Site Evaluation/Remediation

Total Capability:

Foster Wheeler, through its multidisciplinary integrated project management and engineering capability is able to provide the expertise necessary to evaluate both the technical and economic aspects of site evaluation. This is done against a background of an understanding of the construction and operational requirements of industrial facilities, anywhere in the world.

The decision where to site a new industrial facility is of fundamental importance to project viability and Foster Wheeler has recently built on this experience to offer our clients assistance in acquisition and divestiture activities. The many technical and economic criteria which need to be taken into account include: the condition of the site, need for any land remediation, access to feedstock and raw materials, access to markets, availability of utilities; extent of existing infrastructure, construction requirements and environmental considerations.

Site Evaluation

Typically a site evaluation would consider:

- Condition of Site

Our Civil Engineers will carry out a preliminary site assessment and characterisation. They will assess the site in terms of topography, geology and geotechnical characteristics and existing and historical use and ownership. Assessments will consider the probable types of foundation required and appraise such aspects as the difficulties of construction, natural hazards of the area and any need for remediation.

- Access to Feedstocks and Raw Materials

For industrial facilities the availability and quality of raw materials has a significant effect on cost. Foster Wheeler will evaluate such criteria as the quality and quantity of hydrocarbon feedstock, lengths of pipelines needed, access to road, rail and sea transportation and routes for the import of other raw materials.

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- Access to Markets

The availability and suitability of transport systems to enable products to be exported from the facility are evaluated, including port facilities, or the condition of local bridges, roads or airports.

- Availability of Utilities

Industrial facilities often require large economic supplies of utilities such as water and electricity. We will assess the suitability of locally available water supplies and any need for desalination or further treatment of local supplies. Our electrical engineers will establish the capacity of local power sources and the need for any further power supply for the facility.

- Infrastructure

Foster Wheeler specialists will assess the infrastructure of the surrounding area in socio-economic terms, i.e. potential workforce skills, local attitude to future industrial development, availability of accommodation and availability of supplies and materials both to construct the facility and to support the workforce.

- Environmental Considerations

Environmental Services Group has the capability to undertake and co-ordinate Environmental Statements and provide support with applications to Local Authorities where required.

- Economics

The economic aspects of site evaluation are co-ordinated through our Market Research and Commercial groups. In addition to appraising the cost implications of the above criteria, the politico-economic aspects of the sites such as preferential tariffs, loan guarantees and the availability of grants are also considered.

Remediation

If required, Foster Wheeler has the in-house capability to undertake feasibility studies, including Remedial Investigation, Risk Assessment, Remedial Design and Construction Management. Our engineers will evaluate, as appropriate, proven and innovative cost-effective remedial technology e.g. Bioremediation, Containment Systems and Natural Attenuation: and recommend solutions.

- Remedial Investigation

Based on extensive experience in the field, investigation activities typically include:

- Geophysical
- Soils
- Hydrogeological
- Sediments
- Source/waste
- Air quality
- Containment fate and transport analysis of pollutants
- GIS based data management

- Risk Assessment

Risk Assessment covers human health and ecological risks. Our capability includes:

- Risk-based corrective action (RBCA) assessment
- Monte Carlo assessments
- Ecological risk assessment
- Toxicological services
- Public Enquiry support
- Expert witness
- Risk management plan

- Remedial Design

Foster Wheeler engineers have provided design services at hundreds of contaminated land sites across the US and Europe. Our designs include the following proven technologies:

- Slurry walls
- Groundwater recover/treatment systems
- Covers/caps and liners
- Thermal treatment
- Air stripping
- Decontamination and decommissioning
- Bio slurping
- Bio remediation
- Chemical treatment
- Air sparging
- Soil vapour extraction
- Solidification/stabilisation
- Soil excavation
- Site restoration

Often a combination of remedial measures proves the most cost-effective solution for our clients.