

# DECARBONISATION OF NOVARTIS

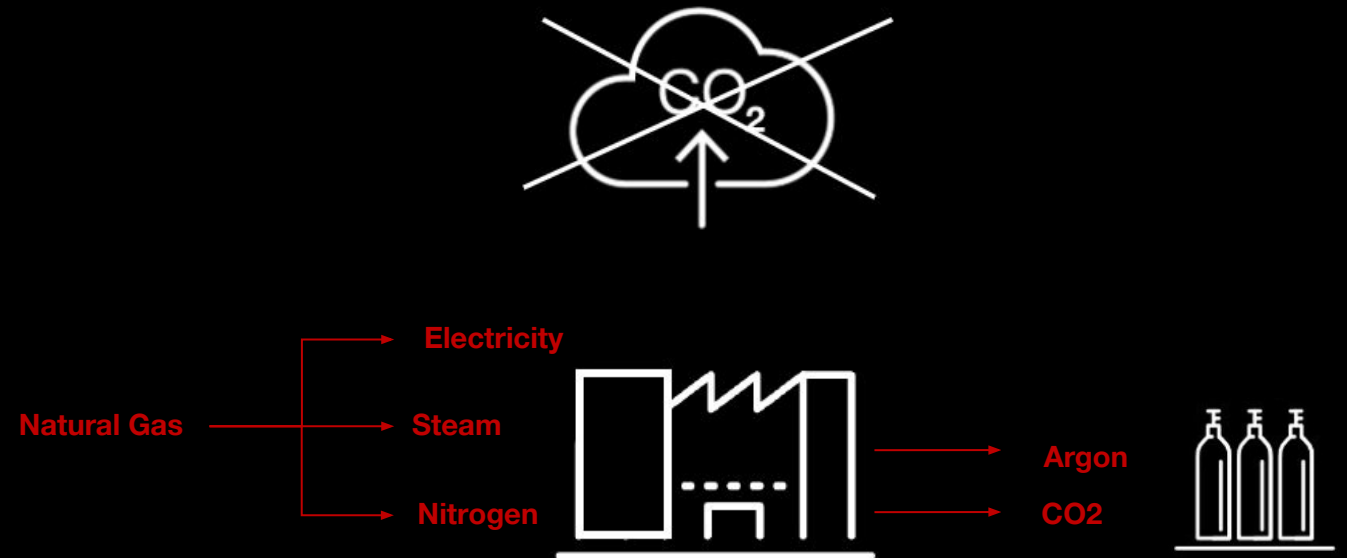
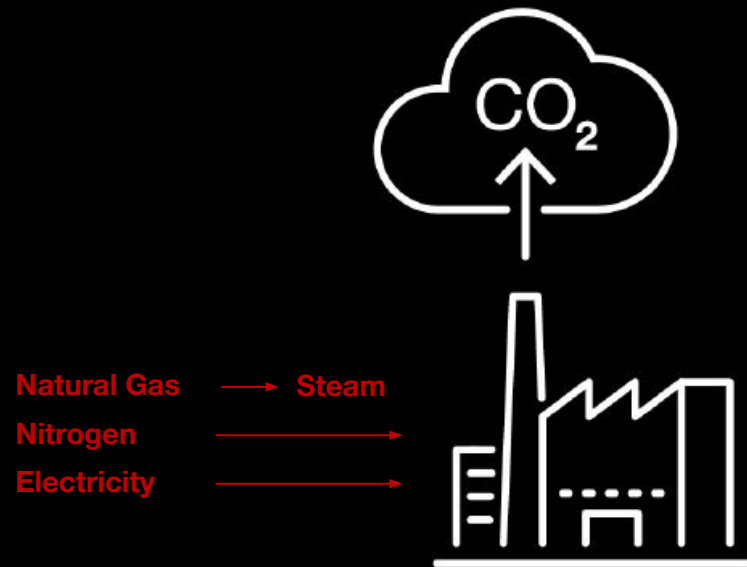
Aero-derivate gas turbine  
with CO2 capture

**JÄGER**

OCTAGEN - NOVARTIS

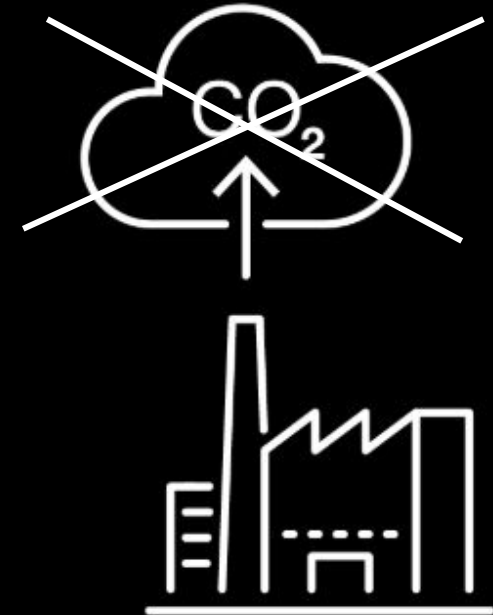
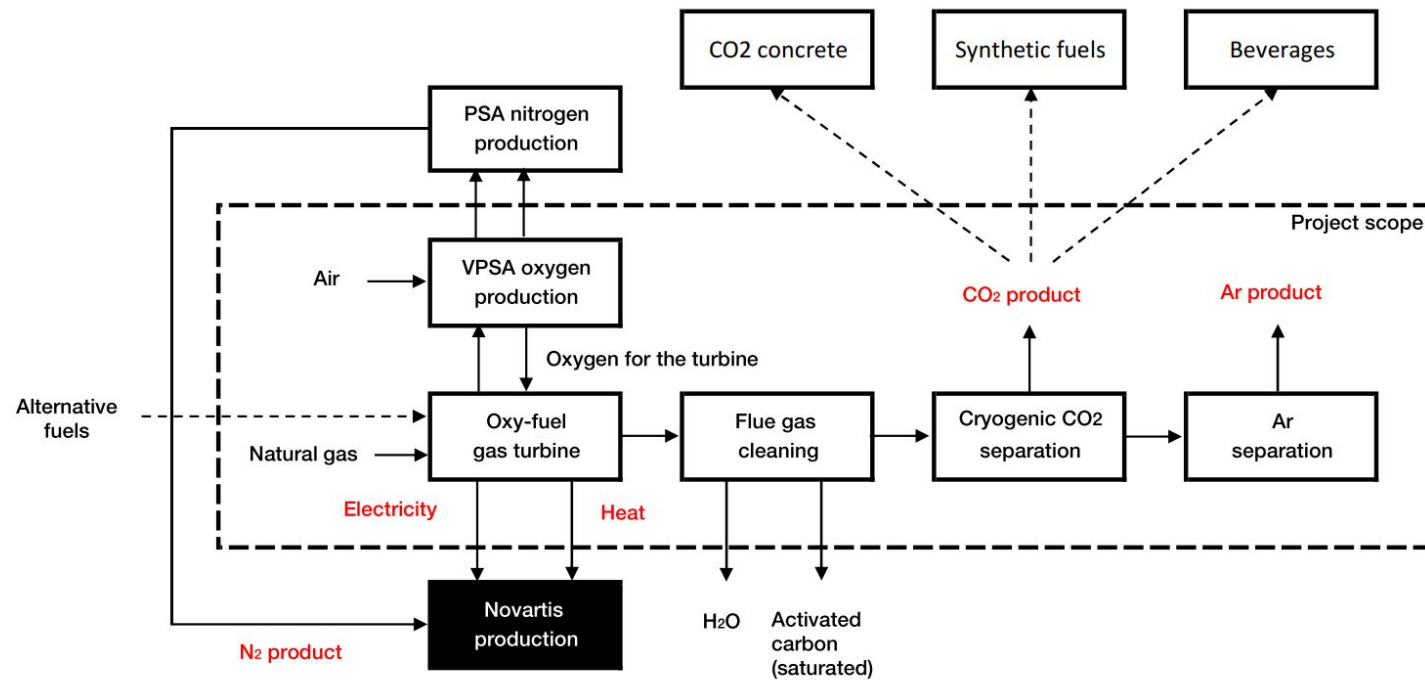
# BEFORE & AFTER: OCTAGEN MULTIGENERATION

And No NOx!



# NEW SETUP: OCTAGEN MULTIGENERATION

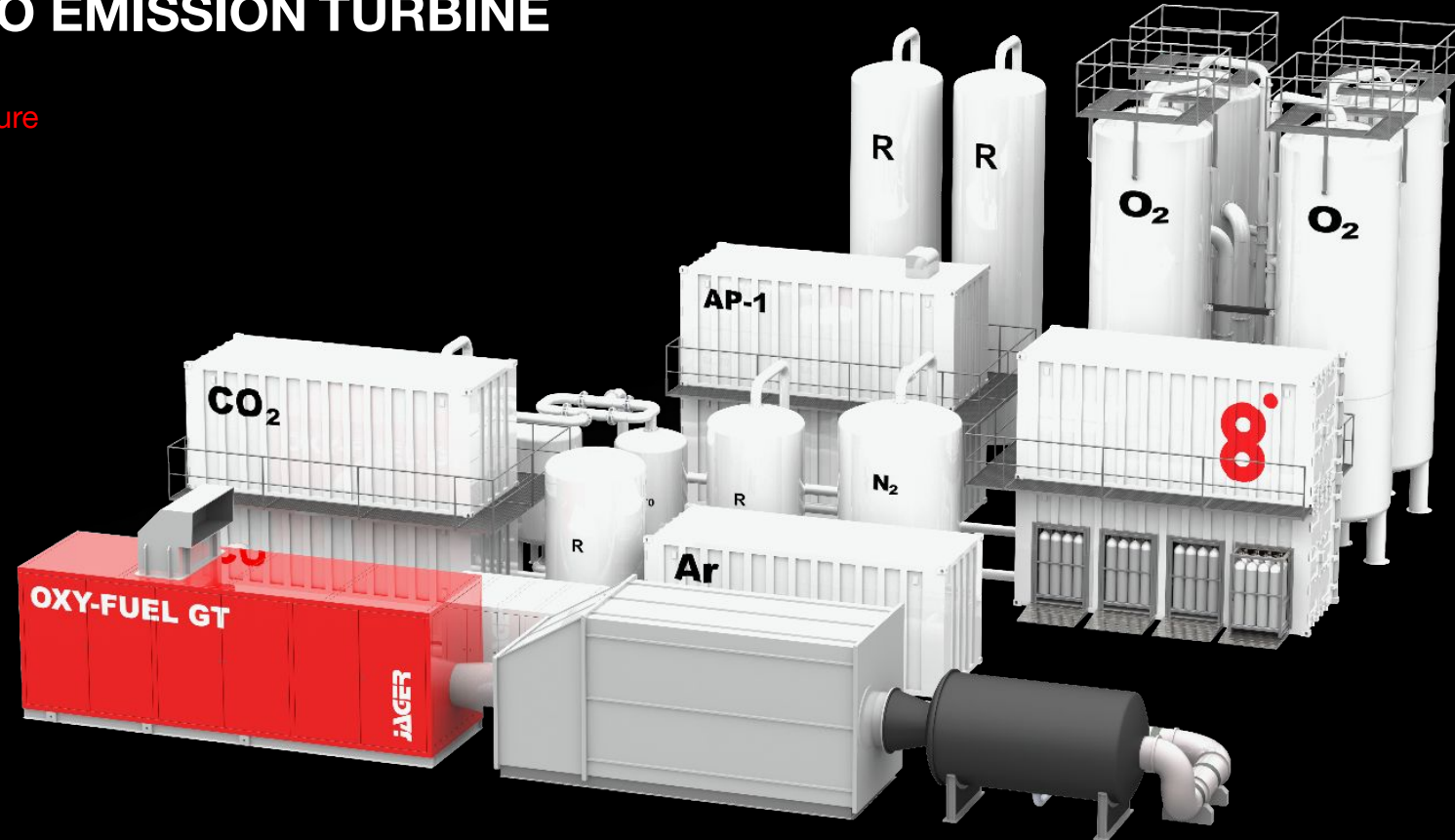
And No NOx!



# INNOVATION: MULTIGENERATION-ZERO EMISSION TURBINE

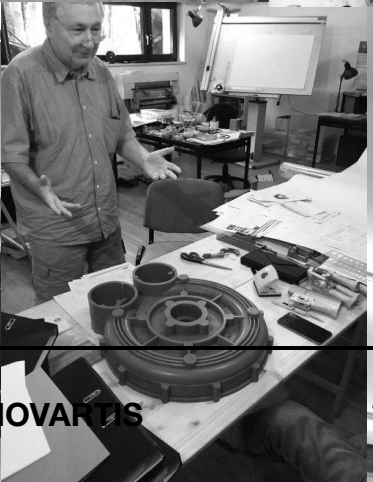
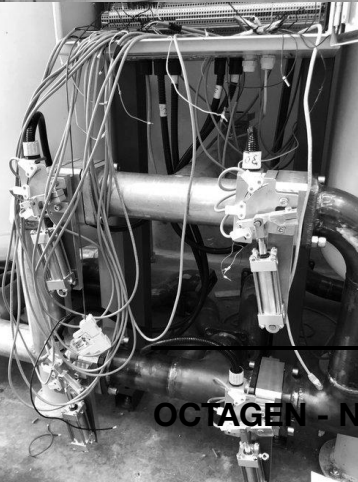
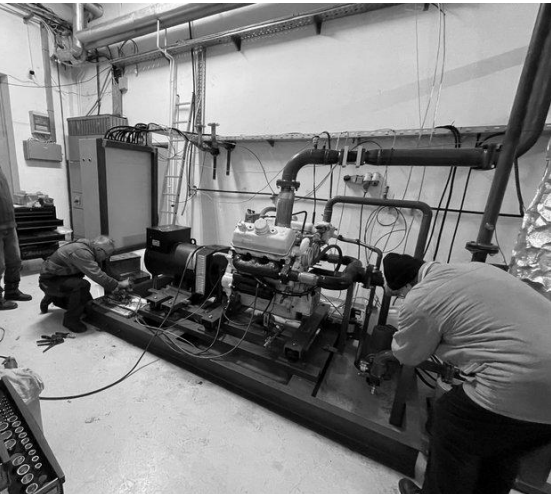
Oxy-Combustion Gas Turbine with CO<sub>2</sub> capture

Fuel	Products
Natural gas	Electrical energy
Diesel	Heat
Synthetic fuels	Oxygen
Bio fuels	Nitrogen
	Carbon dioxide
	Argon
	Neon





**PILOT PLANT  
IN OPERATION**

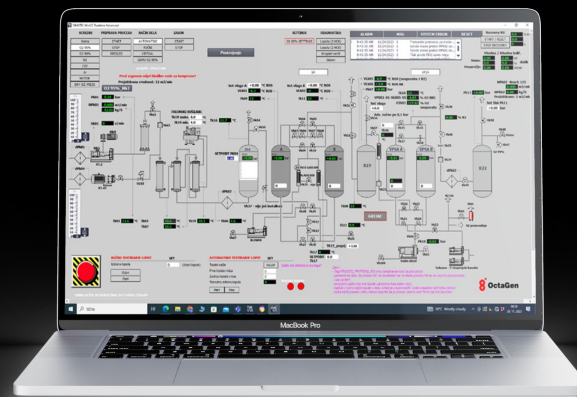
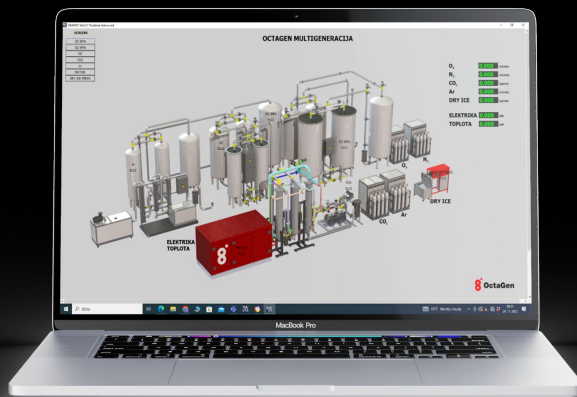


**OCTAGEN - NOVARTIS**

**JAGER**

# MATURITY OF THE PROJECT

- IJS - Institut "Jožef Stefan" prove of concept confirmed
- Pilot plant in operation (up to CO2 capture)
- Pilot plant connected to SCADA and concept proved
- All infrastructure setup in Novartis Mengeš finished and ready to use
- Contract with Novartis signed, building right in Novartis Mengeš acquired and building permit for 1st phase obtained



# CLOSING THE LOOP

**Plasma gasification**  
Converting waste into useful Syngas fuel with plasma gasification.

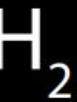


**Multi-Generation**  
Producing heat and power with zero-emission Oxy-fuel turbines with CO<sub>2</sub> capturing.

**Dry ice blasting**  
Putting CO<sub>2</sub> to good use for cleaning with minimal downtime.

**CO<sub>2</sub> concrete**  
Embedding CO<sub>2</sub> emissions in concrete and making it stronger.

**CCS**  
Zero-emission platform with capture and storage of greenhouse gases.



**Technical gases**  
Simultaneous production of Oxygen, Nitrogen, CO<sub>2</sub> and Argon.

**Hydrogen production**  
Production of hydrogen, a clean fuel from biomass and waste.

