Geothermal perspectives worldwide

Promoting female participation in the sector

Dr Marit Brommer – Executive Director
INTERNATIONAL GEOTHERMAL ASSOCIATION (IGA)

• Connect
Gateway to the Global Geothermal Community

• Unite geothermal voice
Research | Development | Markets | Products

• Influence energy transition
Seat at the political table

• Market insights
Strategy setting | business opportunities | collective growth
Geothermal flagship

WORLD GEOTHERMAL CONGRESS 2020
27 APRIL – 1 MAY 2020 - REYKJAVIK, ICELAND
Connect to the Source
Geothermal power and heat
Geothermal power generation and cumulative capacity by region, 2017-2023

Source: Renewables 2018
Geothermal hot spots

St Lucia Caribbean

Flores Island Indonesia

Rotorua New Zealand

Reykjanes Iceland
Geothermal jobs ...

Jobs in Renewable Energy

- **Bioenergy**
  - biomass, biofuels, biogas

- **Geothermal**

- **Solar energy**
  - solar PV, CSP, solar heating/cooling

- **Wind power**

- **Hydropower**
  - small-scale
  - large-scale

= 50,000 jobs

8.8 million + 1.5 million

World Total: 10.3 million jobs

100,000 GE jobs ....

Source: IRENA

RENEWABLES 2018 GLOBAL STATUS REPORT
What do people do?

- Start up (10-13): 1%
- Exploration (11-22): 1%
- Drilling (90-115): 12%
- O&M (100-400): 13%
- Manufacturing (190-220): 24%
- Plant design (200-300): 49%

Source: GEA (2016)
What about heat (and cooling) ...

Total geothermal heat = 546 Pj

Source: Renewables 2018
What about heat (and cooling) ...

Renewable heat consumption by country/region

Source: IEA (2018)
Agrifood & Flowers sector
Greenhouses
Renewable heating & cooling

Aquifer Thermal Energy Storage
Additional revenue

Lithium
Future is on **direct use**

A geothermal hot spring in South Africa – your new business opportunity?

Near Welgevonden hot spring, South Africa

(source: lapie Brink)

**Alexander Richter**
27 Jun 2016
Geothermal
a valuable portfolio