# Advanced Thermal Reactivation for High-Sulfur Spent Carbon

## Enabling sustainable reuse for biogas and industrial applications

## Overcoming the Limitations of Traditional Reactivation

Since 2013, **Puragen** has been a leader in **thermal reactivation of spent activated carbon,** using our proprietary **REACT-Sys®** process. This advanced system uses **horizontal indirect-fired rotary kilns** to desorb contaminants at high temperatures, restoring pore structure and destroying impurities through a **multi-stage thermal oxidiser and scrubber system**.

Until recently, spent activated carbon with high sulfur loading, typical in **biogas and biomethane applications**, could not be reactivated. The presence of hydrogen sulfide ($H_2S$) leads to elemental sulfur formation within the carbon pores, which can also generate corrosive sulfur-based acids, posing serious risks to reactivation equipment and limiting recycling options.

## Our Breakthrough Solution - CR3 – Reactivation of High-Sulfur Spent Carbons

Puragen's R&D team developed a **proprietary process** for safely treating sulfur-laden carbons. In 2023, we launched **CR3**, our third reactivation line, dedicated to:

✓ **Reactivation of biogas/biomethane spent carbons**

✓ **Safe treatment of sulfur >30% loading**

✓ **Circular filtration solutions for waste-to-resource reuse**

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### Benefits of Reactivation

- Diverts high-sulfur carbons from costly hazardous waste disposal
- Expands the pool of high-performance recycled carbons
- Recycled media available as-is for VOC and siloxane removal
- Can be re-impregnated for the capture of $H_2S$, $NH_3$ and other inorganics
- Achieves >90% carbon footprint savings vs. virgin carbon

**Learn how our award-winning CR3 process can reduce your disposal costs and environmental impact.**

**www.puragen.com**

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