

## SinCeO2 Consultoría energética

Recovery of residual heat contaminated with Volatile Organic Compounds. Current situation and opportunities for technological advances.

María I Cubillo

Chief Executive Officer

## Current situation

**SinCeO2** is a company specialized in the search of the most appropriate **energy and sustainable solutions** to the needs of our clients.

In our energy and sustainable audits and consultancy work, the best use of energy in processes is always searched, as well as the use of **residual heats derived** from the activities of companies.

In the several works carried out, companies from different sectors we have been found that they present **similar problems**.

## Current situation

In the drying of varnished materials there are flows of residual heats that are contaminated by **Volatile Organic Compounds (VOCs)**, coming from varnishes, paints, etc.)

The presence of these compounds in the exhaust gases does not allow direct reuse in heat exchange systems, due to the **saturation of the system** caused by volatile organic compounds.

On the other hand, according to **the Spanish legislation** on the environment, exhaust gases must not contain contaminants when they are released into the atmosphere.

Currently, in order to **eliminate** these compounds from exhaust gases, conventional systems are used that have an **associated energy consumption** that could be minimized with the expected development with this project.

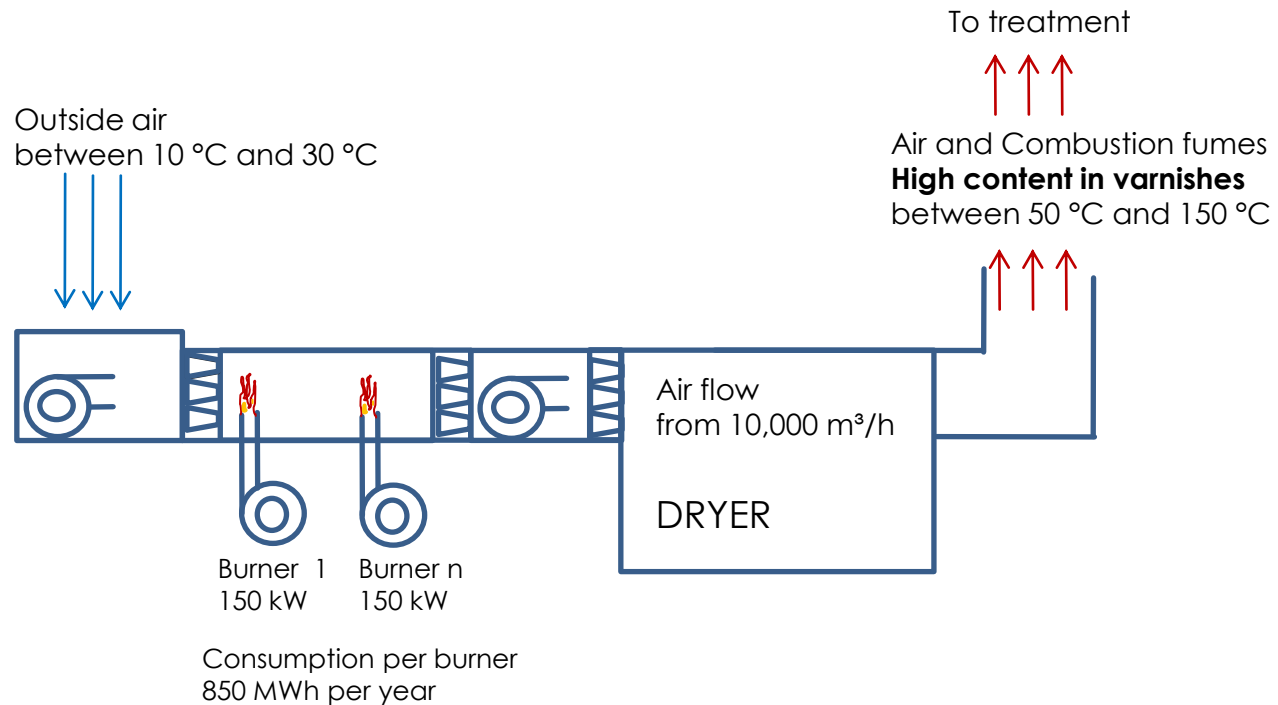
Financiado por:



PTR-2016-0750

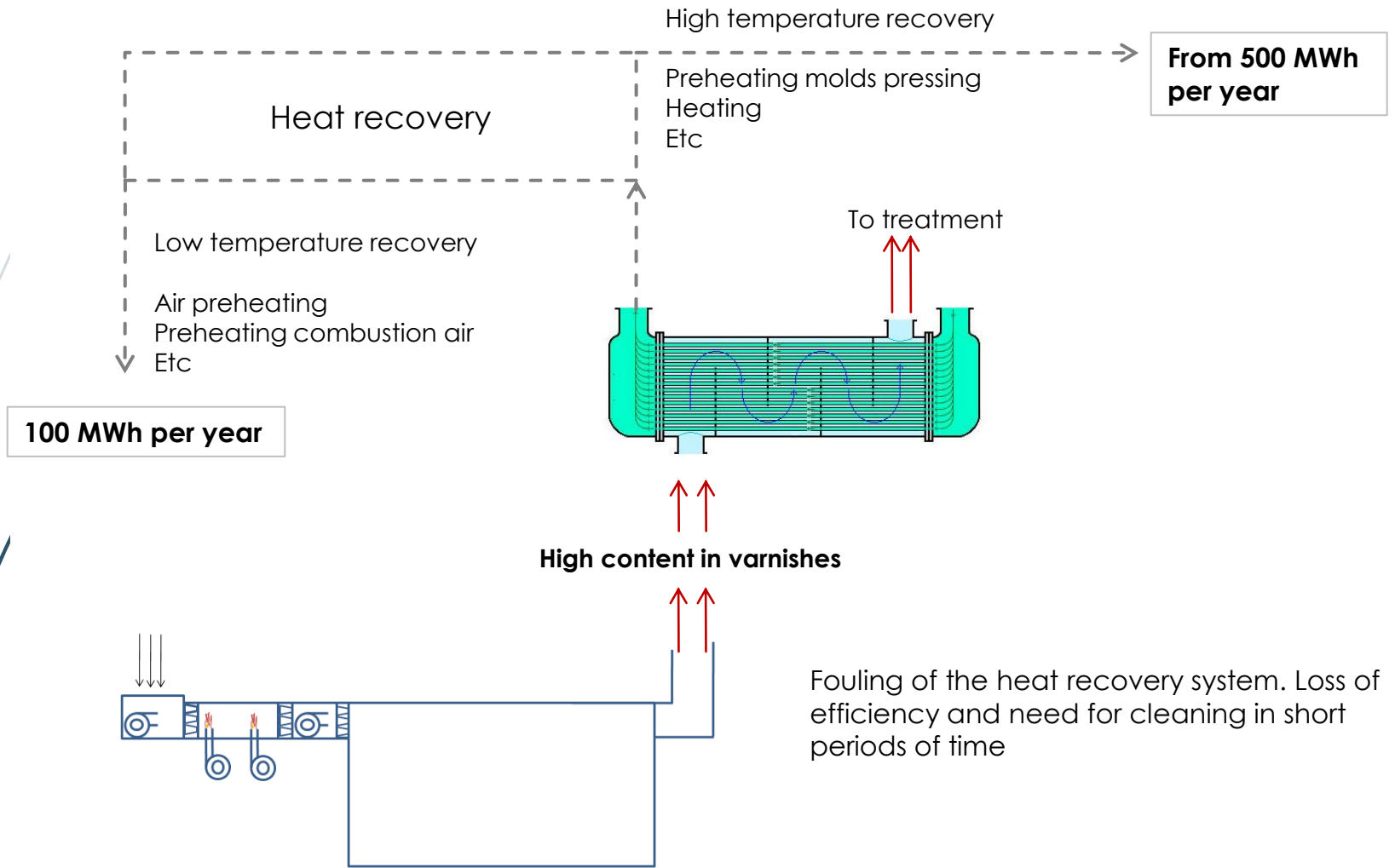
## Description of the problem

Specific examples of different industries. Applicable to any process with varnishes, paint, etc.



Financiado por:

## Expected situation



## Lines of investigation

Once the problem of **saturation of the exchangers** has been identified, it is necessary to identify which solutions can be undertaken.

- To research on **new configurations** of the heat exchange system that allow the elimination of VOCs and take advantage of the residual heat of the process.
- To research on **new materials** applicable to the energy exchanger that allow the use of exhaust gases contaminated by VOCs.
- Definition of **self-cleaning systems** of the exchanger that avoid stops in the system and allow to take advantage of residual heat with high efficiency.

## What are the needs of SinCeO2?

We are looking for a **technology company** with the ability to investigate the proposed research lines (new configurations, new materials, self-cleaning system of the exchanger)

We want to form a **Spanish-Japanese consortium** to advance in the search of solutions.

We want to develop **a high efficiency heat recovery system**, which adapts to different exhaust gas conditions (Different composition of VOCs, different exhaust gas flow rates, different temperatures, etc ...)

As a final goal, we want to put on the market an appropriate technology for recovery of residual heat that may be **applicable in different industrial sectors** with similar problems.

# Thanks for your attention

María I. Cubillo

Chief Executive Officer

[micubillo@sinceo2.com](mailto:micubillo@sinceo2.com)

<http://www.sinceo2.com>

Financiado por:



PTR-2016-0750

February 13, 2018