

# Air Products Syngas Solutions™

Providing turnkey solutions to convert hydrocarbon feedstocks into synthesis gas for high-value products



Air Products Syngas Solutions™ formerly:

- Shell Coal Gasification Process(SCGP)
- GE Energy's gasification technology

## Air Products Syngas Solutions™ offerings — experience and technology that deliver a steady revenue stream . . . and peace of mind

Air Products Syngas Solutions offers complete turnkey gasification complexes under a “Sale of Gas” model, where Air Products builds, finances, owns, and operates the syngas production facility. We pioneered this industrial gas financial model, which allows customers to focus valuable capital, management and personnel on their own primary value-added products. Air Products is a leader in efficient, reliable plant operation in the industrial gases segment . . . so let us take care of the complexities of running the syngas island.

We can provide a variety of highly reliable and low-cost syngas solutions tailored to convert hydrocarbon feedstock for your process requirements. These include:

- **Solid hydrocarbons:** coal, petcoke or biomass via gasification
- **Liquid hydrocarbons:** from naphtha to refinery bottoms via residue gasification
- **Gaseous hydrocarbons:** natural gas or refinery off-gas (ROG) via steam methane reforming (SMR) or partial oxidation

### What differentiates us?

- Air Products Syngas Solutions offers complete turnkey gasification complexes under an Air Products-owned “Sale of Gas” model.
- Air Products Syngas Solutions has a multi-decade experience base at the world’s largest scales and highest efficiencies.
- Air Products has proven technology that meets process and environmental specifications around the world.
- Optional carbon capture technologies are available from Air Products that have demonstrated cost-effective carbon capture at the million-ton-per-year scale.
- By providing the complete syngas ‘island,’ Air Products can optimize water, steam and optional power generation to best suit your requirements.

## Air Products Syngas Solutions: converting feedstock to syngas

### Solid hydrocarbons: coal, petcoke or biomass—via gasification

For over 40 years, the designs offered by Air Products have been successfully built and operated in world-class gasification plants to convert the most commonly used solid feedstocks for coals-to-chemicals, synthetic fuels or power. We can convert the widest range of solid hydrocarbon feed types from lignite to anthracite, including petcoke and biomass blends, into clean syngas.

### Liquid hydrocarbons: refinery bottoms—via residue gasification

Air Products can tailor a cost-efficient, high-value solution for the “bottom of the barrel” residue in a refinery complex. This adds extra value and profit to the refinery as the world transitions away from high-sulfur fuel oil and bunker fuel.

Air Products Syngas Solutions combines residue gasification technology with Air Products’ world-recognized air separation technology to convert a wide range of low-value refinery residues and asphaltenes into high-value syngas for:

- Petrochemical production
- Integrated gasification combined-cycle power generation with optional carbon dioxide capture
- Hydrogen production via water–gas shift

### Gaseous hydrocarbons: natural gas, ROG—via SMR or partial oxidation

Air Products’ high-efficiency steam methane reforming plants produce syngas and/or hydrogen in volumes ranging from 1,000 to 100 million standard cubic feet per day. As the world’s leading hydrogen supplier, we have the technologies and experience to develop optimized solutions to improve process efficiency, optimize gas usage, and improve safety. Whether you buy gaseous hydrogen under an on-site agreement or purchase the hydrogen plant, you will join customers in over 50 countries who count on Air Products to meet their hydrogen needs ([airproducts.com/h2solutions](http://airproducts.com/h2solutions)).

Partial oxidation offers alternatives better suited to GTL applications or for some chemical processes.

.....  
**For more information, please contact us at:**

#### Air Products and Chemicals, Inc.

Amelie Hu

[SyngasSolutions@AirProducts.com](mailto:SyngasSolutions@AirProducts.com)

Air Products Syngas Solutions™ is part of Air Products and Chemicals, Inc.

The information contained herein is based on data believed to be accurate as of the date compiled. No representation, warranty, or other guarantee, express or implied, is made regarding the merchantability, fitness for a particular purpose, suitability, accuracy, reliability, or completeness of this information or the products, materials, or processes described. Some services may not be available in certain countries, regions, or provinces. The user is solely responsible for all determinations regarding any use of materials, products, or processes in its territories of interest. Air Products expressly disclaims liability for any loss, damage, or injury resulting from or related to the use of or reliance on any of the information contained herein.



Air Products may save up to \$1B of capital cost for your project



Converting solids to profits



Converting liquid to profits



Converting NG to profits

**tell me more**  
[airproducts.com/syngassolutions](http://airproducts.com/syngassolutions)