



# Fuel Flexibility Consulting for Power Plants

Fuels are one of the biggest cost factors for power plant operators and fuel selection is complex. There is a large potential for savings, but also considerable economic and process-related risks. Safety is the first priority, environmental limits must be met and the commercial operation of the plant should not be jeopardised.

The obvious benefit of fuel flexibility is the ability to burn a variety of different fuels, hence to provide more supply choices. However, often undervalued are the incredible savings that can result from this ability. Dual-fuel capability can reduce operations risk and provide many advantages especially to coal power plants: reduced stack emissions, improved operations via lower levels of boiler slagging and fouling, increased coal equipment life by reducing erosion and corrosion associated with coal combustion, as well as decreased production of coal-related waste products (e.g. scrubber waste, bottom/fly ash, pyrites, mill rejects).

Increasing fuel flexibility today has the potential to improve operations and increase profits both short- and long- term, and to potentially keep your generating assets from becoming outdated.

RWE can help you analyse your fuel situation and implement improvements related to fuel flexibility, such as upgrades of existing plant equipment, new and higher-capacity equipment, new technology (e.g. installing a coal additive system or flue gas sorbent injection system), switching fuel, implementing dual-fuel, or improved operations via better monitoring and diagnostics hardware and software.



## Your Benefits



- Performance improvements
- Cost savings
- Plant and personnel safety improvements
- Environmental assessment
- Increased availability



## Our Scope

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### **Fuel Conversion and Boiler Performance**

- Overview of likely impacts
- Outline feasibility study and detailed feasibility study
- Review of contractor's proposals
- Support in contractor interface, providing suitable cost, efficiency and availability targets
- Design of modifications to boiler heat transfer surface

### **Fuel Selection**

- Impact assessment of fuel specification for new projects
- Fuel assessment and selection for coal and biomass purchase
- Detailed fuel impact assessment report
- Coal & biomass trial service
- QA service
- Coal performance support service
- Fuel safety risk management

### **Fuel Assessment and Selection for Power Stations (FAST service)**

- Data validation
- Performance evaluation
- Reporting (buy decision box/impact assessment report)

### **Detailed Coal Impact Assessment Services (SCAN) and Trial Support Service**

- Full trial to co-ordination service including the SCAN Report
- Plant modification procedure assessment
- Planning and reporting
- Trial support
- Trial sample laboratory analysis service
- In-house fuel laboratory
- Specialised characterisation tests
- Entrained flow reactor
- Fuel databases
- Computer codes for boiler performance modelling and fuel add-on cost evaluation





## Our Scope

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### **Fuel Supply Agreements (FSA)**

- In-house fuel laboratory
- Specialised characterisation tests
- Access to specialised combustion test facilities & materials handling testing
- Fuels databases
- Computer codes for boiler performance modelling and fuel add-on cost evaluation

### **Fuel Safety Risk Management**

- Development and application of RWE's Technical Procedures for managing PF safety (Mills and Furnaces)
- Complete incident (and near-miss) investigation including sample and plant data analysis
- Risk assessment (qualitative and quantitative) for plant and operational changes including the effects of:
  - Low volatility coals
  - High volatility biomass (co-firing/co-milling/heat)
  - Increased mill starts and shutdowns
  - Reduced maintenance spend
  - Plant modifications
  - O&M procedure vetting/review

