



Universiteit
Leiden
The Netherlands

Community compensation for hosting a CCS site

Mors, E. ter; Vos, R. de

Citation

Mors, E. ter. (2014). Community compensation for hosting a CCS site. In R. de Vos (Ed.), *Linking the chain*. Retrieved from <https://hdl.handle.net/1887/3763788>

Version: Publisher's Version

License: [Leiden University Non-exclusive license](#)

Downloaded from: <https://hdl.handle.net/1887/3763788>

Note: To cite this publication please use the final published version (if applicable).

Community compensation for hosting a CCS site

Public acceptance is a major challenge for the siting of CCS facilities. The offering of compensation to communities potentially helps to create a fairer distribution of local risks and benefits, which may increase public acceptance. Such 'host community compensation' had not been empirically examined in a CCS context before. An extensive research programme provides insights into why and when host community compensation has the potential to solve (CCS) facility siting controversies.

Preventing or overcoming opposition

In the past years, several CCS projects have suffered from public opposition. A clear example in the Netherlands was the Barendrecht CO₂ storage project, where local opposition played an important role in the National Government's decision to cancel the project in 2010. Clearly, preventing or overcoming public opposition is a major challenge for the siting of (onshore) CCS projects.

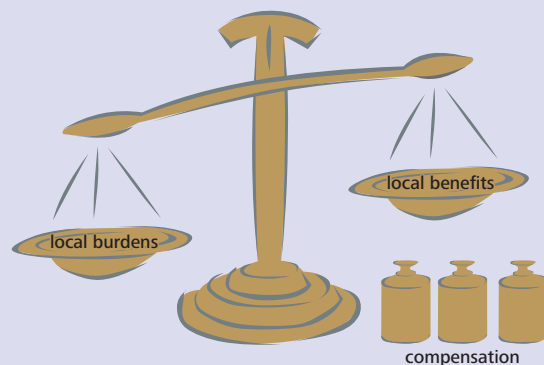
As with the siting of other (energy-related) facilities, a problem with CCS is that in people's perception there is an unfair distribution of risks and benefits. That is, the risks and impacts of CCS developments are perceived to be local (e.g., risks to human health and safety, declines in property value), while the main benefits are at the national or global level (i.e., reductions in CO₂ emissions to meet national standards and to address global climate change).

Host community compensation may help to restore this imbalance and therefore could help increasing local public acceptance of CCS. Host community compensation can be seen as a form of equity adjustment aimed at correcting imbalances between regional benefits and local burdens associated with the siting of new or expanded facilities. These burdens are not limited to economic losses, but can take various other forms, such as impacts to human health and degradation of the physical environment.

Further, different types of host community compensation exist, for instance monetary incentives or the provision of public goods. Some compensation measures are designed to 'reward' local host communities for accepting local risk or inconveniences, for example in the form of community development initiatives, such as the improvement of local roads. Others are designed to mitigate and compensate for costs resulting from the construction or operation of a facility, such as property value guarantees or contingency funds.

Compensation has actually been considered and applied in specific projects. For example, in the FutureGen project in Illinois, USA, among the compensation measures considered were improvements to local roads, landowner compensation, the build of a visitor/education centre, and the installation of a trust fund.

Until 2011, however, there was no empirical research that addressed the question of whether (and under which conditions) host community compensation can actually



| Host community compensation may help to restore a perceived unfair distribution of risks and benefits. Picture C&M Geosciences UU.

help prevent or solve CCS siting controversies. CATO2 research by Leiden University aimed to fill this void.

The central research question was: “Can the offering of host community compensation help to prevent or solve (CCS) siting controversies and if so, why, and under which conditions?” The research project was designed to develop fundamental insights on factors that influence public responses to compensation – insights that are relevant to the realm of CCS as well as beyond – so that project developers and government can use the acquired knowledge to develop effective compensation regimes.

Solution

As a first step towards understanding why and when host community compensation may or may not work, CATO researchers reviewed the broader empirical literature on the potential of host community compensation in facility siting. They identified several factors that may co-determine how local communities respond to compensation offers. Such factors are for instance the type of compensation offered, the perceived risk of a proposed facility, and the initial local opinion.

Importantly, also large knowledge gaps existed on *why* compensation works (or does not work). A number of factors might affect the local public’s response to compensation offers, but these factors had not been investigated yet. As a next step, Leiden University conducted several extensive experimental studies to systematically examine these factors.

As an example, CATO-2 compensation research shows that the effectiveness of host community compensation depends on how compensation is framed and justified. Also the type of compensation matters, and its perceived ‘match’ with risks associated with the facility. Importantly, the studies also reveal that people consider social aspects in their evaluations of and responses to host community compensation. For example, people appreciate having a fair say in the process of deciding about compensation.

Further, preferences for compensation measures between the public and local politicians were found to coincide, with a preference for a compensation fund and measures to improve the local economy over monetary compensation for individual households. The public also did not really appreciate compensation in the form of a sum of money allocated to local government.

However, experimental CATO2 research also shows that members of the public respond relatively positively if compensation in the form of a sum of money allocated to local government is ‘rhetorically redefined’ as having sacred (moral) value, rather than merely secular (non-moral) value. This can be done, for instance, by suggesting using the money for the implementation of measures to increase public safety in another domain (e.g., placing a traffic light at a dangerous crossroad in town). This way, the perceived commensurability of the compensation offer and the (safety) risk posed by the facility increases, and people experience less negative emotion.

The way to effective strategies

The knowledge acquired in CATO2 contributes to the existing facility siting literature in several ways, and provides project developers and governments with relevant building blocks towards effective (evidence-based) compensation strategies. A number of interesting research questions remain. For instance, it is interesting to systematically examine public responses and preferences regarding compensation at various stages of the planning process. What difference would it make to make an offer prior to versus after siting decisions are made? Such research will also shed some light on the related issue of what the best time is to start discussing compensation with local communities and political authorities.

This research has been conducted by Leiden University, with Emma ter Mors, Bart Terwel, and Dancker Daamen as principal researchers.
