

FlexDS™ is a novel desulfurization and decontamination process that removes sulfur, nitrogen, trace metals and increases API on all oil feeds. FlexDS™ reduces the operational and capital costs of the current method of sulfur removal, hydrotreating (HDT), by 1/2, which translates to significant savings and increased margins for your refinery.

Reduction in Hydrogen consumption While hydrotreating relies on costly hydrogen to meet sulfur regulations, FlexDS™ uses air, eliminating the need to use hydrogen to meet environmental standards. This allows current hydrogen capacity to be used for hydrogenation, further increasing profit margins.

Lower capital costs In a direct comparison to hydrotreating, FlexDS™ is 1/2 the capital cost. For refineries looking to add HDT capacity, FlexDS™ can save hundreds of millions of dollars for future projects. For refineries with installed HDT capacity, FlexDS™ can avoid expanding hydrogen gas capacity which can save capital costs ranging from hundreds of millions to billions of dollars. Additionally, FlexDS™ can enable lower quality crude oils to be used without the cost of expensive capital equipment upgrades that protect against TAN, metals and higher sulfur levels.

Meet sulfur regulations FlexDS™ removes sulfur down to ppm levels on all oil distillates. Globally, sulfur regulations for road diesel, marine fuel and other distillates are becoming stricter and more expensive to meet. FlexDS™ has proven to be extremely effective in removing sulfur down to desired levels on all oil feeds, including heavy fuels where HDT struggles to achieve desired results.

Smaller CO₂ footprint FlexDS™ operates at much lower operating temperatures (85°C) and pressures (atmospheric) than hydrotreating. This means an overall reduction in energy consumption and lower carbon dioxide footprint. Using FlexDS™ versus HDT in a refinery can reduce the CO₂ footprint by up to 40%.

Auterra is working with strategic energy companies looking to meet current and future fuel quality regulations or building new refining capacity. FlexDS™ is currently in the pilot plant stage and Auterra expects to have first commercial commitments for FlexDS™ in place by early 2011. Please contact Auterra for more information about the FlexDS™ process.

For more information, contact:

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FlexDS™ Highlights

- 1/2 capital and operating cost of HDT
- Reduces total refinery H₂ and costs
- Removes sulfur and nitrogen compounds, trace metals
- Reduces refinery carbon footprint
Ideal for all oil feeds; including gas oil, diesel and crude
- Efficiently meets current and future environmental regulations

