

InCrops bioenergy strategy

Consultancy assignment for the development of a bioenergy strategy for the InCrops Enterprise Hub

Background

Concerns over energy supply and climate change have led to the expansion and diversification of renewable energy in heat, power and transport worldwide. Efforts are increasingly focused on the development of technologies that allow a greater variety of feedstocks to be used for bioenergy production. Markets will optimize around their domestic resources and opportunities for economic growth. Commercialisation of new technologies may require cooperation across industries and international collaboration to complement in-house capabilities.

InCrops Ltd is a not-for-profit, spin-out company from the University of East Anglia that aims to accelerate the commercialisation of bio-renewable products and processes from alternative and non-food crops. InCrops offers specialist support to businesses and entrepreneurs looking to develop or adopt such technologies, connecting innovative companies with potential investors, clients and development partners.

The InCrops Enterprise Hub, an initiative funded by EEDA and ERDF, consists of 13 partners whose complementary capability has been brought together to lever out increasing levels of technology transfer between academia and industry. Partners have outstanding capabilities in biosciences, agricultural research and environmental sciences and could make a significant contribution to the development of low-carbon, bioenergy technologies.

InCrops' business clients and academic partners are increasingly interested in opportunities for international collaboration and InCrops has been facilitating supply chain development and product innovation with key players in other countries. To maximise the potential found within the partnership, InCrops has decided to subcontract a consultant to help with the development of a Bioenergy Strategy for the Enterprise Hub.

The aim of this project is to identify areas in which the region can add value to the bioenergy innovation chain or host parts of the supply chain. The Bioenergy Strategy must be developed in consultation with the InCrops Steering Group. To ensure this, the consultant must host stakeholder engagement workshops and produce draft reports for each of the Work Packages listed below. The final bioenergy strategy must be delivered by the 1st December 2010.

Scope of work

The overall aim of this study is to identify opportunities in research and technology development and transfer for the InCrops Enterprise Hub. The strategy should take into consideration the partnership knowledge base, technical capabilities and infrastructure, in the context of the UK and prominent international markets. It should cover applications in power, heat and transport and include current and advanced conversion technologies. It should identify opportunities in feedstock development, biomass pre-treatment, conversion processes and end-uses. It should also identify opportunities to improve the environmental and economic performance of bioenergy systems – e.g. through the production of high-value co-products.

Work Package 1: Meta-analysis of UK and prominent markets

- Size of prominent markets and key players
- Policies and government incentives for bioenergy in power, heat and transport and market failures
- Availability and cost of biomass (inc energy crops, residues from agriculture, forestry and industry and MSW)
- Trends in research and technology development and funding opportunities for R&DD
- Scope for international collaboration

Work Package 2: High-value co-products of bioenergy systems

Biomass derivatives can be used in the production of a number of high-value products. Lignin, for instance, can be used in the production of biosorbents, soil amendments, bioregulators, platform chemicals, polymers and adhesives. This WP aims to evaluate the potential for the production of high-value co-products in bioenergy systems. It involves: assessing the size and value of the market for relevant co-products; identifying key players in the field; and identifying technologies available for separation of high-value components from the biomass.

Work Package 3: Review of the knowledge base, technical capabilities and infrastructure in the UK

- Current activities in bioenergy within academia and industry
- Scope, interest and potential barriers for diversification (including high-value co-products)
- Availability and 'cost' of residual biomass (including from agriculture, food processing, forestry and other sectors)

Work Package 4: Identification of opportunities for the InCrops Enterprise Hub

This WP should integrate the findings from WP 1, WP 2 and WP 3 in a final report, identifying opportunities in research and technology development and transfer for the InCrops Enterprise Hub. The consultant should rank areas for translational opportunity, market readiness and point out quick win opportunities. It should highlight areas to be prioritised and recommend adequate strategies to realise the potential.

Application process

Responses should be submitted electronically to Penny Wright at penny.wright@uea.ac.uk and must be received by noon on **Friday 20th August**. Proposals should be page numbered with the company name on the bottom of each page. They should be no longer than 8 pages and must include:

- A summary of technical competence and previous relevant experience;
- A description of the proposed methodology for delivering the work;
- A suggestion of prominent markets to be considered in the study;
- Per diem rate per work package and a total cost, which should include VAT and expenses;
- A project timeline including dates for the workshops and delivery of the draft reports for WP 1, WP 2 and WP 3.

In addition, respondents must include CVs of staff that will be involved in delivering the project (no more than 1 page per CV). Proposals will be evaluated with basis on professional qualifications, technical competence, reputation and value for money. The successful applicant(s) will be notified by Wednesday 1st September and must be in a position to start work immediately upon notification. InCrops reserves the right to extend the timescales proposed herein if extensive clarification is required during evaluation or for any other reason.