

Hjalteyri Development of a Geothermal field  
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# Introduction to Norðurorka

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- Located in Akureyri and owned by the municipalities in Eyjafjörður area.
- Employees are 70.
- The main business of the company is:
  - Supplying, distributing and selling geothermal energy for heating
  - Supplying, distributing and selling consumer water
  - Distributing electricity in Akureyri
  - Running Sewage system in Akureyri
  - Producing biomethane from an old Landfill, used as fuel for vehicles

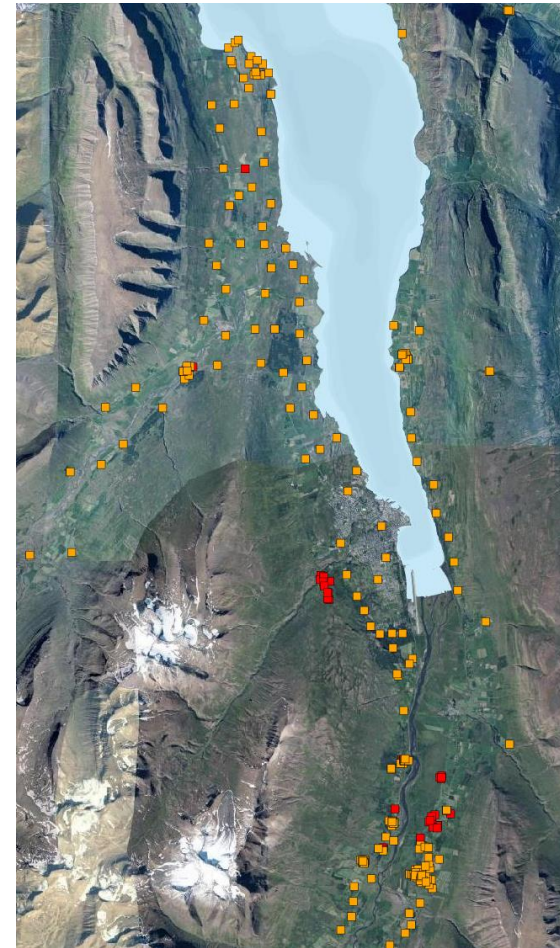


# Base for Hjalteyri Project

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- Consultants were pointing out that in approx. 2010 the heating utility would not be able to keep up with increasing demand.
  - Heat pumps and oil boiler were used in the winter to cope with demand.
  - Drilling in and around known fields did not give results
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# Geothermal fields in use for Akureyri 2019



# Hjalteyri first phase 1998-2016

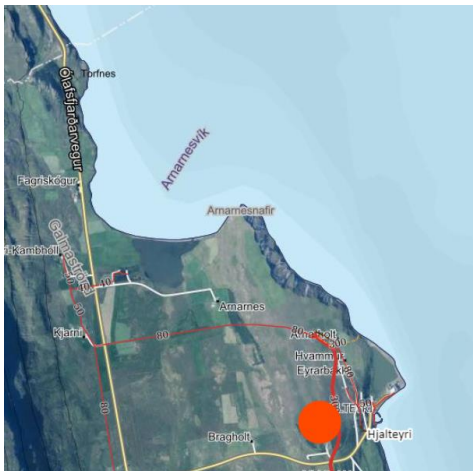
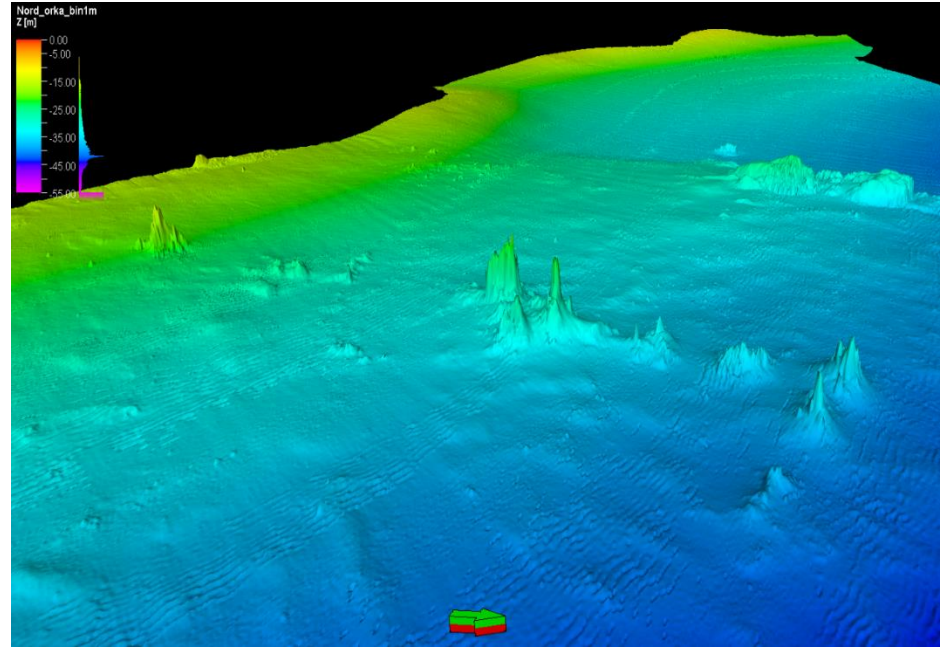
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- 1998 First indications of a Geothermal field
- 1999 -2001 survey holes drilled and temp. gradient determined.
- 2002 First deep hole drilled HJ-19 with good results 87°C
- 2002 Hjalteyri village connected to HJ-19.
- 2003 Pumping station and degassing tank built and DN300 pipeline to Akureyri.
- 2004 Geothermal water from Hjalteyri used in Akureyri.
- 2005 Second deep hole HJ-20 drilled
- 2009 Pipeline between Akureyri and Hjalteyri booster station built
- 2015 Pumping capacity increased in Pumping station Hjalteyri.
- 2016 Pipeline fully utilized

# Hjalteyri first phase 1998-2016



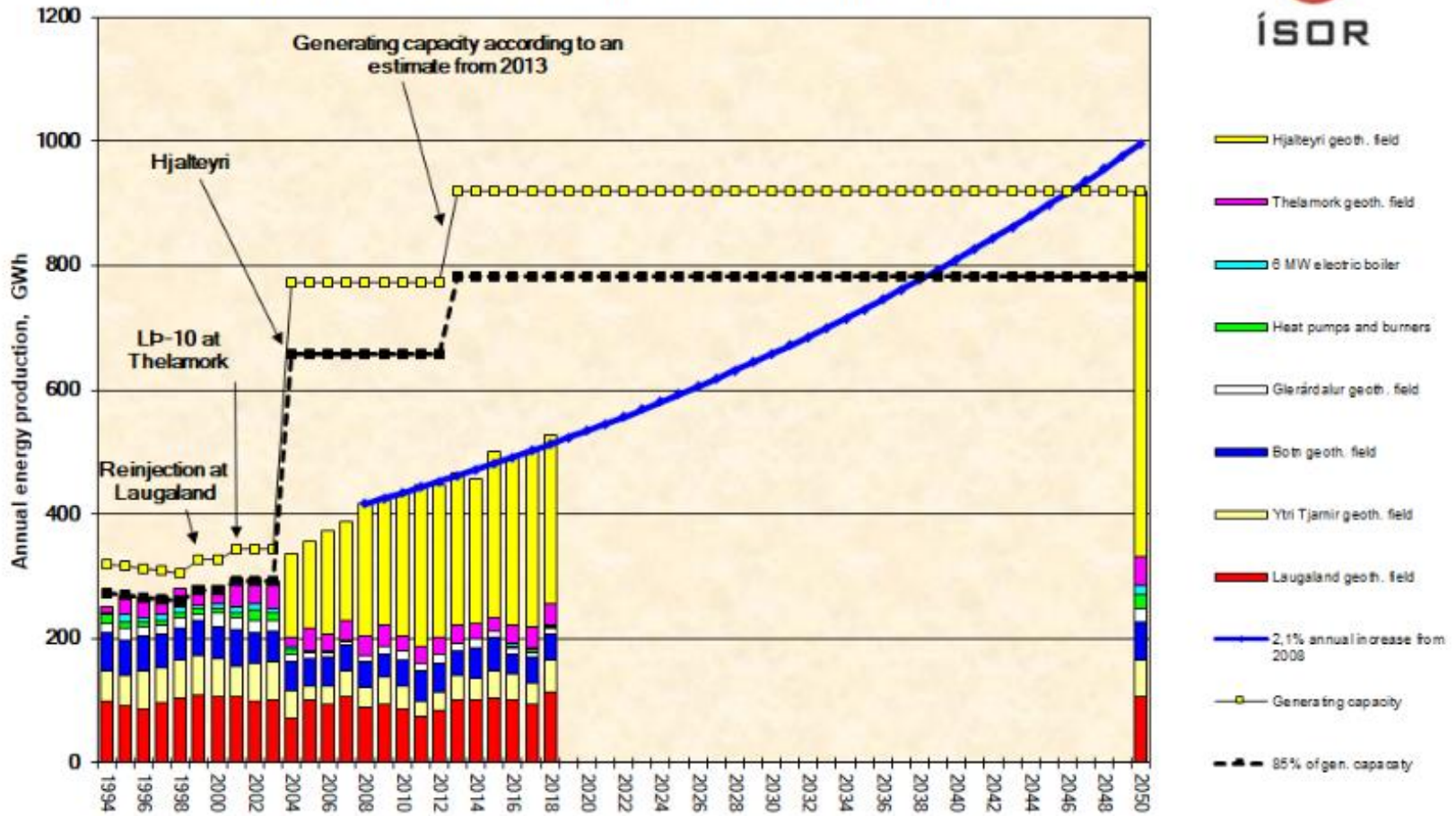
# Hjalteyri Undersea geothermal





# Energy use and future demand

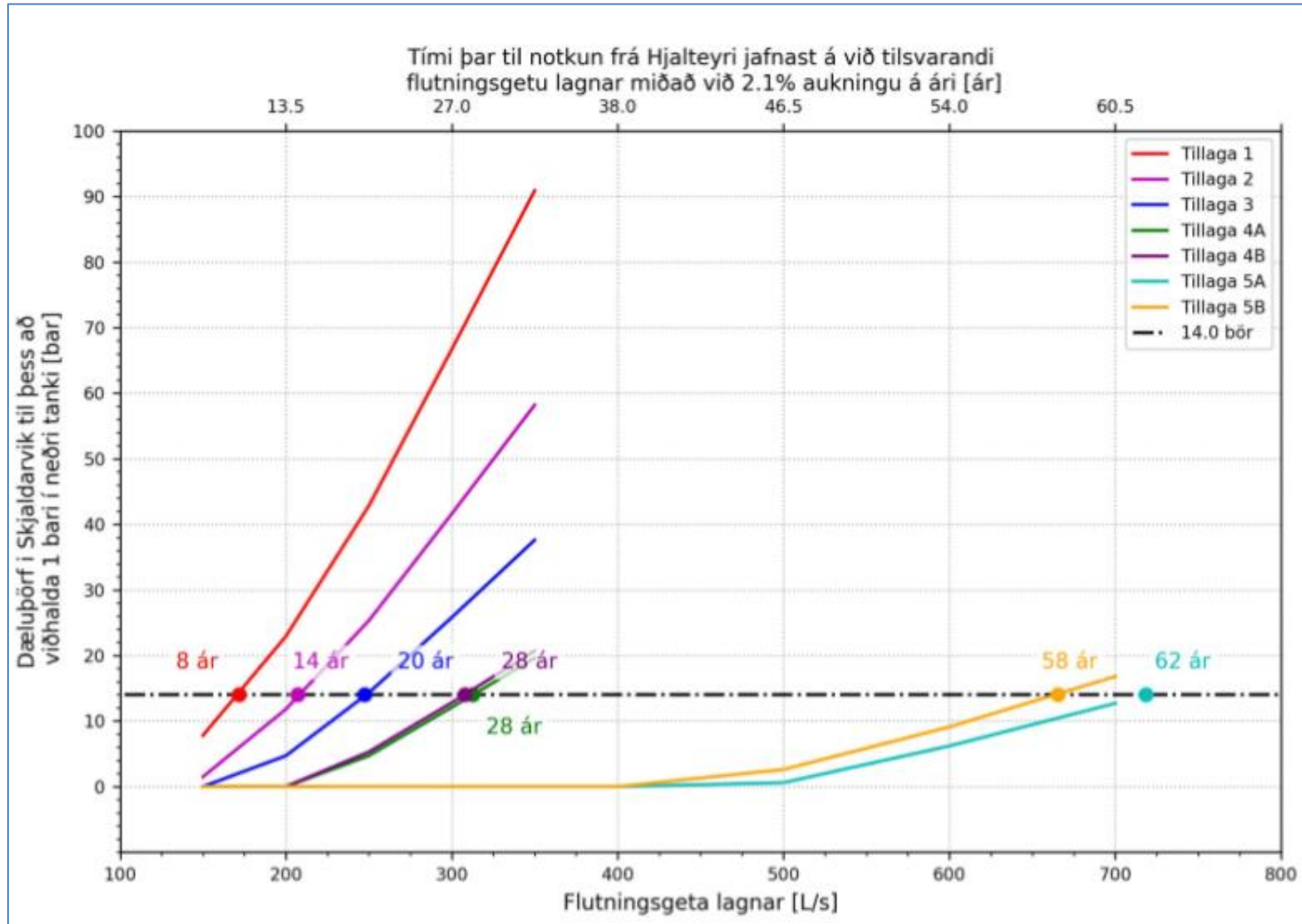
Energy use, future demand and generating capacity.







# DN 500 flow and expected lifetime



# Hjalteyri second phase 2017-2023



NORÐURORKA

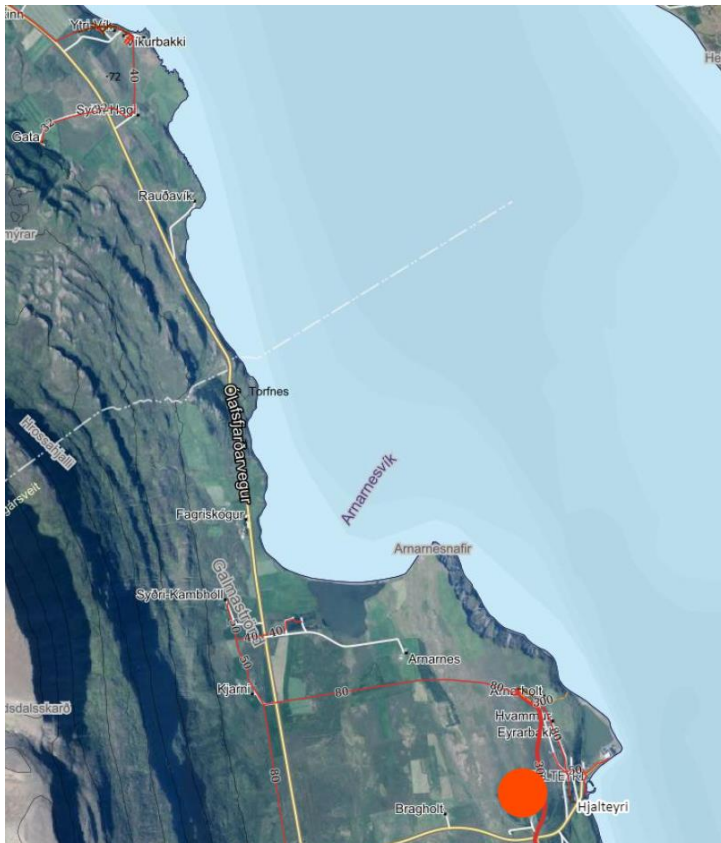
- 2017 design and planning for Hjalteyri second phase
- 2018 New hole HJ-21 drilled and first leg of pipeline laid
- 2019 HJ-21 made ready, second leg of pipeline laid
- 2020 Third leg of pipeline
- 2021 New Pumping station and degassing tank built.
- 2022 Two holes drilled for waterlevel monitoring.
- 2023 fourth leg of pipeline laid
- 2024 Hjalteyri second phase wrap up and finishing touches





# Future projects

- Step up research and survey at geothermal field in Ytri Vík.
- Connect Ytri Vík to the Hjalteyri pipeline.



# Photos



# Photos



# Photos



# Photos





Thank you