

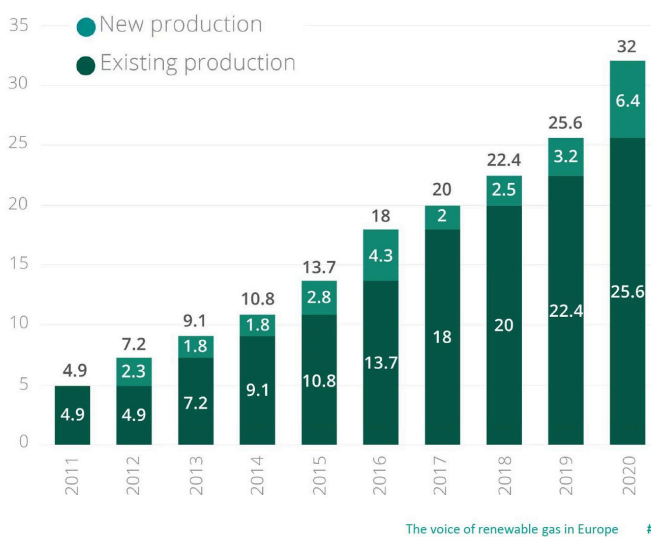
Activated Carbon

Biogas & Biomethane Purification



Biogas - Market Update

Anaerobic Digestion is one of the technologies for generating renewable energy that is essential for our global energy production of the future. The demands of purification of natural gas and biogas are similar in many aspects, but the composition of biogas demands a special requirement when we look at purification.



This table shows the growth of biogas in EU countries. New plants are commissioned annually and total output generated increased. Denmark are proposing 100% dependency on biogas by 2030.

Hydrogen Sulphide must be removed to avoid any corrosion within the plant. This removal will protect downstream catalysts and equipment. Hydrogen Sulphide is an odorous, toxic gas. When it interacts with moisture can form corrosive acids, these corrosive acids damage downstream apparatus. Biogas operations can suffer from other odorous compounds and VOC's such as ammonia, pinene and limonene. Activated carbon can help prevent these becoming an issue.

Sulfisorb Family



Carbon Activated Europe offer activated carbon for control of H₂S and other corrosive gases within the Biogases market. These products form a family of carbons, known as.. The Sulfisorb Family.



The Sulfisorb Family consists of three members, Sulfisorb, Sulfisorb Plus and Sulfisorb Max. All carbons within the range are optimally impregnated for acid gas removal. Their unique formulation provides improved performance over traditional impregnated carbon. Displaying high density, superior hardness with large pore volume the Sulfisorb family offers high Sulphur loading capacity, whatever your plant requirements are

Sulfisorb - Small installations with low/med H₂S level

Sulfisorb Plus - Med/Large installations

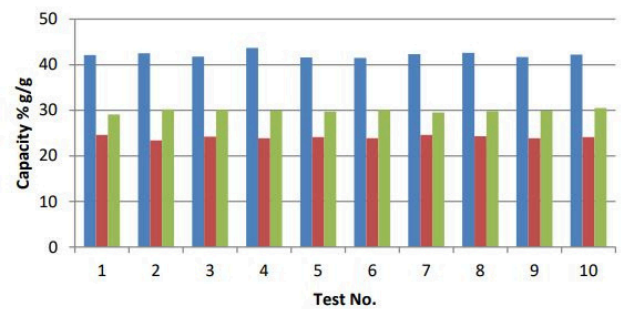
Sulfisorb Max - For large installations or high H₂S level.

Sulfisorb Case Studies

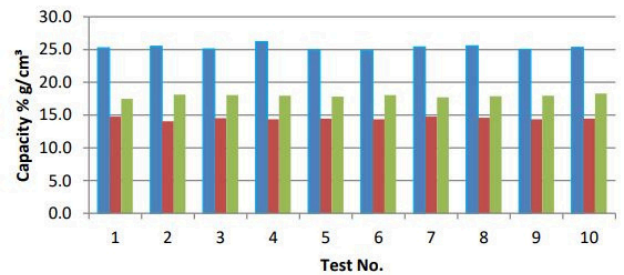
Sulfisorb Plus with its enhanced impregnation for Sulphur removal applications was tested against two competitive products. 3% NaOH and 5% KOH impregnated carbons.

The customer site results clearly show that the Sulfisorb Plus offered far better capacity comparisons vs the competition.

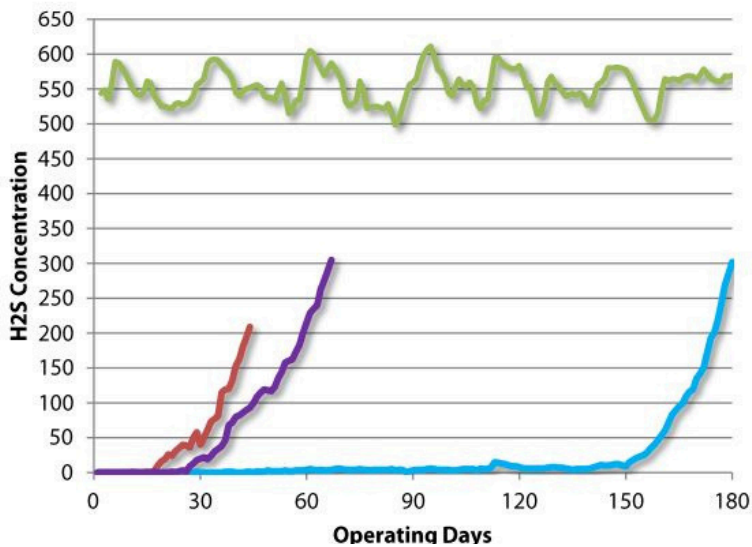
Capacity Comparison % g/g



Capacity Comparison % g/cm³

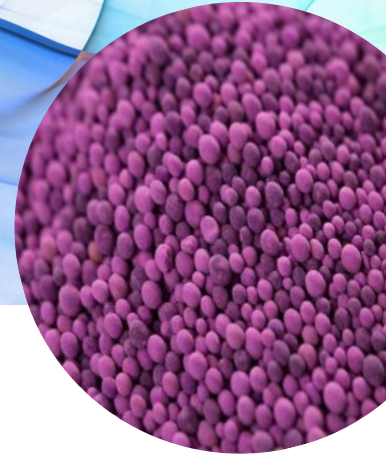


Key
Sulfisorb Plus
3% NaOH impregnated carbon
5% KOH impregnated carbon



Sulfisorb Plus was installed at a small waste energy site for evaluation. It was tested against potassium iodide and alkali impregnated carbons. It was clear that the Sulfisorb Plus offered a far superior service life and lowered the sites cost of ownership.

Additional Products



Relative Humidity (RH) levels are critical in Biogas production when using activated carbon to remove H₂S. Carbon Activated Europe offer a catalytic copper impregnated product, KAL3000 carbon. The KAL3000 is globally used when relative humidity peaks above acceptable levels for chemical impregnation.

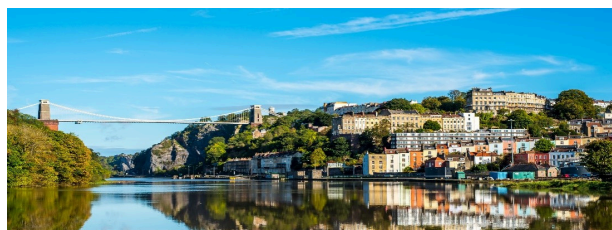
Volatile organic compounds (VOCs) are organic compounds found in biogas production. VOC's can impact production levels and quality. The use of a high quality base carbon is required for VOC removal and polishing prior to downstream equipment. Carbon Activated Europe offer their COL-PA50 pellet for the control of VOC's in biogas.

Carbon Activated Europe also offer Activated Alumina with potassium permanganate which is used for specific air scrubbing applications.

Services & Contact Details

Carbon Activated Europe are pleased to offer more than just carbon to our Biogas and Biomethane customers.

- Change-Out service
- UK Laboratory services
- Consultancy service



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