# GEOOP's approach to manage and de-risk geothermal projects for district heating

**EGEC** 

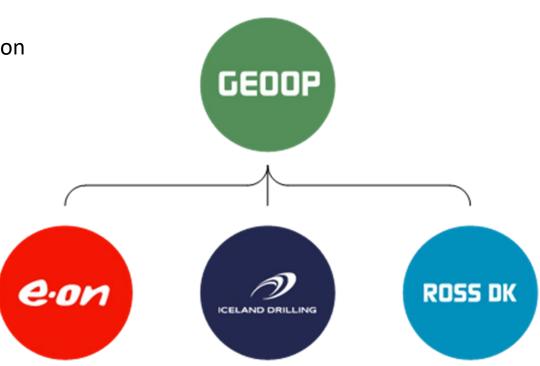
**GEORISK Webinar** 

9 September 2021



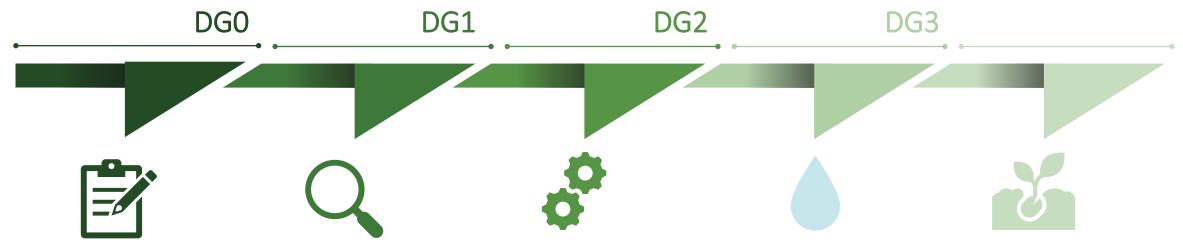
## **GEOOP** partnership

- E.ON
  - Geothermal plant design, construction and operation
  - District heating networks
- Iceland Drilling
  - Drill rig owner
  - Drilling of geothermal wells
- Ross DK
  - Geothermal reservoir characterization and development
  - Well design, drilling and completions
  - Geothermal energy production





## Asset Maturation Process – manage and de-risk projects



Identify, evaluate and quantify the opportunities for the production and commercial use of geothermal power.

Feasibility

Drill and test an exploration well to obtain subsurface data to minimize uncertainty and reduce risk

**Exploration** 

### Development

Evaluate different development concepts and select one concept for maturation, drill injection and production wells, build geothermal plant, optimize production, handover of the plant and the wells.

#### **Production**

Manage the wellfield and plant, evaluate opportunities to extend the lifetime of the wellfield and plant beyond the design period.

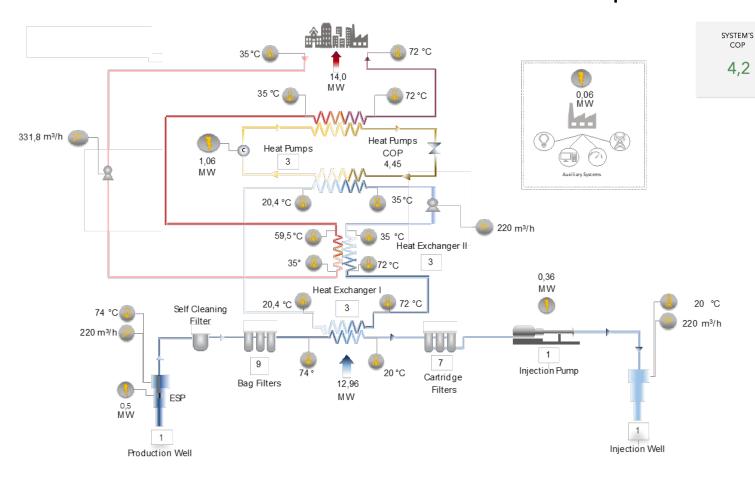
#### **Abandonment**

Plug and abandon the wells according to regulations, demolish plant and restore site to its original state.



#### Geothermal business case calculator: SCALA

#### Output



PLANT POWER PRODUCTION (MW) 9,81

THERMAL ENERGY DELIVERED (MWH) 53.936

CONSUMPTION (MWH/YEAR) 12.811

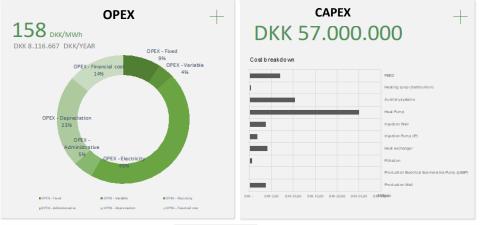
ELECTRICITY

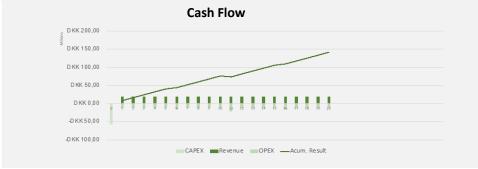
THERMAL POWER FROM WELLS (MWH)

46.185

**OPERATIONAL** HOURS/YEAR

5.500







## Successful geothermal development projects

- ✓ Partnership with the local district heating company
- ✓ Phased management approach to de-risk and mature projects (Asset Maturation Process)
- ✓ Geothermal business case calculator (SCALA)
- ✓ Work as an integrated Asset Team

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