What Carbon Capture and Storage (CCS) is expected to?: describing potential future of a CO2 mitigation technological system in the Seine Waterway Axis.

Jonas Pigeon

1UMR 6266 IDEES/ University of Le Havre – France

The «Seine Waterway Axis » takes place along the Seine river from Le Havre to Paris. A high density of manufacturing and heavy industry are characteristics of the area's economic activities. A high density of manufacturing and heavy industry are characteristics of the area's economic activities. Regarding ecological transition objectives both reducing industry sector CO2 emissions and maintaining local employment are two majors challenges for local stakeholders of this spatial area (CRDE). In 2010, the Seine Waterway Axis' energy production's sector gathers 32 % of the French total emissions of this sector. Regarding this situation Carbon Capture and Storage (CCS) appears to be a relevant tool. In 2007/2008 the idea of using CCS grew in some of the Seine Waterway Axis' stakeholders mind. But since, only few industrial scale's projects came to reality. How consider the future of this technology in this spatial area? How carbon capture and storage could contribute to mitigate CO2 emissions in the Seine Waterway Axis?

In order to answer these questions we will first focus on technological expectations (Borup. et al., 2006) toward CCS and on the sociotechnical imaginaries (Jasanoff, kim 2009) associated to this technological artifact in these Territory. According to these researchers technological expectations and socio-technical imaginaries are performatives. they guide the stakeholders' actions. As define Borup et al., technological expectations are real-time representations of future technological situation and capabilities. These expectations enable engineers or scientists to find support or funding for their research. However analysing engineers and scientists expectations won't enable us to fully describe future of CCS on the Seine Waterway Axis. As defined by Jasanoff and Kim (2009) Sociotechnical imaginaries will help us to understand local stakeholders representations of the future of CCS in these territory. According to these researchers sociotechnical imaginaries are collectively held, institutionally stabilized and publicly performed visions of desirable futures reflected in a design of scientific and/or technological project (Jasanoff, Kim 2015). Identifying theses technological expectations and sociotechnical imaginaries will enable us to describe potential futures of CCS in the Seine Waterway Axis. However, time has an influence on these technological expectations and we will take into account this evolution. For instance the attention regarding this technological issue (Shackley, Evar, 2012) evolved in the local mass media. In our analysis we will focus on narratives of various stakeholders collected in local newspapers articles or through interviews to identify technological expectations and sociotechnical imaginaries.
To describe the potential futures of carbon capture and storage in the Seine Waterway Axis we also need to focus on populations' potential reception of this technology. However understand this potential reception without a real project in development remains difficult because populations opinion on new technology are very unstable. To identify some trends regarding opposition or support toward infrastructures we choose to analyse socio-spatial dynamics and especially past land-uses conflicts according to the land type (rural, urban, and suburban). This analysis will enable us to typify potential conflictual or supporting areas regarding CCS implementation. Combing the understanding of technological expectations and sociotechnical imaginaries related to CCS in the Seine Waterway Axis with the analysis of socio-spatial dynamics could enable us to sketch potential futures for carbon capture and storage in the Seine waterway axis and consequently potential low carbon futures for this spatial area.

Selective bibliography


