



Public Acceptance for Geological CO₂-Storage

F. Schilling, F. Ossing, H. Würdemann, and CO₂SINK Team
GeoForschungsZentrum (GFZ)

Public acceptance is one of the fundamental prerequisites for geological CO₂ storage. In highly populated areas like central Europe, especially in the vicinity of metropolitan areas like Berlin, underground operations are in the focus of the people living next to the site, the media, and politics. To gain acceptance, all these groups – the people in the neighbourhood, journalists, and authorities – need to be confident of the security of the planned storage operation as well as the long term security of storage. A very important point is to show that the technical risks of CO₂ storage can be managed with the help of a proper short and long term monitoring concept, as well as appropriate mitigation technologies e.g. adequate abandonment procedures for leaking wells. To better explain the possible risks examples for leakage scenarios help the public to assess and to accept the technical risks of CO₂ storage. At Ketzin we tried the following approach that can be summed up on the basis:

Always tell the truth!

This might be self-evident but it has to be stressed that credibility is of vital importance. Suspiciousness and distrust are best friends of fear. Undefined fear seems to be the major risk in public acceptance of geological CO₂-storage. Misinformation and missing communication further enhance the denial of geological CO₂ storage.

When we started to plan and establish the Ketzin storage site, we ensured a forward directed communication. Offensive information activities, an information centre on site, active media politics and open information about the activities taking place are basics. Some of the measures were:

- information of the competent authorities through meetings (mayor, governmental authorities)
 - information of the local public, e.g. hearings (while also inviting local, regional and nation wide media)
 - we always treated the local people and press first!
 - organizing of bigger events to inform the public on site, e.g. start of drilling activities (open for public, press, NGOs, ...).
 - being open for visitors (first of all for the local!)
- often we informed the public together with the mining authorities
- being open for podium discussions and presentation etc. – organized by NGOs, Student groups, press, politics, scientific meetings. . .

Since people usually trust scientists more than politicians and companies, scientists have an enhanced responsibility while informing the public. Once again – always tell the truth and take care of your credibility! In this case, it was most helpful that the project was embedded in the broad scientific activity of research centre which seems to have given the project a positive neutral background.

As many people have an undefined fear of all operations in the underground, we tried to address all issues related to storage. Ranging from the transport, injection facility, technical installation, safety of the storage site, the wells, hydraulic system, chemical reactions etc.. When addressing all major concerns before people ask, confidence to the scientists is kept high. We never said that there is absolutely no risk (by the way, nobody would believe that!) we weighted the risk with respect to health, safety and environmental HSE issues. We explained in detail the different trapping mechanisms of the storage operation. This has to be done according to the social groups involved. For the broad public common analogues were helpful:

- Trapping in the pore space – a sponge
- Trapping through a tight cap rock – a bottle of mineral water with a crown cap as seal
- Chemical Trapping – opening of a bottle of mineral water
- Well bore integrity – problem of retightening of a bottle with a crown cap
- Sucking in of fluid –instead of releasing a sandstone sample standing partly in water
- Injecting of CO₂ – using a soda machine
- Often the concern of burning gas is addressed – showing a CO₂ fire extinguisher
- CO is poisonous, CO₂ not: – drinking soda or even better? champagne

Beyond information of the local public, we put some effort in informing interested people, media, politicians on all levels: regional, state, federal state and European.

If suspiciousness and distrust are the enemy of acceptance telling the truth and honesty is its best friend.

Role of the media

The key arguments find their way to the broad public through the media. Therefore the media have to be seen as partners in science communication, not as enterprise strategy proliferators. Journalists want their story: combine the true story with the true scientific content and you have the chance to get your information into the public. Neutrality and credibility also here are vital issues. We never told that CCS is the simple solution for the climate change problem (which it even cannot be) but that it is a bridge technology for some decades which might give us some more time to change energy production and consumption. All our media activities followed this rule.