



GEOCEP

Global Excellence in Modelling
Climate and Energy Policies

Secondment

Example of a plan for a secondment

(1) Contribution to the project

During my secondment, I will conduct research for the GEOCEP project on the drivers of social and technological innovation in the European biogas industry. Specifically, I will investigate new business and service models for biogas farms (Work package 1, task 2: Social innovation and behaviour of consumers and firms). Biogas, a versatile energy carrier, reduces carbon dioxide (CO₂) emissions. In addition to generating electricity, it can also provide heat to homes and businesses. Biogas supply chains in Europe have recently become more dependent on farms.

(2) Research outline

The advancement of biodigester technology has resulted in the decentralisation of biogas production. Manufacturers have seized the opportunity to create specialised farm equipment. As a result, low-cost digester heating systems, piping systems, and biogas equipment have flooded the market. Meanwhile, farmers who have these devices have transformed into prosumers. Gas distribution companies have also modified their business model, purchasing biogas from farms and injecting it into the gas grid for sale to end users.

Most economic studies have concentrated on gas operators' business models and the economic development of biogas. They investigated the impact on gas pricing, market mechanisms for allocating biogas, the number of companies and jobs created, and the cost-benefit analysis of biogas technologies. To make an original contribution to GEOCEP, I will approach the issue from the standpoint of the farm economy.

What are farmers' roles in adopting specific types of biogas technology? And how does their farms' economic system influence the biogas market's development? I will examine data from the European Biogas Association in a farmer survey to answer these questions. The survey includes questions about the importance of biogas to farm economic systems. My theoretical framework combines technological diffusion economics and agricultural economics.

(3) Scientific outputs

At the host institution, I will collaborate with Prof. Doe on a manuscript titled ‘The role of farmers in the European biogas economy.’ I’ll add a section on analysing the European Biogas Association’s survey data. This paper will be a chapter in my dissertation on Europe’s energy transition economics. Later, I intend to submit it to ‘Journal A’ or ‘Journal B,’ two of the most critical journals in natural resource economics. Also, I plan to present my contribution at the Environment Research Centre’s regular seminars. Finally, if my paper is accepted, I will present it at the International Association of Agricultural Economics Conference to be held in June.

(4) Justification of host institution

A secondment at the Environment Research Centre would be ideal. Indeed, the Centre is the premier research institution in natural resource economics. Prof. Jane Doe, with whom I will collaborate, has written several seminal studies on farmers’ roles in adopting technologies such as automatic harvesting machines, intelligent livestock management, and genetically modified crops. Also, she has developed an economic model that can be useful for my contribution to GEOCEP.

(5) Training and knowledge exchange

I intend to attend Prof. Doe’s regular natural resource economics course as part of my training and knowledge exchange activities. In addition, I will attend at least five of the Environment Research Centre’s weekly seminars. For knowledge exchange, I plan to meet at least three specialists of my topic at the host institution, notably to circulate my manuscript and get feedback from them.