Tight Geothermal Casing Connections for Axial Stress Mitigation

Publieke samenvatting / Public summary

Aanleiding

The cost of geothermal wells for co-generation of electricity and district heating system is about 40-50% of the total investment cost of the energy production.

Doelstelling

This project aims to realize significant cost savings which results in a lower “basisbedrag” by providing innovative casing and cement integrity solutions for the reliable and cost-effective exploitation of high-enthalpy geothermal reservoirs.

Korte omschrijving

Full scale prototypes of the flexible coupling allowing axial casing movements have already been laboratory tested in GeoWell (TRL 3-4) and in GeConnect the concept will be tested in real working environment (TRL 5-6). Together with the new flexible couplings,cement sheath integrity and the cement-metal boundary will be evaluated by simulating thermal cycling loads at moderate (<100°C) to high temperatures (~300°C).

Resultaat

Structural analysis will be used to evaluate the performance of flexible connections and demonstrate the benefits to well integrity of reducing thermal axial stress and strain in casings by introducing the new flexible coupling.

Projectinformatie / Project information

Projectnummer / Project number
TEHE117036
Subsidiebedrag / Grant amount
€ 218.342,00

Algemene informatie / General information

Penvoerder / Secretariat
Nederlandse Organisatie voor toegepast-natuurwetenschappelijk onderzoek TNO

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