

Announcement Opportunity

Quantifying and Understanding the Earth System (QUEST)

A Research Project accompanying a Demonstrator Forestry Project for Climate Mitigation

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QUEST invites applications for a **research project** to examine the scientific basis for forestry-based climate mitigation projects, and to test those principles for the specific case of a **forestry project** to be filed under one of the project-based flexible mechanisms of the Kyoto Protocol of the UNFCCC (United Nations Framework Convention on Climate Change). The explicit aim of the project is to inform the policy process regarding the inclusion of avoided deforestation and forest management outside of the Kyoto Protocol's Annex I countries after 2012 by way of analysis, development and demonstration of relevant methodologies.

The **research project**, funded by QUEST, will deliver the scientific basis for project verification methods and project design principles and guidelines that assure that forestry-based mitigation projects have maximum benefits for climate, social concerns, and the environment, including biodiversity, water resources and soils.

The research project contract will be conditional on the existence of a parallel **forestry project**, funded by an additional commercial or public investor, which will serve as a test bed for the scientific methods developed. Guidelines and science-based rules devised by the research project will reduce costs for the commercial or public investor who will also be entitled to the ensuing carbon credits. The forestry project must include three different mitigation approaches: afforestation/reforestation, including biomass energy production; forest conservation; and forest management. It must be demonstrated that the commercial or public investor will file the project for approval under one of the Kyoto Protocol's flexible mechanisms, either Joint Implementation (JI) or Clean Development Mechanism (CDM). As all of the required approaches are considered to be eligible under JI, this first option is the preferred one. However, a demonstrated strategy to respond to the research needs of on-going discussions to widen the scope of forestry-based mitigation under the Kyoto Protocol after 2012 will be the leading assessment criterion, apart from general scientific and administrative merits.

The research project must be designed so that it can be continued in the framework of a potential longer-term research activity to follow up and evaluate the forestry project during its course of operation. **As part of their proposal applicants should include a plan detailing where they might seek follow-on funding for the longer-term research activity.** Funding for this later phase will be sought through another mechanism.

1. The Research Project must:

- apply and where necessary develop, suitable methodologies and metrics for monitoring carbon, biodiversity, watershed and soil impacts, as well as social impacts, applicable to the three project types: afforestation/reforestation with biomass energy production and utilisation, forest conservation; and forest management. This work

should build as far as possible on existing methods, protocols and standards in the relevant sector;

- apply these metrics and methodologies in the design of the project. Issues of leakage must be considered and dealt with;
- establish methodologies through an officially registered JI or CDM project for the first commitment period;
- establish a monitoring system within the forestry project that could be used in a longer-term research project funded through another mechanism;
- evaluate the scale-dependency of the methodologies developed;
- explore the possibility of further integration of the three project types into multi-component projects and the further development of multi-functional projects (i.e. designed specifically for carbon, biodiversity, bioenergy and social benefits);
- provide science-based guidance for project and rule design for current project approval (until 2008) and for CDM/JI rules after 2012;
- provide guidance for verification standards and monitoring for biomass energy production systems in the forestry sector meeting a comprehensive range of sustainability standards;
- carry out a cost-benefit balance for wide-ranging environmental and social assessment that is attractive for commercial or public investors and includes the concept of ecosystem services, biodiversity, water and soils impacts;
- consider the social conditions under which the project operates, such as community involvement, benefit and cost sharing, and legal and equity issues, and their impact on the likely success of the project;
- actively communicate the results of the research project to stakeholders;
- establish science-based rules and guidelines, which will be directly applicable to the forestry project;
- communicate progress and results in regular meetings to which stakeholders are invited.

2. The Commercial or Public Investor for the forestry project must:

- develop, register, implement and manage the forestry project;
- guarantee that the forestry project will be developed, filed, and carried out if approved;

- demonstrate a willingness to actively participate in communication and outreach activities;
- make the forestry project available for scientific study during the QUEST project, and thereafter during a planned follow-on project.

3. The Research Platform

- If a JI forestry project is used as a research platform, the host country of the forestry project should ideally be an Eastern European Annex I country. Other host countries may be considered if a case can be made that the results of the project can be usefully transferred to conditions under which CDM forestry projects operate;
- If a CDM project is proposed, the project elements not eligible for CDM may be used to generate voluntary credits, but in any case must be present;
- All three forestry project elements (forest conservation, biomass enhancement, and reforestation) should ideally be implemented within one small area;
- There should be at least 2000 ha per method available;
- The area should have high biodiversity;
- There should be potential for competing demands for land, such as the presence of a diverse range of land users and other stakeholders, and pressures for economic development;
- If implementation of all project types within one larger site is not feasible, the project may use existing projects that will be or are being filed under either JI or CDM.

4. The research project will:

- review existing science-based methodologies and good-practice guidance with relevance for the three project types, including evaluation of the approved CDM methodologies for meeting the requirements of carbon and non-carbon impacts;
- review the international, European and UK political context relevant for the forestry project, such as the UNFCCC, UN Convention on Biodiversity, EU Habitats Directive, EU Biodiversity Strategy, Ministerial Conference on the Protection of Forests in Europe, (MCPFE) and the UK forest partnership for action;
- analyse current practice of certification for forestry and biomass energy projects;
- design a comprehensive, science-based methodology for carbon accounting for all three types within the forestry project, based on existing methods;
- assess the requirements for and feasibility of a full-carbon accounting system, or of the accuracy and feasibility of various approximate methods;

- design a comprehensive, science-based methodology for impacts on biodiversity, water resources and soils, making use of existing frameworks as far as possible;
- design a methodology for social impact assessment, including the provision of ecosystem services, the potential for leakage, and for project failure due to lack of local acceptance;
- ensure that design of the forestry project takes into account demands of key international conventions, EU directives, MCPFE and established sustainability criteria for biodiversity, watershed and soil management, and social and development concerns, maximising the benefits expressed by the metrics previously developed or adopted as part of the various methodologies;
- generate a standard Project Design Document for the forestry project, one for each project element: forest protection, biomass enhancement, reforestation (or afforestation), and biomass energy production. Biomass energy production may be separate, even though carried out in unity with reforestation or afforestation, for legal reasons of the UNFCCC;
- assess and summarise the costs and benefits of the methodologies developed, including climatic, environmental and social dimensions, transaction costs, and taking into account the financial and legal context;
- assess the transferability of the methodologies developed to other contexts, including scale-dependency of the approaches;
- communicate results and relevant experiences to key stakeholders including the JI Supervisory Committee (JISC), the CDM Executive Board, IPCC, UNFCCC COP/MOP, CBD COP/SBSTTA, MCPFE, DEFRA, the Environment Agency, the European Commission, NGOs and the private sector involved in commissioning or managing JI and CDM projects. This obligation will include scientific support of the JISC during the process of JI project approval until 2008;
- develop best practice recommendations for both forestry and biomass energy projects based on the outcome of the research.
- be expected to ensure that the ensuing carbon credits are allocated to the commercial/public investor.

5. Management

The research project

- will be managed by the prime contractor in close consultation with the QUEST Core Team including regular meetings between the project and QUEST Core Team representatives, and monthly updates to enable integration across QUEST;

- should make full use of tools, methods, data and ongoing research by other QUEST projects and activities (the Core Team will facilitate this);
- should take full advantage of synergies with other projects and research programs, particularly in the UK and EU, synthesising available information as far as possible.