

Fluid borders – storyboard

Fluid borders engages with the sound of borders at Amager. We do this by interviewing a lawyer, a geographer, a geologist, and an air traffic controller. And by recording the sounds of the borders.

The sound of air borders

We are focusing on the air space above Copenhagen Airport. The airspace is highly regulated and controlled and as such a source of information about bordering practices.

Space begins at the point where the ground meets the air. We record the sound of the meeting.

A fence separates public space from the private space of Copenhagen Airport. Our bodies cannot physically penetrate this fence - we record the sound at the fence.

The local weather at the airport decides if airplanes are allowed to fly. Satellites register the weather through radiometers. These measurements made from outer space are digitised from electrical voltages and then transmitted to receiving stations on the ground. The data is then relayed to the weather forecast at the airport, which regulates how airplanes fly. We will get data from the radiometer and incorporate the sound in the audio paper.

The sound of borders between Sweden and Denmark

There are three borders in Øresund measured as the halfway line between the coastline of Sweden and Denmark. As such the narrow strait delimits multiple economic, cultural and political territories. Adjustments were made to the law in 2003 in relation to the precise geographic location of the border. Why were these adjustments made? And how do you calculate the coastline when the coast itself is dynamic and changes with tides and periods of economic growth. We will record these three borders in Øresund:

The national between Denmark and Sweden.

The exclusive economic zone (EEZ) between Denmark and Sweden.

The Flight Information Region (FIR) between Denmark and Sweden.

We will end up with three similar recordings from the halfway line between the coastline of Sweden and Denmark.

The sound of the earth (borders)

Do borders bind energy? At Magretholmen 73 degrees warm water is extracted from the sandstone formations 2600 meters below the ground. The geothermal plant can produce 300.000 gigajoule annually, or enough energy to heat homes in Copenhagen for thousands of years.

Magretholmen is itself an artificial islet, named after the queen of Denmark. But none of these things are immediately visible at the site. Instead an enormous power plant hums and buzzes, the whole area is fenced off and garbage trucks continually arrive with waste from the city for combustion.

Geothermal energy has an advantage over other types of energy because it is extracted nationally, which adds positively to the national balance of payments. The law ascribes all rights to underground energy resources below Danish territory to the Danish state, principally all the way to the center of the earth. At such a site the earth (geo), is tied to politics and economy in tangible geopolitics.

But how can we gain access to this reservoir of seemingly unlimited energy below the ground? By listening to the sounds of energy production, boiling water and steam, and the security measures surrounding sites of critical infrastructure, such as fences and guards, borders begin to emerge. How can we connect to this site? Gain access to knowledge about the underground activities?

By thinking about borders through sound at the site of the geothermal drilling and by elaborating on these thoughts with experts on geothermal energy we wish to explore the depths of the borders below Amager. We will record sound at two key sites:

The fence where our bodies meet the security measures.

The well, pumping water to the surface and subsequently transforming it into district heating.