

Managing Clean Coal Technology (CCT) Project Risk: The Role of Public Awareness

Received \$618,930 over 2 years
CI: Professor Stephen Webb

Summary of Project

Technology alone cannot change energy behaviour unless it is accepted by society. It is often the case that innovations are technologically rich, but socially poor.

This research will identify pitfalls in technological developments and the relationship to the public perception of the development of these technologies in the area of Clean Coal Technology (CCT). It will examine strategies of risk management as part of the network formations associated with clean coal projects.

Technology is not developed or implemented in isolation; it follows that other areas such as research and development (R & D), demonstration and commercialisation, are included in this project as an integral part of a risk management solutions network. In this research, these activities are not seen in isolation and instead recognised as powerful tools in the complex public awareness process. A secondary objective is to identify how the integrated framework of research development, commercialisation and innovation demonstration can positively promote, sustain and enhance public awareness.

While a small number of studies exist that measure public perception of CCTs, the findings are limited to the identification of a need for increased education and dialogue with public stakeholders. This research takes a significant further step in utilising advanced methodological techniques in Sociology of Science and Technology studies, specifically, Actor-Network Theory (ANT). In contrast to traditional approaches, Actor-Network methodology sees solutions to problems as controversy settlement between diverse social, political, economic and environmental networks, and not just as technology developed and applied in isolation. This bigger picture has the potential to generate more sustainable outcomes. ANT sees "solutions" to technological and scientific issues as the formation of minimal risk and a durable and stable, socio-technical network of relations within its selection environment. Actors are enrolled into the network as science and technology seeks out stability around scientific and technological proposals, rather than merely trying to win over perceived resistance and disaffiliations. Public awareness is thus directly related to this translation and enrolment process in network formations.

Research Outcomes

The outcomes of this research aim to provide the following benefits:

- An awareness of the risks to public perception often involved in technical developments.
- Early warning of potential pitfalls in the development of CCTs arising from public dissatisfaction with technical developments.

- A contribution to assist the development of present and future climate change challenges that require technical solutions and public acceptance.

Statement of Aims

The specific aims of this research are to:

1. Understand how public perception in the development and mobilization of clean coal technologies is formed.
2. Develop and apply a model that is consistent with project aims; understand how interests, visions, objectives, plans and roles are translated throughout the project lifecycle and how this translates into public awareness.
3. Apply Actor-Network Theory to the development of clean coal technologies in order to understand what makes a good innovation feasible by testing three technology shift strategies:
 - a. Identifying the networks of relations between people, organizations, objects, machines and agents and analysing how they are composed.
 - b. Understanding how individual networks are constructed and maintained, how they compete with other networks and how they are reinforced and made more durable.
 - c. Understanding how actors enlist other actors in relation to CCTs and how qualities, visions and motivations are transferred within and between networks.
4. Develop a series of socio-technical 'sign posts' to enable the efficient and successful implementation of clean coal public awareness policy.
5. Develop an ANT model of a 'solutions network' specific to the implementation of clean coal technologies.