

Coal-to-Liquid Capabilities

- > Design, engineering and construction of mega air separation units (ASUs) up to 204,000 Nm³/hr*
- > Design, engineering and construction of gas separation, purification and recovery systems*
- > Operations experience with ASUs, gasifiers, cleanup, HT shift units and separation, purification and recovery systems*
- > Comprehensive ASU service and support*
- > Handling and processing of coal/petcoke for power*



“We’ve been involved in successful coal-to-liquid projects around the world for more than 25 years, providing ASUs with reliability greater than 99%, as well as other ‘back-end’ services and equipment such as gas separation purification and recovery systems. Count on Air Products to minimize field construction risks and delays while keeping safety, quality and performance in the forefront.”

Griffith Liu, Deputy Director, ASU Plant Sales, Asia





Secure energy supplies

Oil, natural gas and electricity costs are rising, and resources are often in short supply. In the face of these factors, as well as a desire to secure energy supplies, coal-to-liquids (CTL) becomes an increasingly attractive option for providing affordable energy. Whether you need syngas to produce fuels, chemicals, electricity, hydrogen or steam, Air Products is an ideal technology partner.

Commitment to coal-to-liquids

We have more than 25 years' experience in supplying oxygen for coal-to-liquid applications—and our expertise doesn't end with the ASU. Air Products' process engineers are experienced in hydrogen, syngas and hydrocarbon separation technologies, and we supply technology and equipment for gas separation, purification and recovery systems. For example, Air Products designed, built, owns and operates the entire "back end" of the heavy oil gasification facility in Baytown, Texas. This includes the 80,000 Nm³/hr ASU, the cleanup system, the cryogenic CO separation box (HYCO coldbox) and TSA unit, the HT shift for hydrogen production, the H₂ PSA system and product compression. Clearly, we can deliver well beyond the scope of the ASU for your CTL project.

What we offer

Equipment

- Air separation units (ASUs) with capacities to more than 204,000 Nm³/hr
- High-reliability tonnage oxygen with no need for oxygen backup
- Membrane technology
- Pressure swing adsorption technology
- Cryogenic hydrogen and hydrogen recovery technology
- Cryogenic hydrogen and carbon monoxide separation technology
- Liquid-phase methanol and DME technology for cost-effective syngas conversion
- Large compression equipment
- Pipelines for hydrogen, carbon monoxide, syngas, oxygen, nitrogen, steam and helium

Air Products' experience

- Engineering specifications based on constant improvements from our 300+ owned and operated ASUs
- Technology innovations, including proprietary adsorbent and unique instrumentation strategies
- Mega air separation experience since 1997
- Integrated gasification combined cycle (IGCC) experience

What our offerings mean to you:

Minimize technical risk

- Specifications based on proven technology across a broad range of project types

Minimize field construction risks and delays

- Air Products has experience in a number of fabrication and construction methods
- We consider a range of determining factors, including access and shipping limits, availability of skilled workforce and availability of large cranes
- We help you in evaluating risk vs. cost vs. schedule

Confidence to focus on your business

- ASU plant reliability >99%
- Global spare parts availability
- Best safety record in the chemical industry
- Contract operating and maintenance services, from supervision to complete staffing

For More Information

To learn more about how we can support your CTL project with tonnage oxygen and other products and services, contact us at one of the locations listed here.

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