

# Geothermal perspectives worldwide



*Promoting female participation in the sector*

*Dr Marit Brommer – Executive Director*





- Deep Geothermal (power & heat)
- Direct use (geothermal health)
- Shallow geothermal (heating & cooling)

30

BoD

Members

35

Affiliates

3500

Members across the world



Huge investment potential



# 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 REYKJAVIK**

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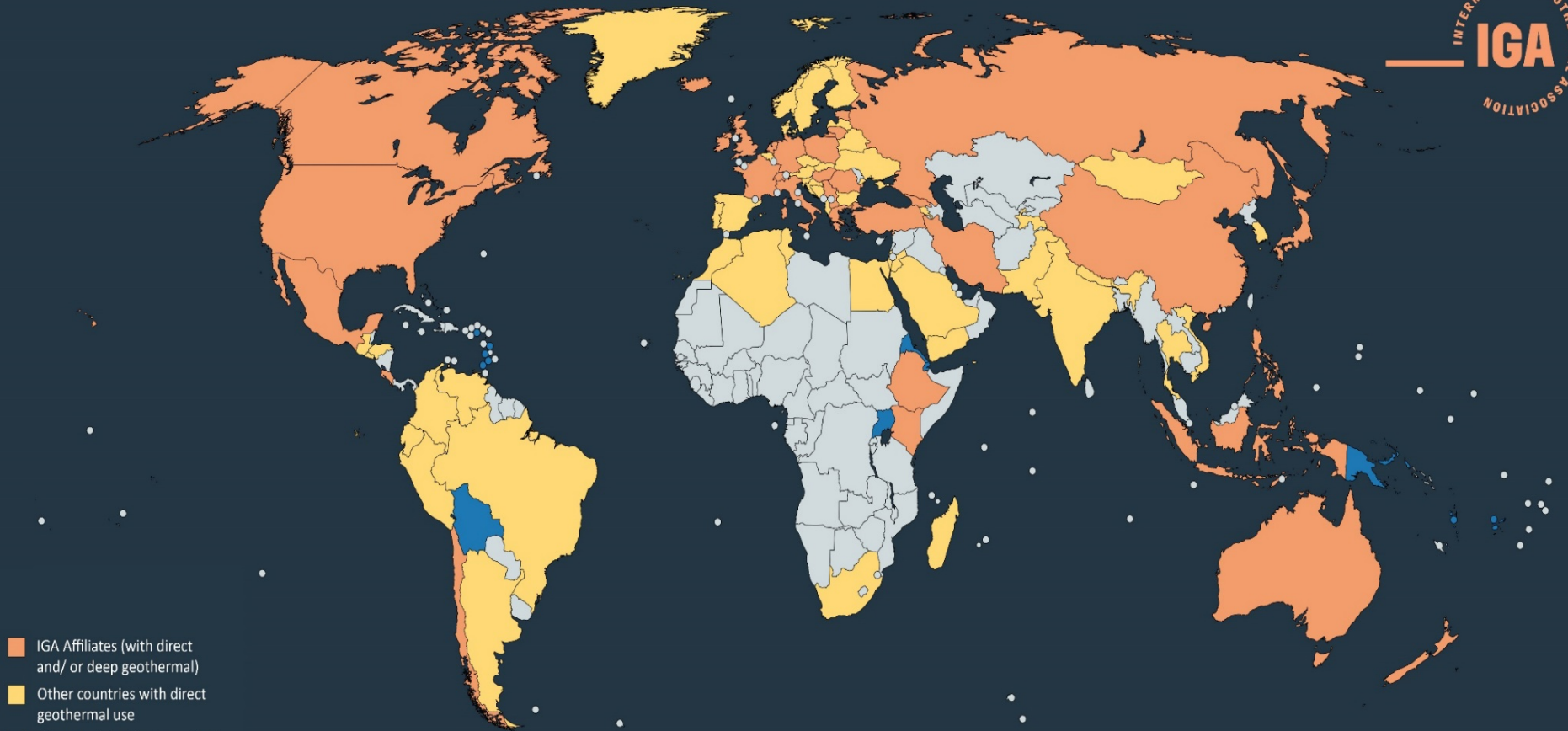
## WORLD GEOTHERMAL CONGRESS 2020

27 APRIL - 1 MAY 2020 - REYKJAVIK, ICELAND

Connect to the Source



# Geothermal power and heat



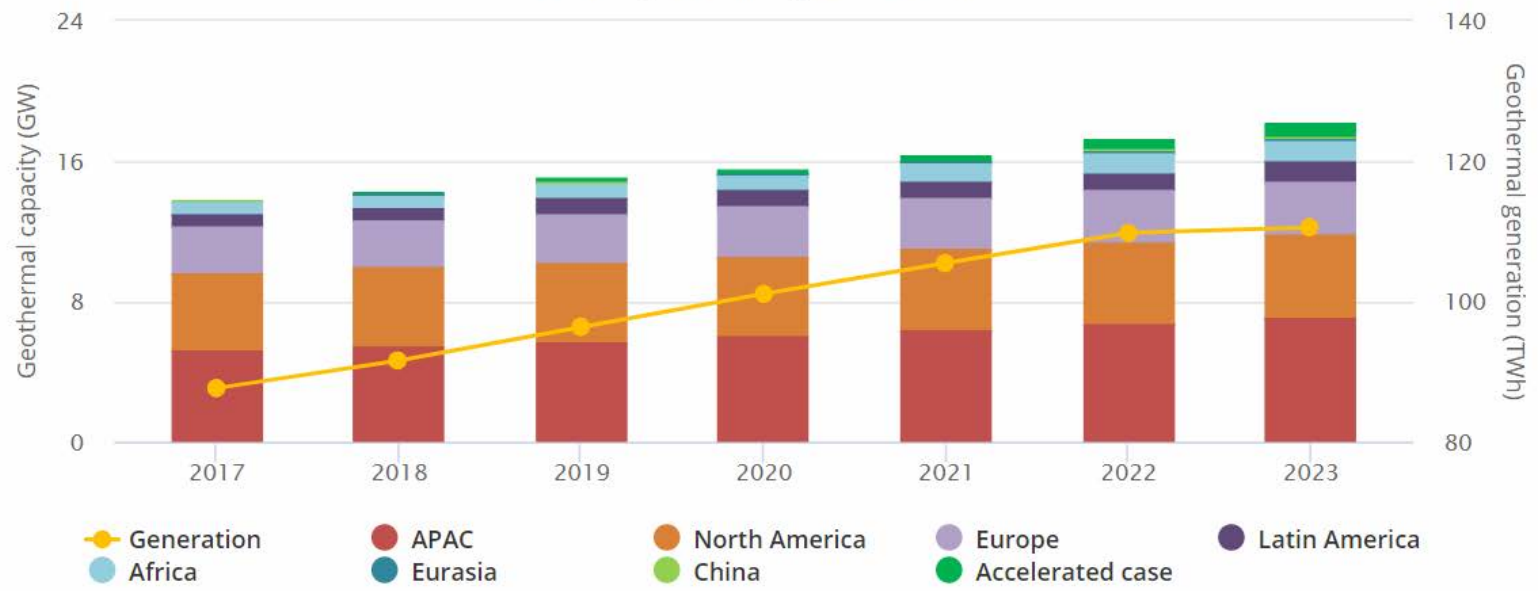
- IGA Affiliates (with direct and/ or deep geothermal)
- Other countries with direct geothermal use
- Climate mitigation committed countries (after COP21) that mention geothermal power

# Geothermal power



### Geothermal power generation and cumulative capacity by region, 2017-2023

Click a region in the legend to show/hide



IEA. All rights reserved.

Source: *Renewables 2018*



St Lucia **Caribbean**



# Geothermal **hot spots**



Flores Island **Indonesia**



Rotorua **New Zealand**

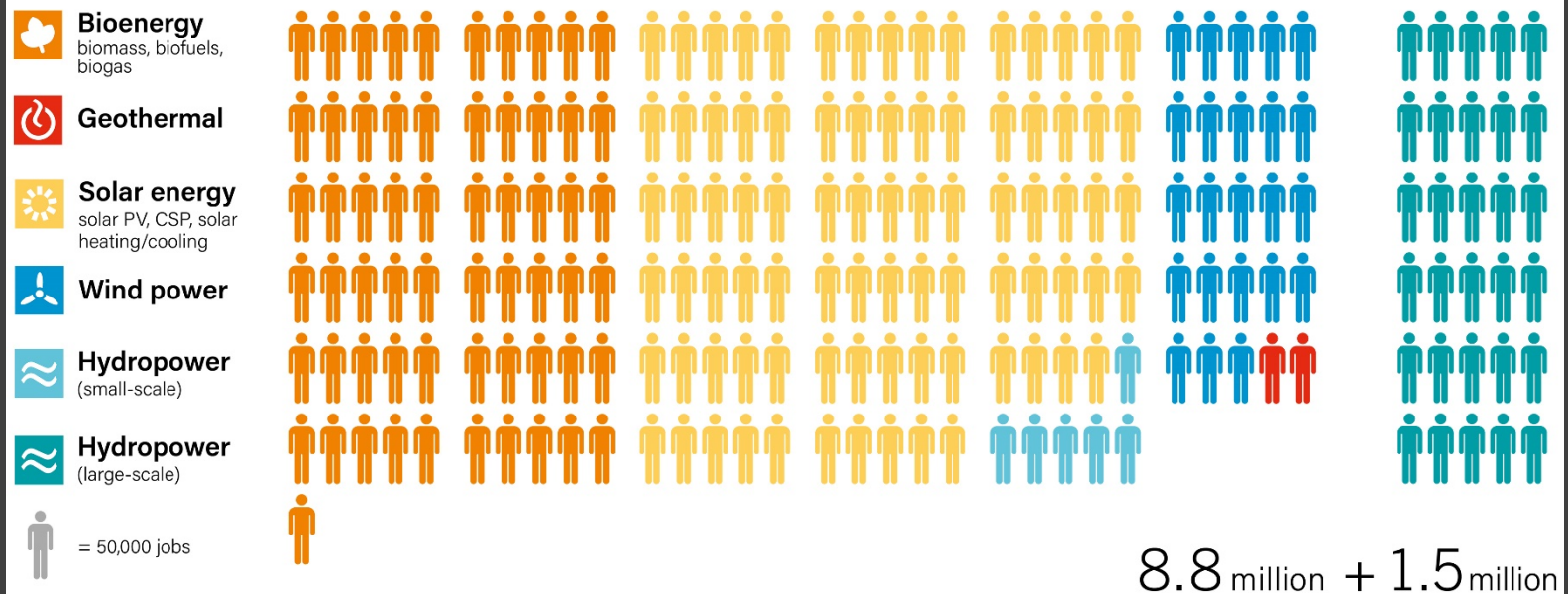


Reykjanes **Iceland**

# Geothermal jobs ...



## Jobs in Renewable Energy

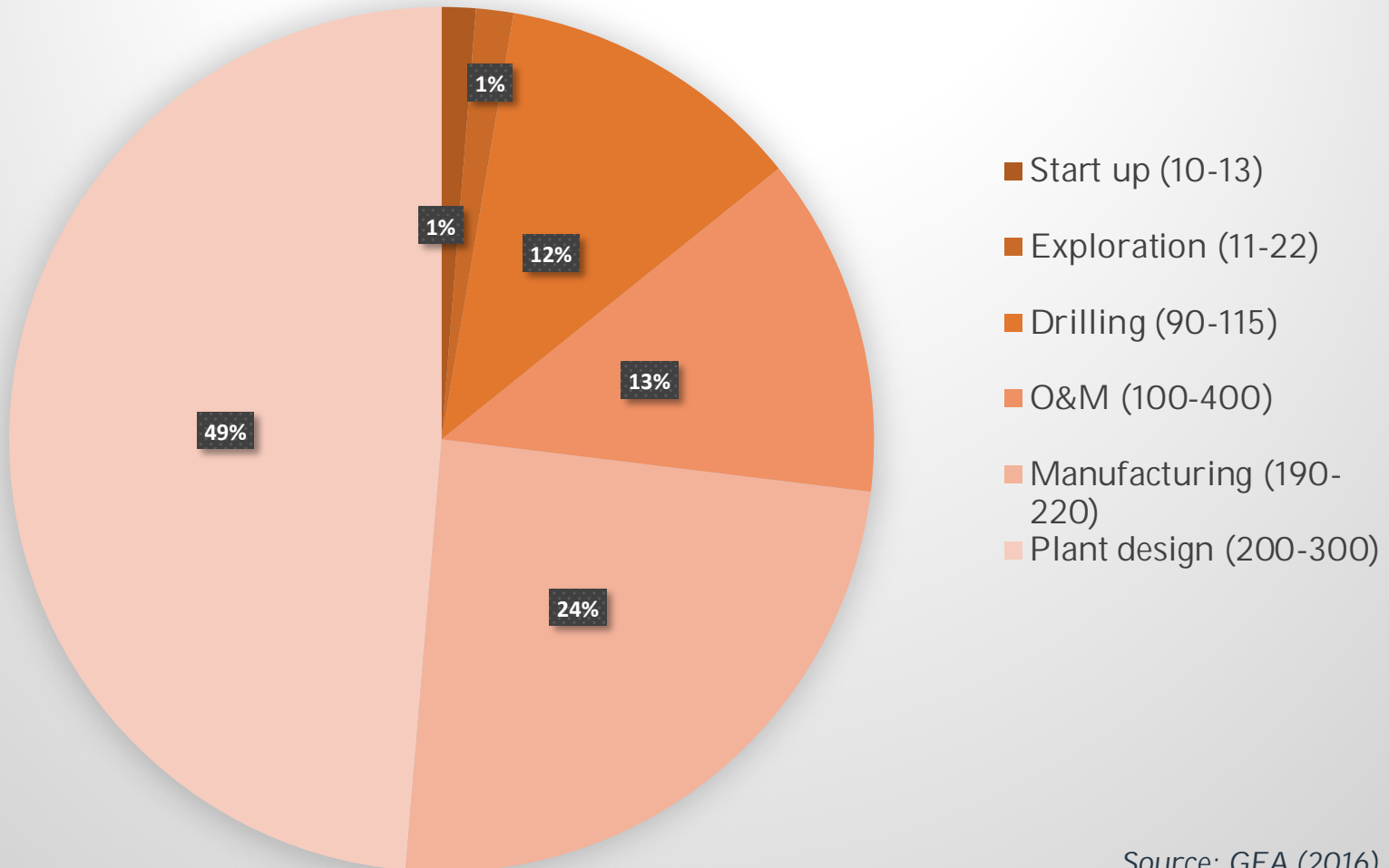


World Total: **10.3** million jobs

**100,000 GE jobs ...**

Source: IRENA

# What do people do?



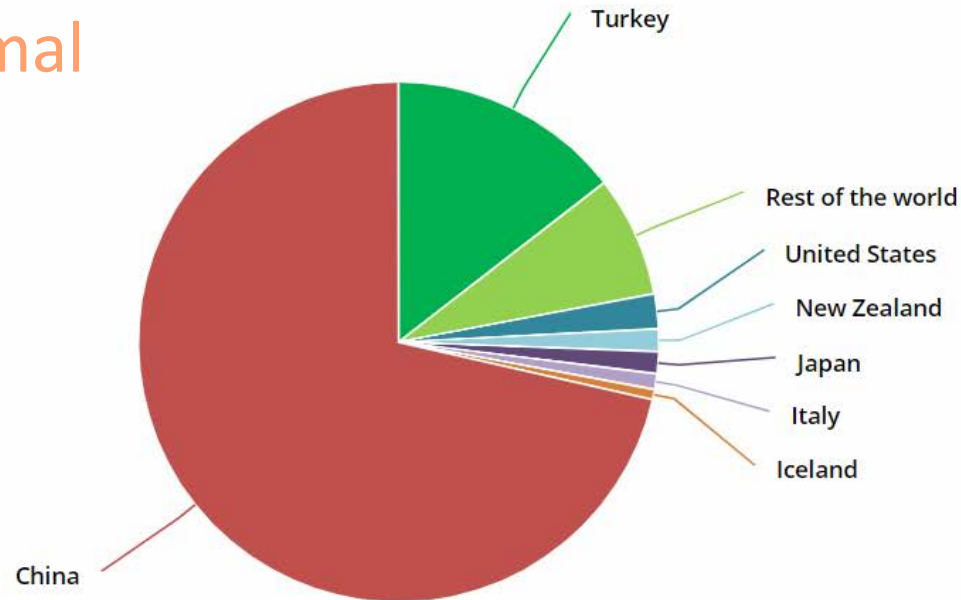
Source: GEA (2016)



# What about heat (and cooling) ...

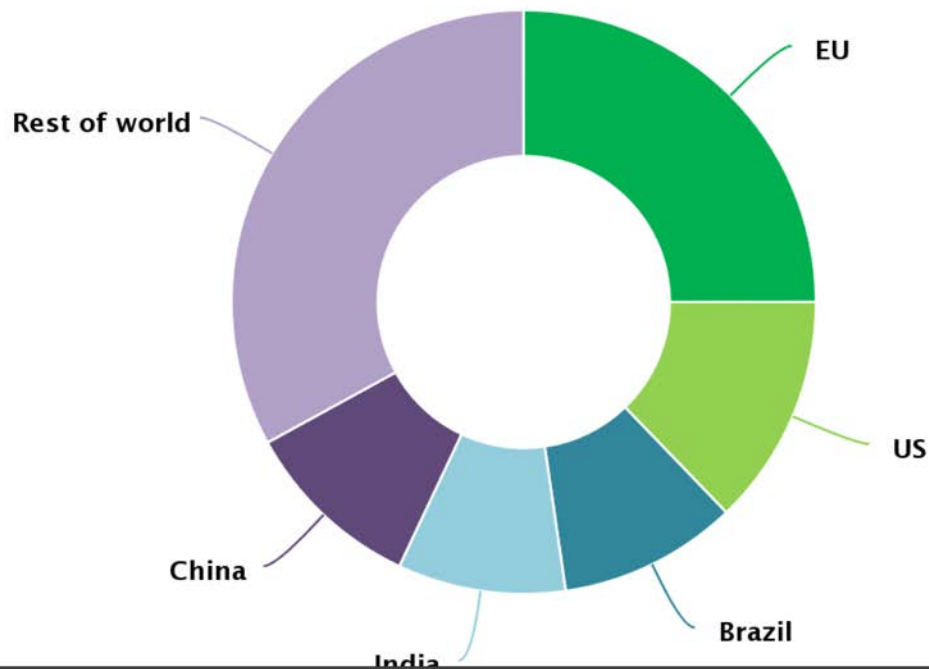
Geothermal direct use by country, 2016

Total geothermal heat = 546 Pj



# What about heat (and cooling) ...

Renewable heat consumption by country/region



Source: IEA (2018)



# Agrifood & Flowers sector

Greenhouses



ACTION for GREEN  
Environmental activities



# Renewable heating & cooling

Aquifer Thermal Energy Storage



s Kitchen Lit

l sustainable renew

solutions



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



**Alexander Richter**

27 Jun 2016



A scenic landscape at sunrise. The sun is low on the horizon, creating a bright sunburst effect with rays of light. The sky transitions from a deep blue at the top to a warm orange and yellow near the horizon. Below the horizon, a thick layer of white mist or fog fills the valleys, creating a 'sea of clouds' effect. In the foreground, there are rolling green fields and a small town with several buildings, including a church with a steeple. The overall atmosphere is peaceful and serene.

# Geothermal a **valuable** portfolio