



ICELAND DRILLING



Jarðboranir hf / Iceland Drilling ltd – SDEC October 2019

# Jarðboranir hf / Iceland Drilling Ltd – SDEC October 2019



- 1) About Iceland Drilling Ltd
- 2) Motivations for Geothermal
- 3) District heating in Europe



# Overview of Iceland Drilling

## Business Area

- Iceland Drilling Company (IDC) was established in 1945
- IDC's main focus is on drilling geothermal wells

## Drilling history

- Close to 300 geothermal wells since 1970
- Thereof 200 for the last 10 years
- Well depths up to 4.630 meters
- Temperature up to 450°C

## Ownership Structure

- 50% owned by 3 of the 5 largest Icelandic Pension funds
- 50% owned by Samherji hf. (Leading seafood company in Iceland)





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# Iceland Drilling Ltd - Operations

## Operating countries past and present

- Iceland, New Zealand, Nicaragua, Dominica, Montserrat, Philippines, Azores, Germany, Denmark, Switzerland, Djibouti, St.Vincent

## Rig and employees

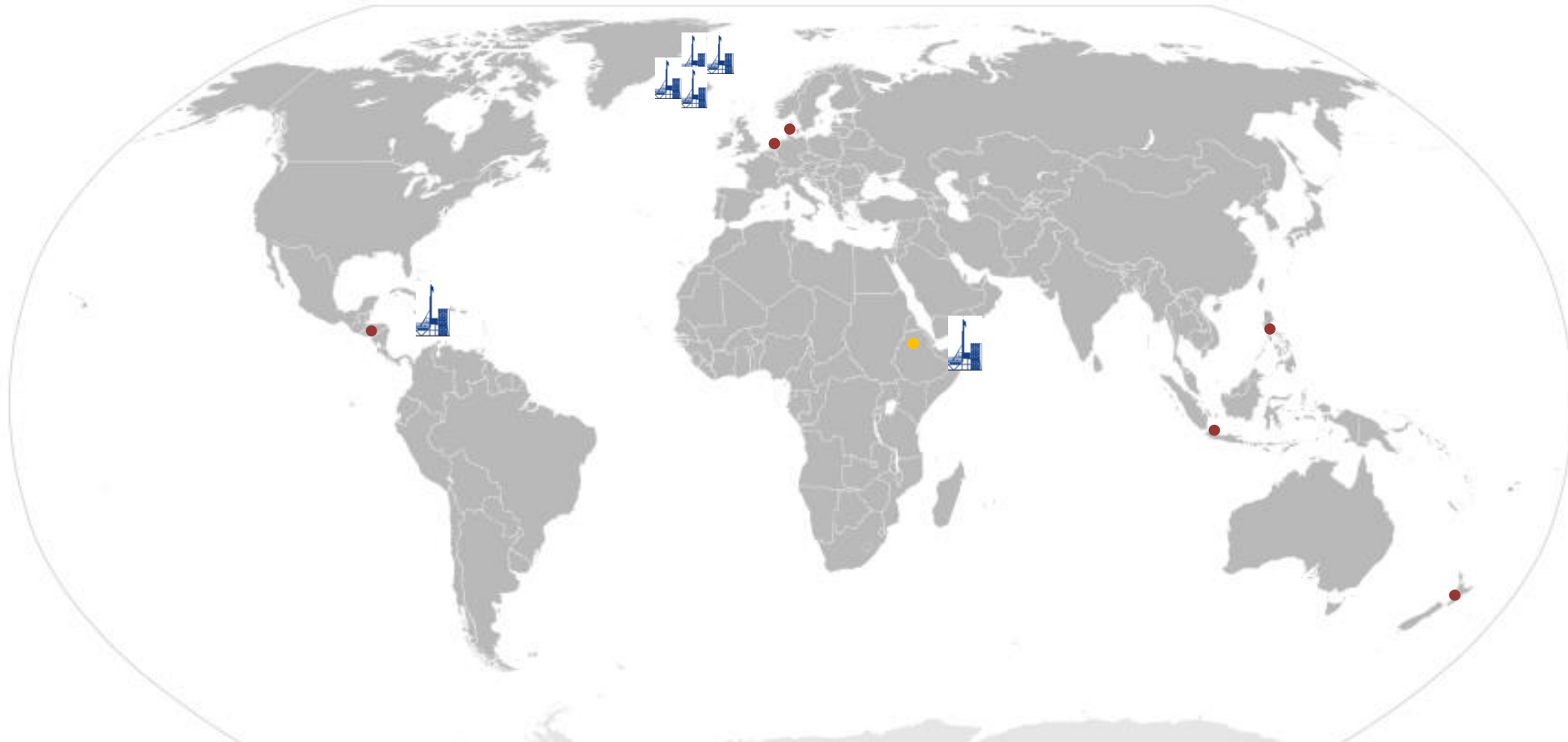
- Drilling contractor – integrated services.
- Modern fleet of 6 rigs





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# Iceland Drilling Ltd – locations



Managua Nicaragua	Head office Iceland	Hekla Energy Holland	GEOOP Denmark	Jakarta Indonesia	Kota Kinabalu Malaysia	Manila Philippines	Taupo New Zealand
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# Motivation for Geothermal



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# Iceland

## Motivation

- Abundance of High temperature geothermal resources
- Good experience

## The usage of geothermal

- Generation of Electricity
- District heating systems
- Direct use (swimming pools, horticulture, etc)
- Combined generation of electricity and production of hot water for district heating.





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# Caribbean Islands

## Motivation:

- Transition to renewable energy systems
- Replacement of fossil fuel generation (the need to reduce energy prices)
- Using local resources instead of imported diesel
- General Development and increased demand for energy
- Development funds and „soft“ loans

## The usage of geothermal

- Generation of Electricity







# Central /South America

## Motivation:

- Transition to renewable energy systems
- Replacement of fossil fuel generation
- Increased demand for Electricity.
- Fundamentals for development
- Development funds and „soft“ loans

## The usage of geothermal:

- Generation of electricity (Chile, Costa Rica, Nicaragua and El Salvador)





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## East – Africa : Kenya, Ethiopia, Djibouti.

### Motivation:

- Fundamental for development
- Increased demand for electricity
- Development funds and „soft“ loans

### The usage of geothermal

- Electricity production
- Cascade usage (Olkaria)





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# The business of district heating in Europe



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# Europe

## The business of district heating.

### Motivation:

- Transition to renewable energy systems (political)
- Distribution system for district heating already in place in many areas.
- Develop new housing areas with district heating as the norm.

### The usage of geothermal:

- Generation of Electricity
- Combined heat and power (CHP) increase profitability. Power is then though priority
- Heat projects, (without power), more difficult financially, but still being considered. (need of FIT)
- Heat pumps, for district systems, but mainly installed in private houses





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# Europe

The business of district heating.

## What is delaying the development.

- Most houses are already warm.
- Price of energy
- Developing Geothermal project involves higher financial risk for developers, than some other energy resources
- Public utility companies (in some cases) bound by legislation to use cheapest possible energy source.
- Lack of public acceptance, (seismic, ground water, power-stations etc)
- Public utility companies hesitate to transfer to “unknown” energy source, (few exceptions).
- Public / private developer. - Licences and legislation





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# Europe

The business of district heating.

**What can be done :**

**The Geothermal business needs :**

- Feed in tariffs (FIT) for a period, or other support to speed up the development and reach a stage where price can be reduced.
- Stronger risk mitigation mechanism
- Public-Private-Partnership (PPP) for district heating project could use PPP model to develop further in Geothermal district heating projects.





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# Europe

The business of district heating.

## Iceland Drilling Ltd - Strategy :

- Specializing in geothermal drilling projects
- Drilling contractor – integrated services.
- Equity partner in selected geothermal development projects, both for electricity, district heating projects and CHP .
- Experienced Contractor as equity partner can reduce drilling operational risk and project cost.



