

## **NANOPOROUS, HIGH SURFACE AREA CARBON FOR GAS STORAGE**

This invention teaches a method of manufacturing carbon so that it adsorbs large amounts of gas at low pressures due to the high surface area and associated nanopores. For example, a full tank of this carbon can hold more than three times (3x) the amount of natural gas at 500 psig than an otherwise empty tank at the same pressure. The high surface area adsorbs gas molecules by the nature of surface attraction forces.

This invention has multiple viable applications. The largest market is in motor vehicles, and this research team at the University of Missouri was the first and only to reach the Department of Energy's target of holding 150x storage capacity at 500 psig (this team actually achieved 180x). This invention also covers high pressure storage, where adsorption is slightly better than ordinary compression.

Because other gases adsorb onto activated carbon, this invention likely has many other applications in gaseous storage and it is made from an abundant and inexpensive source, corn cobs.

### **POTENTIAL AREAS OF APPLICATIONS:**

- Natural gas or hydrogen powered vehicles
- Upstream oil operations or natural gas collection and shipping
- Miscellaneous smaller markets such as oxygen tanks and other gas tanks

**PATENT STATUS:** Non provisional patent application on file

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