

CarboPlus®

DRINKING WATER



**MICROPOLLUTANT TREATMENT
THAT GUARANTEES HEALTH SECURITY**





Drinking Water Treatment plant of Crozon (France, Finistère)

REFERENCE SITES

DRINKING WATER TREATMENT PLANTS

- Saint-Lô (France, Manche) : 400 m³/hr
- Graon (France, Vendée) : 2,000 m³/hr
- Basse-Goulaine (France, Loire-Atlantique) : 3,500 m³/hr
- BBM Eau (Beaulieu-Beynat-Meyssac) (France, Corrèze) : 550 m³/hr
- Sommeçaise-les-Ormes (France, Yonne) : 80 m³/hr
- Montégut-sur-Arros (France, Gers) : 550 m³/hr
- Le Longeron (France, Maine-et-Loire) : 300 m³/hr
- Crozon (France, Finistère) : 90 m³/h

“

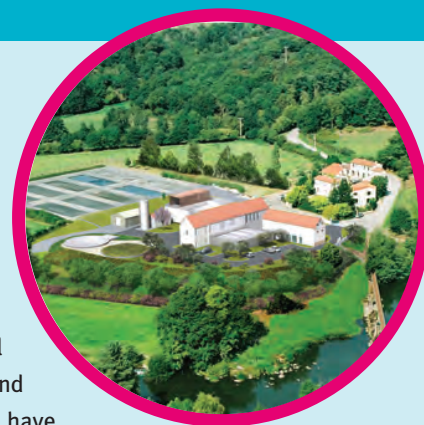
When we took the decision to refurbish the Longeron drinking water treatment plant, we chose the CarboPlus® process.

As a drinking water supply concession holder, we had two goals: to improve the treatment of organic matter and to treat micropollutants, especially pesticides. This meant ensuring that plant operation was totally safe by adding a module to cope with pollution peaks in the Sèvre Nantaise river from which the plant draws its water.

With CarboPlus®, Stereau was able to offer a tailor-made solution that allowed us to address both issues at once, and act ahead of the forthcoming regulation on micropollutants. So we see it as an investment for the future.

In addition to the performance and flexibility of the process, what particularly attracted us was its compact size. Not only were we able to add the CarboPlus® module to our plant, but we were also able to retain enough land for a future plant extension, and do the whole thing in a way that

integrates the plant successfully into the landscape. It's important to remember that this facility is in a ZNIEFF (area of special ecological interest for its plants and animals) and it had to have a low environmental impact. ”



Paul MANCEAU

*Chairman of the Ouest de Cholet region SIAEP
(drinking water supply concession holder)*

MICROPOLLUTANTS IN WATER



WHERE DO MICROPOLLUTANTS COME FROM AND WHAT DO THEY DO?

Traces of pesticides, biocides, detergents, drug residues and every other kind of molecules resulting from domestic, agricultural and industrial activity are being identified more and more frequently in water resources. The concentrations of these micropollutants may be low, but this multiplicity of molecules creates a cocktail that poses a potential risk to human health and the environment.

HOW CAN MICROPOLLUTANTS BE TREATED?

Stereau has designed and developed the CarboPlus® process to remove micropollutants during the drinking water treatment process and to guarantee drinking water quality and consumer safety. Introduced at the polishing treatment stage, this cost effective solution eliminates a broad spectrum of micropollutants, including phytosanitary products (pesticides, weed killers, etc.) and drug residues (anti-epileptics, hormones, tranquillisers, etc.).



EXTRACT FROM FRENCH DRINKING WATER REGULATION

*Concerning organic micropollutants
(Ministerial Order of 11 January 2007)*

PESTICIDES

Standards: max. 0.1 µg/L, except aldrin, dieldrin, heptachlor and heptachlor epoxide: 0.03 µg/L

Total pesticides: max. 0.5 µg/L

ORGANOCHLORIDES

1,2-dichloroethane: max. 50 µg/L

Tetrachloroethylene and trichloroethylene : 10 µg/L

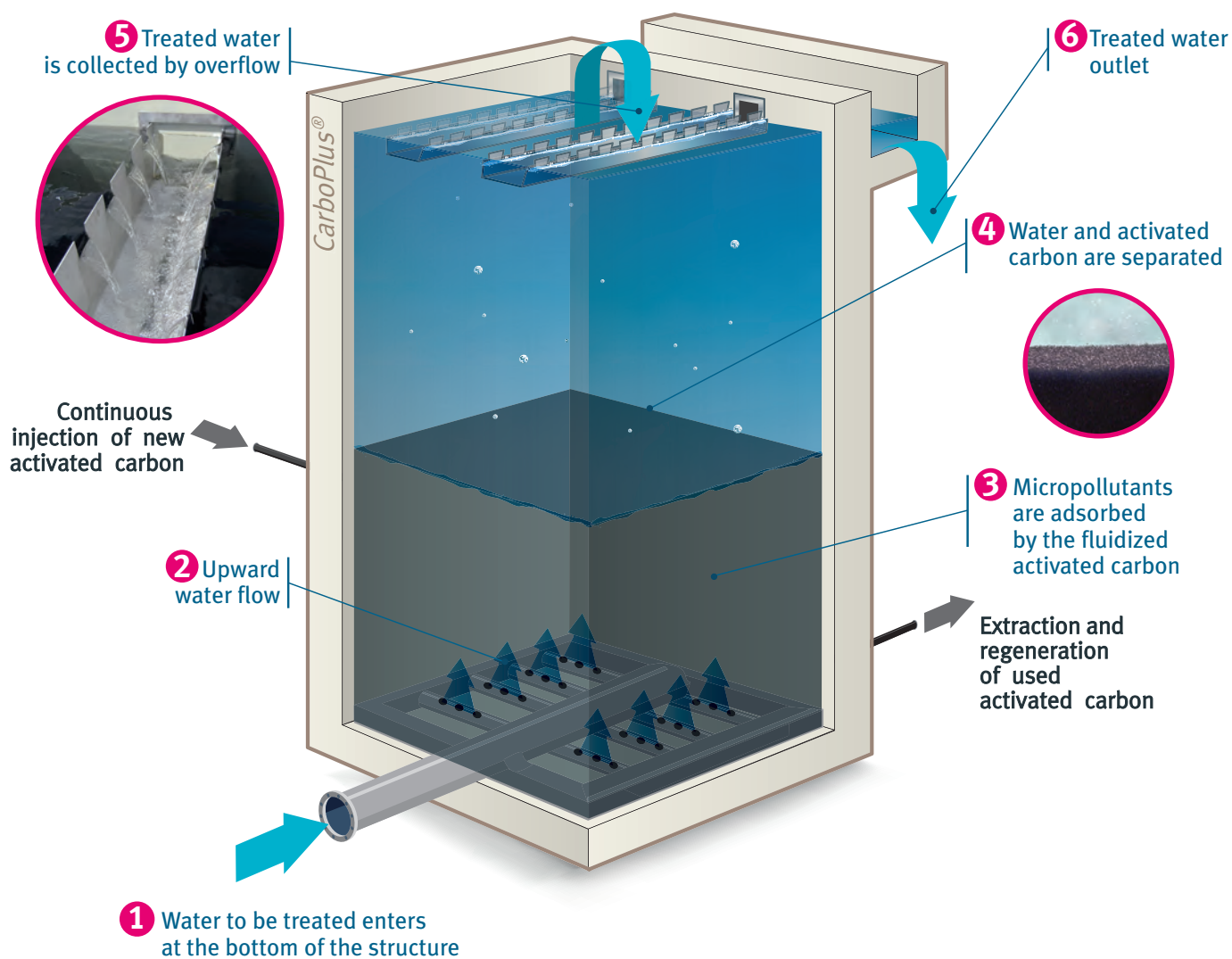
PAH (Polycyclic Aromatic Hydrocarbons)

Total: 0.1 µg/L

THE CARBOPLUS® PROCESS

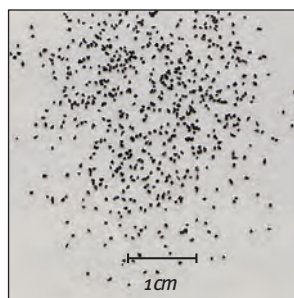
CARBOPLUS®: A PATENTED PROCESS

Based on 10 years experience feedback of suspended activated carbon processes.

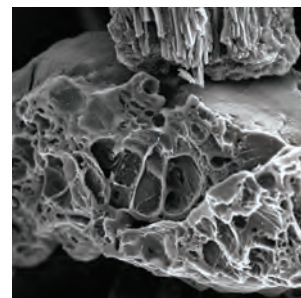


THE UNMATCHED CARBOPLUS® EFFECT

Fluidized activated carbon bed makes all carbon adsorption sites accessible. This optimises the transfer surface available between the water to be treated and the pores of the carbon.



Activated carbon micro-grain seen with the naked eye



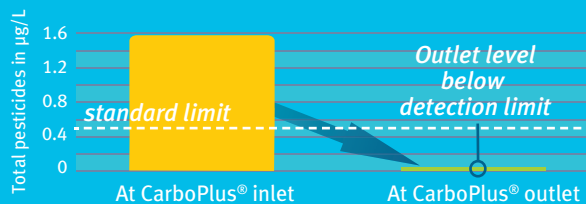
Activated carbon pores seen under the electron microscope

CARBOPLUS®

THE SOLUTION FOR MICROPOLLUTANTS

HEALTH SECURITY

PESTICIDES* REMOVAL WITH CARBOPLUS® PROCESS



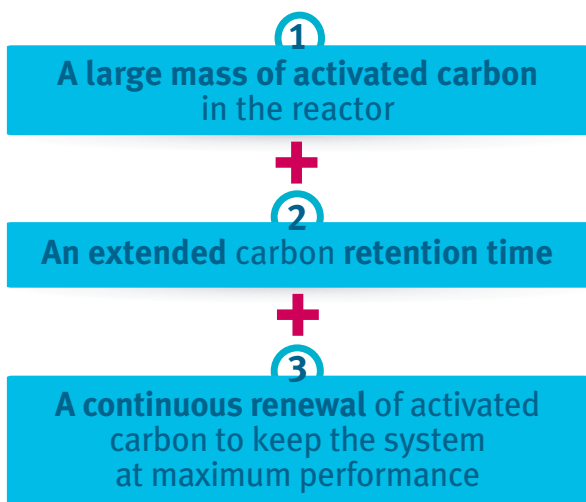
*Pesticides analysed in the water: 2-hydroxyatrazine, atrazine, desethyl simazine, metolachlor, quinmerac and AMPA.

Micropollutants are adsorbed onto the activated carbon. The tracked molecules are neither concentrated nor converted to toxic or mutagenic by-products, but completely removed from the water.

CarboPlus® is an investment for the future, because it anticipates a tighter drinking water regulation framework.

CONTINUOUSLY EFFICIENT AND RELIABLE

CarboPlus® eliminates a wide spectrum of micropollutants, including phytosanitary products (triazines, urea derivatives and their detectable by-products, glyphosate, AMPA, etc.), drug residues, chlorinated solvents and organochlorinated chemicals. The constant high performances over time are brought by three major characteristics :



EASY TO OPERATE

The simplicity of its hydraulic principle means that the inside of the reactor works without any electromechanical equipment: the water and activated carbon separate naturally by gravity. That means less operation and maintenance costs. New carbon is injected automatically. Carbon dosage is adjustable to suit the inlet water quality and can be adapted easily to accommodate seasonal variations in raw water.

COST EFFICIENT

Simultaneously a contact and separation reactor, CarboPlus® is exceptionally compact with a small footprint. Located upstream of the final filtration stage, CarboPlus® is easy to install in new or existing drinking water treatment plants. It is a process with low energy consumption and few or no reagents.

It operates successfully with a wide range of activated carbons.

CARBOPLUS® ALSO ELIMINATES:

- organic matter
- trihalomethanes (THM) precursors
- disinfection byproduct precursors for taste and odor issues
- ammonium (biologically)



CarboPlus®

DRINKING WATER



STEREAU

Head office: 11, chemin de Bretagne 92130 Issy-les-Moulineaux, France

Tél.: + 33 (01)1 30 60 84 00

Stereau - French simplified joint-stock company (SAS) capitalised at 5,000,000 €

R.C.S. Nanterre 602 011 918



CarboPlus®
video