

## ***Petroleum coke refueling . . . a cost-effective alternative for existing oil-fired boilers***

- **Better than coal dispatch cost**
- **Half the capital cost of coal conversion**
- **Improved emissions**
- **Save up to \$1 million/year per MW**
- **Minimal plant outage for conversion**
- **Payback as short as 2 years**

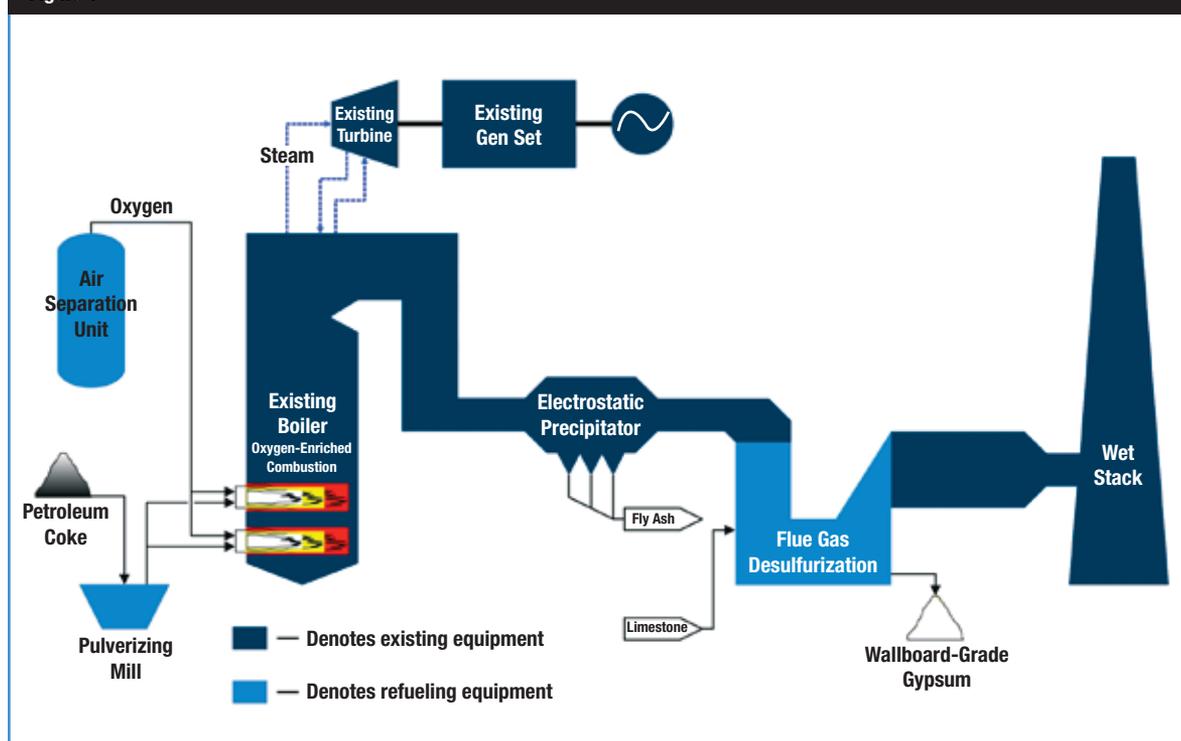


Air Products has developed pet coke refueling, an oxygen-enriched combustion technology that converts existing oil-fired power plants from high-priced heavy fuel oil to 100% pulverized pet coke without, in most cases, significant degradation of steaming capacity or boiler efficiency. The low cost of pet coke pays for the conversion of the units, including the addition of emissions control equipment to remove sulfur generated by the combustion of high-sulfur pet coke. The combustion technology employed is further

convertible into full oxy-fuel to enable carbon capture when this technology becomes commercially available.

The conversion to pet coke refueling requires minimal plant outage and is half the capital cost of coal conversion. A typical design is in Figure 1. Air Products has experience in engineering, constructing, owning and operating power generation facilities enabling us to offer a variety of commercial arrangements to meet specific customer needs.

Figure 1



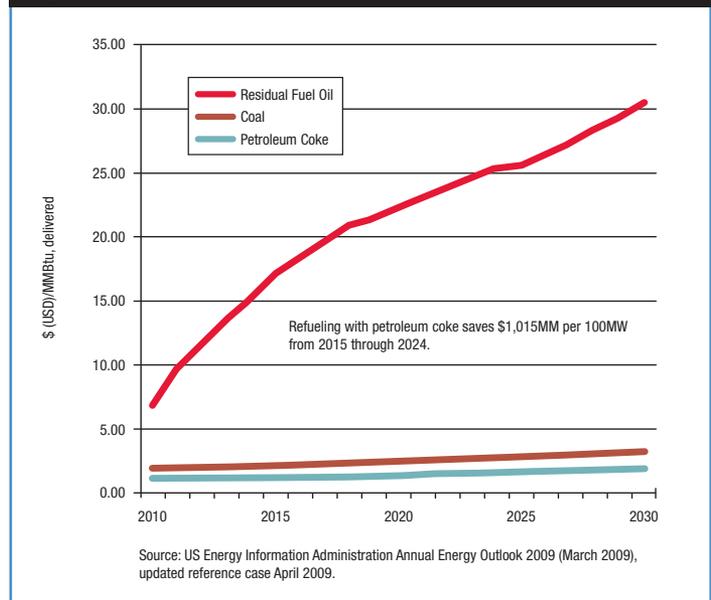
Forecasts by the US Energy Information Administration in their Annual Outlook 2009 show the tremendous cost savings expected by using refueling with petroleum coke (Figure 2).

### Air Products' Experience

With more than 30 years of experience in supplying oxygen for combustion applications, Air Products has the technical expertise necessary to integrate oxygen plants into combustion processes.

Additionally, Air Products has an impressive and proven record in designing, constructing, and operating air separation units (ASUs) to supply oxygen, power generation equipment for stand-alone power supply to utilities, and industrial cogeneration facilities for major oil and coal gasification, chemical and other projects worldwide. We are able to comply with local specifications and design codes and use our own specifications in the design and procurement of equipment for a reliable air separation facility.

Figure 2



### For More Information

Visit our website or call to learn how you can benefit from pet coke refueling.

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