

**Driver of the energy transition**

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**Our sustainable solutions**



# Babcock Wanson Group

## Working together to build a sustainable industrial model for a better world



### Towards a sustainable industrial model

The fruit of an industrial adventure spanning more than a century, Babcock Wanson Group is a major international supplier of boiler rooms and associated equipment, operating in more than 14 countries. It has become a major player in the energy transition, offering increasingly carbon-free heat production solutions for industry.

By offering solutions that combine optimised yields and reduced waste thanks to technological innovations, and by exploring credible alternatives for tomorrow's heat production, Babcock Wanson Group's ambition is to enable users of its equipments to reduce their consumption of fossil fuels and achieve their targets for reducing their environmental footprint



### A word from our Chairman

We are proud to play a leading European role in providing clean solutions for industrial steam and heat production.

This exciting challenge is an extraordinary source of motivation for all the teams in our Group, enabling us to make a vital contribution to improving our world.



### A word from Ambienta Our majority shareholder

Supporting Babcock Wanson Group represents a unique opportunity to contribute to the decarbonisation of industry, a major challenge for all industrial players, which is fully in line with Ambienta's commitment to environmental sustainability.



Founded in 2007  
+€3bn of European investment focused on sustainable development

### Supporting the energy transition of industrial processes

Industrial processes are major consumers of steam and hot water. They generate 3 main types of environmental pollutants and impacts:

- CO<sub>2</sub> emissions due to the use of fossil fuels
- Emissions and discharges of pollutants (VOCs, NO<sub>x</sub>, SO<sub>x</sub>, etc.)
- Depletion of resources (water, energy, etc.)

for which reliable and effective technical solutions are urgently needed.

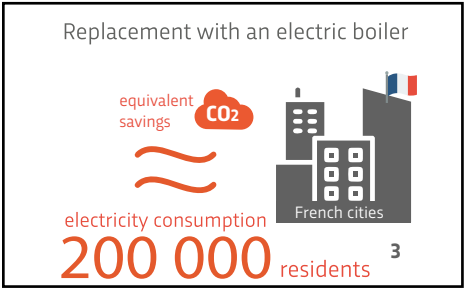
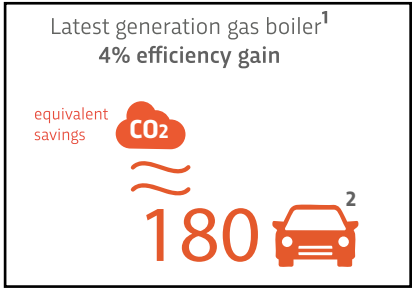


### The challenges of decarbonisation

Decarbonisation aims to reduce greenhouse gas emissions.

To achieve their greenhouse gas emission reduction targets, manufacturers can choose to activate several levers to decarbonise their activities:

- Improving energy efficiency
- Using alternative raw materials with a lower carbon footprint
- CO<sub>2</sub> capture, storage and recovery
- Managing and reusing limited resources (water, etc...)



<sup>1</sup> Boiler 10T/h - 6 000 h - 60% charge - <sup>2</sup> Vehicle consumption : 130g/km - 15 000 km/year - <sup>3</sup> Electric consumption/inhabitants : 2MWh elec

40 %



Target for reducing greenhouse gas emissions in Europe by 2030 (compared with 2015)



### A strong commitment

Since 2023, Babcock Wanson Group has supported the United Nations Global Compact, the largest international initiative on sustainable development and corporate social responsibility.



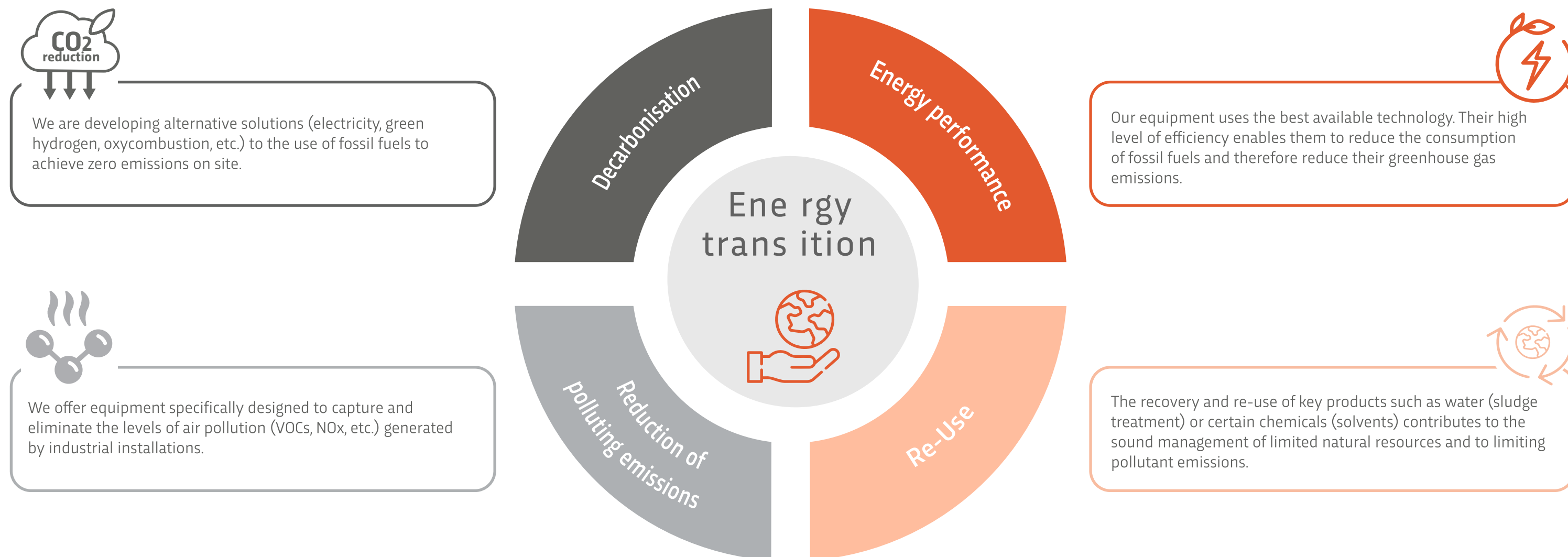


# Babcock Wanson Group

## The partner you can trust to help you move towards energy transition

The energy transition solutions deployed by the Group's brands are built around 4 major pillars.

### The 4 pillars of Babcock Wanson Group



Our positioning is unique.

With a presence across the entire value chain, Babcock Wanson Group is able to act and support its customers at every stage of their boiler plant's operation, as well as around and away from it.

Sources of CO<sub>2</sub> emissions by business sector (Europe), 2021

31%  
Transport

31%  
Electricity production

14%

Industry & building

11%  
Tertiary residential

7%  
other sectors

6%  
Energy

Equivalent to around 1.5% of the EU's CO<sub>2</sub> emissions in 2021

**Our core business**

10%  
Heating for industrial processes

20%  
Building heating

70%  
Other industrial processes

Focus on breakdown of CO<sub>2</sub> emissions in Industry & Building (UE), 2021

Source : rapport Indefi

Electric boilers

To decarbonise steam and hot water users in the industry

The installation of electric boilers can massively reduce greenhouse gas emissions\* from industrial sites.

Cutting-edge technology

- High-voltage electrode boilers


Environmental impact

- Energy efficiency
- Precise temperature control
- Elimination of local emissions

A complete range

- Low voltage immersion heater
- A hybrid range





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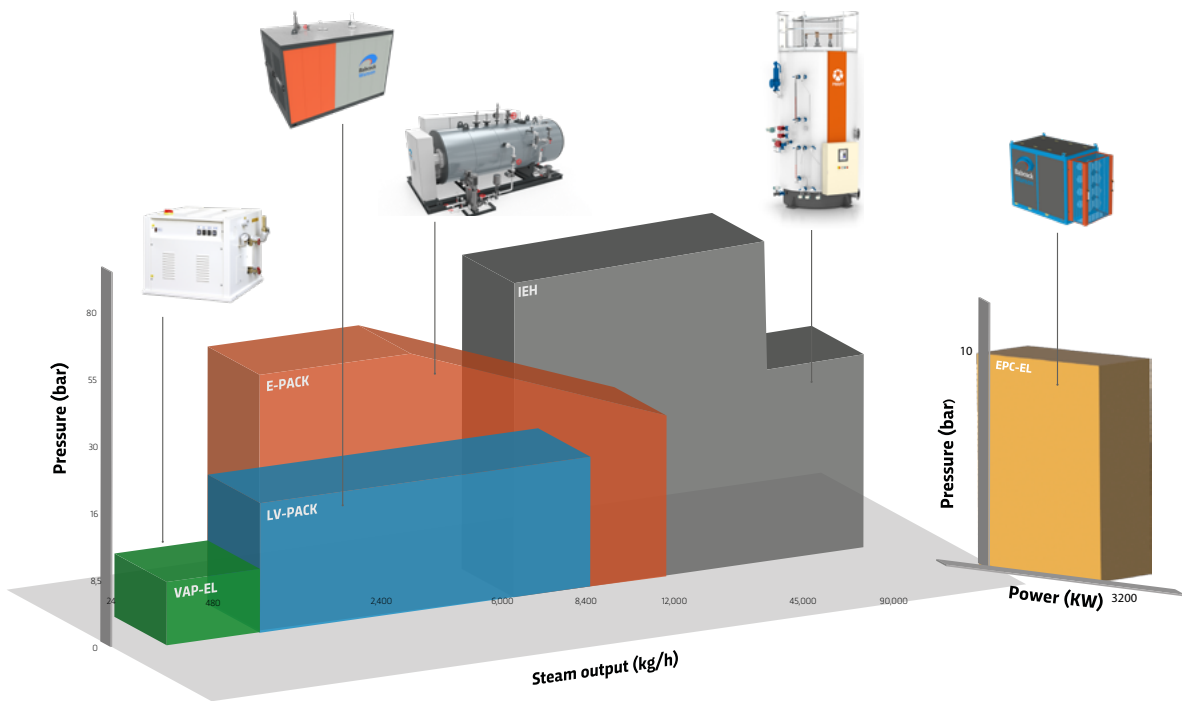
Emission on site



**>99%**

Maximum efficiency

Our range at a glance!



\* 2 Cases: Case 1 : low carbon electricity available on the grid  
Case 2 : regulating the electricity network when renewable electricity production exceeds demand

Our hybrid solutions

To reduce your carbon footprint & save money

Our hybrid solutions, whether supplied as standard or retro-fitted to existing equipment, enable you to anticipate the best available energy source.

Boilers

- Economical : use of surplus electricity
- Continuous regulation
- No additional emissions
- High energy efficiency

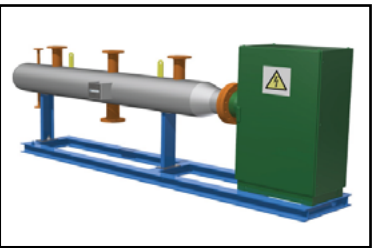
Add-on Boiler

- Allows you to switch from fossil fuel to electricity during operation



**>99%**

Optimum efficiency



**<800 kW**

Electric input

Renewable solutions

Alternative solutions are a promising route to decarbonising energy use. We are developing combustion solutions based on renewable energies such as hydrogen, biogas and oxycombustion.



**30%**

as standard



Hydrogen

- Our burners can be equipped with:
- 30% of hydrogen in standard
  - 100% possible with a specific combustion head

Biogas

- Green alternative
- 100% renewable
- Emissions reduced to 1/8th

Oxycombustion

- Capture and recovery of CO<sub>2</sub>
- Reduction of more than 90% of direct emissions of CO<sub>2</sub>



**100%**

Renewable





# Energy efficiency


## Our high energy efficiency solutions

The combination of solutions increases the efficiency of our existing boilers and enables CO<sub>2</sub> savings linked to primary energy consumption.

### Energy efficiency


Our overall technological knowledge of the boiler room ensures energy optimisation.

- Perfect matching of the burners with the heated vessel
- Water treatment adapted to the quality of the water available
- Remote monitoring of system installation




### Environmental impact


- Reduced electrical consumption
- Low level of flue gas pollutants in combustion gases
- CO<sub>2</sub> savings



7 to 13%

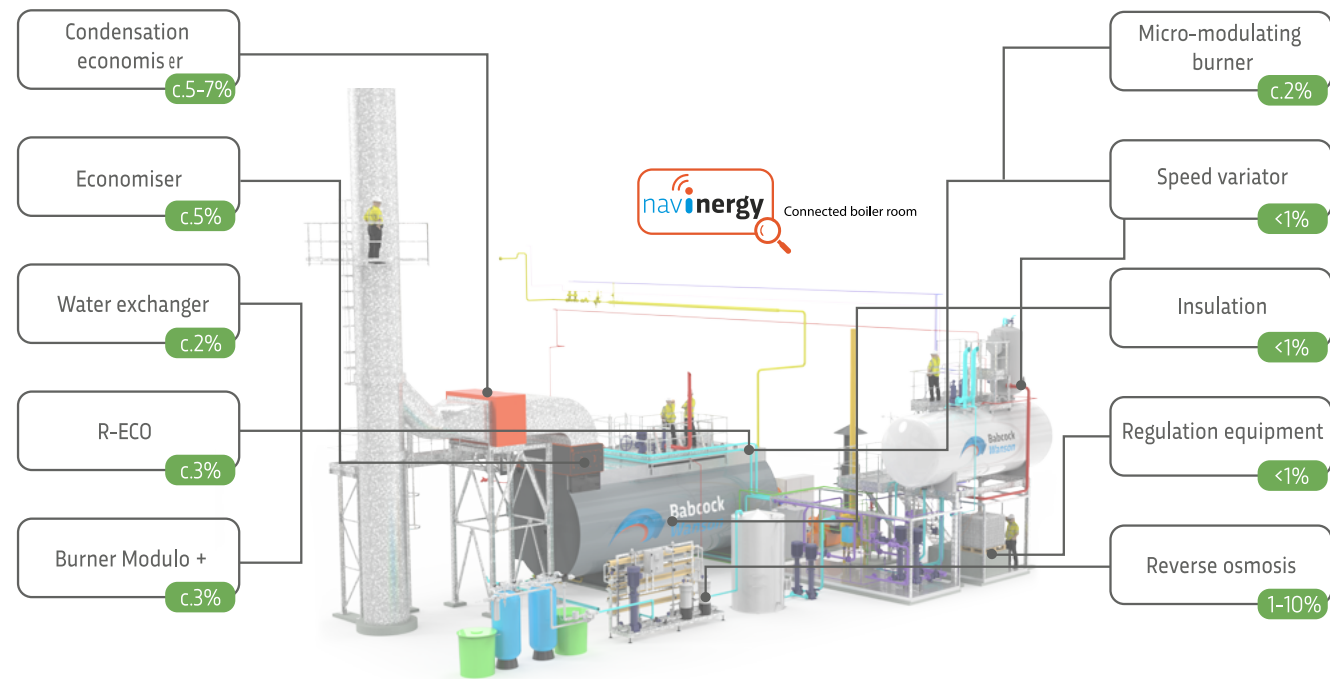
Energy savings (on NCV)





From 1 to 150 t/h

## Our efficiency improvements



# Reduction of pollutant emissions

## Reducing VOCs

Gaseous effluents from various industrial processes can contain high concentrations of VOCs (Volatile Organic Compounds) or odours. Thermal oxidation is the most effective and widely used solution for treating them.

### Thermal oxidizers

#### Regenerative


- Ideal for processes with high gaseous emissions, low VOC content and low fuel consumption

#### Recuperative

- Ideal for effluents with high concentration of VOCs
- Optimum control of emissions


#### Deodorising


- To reduce odours generated by industrial processes



>99%

VOC removal efficiency






+400 Installations worldwide


## Reducing NOx

Our range of burners and associated equipment offers substantial energy savings and a significant reduction in NO<sub>x</sub> and CO<sub>2</sub> emissions.

<30 mg/ Nm<sup>3</sup>

with our ultra low NOx burners





20 to 30% Reduction of NOx emissions with "GOOD LOOP"

### Burners

- Optimum burner design for every boiler
- An ultra-low NO<sub>x</sub> range
- Adaptable to green fuels
- Compliance with the strictest international regulations

### The "GOOD LOOP" concept

- Exclusive technology based on flue gas recirculation between burner and boiler (EGR)
- Designed for gas boilers



# Recovery & reuse solutions

## Water reuse


Our solution to water management issues is to provide solutions for recovering and reintegrating part of the water discharged, thereby reducing water consumption..

### Reuse more, ...CONSUME LESS

Reuse of concentrates

- Water and salt savings
- Reduction of waste

Treatment of waste water




**>40%**

reduction in water consumption in cooling towers thanks to water treatment


**>30%**

Water savings by reusing process water



## Solvent recovery


Our solutions reduce the quantities of solvents released to atmosphere..



**40%**

Electricity savings


**>95%** of solvents recovered



**PATENTED**

### Prevent pollution

- Adsorption and regeneration
- A patented system which permits VOC recovery through regeneration of activated carbon, post adsorption
- 40% reduction in energy consumption (compared to other solutions on the market)



## Waste heat recovery


Steam compression heat pumps are a sustainable solution for recovering waste heat and using it.


High efficiency:

- COP (Coefficient Of Performance) greater than 100%
- Considerable primary fuel savings
- Non-polluting
- CO<sub>2</sub> free

**>100%**

Coefficient Of Performance





# Strong brands

## The strength of the Babcock Wanson Group lies in its brands.

Drawing on their history and complementary added values across different backgrounds and industries, our brands enable the group to offer unique expertise to its customers and markets across the entire value chain. Structured in this way, our group can accompany its customers on the road to decarbonisation.





[www.babcock-wanson.com](http://www.babcock-wanson.com)





[www.parat.no](http://www.parat.no)





[www.vkkstandardkessel.de](http://www.vkkstandardkessel.de)





[www.standardfasel.nl](http://www.standardfasel.nl)





[www.pbspe.cz](http://www.pbspe.cz)





[www.thermigas.eu](http://www.thermigas.eu)





[www.donaucarbontech.com](http://www.donaucarbontech.com)



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## **Babcock Wanson Group**

106-107 rue du Lt Petit-Leroy  
F-94669 Chevilly-Larue Cedex

Tel : +33 1 49 78 44 98

[\*\*www.babcock-wanson-group.com\*\*](http://www.babcock-wanson-group.com)