

# Mega ASUs for Oxyfuel



The most efficient ASU solution for Carbon Capture and Storage

Oxyfuel is presently the most efficient and cleanest CO<sub>2</sub> capture and storage route for power generation from coal (PC boiler, CFB boiler...).

Air Liquide has been pioneering the development of this innovative technology for 10 years.

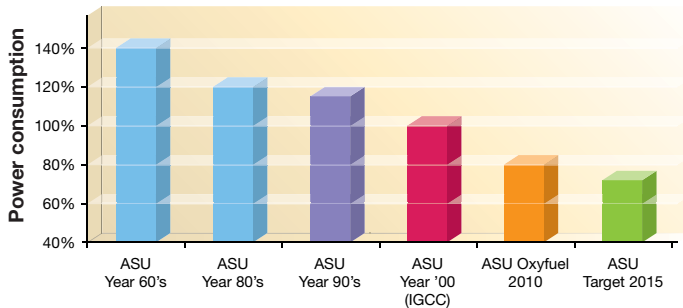
# Mega ASUs for Oxyfuel



Mega ASUs for Oxyfuel are designed and customized for specific requirements such as low pressure (<1 barg), low purity (~95% O<sub>2</sub>) and very high energy efficiency. Air Liquide has developed specific and customized units for this application and has optimized their integration into the overall power generation scheme.

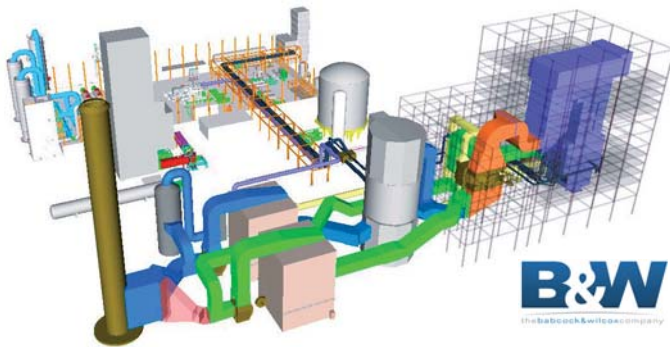
**Mega ASUs for Oxyfuel are designed for projects ranging from 2 500 tpd to 20 000 tpd:**

- High pressure / Low purity (95% O<sub>2</sub>) Oxygen
- Nitrogen: depending on the need to dilute syngas (or H<sub>2</sub>) for combustion in Gas Turbine (GT).



**Air Liquide offers unique expertise for the Oxyfuel market:**

- ASUs specifically developed for Oxyfuel
- Thermal integration ASU / steam cycle
- Advanced process control
- Synergies with other Air Liquide technologies:
  - CO<sub>2</sub> Compression and Purification Units (CPU)
  - Oxygen mixers



**Partnership with Babcock & Wilcox to further develop technology:**

- Integration (6% pt efficiency penalty vs configuration without CO<sub>2</sub> capture)
- Industrial scale project development

Air Liquide is working in conjunction with Ameren Energy Resources and Babcock & Wilcox to build the US Department Of Energy funded **FutureGen 2.0** project. It is **the world's first full scale oxycombustion power plant** that will deliver CO<sub>2</sub> for permanent sequestration.

**Flexibility** is of paramount importance to the operation of an Oxyfuel unit. Air Liquide has developed specific solutions to deliver these high flexibility requirements.

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