

FORESTRY COMMISSION

Description of the Research Project or Services

1.	Research Purchasing Manager (C&FS)	Roger Coppock
	Relevant PAG	Wood Products

2.	Name of FR Programme Manager (PgM) or Project Manager (PM) and staff	Ian Tubby
	Name of Institution/company	FR
	Official address	Alice Holt Lodge, Wrecclesham Farnham Surrey, GU10 4LH
	Telephone No.	
	e-mail address	
	Programme Life (years)	3 Years
	Start Date	1st April 2011
	Completion Date	31st March 2014
	Revision Dates	31st March 2012/2013/2014

3. **Title of Research Project or Service**

Bioenergy Development Programme

4. **Abstract of proposed research (Summary to be used on website/FRCC etc) (200 words)**

Policy instruments such as the Renewable Heat Incentive will provide new markets to woodland owners. To supply these, whilst preserving timber supply to existing wood processors, more wood must be harvested from under managed private woodlands. To facilitate this, businesses need to make informed decisions about the type of equipment best suited to their requirements but the sector is not yet mature enough to fund research privately. As the sector develops, government departments will require more information on the longer term economic and environmental sustainability of fuel supply chains. This information must be conveyed in way that is readily understood by non-specialists.

This research programme focuses on quantifying work rates and potential economic return of equipment that could be used to produce fuel in currently unmanaged woodland. The programme will also investigate the effectiveness of current woodfuel drying techniques in use. The availability of good quality fuel is essential if users are to have confidence in the supply chain.

Results will be disseminated via the Biomass Energy Centre. It is anticipated that the BEC website will attract around 1million hits in 2011/12. Technology transfer to the sector will account for 50% of the budget in 2011/12 and 100% of the budget thereafter.

5. Aims and objectives (word limit 500)

5.1 Aim of the research	<ul style="list-style-type: none"> • Increase the contribution that forests make to mitigating climate change • Increase the area of woodland managed for the sustainable production of woodfuel • Safeguard site sustainability in the context of woodfuel removal • Provide accurate and effective information, including best practice guidance, on the woodfuel supply chain via the development and expansion of the Biomass Energy Centre • Support FC in delivering GB energy policy outlined in the Renewable Energy Strategy, 2009.
5.2 Work Areas	<p>Please list your work Areas as shown in the table below and show how they further sub-divide. Work Areas should be individually costed and be time bound – see 13. below. Please state key desired outcomes from each work area. First two years should be detailed, the next two in outline. See also Note for this Section below.</p>
Work Area 1 Woodfuel - Harvesting (2011/12 only)	<p>Work package 1.1 Harvesting case studies; motor manual vs. tractor based harvesting and impact on extraction</p> <p>Work package 1.2 Harvesting case studies; Small scale mechanised harvesting</p> <p>Work package 1.3 Harvesting case studies (acc heads conifers)</p> <p>Work package 1.4 Basic guide to small scale harvesting</p> <p>Work package 1.5 COST Action</p>
Work Area 2 Woodfuel - Fuel Processing & Specification (2011/12 only)	<p>Work package 2.1 Basic guide to firewood drying (Web based content)</p> <p>Work package 2.2 Chip drying case studies (Web based content)</p> <p>Work package 2.3 Woodchips bulk volume (Web based content)</p>
Work Area 3 Woodfuel supply chain - integrated management (2011/12 only)	<p>Work package 3.1 Best Practice (Web based content)</p>
Work Area 4 Biomass Energy Centre	<p>Work package 4.1 Maintenance and development of website</p> <p>Work package 4.2 Enquiries service</p> <p>Work package 4.3 Direct support to policy teams with a focus on RHI, RO and sustainability</p> <p>Work package 4.4 Develop business plan</p> <p>* Add new work areas and packages as required</p>

6. Please indicate which of the FC's 6 Climate change priority actions this work fits into

Protect what we already have	<input checked="" type="checkbox"/>	Reduce deforestation	<input type="checkbox"/>
Restore the world's forest cover	<input type="checkbox"/>	Use wood for energy	<input checked="" type="checkbox"/>
Replace other materials with wood	<input type="checkbox"/>	Plan to adapt to our changing climate	<input type="checkbox"/>

7. Comment on how this research will address Country Strategy needs/targets (175 words)

FCE

This work will support delivery of the Woodfuel Implementation Plan, published June 2011 and lasting for the duration of the spending period.

FCS

This work will support the Renewable Heat Action Plan
<http://www.scotland.gov.uk/Resource/Doc/290657/0089337.pdf>

FCW

This work will support the Woodlands for Wales Action Plan
<http://www.forestry.gov.uk/forestry/INFD-82RN8E>

8. Identify and comment on any associated business risk of undertaking/not undertaking the research and how that will be managed

Failure to provide the forestry sector the information required to make informed decisions about involvement in developing bioenergy supply chains could result in lost opportunities to create job, improve the rural economy and make carbon savings. Without continued research and tech transfer activities demand for woodfuel may out strip production.

9. Research impact (economic, social, or biodiversity)

Who will benefit from this research? Private woodland owners, forest and farm based businesses, building owners/managers, government departments. According to FCE funded research, the woodfuel sector has the potential to create 15,500 new jobs by 2020 and generate £1billion GVA if suitable investment is made available.

How will they benefit from this research? Results from this research and technology transfer services will enable businesses to make informed decision about how woodfuel can help improve their viability or meet their energy demands.

What will be done to ensure that they have the opportunity to benefit from this research? BEC has a well established presence within the bioenergy sector and has a strong platform for disseminating information to a range of key audiences in the forestry, agricultural and building management sectors. Representatives from the research team have established contacts in Defra, BIS and DECC and frequently provide these

departments with information on woodfuel issues.
Potential for innovation and new markets? This work is highly likely to stimulate the development of local supply chains and markets worth £100,000's.

10. Communication Strategy

Publications: Web based case studies.
Reports: TD reports, COST contract report.
Seminars/conferences: BEC will exhibit or present at the following events in 2011/12: IGNITION 11, EBEC, Energy Now, IEA T43, All Energy.
Decision support systems: RHI calculators and similar tools will be maintained/developed
Website: www.biomassenergycentre.org.uk ,
Peer review papers: None anticipated

11. Under government survey control procedures, Ministerial approval must be sought before statistical surveys of businesses or local authorities can proceed. Please indicate any intention to carry out a survey.

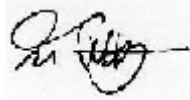
Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
• If yes please give brief details

12. Details of support agreed or to be sought from funding bodies for project (including in-kind support)

13. Resources (times and fees) requested from the Forestry Commission

14. Deliverables and associated costs to Forestry Commission

Work Area number	Output	Year 1				Year 2				Year 3				Year 4				Output	Total Cost
		Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4		
1.1	Harvesting case studies; CS vs. tractor based harvesting and impact on extraction. Web based case study.				X													1.1.1	
1.2	Harvesting case studies; Small scale mechanised harvesting. Web based case study.				X													1.2.1	
1.3	Harvesting case study (acc heads conifers). Web based case study.				X													1.3.1	
1.4	Basic guide to small scale harvesting. Web based guide describing equipment and operations likely to be encountered by woodland owners/managers.				X													1.4.1	
1.5	COST Action. Contract report and recommendations on how future time studies should be conducted.				X													1.5.1	
2.1	Basic guide to firewood drying. Web based guidance.				X													2.1.1	
2.2	Chip drying case studies. Two case studies based on business in Scotland.				X													2.2.2	
2.3	Woodchips bulk volume. Revised web based conversion figures				X													2.2.3	
3.1	Best Practice – a web based summary of best practice at all steps of the woodfuel production chain.							X										3.1	
4.1	Maintenance and development of website. Improve content to meet demands of end users. Aim for 1 million hits in 2011/12	X	X	X	X	X	X	X	X	X	X	X	X					4.1.1	
4.2	Enquiries service. Deliver timely Responses to BEC customers. Likely to receive ~1200 enquiries in 2011/12	X	X	X	X	X	X	X	X	X	X							4.2.1	
4.3	Direct support to policy teams. Bring academic and technical views to groups contributing to sustainability, resource availability and economic impact policy areas.	X	X	X	X	X	X	X	X	X	X							4.3.1	
4.4	Develop business plan. Seek to meet information needs of the industry whilst withdrawing FC support.			X	X	X	X											4.4.1	
All Work Areas	Provide a report on advisory work to CFS				X					X									



Signed.....Research Provider/HOD
Date.....07/07/2011.....

Signed.....C&FS Advisor
Date.....



Proposal Approved...

CFS

Date 31st August 2011

15. Agreed Changes

Description of change:		
<p>Signed.....Research Provider Date.....</p> <p>Signed.....C&FS Date.....</p>		
<p>Signed.....Research Provider Date.....</p> <p>Signed.....C&FS Date.....</p>		
<p>Signed.....Research Provider Date.....</p> <p>Signed.....C&FS Date.....</p>		

16. Detailed communications plan:
Year 1
Year 2
Year 3
Year 4