic coagulants (based on iron or aluminium) were added in the primary treatment** to prevent the eutrophication process (rapid growth of algae).

But very soon, **biological treatment**, where bacteria are consuming the pollutants into large tanks became the norm.

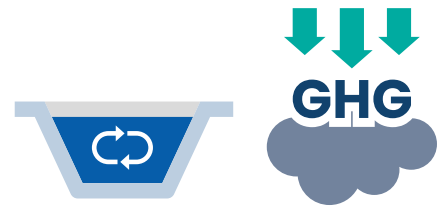
2020

A NEW SHIFT: CIRCULARITY AND REDUCING THE FOOTPRINT (Nowadays)

In recent years, new trends have emerged in wastewater treatment, requiring a more comprehensive approach:

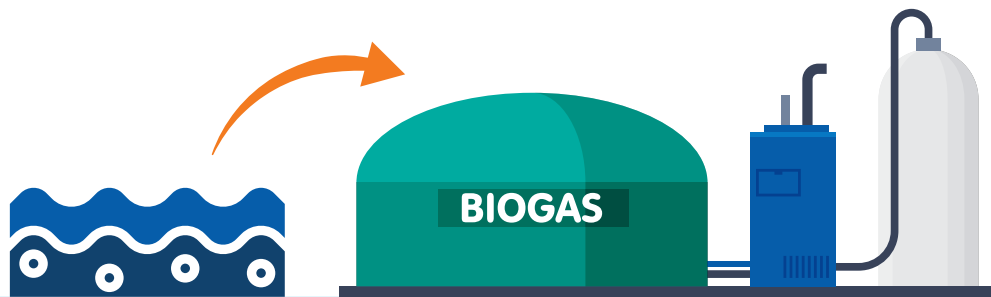
USING SLUDGE AS A RESOURCE

Sewage sludge is now seen as a resource: it is rich in nutrients that can be used in agriculture and organic matter that can be a **valuable source of biogas**. Separating these organics instead of consuming them in a biological treatment increases the biogas production.



REDUCING THE FOOTPRINT

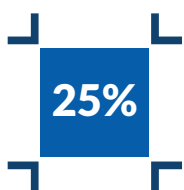
Reducing both carbon and space footprint of wastewater treatment has become paramount.



Physico-chemical treatment addresses these concerns by **safeguarding the energy potential of sewage sludge to produce biogas in digesters**. The treatment focuses on separation using a combination of techniques. **Inorganic coagulants**, mainly sourced as by-products from other industries, play a key role in these processes.

Physico-chemical treatment also saves space. For example, 1 million inhabitant equivalent wastewater treatment plant would require a 300.000m³ tank volume for a full biological treatment, as compared to 220.000m³ for a combined physico-chemical/biological treatment.

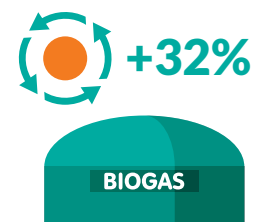
BENEFITS OF PHYSICO-CHEMICAL WASTEWATER TREATMENT*



SPACE SAVINGS

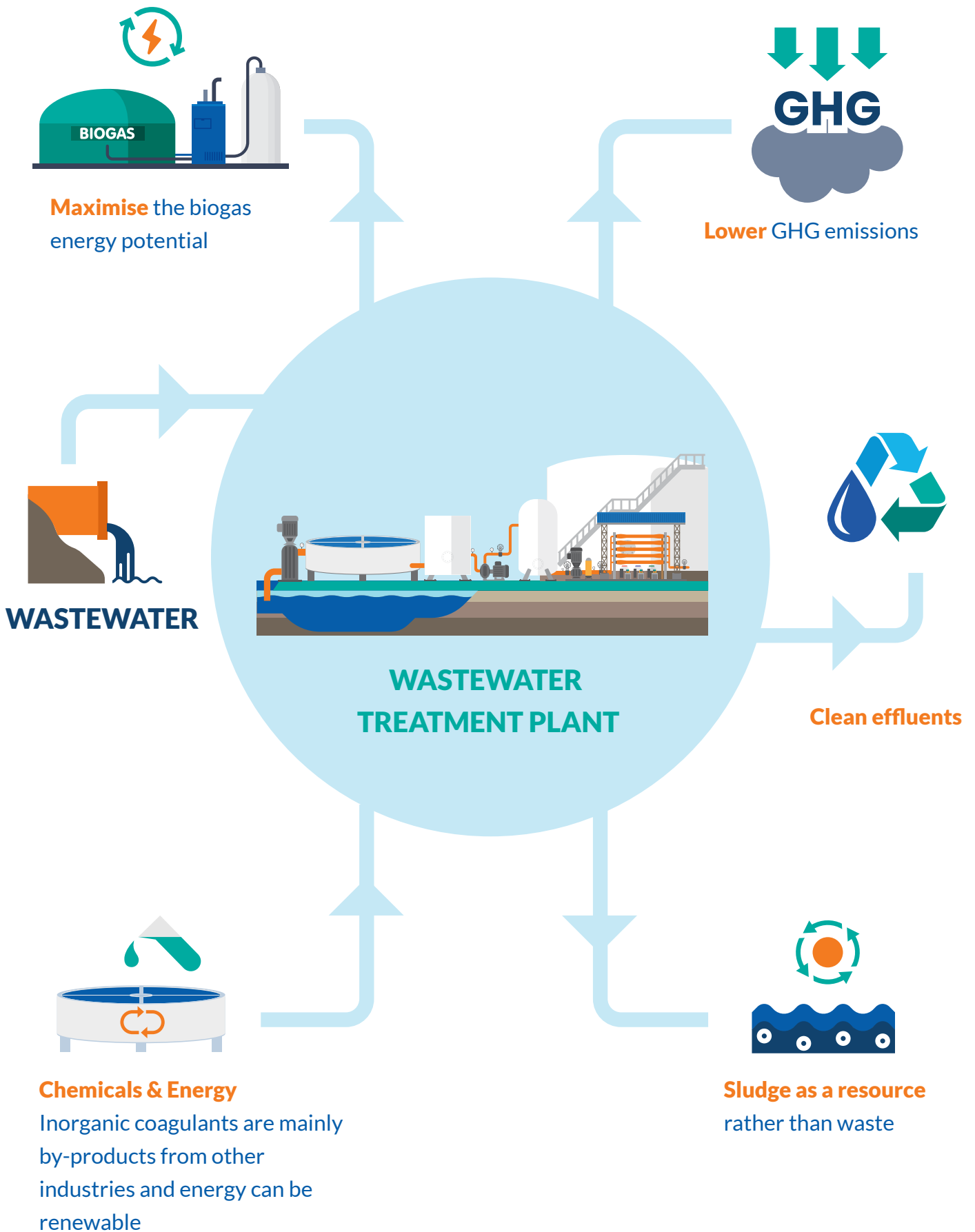


LOWER ENERGY REQUIREMENTS



MAXIMISES THE BIOGAS
PRODUCTION FROM
SEWAGE SLUDGE

*For more details, see the Life-Cycle Assessment of different Waste Water Treatment Plant processes, available at https://www.incopa.org/wp-content/uploads/2020/12/20201215_IVL-LCA-study-report.pdf





INCOPA is the European Inorganic Coagulants Producers Association. INCOPA's members manufacture inorganic coagulants (aluminium and iron salts), which are essential elements for water treatment, paper manufacturing, fertilizer production and other industries.



31
PRODUCERS



80
PRODUCTION SITES
IN EUROPE



4
MILLION TONNES
OF IRON AND
ALUMINIUM
COAGULANTS
PRODUCED
PER YEAR



>85%
OF THE EUROPEAN
COAGULANT
PRODUCTION CAPACITY

INCOPA members apply chemistry at its best, contributing to the circular economy and enabling safe and affordable water for all.

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