



Waste



## SUPERCRITICAL WATER OXIDATION POWER

### Origin of the project

Created in 2008, Innoveox is a french innovative start-up that develops and commercialises a revolutionary technology coming from 20 years of research of the CNRS (French National Center for Scientific Research).

Supercritical Water Oxidation with Positive Energy can treat and recycle - definitively, without polluting emissions and directly on site – industrial liquid waste from oil & gas, chemical, health and nuclear sectors.

### Nature of the technology

This technology consists in pressurizing (> 250 bars) and superheating (> 400°C) the effluents in question, and injecting oxygen, which is immediately soluble. This triggers the oxidation and near-total destruction (<1 minute) of the organic matter. The water produced from this process can be released directly into the environment or reused, while metals and minerals can be precipitated and reused.



Industrial Treatment Unit, 1000 Tons/Year, located in the South of France

## Tons of CO2 equivalent saved in comparison with traditional treatment solutions

To treat 800 tons of toxic waste, an incinerator will produce	With its 100l/h unit, for the treatment of the same amount of waste Innoveox will produce
<b>572 T eq CO2/year</b>	<b>145 T eq CO2/year</b>
+ Emissions of SOx and NOx + Refiums + Clinkers	+ Recovery of liquid CO2, no polluting emissions + Reuse of water, energy and metals + No by-products

### CO2 advantages : no toxic waste transportation

Everyday, 400 trucks carry toxic waste in France. Every year, 200 of them have an accident. With its 100l/h treatment unit, Innoveox can treat directly on site 800 tons of hazardous waste, preventing 145 780 km traveled in France and the emission of 15,4 T eq CO2/year.

### Innoveox's solution advantages for the climate

Each year, 477 million tons of industrial toxic waste are produced worldwide, i.e. 68kg per capita per year. This polluting waste still is improperly treated and unefficiently recovered by traditional treatment solutions.

Clean and definitive : Unlike traditional solutions (incineration, landing), Innoveox proposes a clean and definitive treatment solution for industrial liquid waste, capable of destroying 99,9% of pollutants and micro-pollutants

Recovery : This technology transforms industrial liquid waste into clean water and positive energy, and recovers strategic metals, an innovative answer to scarcity of resources issues.

Environment : Innoveox's industrial treatment unit can be installed directly on the client site (plug & play equipment), preventing hazardous waste transportation, its costs and ecological issues.



### Operational solution for COP 21

An already available global innovation : Innoveox's revolutionary technology has been fully operational since 2011 and is globally commercialised for the needs of industrial and public sectors

Proven efficiency : Innoveox's technology comes from 2 CNRS patents (French National Center of Scientific Research, Innoveox's partner and shareholder) and is capable of destroying and recycling 15 families of waste. The company has signed 4 long-term services contracts since 2014.

Easy deployment : Innoveox's business model (services contracts) does not require any investment from the client (billing based on usage with pricing per processed ton).

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