



## **Postgraduate Fellowship**

### **The Economic and Environmental Impacts of Changing Energy Prices on the Food Supply Chain**

We are seeking an enthusiastic research student with a strong economics background to work on a project to analyse the economic and environmental impacts of changing energy prices on the food supply chain in Northern Ireland. The project is supported by the Walsh Fellowship Programme and the Agri-Food and Biosciences Institute (AFBI), Northern Ireland.

The successful applicant will be registered as a research student in Queen's University Belfast (QUB) and will undertake supervised research leading to either an M.Phil or PhD degree. Queen's University Belfast is one of the key universities in the UK and a member of the Russell Group. The work will be carried out mainly in the Agri-Food and Biosciences Institute (AFBI) at Newforge Lane.

The minimum requirement is a II.i Honours, or equivalent, primary degree in the areas of agricultural economics, economics, or related subjects with a solid foundation in economics, good statistical skills and an ability to conduct applied research. A Masters degree in a relevant subject is desirable.

The current Walsh Fellowship rate, to cover postgraduate stipend and all fees, is €21,000 per annum. The Fellowship is available for a maximum of three years.

It is expected that the student will start in September 2008, or earlier if possible.

If you wish to apply for this award please send a detailed Curriculum Vitae, along with a cover letter stating how you feel your skills and experience equip you for the research programme as outlined below, to:

Professor John Davis  
Director of Economics  
AFBI-QUB, Newforge Lane  
Belfast BT9 5PX, UK  
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Email: john.davis@qub.ac.uk

**Deadline for this application is: 30<sup>th</sup> May 2008**

# **The Research Programme**

## **Background**

Energy security is now a big concern in many countries as a result of instability in complex international energy markets and the strong upward trend in energy prices driven partly by growing demand from the emerging economies. High energy prices increase production and marketing costs throughout the economy and squeeze profit margins particularly in industries heavily reliant on energy. In the agri-food sector costs are increased throughout the food supply chain, ultimately increasing food costs and causing a number of significant knock-on effects, for example the growing of energy crops and biofuel production. All of this can have far reaching consequences for long-run resource reallocation in the food supply chain and the rest of economy. It is vital for policy analysis purposes that economic research has the capacity to capture the full impacts of these complex interactions, in the short, medium and longer term, throughout the food supply chain and in the wider economy.

## **Objectives**

Due to its superiority in capturing technical, environmental and economic linkages and constraints between different sectors in the economic system, this project will develop and use a computable general equilibrium (CGE) modelling approach to analyse economic and environmental impacts of changing energy prices in the food supply chain and wider economy. Economic impact here refers for example to redistribution of resources (land, labour and capital) changes in producer and consumer surplus, quantification of multiplier effects and supply/demand elasticities. Environmental impact will be more focused on quantification of CO<sub>2</sub> emissions and nitrate balances.

## **Methodology**

A CGE model will be developed initially based on the current version of Northern Ireland input/output table. For the purpose of this analysis an expansion of the energy sector block in the table will be necessary via primary research. Quantification of emissions will involve close collaboration with environmental scientists.

## **Deliverables**

The precise nature of the PhD research will be subject to discussion between the student and the supervisors. It is expected that students will develop their own ideas, informed by the academic literature and via discussions with supervisors.

For further information, please contact:

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