

STUDY TOUR



GEOHERMAL DIRECT USE

**November 22–24, 2022
Reykjavík, Iceland**



Hosted by the Federal Ministry of Foreign Affairs, Iceland



Government of Iceland
Ministry for Foreign Affairs



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Gunnuhver, geothermal area.

Photo: Landmótun.

Esmap Mission

The Energy Sector Management Assistance Program (ESMAP) is a partnership between the World Bank and 24 partners to help low and middle-income countries reduce poverty and boost growth through sustainable energy solutions. ESMAP's analytical and advisory services are fully integrated within the World Bank's country financing and policy dialogue in the energy sector.

Through the World Bank Group, ESMAP works to accelerate the energy transition required to achieve Sustainable Development Goal 7 to ensure access to affordable, reliable, sustainable, and modern energy for all. It helps to shape WBG strategies and programs to achieve the World Bank Group's Climate Change Action Plan targets.

Background

ESMAP's Geothermal Direct Use program started as part of the FY21-24 Business Plan to raise awareness of the value of direct geothermal use in developing and decarbonizing economic activity and building the enabling environment necessary to scale up its use.

In September 2021, ESMAP collaborated with the International Geothermal Association to host a virtual event highlighting the importance of geothermal resources. The event gathered a mix of private and public sector participants from 78 countries, with more than 280 participants.

Objectives

The main objective of this Geothermal Direct Use Study Tour is to share knowledge and experience between mature and emerging markets, demonstrate real projects and infrastructure, and inform how to build up their geothermal direct-use industry.

Sharing knowledge and experience will be done through a presentation on the benefits, legal framework, and history of direct geothermal use in Iceland. The structure of the Study Tour will be a half-day seminar and two days of visits to facilities currently operational in Iceland.

The Study Tour activities will help build capacity with government and technical participants and give them the tools and knowledge they need to take the next steps in realizing their geothermal direct use potential and goals.

DAY 1: Tuesday, November 22, 2022

ORKUSTOFNUN

- 11:15/11:45 Departure from Miðgarður/Plaza
- 12:00–13:00 Lunch
- 13:00–13:10 **Welcome and Opening Remarks**
Speaker: **Speaker: Benedikt Höskuldsson**, *Special Envoy for Climate, Ministry for Foreign Affairs of Iceland*
- 13:10–13:40 **Geothermal Direct Use**
Speaker: **Elin Hallgrímsdóttir**, *Senior Energy Specialist, The World Bank*
- 13:40–14:10 **How did Utilization Start in Iceland?**
Speakers: **Marta Rós Karlsdóttir**, *Director of Sustainable use of Natural Resources*, **María Guðmundsdóttir**, *Specialist- Geothermal Utilization, Orkustofnun*
- 14:10–14:50 **Geothermal Licenses, Regulation and Database**
Speakers: **Marta Rós Karlsdóttir**, *Director of Sustainable use of Natural Resources, Orkustofnun*, **María Guðmundsdóttir**, *Specialist- Geothermal Utilization, Orkustofnun*
- 14:50–15:30 **Coffee Break**
- 15:30–15:40 **Introduction to the Icelandic Geothermal Cluster**
Speaker: **Rósbjörg Jónsdóttir**, *Managing Director of the Iceland Renewable Energy Cluster*
- 15:40–15:55 **Geothermal Licenses, Regulation and Database**
Speaker: **Baldvin Björn Haraldsson**, *Supreme Court Attorney Partner, BBA//Fjeldco*
- 15:55–17:00 **Open discussions**
Speaker: **Rósbjörg Jónsdóttir**, *Managing Director of the Iceland Renewable Energy Cluster*
- 17:00–17:10 **Closing Remarks**
Speaker: **Elin Hallgrímsdóttir**, *Senior Energy Specialist, World Bank*
- 17:40 **Return to hotel**

DAY 2: Wednesday, November 23, 2022

FIELD TRIP—REYKJANES

- 7:30/8:00 Departure from Plaza/Miðgarður
- 9:00–10:30 To be confirmed
- 11:00–12:30 Lunch
Venue: **Salt Húsið**, (*The House of Bacalao*)
- 13:00–14:00 **Haustak**, (*Fish Drying Company*)
- 14:30–15:30 **Stolt Sea Farm**, (*Fish Farm*)
- 15:30 Return to Reykjavík
- 18:30 Dinner
Venue: **Matarkjallarinn**, (*The Food Cellar*)



DAY 3: Thursday, November 24, 2022

FIELD TRIP—SOUTH OF ICELAND

- 7:45/8:15 Departure from Plaza/Miðgarður
- 9:00–10:00 **Hellisheiðarvirkjun,**
Hydrogen Production (Green Hydrogen)
Geo Silica, (Silica food Supplement)
- 11:00–12:00 **Flúðasveppir tour, Geothermal Mushroom**
Production
- 12:00–13:00 **Lunch**
Venue: **Flúðir,** *(Farmers Bistro)*
- 13:15–14:30 **Flúðaveita, District Heating Plant**
- 15:00–16:15 **Baseload Power, Electrical Generation from low**
Temperature Resource
- 16:30–17:00 **Coffee Break**
Venue: **Friðheimar,** *(Tomato Greenhouse)*
- 17:00–18:00 **Friðheimar tour, (Tomato Greenhouse)**
- 18:00 **Departure**
- 18:45–19:30 **Ölverk tour, (Brewery)**
- 19:30–20:30 **Dinner**
Venue: **Ölverk,** *(Brewery & Pizzeria)*
- 20:30 **Return to Reykjavík**





Snorralaug in Reykholt.

Photo: Guðmundur J. Albertsson.

Snorralaug

Snorralaug is thought to have been used by locals since the 12th century, making it possibly the oldest human-used hot spring in the country.

The temperature of the hot spring is said to fluctuate drastically, often becoming far too hot to bath in. The hot spring is surrounded by a stone patio and a retainer wall that gives the geothermal pool its circular shape and unique rustic aesthetic. The small hill behind the hot spring features a wooden structure with a door that leads to a tunnel.

Snorralaug was first mentioned by the 12th-century writer Snorri Sturluson, one of the most popular Icelandic poets and writers. The 12th-century holy book **“The Book of Settlements”** has a mention of this pool. The place was named Snorralaug after the name of the writer. This place can be your haven if you love indulging in ancient history. It is locally believed that Snorri Sturluson bathed here, which excites the curiosity of explorers.

AGENDA AT A GLANCE
NOVEMBER 22–24, ICELAND

TUESDAY

- 11:15 Departure from Plaza/Miðgarður
- 12:00 Lunch
- 13:00 Opening remarks
- 13:10 Geothermal direct use
- 13:40 How did utilization start in Iceland?
- 14:10 Geothermal licenses, regulation, and database
- 15:30 Introduction to Icelandic geothermal cluster
- 15:40 Geothermal laws, regulations, and institutional frameworks – what is needed
- 15:55 Open discussions
- 17:00 Closing remarks
- 17:45 Departure to accommodations

WEDNESDAY

- 07:30 Departure from Plaza/Miðgarður
- 09:00 To be decided
- 11:15 Lunch
- 13:00 Haustak
- 14:30 Stolt Sea Farm
- 15:30 Departure to accommodations
- 18:30 Dinner

THURSDAY

- 7:30 Departure from Plaza/Miðgarður
- 8:15 Hellisheiðarvirkjun
- 11:00 Flúðasveppir
- 12:00 Lunch
- 13:15 Flúðaveita
- 15:00 Baseload Power
- 16:30 Friðheimar
- 18:45 Ölverk
- 19:30 Dinner
- 20:30 Departure to accommodations