

Pre-Conference Short Course, 9<sup>th</sup> African Rift Geothermal Conference  
Djibouti Palace Kempinski, 1<sup>st</sup> November – 2<sup>nd</sup> November 2022



# Addressing Knowledge gaps

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Jack Kiruja/ 1-2 November 2022



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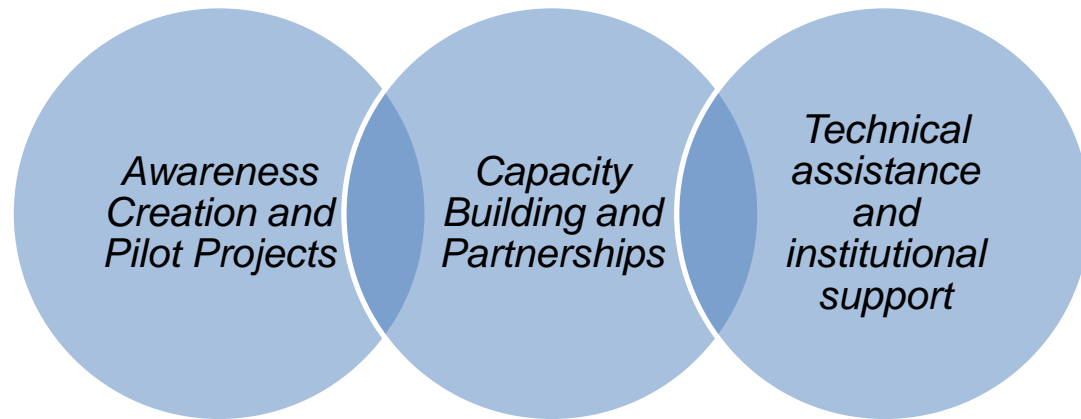
# Addressing Knowledge gaps

Jack Kiruja/ 1-2 November 2022



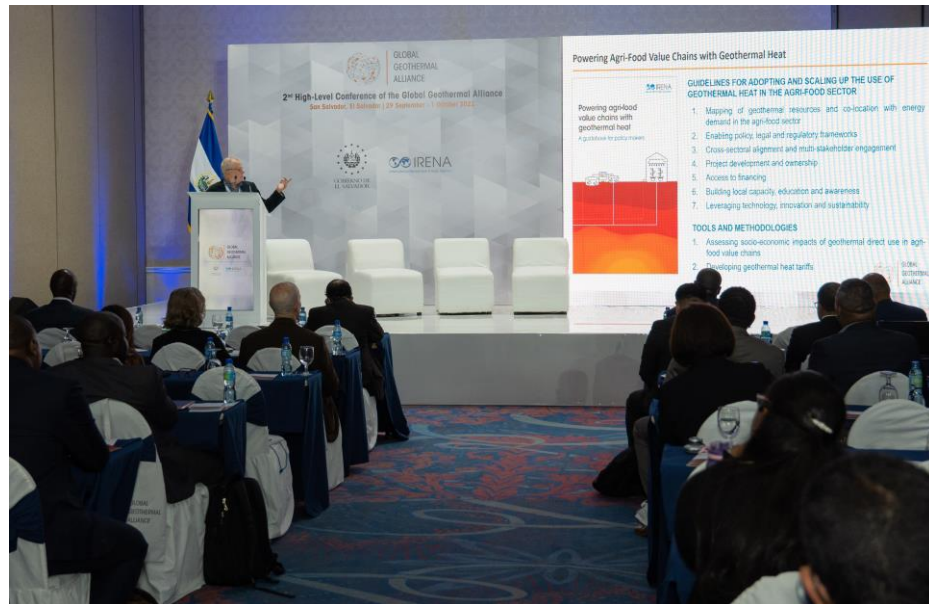
# Resource Mapping

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## Awareness creation

- ✓ Capacity building for policy makers
  - ✓ Case studies and best practices
  - ✓ raise awareness on the benefits and opportunities of agri-food applications to policymakers, entrepreneurs and communities;
    - ✓ East Africa Geothermal Energy Facility (EAGER)
    - ✓ Climate Technology Centre and Network (CTCN)
- ✓ Focus at the local level given that geothermal heat is used locally;
- ✓ **pilot projects** help demonstrate the technical viability and can provide indications for the commercial viability of direct-use heating technologies



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## Capacity building through technical assistance and partnership programmes

- ✓ Expertise to establish and operate direct use projects

- ✓ through academia/educational institutions

- ✓ Universities

- ✓ technical capacity building programmes;

- ✓ Partnerships with international, regional and local institutions to provide training and certification programmes for technical experts, service providers and the downstream workforce to operate and maintain projects, entrepreneurial support

- ✓ AGCE

- ✓ USAID

- ✓ ICEIDA



© GRO Geothermal Training Programme  
GRO GTP students visiting a greenhouse facility in Iceland.

# Examples

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Geothermal Institute: University of Auckland, New Zealand



**Africa Geothermal Centre of Excellence, Kenya**

Training courses



Fraunhofer Research Institution for Energy Infrastructures and Geothermal Systems

**Fraunhofer Institute for Energy Infrastructures and Geothermal Energy, Germany**

Think-tank

**iiDEA Group, UNAM, Mexico**



Research group



**Geothermal Training Programme in Iceland**



**Technical Assistance Programme in Central America**



# Leveraging technology, innovation and sustainability

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- Cascading
- Society without waste
- Industrial symbiosis
- Circular economy



## Eco-Industrial Parks

- ✓ Model for utilising geothermal resources through innovative practices to generate revenue streams and reduce waste
- ✓ Incubation centres for innovation in the energy-food nexus
- ✓ Driving sustainability and new innovative technology

## Circular Food Production

- ✓ Advantages of circular food production: optimization of energy and nutrient use, water treatment, and waste recovery processes when geothermal heat applications are implemented in agribusiness



**Kalundborg Industrial Park**  
*Sweden*

Designed around a 1,500 MW coal-fired plant  
Provided a blueprint of an industrial symbiosis network for neighbouring companies



**Svartsengi Resource Park**  
*Reykjanes peninsula, Iceland*

Combined geothermal heat and power plant opened operations including Blue Lagoon spa and a dermatology clinic



**GEOFOOD Project**  
*Netherlands*

Partnership between Iceland, the Netherlands and Slovenia  
Integrates horticulture and aquaculture into a net zero waste production system heated using geothermal energy



# Thank you

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