

THE TECHNOLOGY PROGRAMME  
AUTUMN 2005 COMPETITION FOR FUNDING

## Contaminated Land Remediation Technologies

### Summary

Funding is available to support the development of techniques for assessing and remediating contaminated land and groundwater. The areas being supported are assessment technologies, decision-making tools and on-site remediation technologies.

Around £5m is being allocated for Collaborative Research and Development projects for this technology area. This is an excellent opportunity for companies and researchers developing leading edge, "next generation" techniques in this area. Up to £1m of Government funding will be available per project, with consortia comprising either business-to-business or science-to-business interactions. Additional funding from EPSRC is also available for projects where there is a significant high quality academic component and in particular for those projects that demonstrate added value to its existing portfolio; by building on or being complementary to existing research programmes.

The funding for this area of the competition is being provided in conjunction with Defra through their Business Resource Efficiency and Waste (BREW) programme.

### Background

Remediation prevents chemically contaminated land from harming the environment and restores property to safe and usable conditions.

In coming years, the application of science and technology in the assessment and remediation of land will become increasingly vital as:

- Landfill costs increase;
- Hazardous waste treatment and disposal costs increase;
- Solutions to more difficult sites are needed; and
- Planners and regulators encourage more on-site treatment.



As the availability of relatively simple “dig and dump” remediation options decrease, technology will be called upon to make schemes:

More

- Effective;
- Efficient;
- Sustainable;
- Affordable; and

Less

- Risky.

Novel solutions are required, not only for the most difficult of contaminants and environments but to offer more sustainable and cost effective remedies to the commonly encountered sites of both the developed and developing world.

## Scope for Applications

The focus of the competition is to be in two key areas where we believe there is a requirement for innovative applications to be developed and commercialised over the next 5-7 years, especially in the face of future challenges outlined above. These are:

- Assessment and decision-making tools; and
- On-site treatments.

Proposals must offer distinct advantages over existing methodologies, offer significant market potential and benefit to the contaminated land sector, be practical and present a high potential for commercial success.

## Assessment Technologies and Decision-Making Tools

### Assessment Technologies

Proposals will focus on technologies that assess, monitor and verify contaminant conditions before, during and after remediation.

Technologies are needed to improve our ability to assess difficult environments, such as subsurface conditions, and to enable site personnel to more rapidly and effectively segregate waste types.

This proposal category might include technologies that:

- Provide a more rapid or comprehensive assessment of site contaminants than conventional laboratory-based approaches;
- Assess subsurface geological conditions or subsurface distribution of contaminants or treatment media (e.g. dense non-aqueous phase liquids);
- Delineate Hazardous from Non-hazardous Waste;
- Verify the effectiveness of in-situ remediation techniques;
- Monitor bio-degradation of contaminants; or
- Locate “hot spots” and contaminant source areas.

### Decision-Making Tools

This proposal category focuses on the development of enhanced site decision-making tools. Proposals will focus on improving techniques used to optimise remediation strategies or determine the costs and risks of undertaking remediation projects. Proposals might include methods to:

- Improve the selection of remediation approaches;
- Improve remediation cost estimates at lower cost;
- Model contaminant migration;
- Estimate potential for major cost overruns; or
- Predict the long-term performance of remediation methods, such as capping, for example.

## On-site remediation technologies

### Soil Remediation

There are opportunities for technical advancements in soil remediation to address difficult contaminants and environments and to make on-site treatment technologies more efficient and cost effective.

Successful proposals will have the potential to fill unmet needs in the market such as technologies that:

- Offer financially viable solutions at smaller sites;
- Provide a higher degree reliability for in-situ applications;
- Effectively interface with construction processes or techniques; or
- Reduce secondary emissions, such as air emissions.

### Groundwater Remediation

Significant advances are required in groundwater treatment systems to make them more efficient and reliable. Traditional pump and treat technologies, for example are very inefficient at addressing low levels of contaminants that have migrated over large areas.

Successful proposals in groundwater treatment might:

- Provide alternatives to pump and treat;
- Provide greater assurance that a method has been effective across the treatment zone;
- Improve treatment for dense non-aqueous phase liquids; or
- Address a wider range of contaminants.

## Funding Allocation and Project Details

Industry-led proposals that address the above technology application areas are sought for Collaborative Research and Development projects that involve science-to-business and/or business-to-business interactions. Projects can range from small, highly-focused basic research projects, aimed at establishing technical feasibility, through to applied research, and to experimental development technology projects configured to produce technology demonstrators. In particular we would encourage projects which can demonstrate benefits to a number of business sectors and which have a clearly defined route to market. Project consortia should therefore ideally include at least one partner with defined end-user needs.

Typically a project would have a 1-3 year duration and Technology Programme support of up to £1m. However, no project will be rejected on the grounds of size alone. Projects will generally aim to implement significant business change in the medium- to long-term (e.g. 5-7 years), rather than offer immediate payback.

## Contact

If you have any specific queries about this technology area, please contact Jonathan Lonsdale at the joint DTI DEFRA Environmental Industries Unit (EIU) on **020 7215 1343** or email **Jonathan.Lonsdale@dti.gov.uk**; or Oakdene Hollins (working on behalf of the DTI) either by telephone on **01296 337165** or by e-mail on **WasteTP@oakdenehollins.co.uk**;

For general queries about the application process please contact the technology programme helpline on **01355 272155** or email **info@technologyprogramme.org.uk**

## Key Dates

Competition Opens: **24 November 2005**

**30 November:** Regional Information Day focused on Resource Efficiency and Contaminated Land, in collaboration with Yorkshire Forward (details on the Technology Programme Website)

Deadline for registering your intention to submit an application:

**31 January 2006**

Outline application submission deadline:

**6 February 2006**

For details on how to register and apply go to: **[www.dti.gov.uk/technologyprogramme](http://www.dti.gov.uk/technologyprogramme)**

