



## Power plant fuel optimization

Choose the right fuel for your power plant to achieve the lowest cost of generation through our **Fuel Optimization Solutions**, helping you avoid the damaging impacts of fuels on plant and improve health and safety.

### Our solutions

The costs associated with fuels and their impacts are many and various.

We evaluate the impact of coal, biomass and waste fuels on all aspects of fuel processing, combustion, waste and emissions compliance in relation to your plant operations.

Our fuel optimization solutions work in conjunction with our other services including environmental compliance.

Fuel optimization solutions comprise:

- Fuel Evaluation Tool – evaluates the impact of each fuel on plant performance to determine the total cost of each fuel, and the costs of switching.
- The tool is routinely used to optimize fuel purchasing decisions and to assist portfolio optimization. The tool can be used by utilities and fuel producers alike.
- Full analysis and testing of fuels.
- Investigation of abnormal asset behavior caused by fuels.
- Support with emissions compliance regulations and other reporting requirements.

### Benefits

#### **Improve financial return:**

- Improve your plant performance and availability – by avoiding the degradation and failures associated with fuels.
- Ensure compliance with emissions regulations and minimize the cost of reporting.

#### **Avoid fuel quality problems:**

- Access technical advice based on many years' experience of testing a wide variety of fuels in the laboratory and in power plants – so that problems can be resolved quickly.
- When you develop new plants, we can help with technology selection – boiler type, emissions controls – and fuel quality specifications.

#### **Improve health and safety:**

- Review the impact of fuels on your health and safety performance – considering issues such as handling, combustion, fugitive dust and emissions of particulates.



## References

Project	Scope of work	Location	Capacity
Fuel quality management Coal and oil	Routine fuel analysis, analysis of residues, coal stock survey, fuel quality impacts consultancy, sampling and carbon trading compliance.	Europe	Multiple coal assets
Biomass and waste	Routine fuel analysis of virgin and waste biomass, ash analysis, fuel quality impacts consultancy, sampling and renewables obligation compliance.	Europe	Multiple biomass assets
Fuel evaluation tool and VISTA coal quality impact model	Techno-economic modeling of in-use fuel costs.	Europe, Australia, South Africa, Chile	Multiple coal assets and mining companies/ developers
Chemistry and analytical services Coal, biomass/waste	Independent chemical and physical analysis of solid fuel, combustion residues and solid wastes. Natural waters (river, mains feed, borehole and surface), steam cycle and boiler waters. Waste waters and effluents.	UK	Various
On- and offshore wind turbines, distribution networks, power stations	Transformer oil, fuel oil, lubrication oil and grease analysis.	UK	Various
Fuel basket review for new coal, new biomass and coal to biomass conversion	Analysis and review of potential fuel sources, evaluation of impacts on efficiency, abatement, residues, permit compliance.	Europe	Various
Fuel characterization research	Fuel quality analysis of multiple biomass feedstocks and review of variability and potential impacts on conversion plant.		>500 biomass samples
	Assessment of potential processing options to improve biomass and waste fuel quality.	Canada and European projects	>500 biomass and waste samples, tonne scale trials
	Fundamental research into coal combustion and emission performance (NO <sub>x</sub> , burnout, SO <sub>2</sub> , mercury etc.)	European and international collaborations	Multiple pilot and full scale tests