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Central Finland

Geoenergy use in a new residential area in Äänekoski city

- Central Finland's bedrock has good qualities for larger scale geoenergy utilization (Regional geoenergy potential study 2011). Larger scale geoenergy is very new in Finland.
- Geoenergy is a prominent RE source for heating and cooling purposes. Geoenergy potential has been identified on regional land use plan.
- Geoenergy pilot study will provide information on geoenergy implementation for municipality level land use planning.
- Results indicate good potential for geoenergy (geothermic gradient 1,2°C/100m), e.g. average rowhouse or apartment building (95MWh) requires 3 -4 boreholes (typical depth 100-300m), average single house (150-250 m) 1 borehole.
- Investment costs high, payback time app. 6-7 yrs.

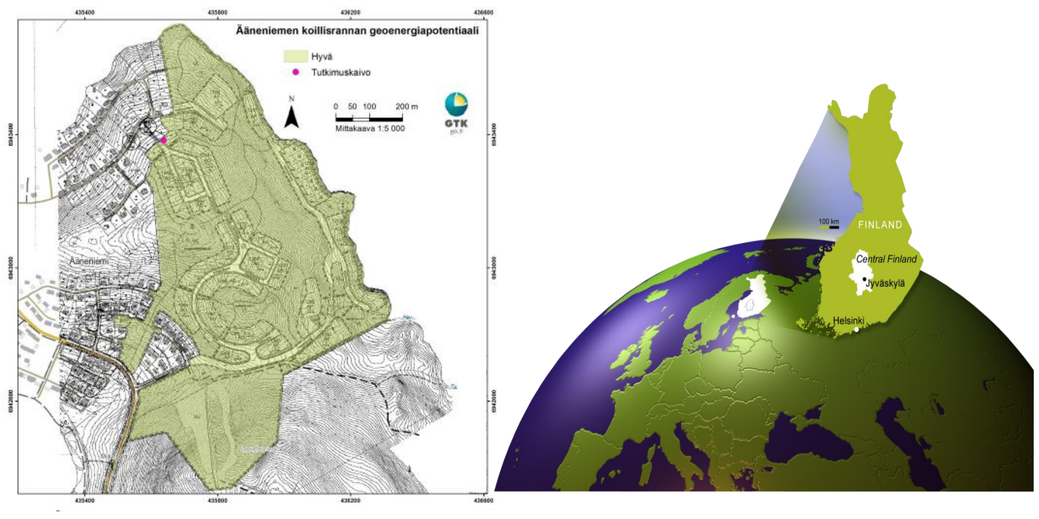

Figure 1. Good geoenergy potential in the study site

Co-operation links with stakeholders

Key stakeholders: Land use planning unit in Äänekoski, Regional Council of Central Finland.

Associated stakeholders: Other municipalities, potential new residents in the area, Municipalities development companies.

Local media was active in promotion.

Äänekosken Ääneniemessä on mahdollista hyödyntää kallioperän geoenergiaa alueen asuntojen lämmitykseen. Tulos saatiin Keski-Suomen liiton ja "Baltic Energy Areas – A Planning Perspective" -hankkeen tilaamissa koeporauksissa.

Geologisen tutkimuskeskuksen Petri Hakala, Isa Witick ja Mikko Pelkkala asensivat geologisen mittauskaluston Ääneniemeen perjantaina.

Geologian tutkimuskeskus tekee Ääneniemellä geoenergiatutkimusta, jossa selvitetään kaava-alueen soveltuvuutta energiakaivojen käyttöön.

Stakeholder involvement

These kind of pilot studies can act as driving force for municipality level planning and thus implementation.

Land use planners have now an example on geoenergy potential in detailed planning, and on implementation.

Municipality level land use planners are the gatekeepers. They were contacted throughout the study.

Results were discussed in annual land use planning seminar for municipalities in Central Finland (2018).

No conflicts. General approval exists, but since no reference cases on larger scale (residential area) - not very strong opinions.

Potential conflict with other RE energy sources.

Figure 2. Land use planning seminar for municipalities in Central Finland

Main outcomes from the stakeholder involvement process:

- Municipality is a key player in implementation. It'll provide the framework via land use planning, e.g. by giving recommendations for energy type.
- Residents are important in implementation. In new areas this is problematic, since no residents exists during the planning phase.
- General promotion on RE is a necessity, but the target group is not easy to reach.
- No conflicts. General approvement exists, but since no reference cases on larger scale (residential area) - not very familiar type of energy.

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