OPERABILITY FEASIBILITY PRACTICALITY

IGC 2016
PROGRAM

ICELAND GEOTHERMAL CONFERENCE

Reykjavik · Harpa · 26-29 April, 2016

ICELAND GEOTHERMAL CONFERENCE

Event Management

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geothermalconference.is
#IGC2016

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IGC2016 APP

All updated information about the conference in your smart phone.

Wifi in Harpa: igc2016

Iceland Geothermal Cluster Initiative

IGC 2016, Reykjavík Apríl 2016 • Editor: Rósbjörg Jónsdóttir, Gekon • Design & Layout: Dill • Printing: Svansprent

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ICELAND GEOTHERMAL CONFERENCE

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Iceland Geothermal Cluster Initiative

Address by the Conference Committee

Dear colleagues – Welcome to the third Iceland Geothermal Conference 2016

For centuries, Icelanders have utilized geothermal heat to make the cold island a better place to inhabit. During next three days, you will get an insight into the potential impact and opportunities of direct utilization of geothermal energy on energy security, greenhouse gas emissions, improved quality of life, and lower heating costs.

The development of the geothermal industry in Iceland continues to meet the needs and demands of the future. Although geothermal is generally considered a clean source of energy, there is however still room for improvement by; reducing the volume of geothermal gasses released to the atmos-phere, min-imizing footprint sizes, limiting visibility impact and utilizing the geothermal fluid/energy to its fullest to mention a few. Perhaps the greatest challenge of all is to improve the energy efficiency of the utilization.

Iceland Geothermal Conference is therefore a valuable and timely opportunity to examine the growing role of geothermal energy in the global energy mix.

From the beginning of geothermal utilization in Iceland, the best worldwide solutions have been sought for every challenge, some of which have been adopted and improved. One of the factors leading to a successful utilization of geothermal energy in Iceland is the fact that Icelanders have not been afraid to share our experience. This year IGC is focusing on direct usage, how to develop new opportunities and create value by maximizing the utilization of the geothermal resource.

The IGC 2016 topics cover the essence of the geothermal value chain

Phase A - Operability:
Discuss the challenging tasks that the industry has been facing regarding the operation of geothermal plants and resources, and share the results.

Phase B - Feasibility:
Learn why some geothermal projects are successful and others are not. What are the developments for tackling obstacles blocking the realization of geothermal prospects?

Phase C - Practicality:
Explore the responses to an ever-increasing demand for better utilization of the resources and energy, using every potential to generate increased value.

We sincerely hope you will learn from this event, develop new ideas, build new valuable relationships and strengthen other and last but not least contribute to the development of the geothermal for the future.

Welcome to Iceland - the home of geothermal!

The Conference Committee of IGC 2016
Jakob S. Friðriksson, conference chair
Benedikt Höskuldsson
Friðrik Ómarsson
Kristín Vala Matthíasdóttir
Sigurður E Markússon
Þorleikur Jóhannesson

Conference Management
Rósbjörg Jónsdóttir, MD of IGC 2016
Hákon Gunnarsson and Viðar Helgason

About IGC 2016

The Iceland Geothermal Conference (IGC) is a result of the Iceland Geothermal Cluster Initiative which commenced in October, 2009. After mapping the geothermal cluster in Iceland in collaboration with the Icelandic consultant Gekon, Professor Michael Porter and his team at Harvard Business School recommended a path to take to strengthen the infrastructure within the geothermal sector in Iceland. IGC takes place in Reykjavik, Iceland during spring time every third or second year.The first conference took place at the University of Iceland, on November 1st, 2010, where Professor Michael Porter announced his results of the mapping phase of the indicative.

Iceland Geothermal Conference - IGC 2016 builds on the experience from IGC 2013 when 600 delegates from 40 countries, came together in Iceland to explore the value chain of geothermal projects. This year the focus is on the advantages of direct utilization of geothermal energy and how it benefits us.

The overall objective of the Iceland Geothermal Conference is to increase awareness of the geothermal energy resource, increase business opportunities for our partners and delegates and to increase awareness of the value of the geothermal resource in the global energy mix.

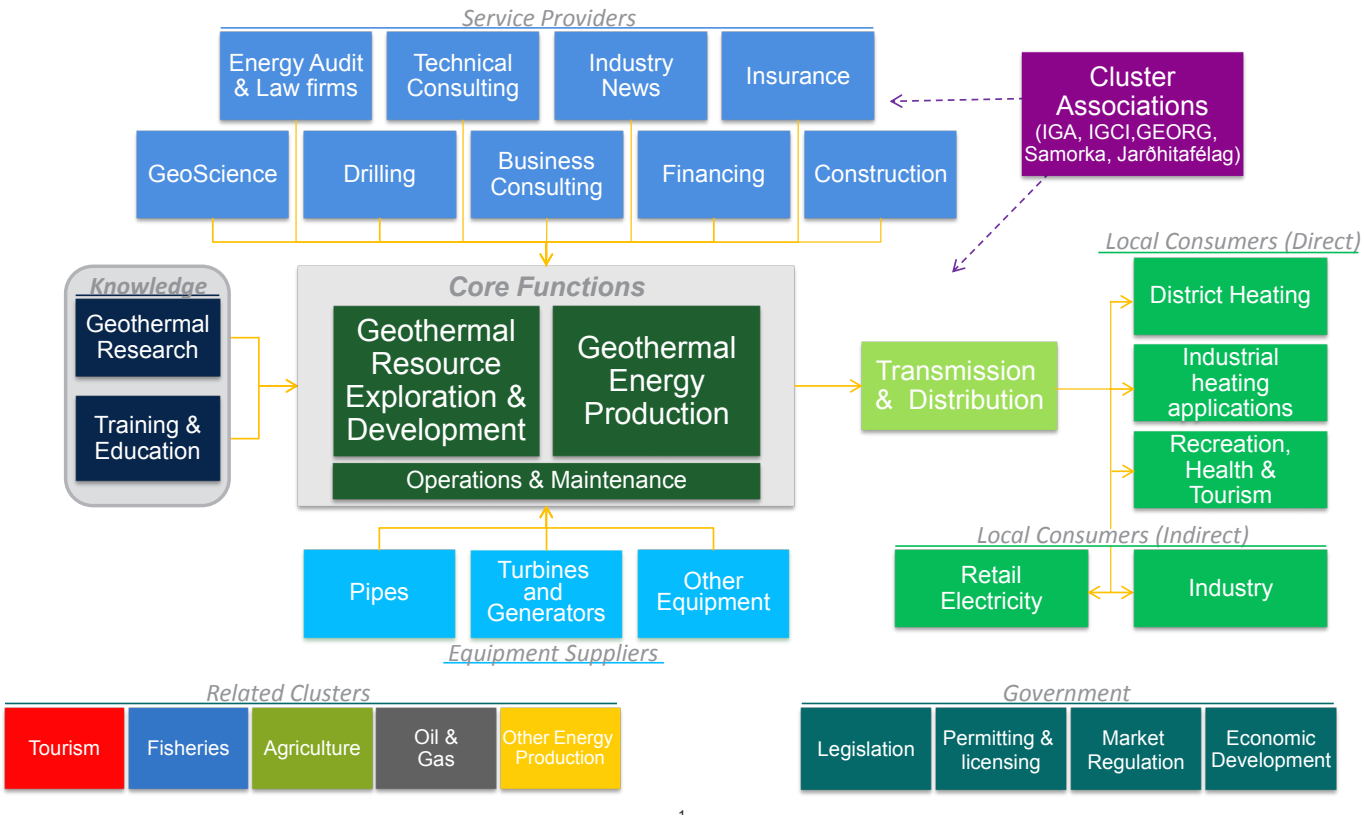
In IGC 2016 we share effective methods in operating the geothermal resources and power plants, increase knowledge on the utilization and learn about different ways and challenges on the feasibility of geothermal projects, taking into consideration risk and profitability. The host location of the Iceland Geothermal Conference, with its proximity to geothermal areas, ease of access to Icelandic geothermal experts and hand selected speakers from all around the world ensures a first class quality and content of this conference.

The conference topics reflect three main paths, all of which address different areas of the utilization of geothermal, operation of the resources and power plants (Operability), the realization of geothermal projects (Feasibility) and finally how this energy resource can harness for the benefits for our society (Practicality).

To maximize our delegates experience and opportunities, the conference program will include a selection of exciting field trips to nearby geothermal areas in order to enhance the event's message. Concurrently with the event an exhibition area will be set up where over 30 companies will be promoting their services and expertize. In addition, a business to business event will be offered where participants get the chance to establish business and or relationships which hopefully will lead to new projects.

IGC 2016 brings together respected experts from all around the world and provides opportunities for networking and exchange of knowledge on how to maximize the utilization of the geothermal resource and create shared value for our society.

The Icelandic geothermal cluster



Source: Michael Porter 2016.

Preface

Iceland Geothermal (IG) is a cluster organization, stablished in February 2013. IG is an industry driven cluster cooperative partnership which focuses on the field of geothermal energy. The Iceland Geothermal Cluster Initiative was founded by 43 diverse members, including; companies, associations and institutions. Mapping of the geothermal cluster in Iceland was led by Professor Michael Porter and performed by his team from Harvard Business School in collaboration with the Icelandic consultancy Gekon.

The main role of the Iceland Geothermal Cluster Initiative is to promote Iceland "As the land of geothermal energy and geothermal utilization". In 2015, 85% of Iceland's primary energy consumption came from renewable energy, there of 66% was from geothermal. Electricity generation comes 100% from renewable energy sources, geothermal accounts for 30% of electricity production (National Energy Authority 2015). The purpose of the organization is to stimulate competitiveness within the Icelandic Geothermal Cluster, add value, and improve the utilization of Iceland's geothermal energy.

The main goals are to create new opportunities within the geothermal energy sector, facilitate cooperation with the aim of exporting services and building new partnerships, create a strong global geothermal value chain to enhance geothermal utilization worldwide. Provide benefits to the sector as well as to developing countries and protecting and valuing the environment.

The Cluster's cooperation is based on ten defined cooperative focus areas all of which aim to strengthen the infrastructure of the Icelandic geothermal cluster. Work in connection to these focus areas lead to the creation of The Iceland Geothermal Conference (IGC) in October2009, the first conference was held in 2010. The second conference, IGC 2013, was held in March, 2013, were 600 participants of 40 nationalities attended the conference to discuss changes and forward thinking ideas within the geothermal industry.

IGC 2016 will be focusing on the advantages of utilizing geothermal energy and its benefits. In collaboration with our sponsors, speakers and guests, we want to drill deep into three main phases: Operability, Feasibility, and Practicality.

IGC 2016 focuses on the international aspects of the geothermal industry. This global perspective that the conference is able to provide confirms that Iceland has become one of the most important platform for a dialog on geothermal issues. Climate change threatens our way of life and nations - worldwide strive for increasing the share of renewable energy to meet their energy demand. The conference will highlight the urgent need for increased understanding of the nature of geothermal resources: operation, potential for development and what role it can play in the renewable energy portfolio of the world.

Iceland Geothermal Conference 2016 is a venue for friendship, instructive transfer of sharing knowledge and for initiating fruitful cooperation of participants and participating companies.

The Board of the Iceland Geothermal cluster initiative 2015 –2016
Mr. Albert L. Albertsson, Chairman the board Visionary, HS Orka
Mr. Árni Magnússon, Vice chairman Managing Director - Renewable Energy & Transmission, Mannvit Engineering
Mr. Guðmundur Ingi Ásmundsson, Chief Executive Officer, Landsnet
Ms. Hildigunnur Thorsteinsson, Managing Director of R&D, Reykjavik Energy
Mr. Hjörtur Steindórsson, Executive Director of Energy, Islandsbanki
Mr. Hörður Arnarson, Ph.D Chief Executive Officer, Landsvirkjun
Mr. Jónas Jónatansson, Head of Business Relations of Corporate Banking, Arion banki
Mr. Sveinn Ingi Ólafsson, Managing director, Verkís Consulting Engineers
Mr. Unnar Hjaltason, Chief Executive Officer, VHE
Mr. Ólafur Magnússon, Head of Business Relations of Corporate Banking, Landsbankinn

Observing members: Sigurður M. Garðarsson,
Ph.D Chairman of the Board, GEOthermal Research Group (GEORG)
Þorsteinn Ingi Sigfússon, Ph.D Director General, Innovation Center Iceland
Iceland Geothermal Cluster Manager is Mr. Viðar Helgason.

Patron of IGC 2016

Address by the President of Iceland Ólafur Ragnar Grímsson

The Iceland Geothermal Conference has within the few years since its foundation become an important international forum, highlighting the global advance in geothermal utilization and how Iceland demonstrates the multi-dimensional benefits from clean energy transformation.

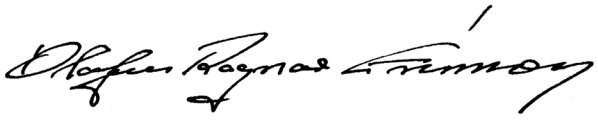
The success of the COP21 in Paris has brought geothermal power into the mainstream of global co-operation, as manifested in the establishment of the Global Geothermal Alliance which was the pinnacle of the Energy Day in Paris.

Now, nations all over the planet are taking a closer look at their geothermal potential. In this respect Iceland is honoured to be of service, bringing our experience, technology, management and visionary framework to projects on different continents.

We have already participated in the geothermal transformation of China and other countries in Asia, Africa, Europe and the Americas. Graduates from more than 50 developing countries have also been trained in our countries.

The mission of the Iceland Geothermal Conference is to enhance our engagement as well as provide a dynamic platform for dialog and co-operation. This year it is a prelude to the World Geothermal Congress which will be hosted in Iceland in 2020.

When the world is seeking new solutions to the energy and climate challenges of the 21st century, Iceland can serve as an inspiration and a model. Our experience carries a fundamental truth: geothermal power unites prosperity and sustainability, makes practical sense and helps to preserve our planet.



Olafur Ragnar Grimsson

Welcome Address by the Foreign Minister of Iceland Lilja Alfreðsdóttir

It gives me great pleasure to welcome you to the 3rd. Iceland Geothermal Conference that takes place in Harpa Conference Center by the old Reykjavik harbor.

Geothermal energy is part of the Icelandic identity, reflected very strongly in our everyday lives, whether it is by visiting our numerous outdoor swimming pools or simply cuddling up in our warm houses heated by this unique resource. Geothermal, in this way and many others, has added enormous quality to our everyday lives.

Geothermal is also an important sector in our economy and represents a significant share of the energy sector, which is relatively very large for a nation of just 320.000 inhabitants. This stems not least from the build-up of power intensive industries in Iceland over the past 40 years, which have given rise to state of the art energy sector serving the population and industries throughout the country.

Promoting geothermal use abroad has over time mainly been done through the Geothermal Training Programme of the United Nations University - a postgraduate training programme, which began operation in Reykjavik in 1979. Hundreds of fellows have graduated from the core program and over one thousand have participated in numerous courses that have been set up in many regions of the world.

Today, promoting geothermal utilization has become an integral part of Iceland's foreign policy stretching through our international development cooperation, our activities within the UN structures, such as the Framework on Climate Change and Convention to Combat Desertification, and lately through the Sustainable Energy for All initiative.

In our international diplomacy we are putting strong emphasis on enhanced geothermal development in combatting negative effects of climate change, where our focus has been on working with the International Renewable Energy Agency and the World Bank as our main partners.

It is my sincere hope that your participation in the IGC 2016 will give you an insight into our own geothermal world and, thereby, inspire others to join our efforts.

Welcome to Iceland. I wish you a successful conference.

Lilja Alfreðsdóttir, Foreign Minister of Iceland

Keynote Speakers

Professor Michael Porter

Harvard Business School

Michael Porter is an economist, researcher, author, advisor, speaker and teacher. Throughout his career at Harvard Business School, he has brought economic theory and strategy concepts to bear on many of the most challenging problems facing corporations, economies and societies, including market competition and company strategy, economic development, the environment, and health care. His extensive research is widely recognized in governments, corporations, NGOs, and academic circles around the globe. His research has received numerous awards, and he is the most cited scholar today in economics and business. While Michael Porter is, at the core, a scholar, his work has also achieved remarkable acceptance by practitioners across multiple fields. Dr. Porter's initial training was in aerospace engineering at Princeton University. He then earned an M.B.A. from Harvard Business School and a Ph.D. in Business Economics from Harvard's Department of Economics.

Rachel Kyte

CEO of the Sustainable Energy for All (SE4All) & Special Representative of the UN Secretary-General for SE4All.

A leading advocate for sustainable development, Ms. Kyte is focused on affordable, reliable and sustainable energy as the key to combating both poverty and climate change. Ms. Kyte drives SE4All's work to mobilize action towards its 2030 goals of ensuring universal access to modern energy services; doubling the global rate of improvement in energy efficiency; and doubling the share of renewable energy in the global energy mix. As Special Representative for the Secretary General she is the point person in the UN for action towards the recently agreed global goal on sustainable energy. Ms Kyte served until December 2015 as World Bank Group Vice President and Special Envoy for Climate Change, leading the Bank Group's efforts to campaign for an ambitious agreement at the 21st Convention of the Parties of the UNFCCC (COP 21). She was previously World Bank Vice President for Sustainable Development and was the International Finance Corporation Vice President for Business Advisory Services. Recipient of numerous awards for women's leadership, climate action and sustainable development, she is a Professor of practice in sustainable development at Tuft's Fletcher School of Law and Diplomacy. She holds a master's degree in international relations from Fletcher, and a bachelor's degree in history and politics from the University of London.

Dr. Hörður Arnarson

CEO of Landsvirkjun - National Power Company of Iceland

Hordur Arnarson completed his electrical engineering studies at the University of Iceland in 1986 and went on to obtain a doctorate from the Technical University of Denmark, in Copenhagen four years later, in 1990. Hordur began working for the food processing developer Marel in 1985 and became CEO in 1999, a position he held for ten years. He was then appointed Managing Director at the Sjóvá insurance company, leading the restructure of the organisation.

Ásgeir Margeirsson

CEO of HS Orka

Mr. Margeirsson, CEO of HS Orka, is highly experienced within the geothermal sector with over 20 years' experience in the industry. Mr. Margeirsson served as Chairman of HS Orka 2010-2013 and serves as a board member of the Blue Lagoon. He previously served as a board member and Chairman for the Geothermal Association of Iceland. Other previous positions include CEO of Magma Energy Iceland, CEO of Geysir Green Energy, COO and Deputy CEO of Reykjavik Energy and Technical Director of Iceland Drilling Co. Mr. Margeirsson has also served on the boards of several geothermal companies in three different continents and has been involved in geothermal exploration and development in various countries for 20 years. Ásgeir Margeirsson holds a Lic. Techn. degree in Construction Management from the Technical University in Lund, Sweden and a C.Sc. in Civil Engineering from the University of Iceland in Reykjavik.

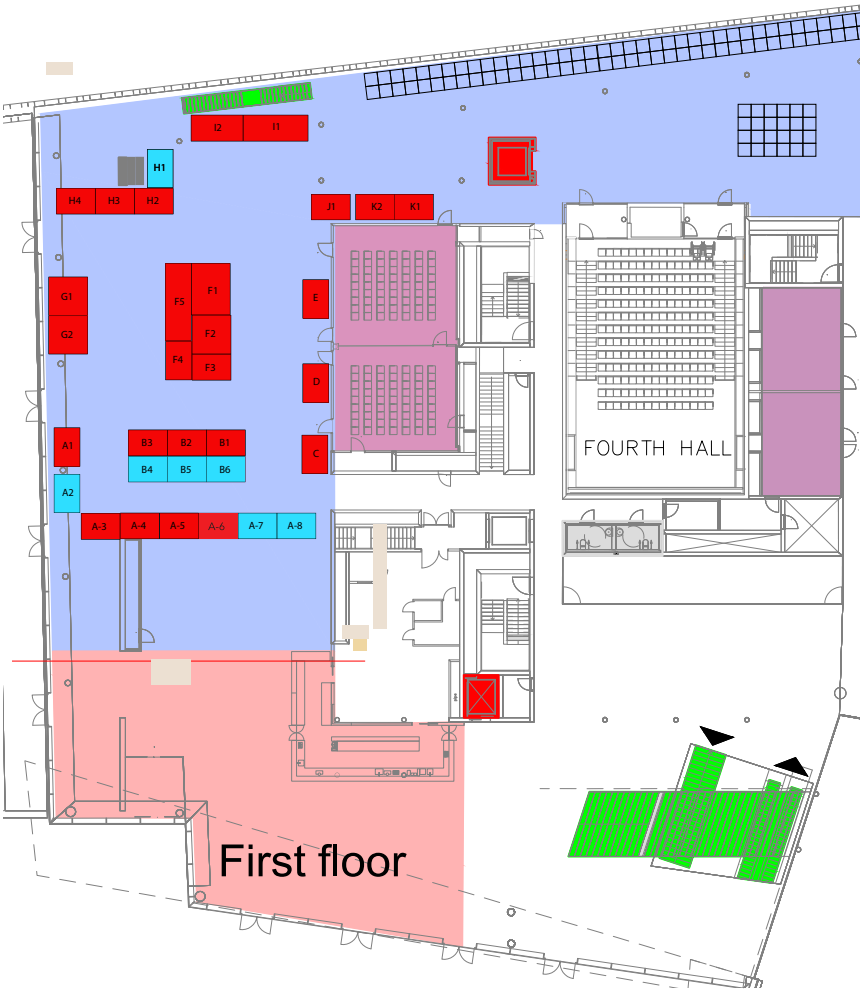
Adnan Z. Amin

Director-General of IRENA

Adnan Z. Amin is the Director-General of the International Renewable Energy Agency (IRENA), currently serving his second term. He has over twenty five years of experience and recognized accomplishments in the international arena, primarily in the fields of sustainable development, international energy and environment policy, as well as a solid track record in institutional and organisational development and management of international organisations. Mr. Amin joined IRENA in 2010 as the Interim Director-General of the Preparatory Commission for IRENA. In April 2011, he was elected as the agency's first Director-General. During his tenure, IRENA has become the global authority on renewable energy and a vibrant international organisation.

Brand Awareness Exhibition

Wednesday and Thursday
Conference Centre



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Serco	F-2
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Verkís	E
Verneglobal	C

Geothermal Brokerage Event

In cooperation with Enterprise Europe Network, the Iceland Geothermal Initiative is organizing an International matchmaking event in Geothermal. This event will be running parallel to the conference IGC2016 on day 3 - Thursday 28th of April and will give participants opportunities to meet and exchange information between possible technological/business partners.

Brokerage Event
April 28, 2015

Key Sponsors A - RED

Arctic Green Energy

Arctic Green Energy Corporation was founded with the mission of exporting the Icelandic success and leadership in geothermal and other renewables to markets around the globe. Through close collaboration with key partners, we build up local companies within our target markets.

Having traditionally focused on the emerging markets of Asia, we operate the world's largest geothermal district heating company – Sinopec Green Energy Geothermal - in cooperation with Sinopec. A new venture was recently launched in Vietnam and geographical focus is being expanded to include Central Asia and Europe.

Among our past projects is a 50MW geothermal power station in the Philippines.

Our core team of seasoned industry leaders are working constantly to fulfill the company's mission of increasing shareholder value through sustainability. We currently provide sustainable heating solutions for over 600.000 customers and our operations have saved close to 1,7 million tons of CO2 emissions to date – the equivalent of planting 8 million trees.

Arctic Green Energy is a proud member of the Icelandic Geothermal Cluster and the United Nations Global Compact. Our vision of building a leading profitable green energy company is based on our core values of a cleaner and healthier world, sustainability and social responsibility.

Landsvirkjun, The National Power Company of Iceland

Landsvirkjun is one of the largest renewable electricity generator in Europe and the largest one in Iceland. The company is owned by the Icelandic state and is a leader in the sustainable use of renewable energy resources. By utilising 100% renewable energy, hydropower and geothermal energy, we process three quarters of all electricity used in Iceland, for both domestic and industrial use.

Founded in 1965, the company now operates 14 hydropower stations, two wind turbines for research purposes and two geothermal power stations. The 17th power station, Theistareykir Geothermal Station, is in the process of being built and scheduled to commence in autumn 2017.

2015 was a record year in which the company's total electricity generation was 13,9 TWh. Our success is built on our ambition to develop our expertise in the field and our commitment to working in harmony with nature and society. Today geothermal energy accounts for a small part of the electricity produced by Landsvirkjun but in recent years the company has been exploring the possibilities of a more diverse utilisation in geothermal areas.

Key Sponsors A - RED

Arion Bank

Arion banki

Arion Bank is a leading Icelandic bank offering universal financial service to companies, institutional investors and individuals. These services include corporate and retail banking, investment banking, capital markets services, treasury services, asset management and comprehensive wealth management for private banking clients. Arion Bank has its main operations in the Reykjavík area and has a national branch network covering all the main population centres in Iceland. The Bank provides financial services outside Iceland, mainly to companies related to the seafood and energy industries in Europe and North America.

The Bank has a strong focus on the Icelandic geothermal and energy intensive industries and provides financial services to some of Iceland's industry leaders. Additionally Arion Bank is a supporter of The Iceland Geothermal project. The Bank is also a founding member of Startup Energy Reykjavík, a mentorship-driven seed stage investment program with a focus on energy-related business projects. Through Startup Energy Reykjavík Arion Bank has invested in numerous energy-related startups. Startup Energy Reykjavík was founded in 2013 by Arion Bank, Landsvirkjun, GEORG and Innovation Center Iceland.

Arion Bank places great importance on building and strengthening long-term customer relationships by delivering excellent service and tailored solutions.

Reykjavík Energy

OR Reykjavik Energy

Reykjavik Energy is a power and utility company that bases its activities on a responsible and efficient utilisation of natural resources. Reykjavik Energy has three subsidiaries: Veitur, ON Power and Reykjavik Fibre Network. The utilities'areas of activity cover Sourth and West Iceland, in addition to the capital area, but electricity is sold throughout the country. Reykjavik Energy and its subsidiaries shoulder a great deal of responsibility for the natural resources the dispose of. This responsibility entails working according to the ideology of sustainable development and therefore ensuring sustainable utilisations.

ON Power is a leading power company that produces electricity, primarily from renewable geothermal resources and provides one-third of the population in Iceland with district heating. The company is a world leader in the utilisation of geothermal resources and produces electricity and heat, in combined heat and power plants. ON Power actively pursues social responsibility in its activities and is engaged in extensive innovation in the field of environmentally sound and renewable energy production.

Veitur distributes electricity and hot and cold water, in addition to running sewerage systems. Veitur has a history of 85 years in the sustainable utilisation of geothermal energy. Veitur provides hot water from low-temperature geothermal fields and ON Power's geothermal power plants in the Hengill area. In households and companies the return water is widely used to heat up driveways, footpaths and car parks. Public swimming pools in Veitur utilities area of activity benefits form a 50% discount on hot water. Hundreds of thousands of people visit these pools every year to enhance their health and enjoy themselves.

Key Sponsors A - RED

Reykjavik Geothermal

Reykjavik Geothermal was founded in 2008 by one of the world's most experienced geothermal management and science teams. Prior to the formation of the Company, members of the RG team were responsible for over a quarter of the world's geothermal power development over the previous four years.

RG has the experience to untap the vast commercial potential of geothermal energy while also being committed to the sustainable use of this naturally occurring resource capable of providing near zero-emission baseload power. By putting our industry-leading development team to work on the best quality geothermal resources around the world in areas with significant market demand, RG is able to provide clean energy now and in the future, in locations all around the world.

To achieve this RG maintains relevant associations with local power off-takers and clients who rely on the efficient and reliable delivery of clean indigenous power. RG invests considerable amounts of time, resources and effort to establish and maintain meaningful relationships with governments, public utilities, mining operations and multi-national corporations representing manufacturing and other industries vital to local economies in our target markets.

Reykjavik Geothermal has a certified QHSE business management system according to the international standards ISO 9001 on quality management, ISO 14001 on environmental management and OHSAS 18001 on occupational health and safety. The company is also committed to the ISO 26000 standard on social responsibility and the SA 8000 standard on social accountability.

The Ministry for Foreign Affairs

Addressing the complex challenges of climate change is an important pillar of Iceland's foreign policy. A key solution to the climate agenda is to seek a true global energy transformation based on the utilization of renewable energy. An integral part of the Foreign Ministry's efforts is therefore to build international awareness about the potential of geothermal as a viable base-load energy source, as well as pursuing concrete geothermal projects through Iceland´s international cooperation.

The Government of Iceland supports enthusiastically the establishment of the Icelandic Geothermal Cluster. The creation of the Cluster represents a fundamental change to the partnership between the private sector, institutions, government agencies and the ministries. The Icelandic Geothermal Conference is a testament to this new and fresh approach.

By inviting international stakeholders to Reykjavik to exhibit and discuss Iceland´s successes and challenges on the road towards a non-fossil fuel based economy, Iceland´s partners will hopefully be motivated to reinforce efforts to fulfill the potential of geothermal utilization.

The Ministry for Foreign Affairs is proud to be among the main sponsors of the Icelandic Geothermal Conference. Through the commendable efforts of the Icelandic Geothermal Cluster, the conference is set to make Reykjavik a center of excellence in the harnessing of this fascinating energy source.

MINISTRY FOR FOREIGN AFFAIRS

PROGRAM

Reykjavik · Harpa · 26-29 April, 2016

ICELAND GEOTHERMAL CONFERENCE

DAY 1 TUESDAY, APRIL 26

WELCOME RECEPTION - EXHIBITION AREA - HARPA.

DAY 2 WEDNESDAY, APRIL 27

08:30-10:00 **Plenary Session Opening Silfurberg A & B hall**

Opening Speech: Lilja Alfreðsdóttir, The Minister for Foreign Affairs

Keynote: Rachel Kyte, CEO of SE4All and Special Representative of the UN Secretary-General

Keynote: Dr. Hörður Arnarson, CEO of Landsvirkjun - National Power Company of Iceland

Plenary Sessions Moderator: Hildigunnur H. Thorsteinsson, MD for Research & Development, OR

COFFEE BREAK SPONSORED BY SPX

DAY 2 WEDNESDAY, APRIL 27

	Phase A OPERABILITY	Phase B FEASIBILITY	Phase C PRACTICALITY
10:30-12:30	**Session A1 – Silfurberg A hall** **Resource Operation**	**Session B1 – Silfurberg B hall** **Risk vs Investment**	**Session C1 – Kaldalón hall** **Social Impact**
	Session Chair Sæunn Halldórsdóttir, ISOR	**Session Chair** Harpa Pétursdóttir, BBA Legal	**Session Chair** Ragna Árnadóttir, Landsvirkjun
10:30-10:50	John Farison Calpine **Geysir Case study**	Gunnar Tryggvason KPMG **What is the value of your Geothermal Project Development?**	Dr. Loftur Reimar Gissurarson Reykjavik Geothermal **Social Impact in Ethiopia**
10:55 - 11:15	Hildigunnur H. Thorsteinsson Reykjavik Energy – OR **Reinjection and induced seismicity**	Achim Fischer-Erdsiek NW Assekuranz **Geothermal Risk Insurance – "It´s all about Standards"**	Jóna Bjarnadóttir Landsvirkjun **Theistareykir - New Geothermal Power Plant**
11:20 - 11:40	Óskar Pétur Einarsson Verkís **Stykkishólmur Geothermal District Heating**	Árni Magnússon Mannvit **Geothermal Development: Mission impossible? or possibly possible.**	Zoltan Salánki EU- Fire EGS **The social impact of an EGS demonstration project in Hungary**
11:45 - 12:05	Alvaro Aguilar CFE Mexico **Operation of the Cerro Prieto Field**	Patrick Dobson Lawrence Berkeley National Lab **The Role of Exploration in Accelerating Geothermal Deployment in USA**	Dr. Páll Valdimarsson PVald ehf. **The Social Impact of Geothermal**
12:10 - 12:30	Guðni Axelsson Iceland GeoSurvey ISOR **Olkaría – Kenya**	Atli Björn Þorbjörnsson BBA Legal **Regulatory Risk**	Marietta Sander International Geothermal Associations **COP21 & the Paris Agreement: Implications for renewables & the geoth. sector**

12:30-13:30 **LUNCH BREAK**

DAY 3 THURSDAY, APRIL 28

08:30 - 10:30	**Session A2 – Silfurberg A hall** **Operation of Power Plant**	**Session B2 – Silfurberg B hall** **Finance & Opportunity**	**Session C2 – Kaldalón hall** **Resource Park**
	Session Chair: Inga Dóra Hrólfsdóttir, Veitur	**Session Chair** Ágústa Ýr Þorbergsdóttir, Navigo	**Session Chair** Kristín Vala Matthíasdóttir, HS ORKA
08:30-08:50	Guðmundur J. Bjarnason DMM **Asset management for geothermal plants – what it is and isn´t**	Reynir Jóhannsson HS Orka **IDDP - Business Case**	Dr. Halldór G. Svavarsson Blue Lagoon **Society Without Waste: Cultivating Microalgae with Non-Condensable Gases**
08:55 - 09:15	Geir Þórólfsson HS Orka **Case - Svartsengi - Reykjanes**	Ingi Ingason Efla Consulting **Turkish Delight - with geothermal flavour**	Stefán Árnason Stolt Sea Farm Iceland **Production of Senegalese Sole above the Arctic Circle**

13:30-18:00 **Field Trips:** Hellisheiði Powerplant - Resource Park Svartsengi - Hveragerði Geothermal Village - The Capital Area.

Buses leave from Harpa Conference Centre at 13:30

14:00 **Blue Lagoon** - Optional Dep.14:00

19:30-23:00 **Conference Dinner at Reykjavik Art Museum 19:30-23:00**

Welcome Address: Ragnheiður Elín Árnadóttir, Minister of Industry and Commerce

	Phase A OPERABILITY	Phase B FEASIBILITY	Phase C PRACTICALITY
DAY 3 THURSDAY, APRIL 28			
09:20 - 09:40	Sigurður H. Markússon Landsvirkjun **Krafla - Electricity generation from an active volcano**	Gestur Bárðarson Green Energy Geothermal **The developm. of geoth. power projects; Large Scale approach vs Wellhead Approach**	Margrét Ormslev Ásgeirsdóttir Carbon Recycling Int **CO^2 from geothermal gas to methanol production**
09:45-10:05	Anthony Hinde Exergy **Binary plant retrofitting of a single flash steam plant**	Julian McDowell Jacob Consultancy **A Time to Drill: Geothermal Drilling Costs in a Low Oil Price Climate**	Dr. Jefferson W. Tester Cornell University **District Heating System at Campus of 30,000**
10:10 - 1030	Dany Batscha Ormat **The Right Technology For A Geothermal Resource, The Puna Example**	Adonai Herrera-Martínez EBRD **Early stage geothermal develop. support: PLUTO and EBRD's experience in Turkey**	Fida Abu Libdeh GeoSilica **Utilization of silica in geothermal fluids for silica based health products**
10:30 - 11:00	**MORNING BREAK**		
11:00-13:00	**Session A3 – Silfurberg A hall** **Technical Solutions**	**Session B3 – Silfurberg B hall** **Policy**	**Session C3 – Kaldalón hall** **District Heating**
	Session Chair Sunna Björg Reynisdóttir, Eþa	**Session Chair** María E Marelsdóttir, Min. Foreign Affairs	**Session Chair** Carine Chatenay, Verkís
11.00 - 11:20	Elín Hallgrímsdóttir and Yngvi Guðmundsson Mannvit and Verkís **Geothermal Well Head Units**	Gurbuz Gonul IRENA **Global Geothermal Alliances**	Bjarni Bjarnason Reykjavik Energy **District Heating in Reykjavik**
11:25 - 11:45	Dr. Paolo Romagnoli Enel Green Power **Enel Green Power**	Marie Donnelly European Commission - DG Energy **The European Energy Union**	Christian Boissavy GEODEEP **District Heating in Paris**
11:50 - 12:10	Bjarni Már Júlíusson ON Power **The Sulfix Project**	Lauren Boyd DOE **Major Initiatives and Future Directions of DOE's Geothermal Technologies Office**	Susan Sun Arctic Green Energy **District Heating China**
12:15 - 12:35	Vigfús Arnar Jósepsson Verkís **Steam Seperation System Development Reykjanes - Iceland**	Dr. Meseret Zemedkun UNEP **East Africa**	Philippe Dumas EGEC **Market Trend in Europe**
12:40-13:00	Joseph Bonafin Turboden **The Velika Ciglena field**	Carlos Jorquera Chilean Geothermal Council **New Energy Regulation in the Electric Sector – Geothermal Business**	Gábor Molnar Mannvit Kft **Geothermal Heat Utilization in Central Europe**
13:00-14:00	**LUNCH BREAK**		
14:00-15:30	**Session A4 – Silfurberg A hall** **Case Studies**	**Session B4 – Silfurberg B hall** **European Cooperation**	**Session C4 – Kaldalón hall** **Innovation**
	Session Chair Hildur Magnúsdóttir, Iceland Drilling	**Session Chair** Anna Lilja Oddsdóttir, Orkustofnun	**Session Chair** Halla Hrund Logadóttir, ISE-RU
14:00-14:20	Simon Addison Mighty River Power **Case Study from New Zealand**	Danica Maljkovic Energy Institute Hrvoje Požar **Geothermal Energy in Croatia**	Birgit Kneschke Verne Global Data Centre **Iceland - How Geothermal Power is Transforming the Digital Economy**
14:25-14:45	Sigurður Ingi Friðleifsson Orkusetur **Transition from fossil fuels to renewables in Akureyri**	Prof. Beata Kepinska Mineral & Energy Econ. Research Inst. **Geothermal Energy in Poland**	Arna Pálsdóttir Cornell University **The co-extraction of lithium & rare earth elements from geothermal waters**
14:45-15:05	Ásgrímur Guðmundsson Landsvirkjun **Bjarnarflag - Cascade geothermal utilization and further potentials**	Paul Serbanescu Environment Fund Administration **The RONDINE Programme**	Souheil Saadi Haldor Topsoe **Carbon CO^2 revenue stream**
15:10-15:30	Albert Genter ÉS Géorthermie **The Rittershoffen Case Study**	Prof. Cornel Antal University of Oradea **Geothermal Possibilities in Romania**	Joseph Scherer GreenFire Energy **Design of a Closed-Loop supercritical CO^2 Geothermal**
15:30-16:00	**COFFEE BREAK**		
16:00-18:00	**Plenary Session Closing, Silfurberg A & B hall**		
	Keynote: Ásgeir Margeirsson, CEO of HS Orka		
	Keynote: Professor Michael Porter, Harvard Business School		
	Keynote: Adnan Z. Amin, Director - General IRENA		
	Closing Speech: Ólafur Ragnar Grímsson, President of Iceland		

Resource Operation

Sæunn Halldórsdóttir

ISOR

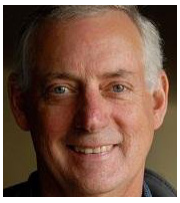
Session Chair

Sæunn Halldórsdóttir is Head of Geosciences at Iceland GeoSurvey (ÍSOR). She is a reservoir physicist/engineer by profession and has almost 10 years' experience from the geothermal sector. Her main projects involve conceptual model development, capacity building and training of geothermal specialists, numerical model development incl. TOUGH2/iTOUGH2 and volumetric assessment of geothermal reservoirs. From 2014 she has been a member of the Studies Board of the United Nations University Geothermal Training Programme (UNU-GTP) in Reykjavík and is responsible for Reservoir Engineering. Countries of work experience incl. The Philippines, Kenya, Costa Rica, Nicaragua, Turkey and Portugal. Sæunn earned a Master's degree in Geophysics from the University of Iceland in 2006 and has since worked at the Icelandic Met Office and ÍSOR. She lives in an old harbour town close to Reykjavík with her partner and three children.

John Farison

Calpine

Geysir Case study



John Farison is the Director of Process Engineering for Calpine Corporation at the Geysers Geothermal Field in northern California. He has over 35 years of experience in geothermal energy including roles as steam field engineer, project engineer, engineering manager and powerplant manager. John has a BS degree in Chemical Engineering from Ohio State University.

Hildigunnur H Thorsteinsson

Reykjavik Energy – OR

Reinjection and induced seismicity

Hildigunnur Thorsteinsson is the Managing Director for Research and Development at Reykjavik Energy. In her role, she oversees natural resource management and R&D for the company. Previously, she led the Hydrothermal and Resource Confirmation team at the Energy Efficiency and Renewable Energy's Geothermal Technologies Office at the U.S. Department of Energy. There she managed an extensive portfolio of RD&D grants, led technical road mapping and budget formulation. Prior to working for the U.S. Department of Energy, she was a project manager and engineer at geothermal developers in both the United States and Iceland. Currently, Mrs. Thorsteinsson serves on the boards of ON Power, the Icelandic Geothermal Association and Iceland Geothermal. She received a Bachelor of Science in Industrial Engineering from the University of Iceland in 2005, and a Master of Science in Technology and Policy from the Massachusetts Institute of Technology in 2008.

Óskar Pétur Einarsson

Verkís

Stykkishólmur Geothermal District Heating

Óskar P. Einarsson, Mechanical Engineer, is a geothermal expert with 17 years of experience as mechanical engineer. He has in-depth experience in preparation of feasibility studies, process design, preliminary and detailed design, design review, technical due diligence, technical assistance during procurement, technical reviews and tender evaluation, as well as support to the operators for the operation of district heating systems and industrial cooling systems. Óskar P. Einarsson is used to working in international context and has worked as a geothermal expert on projects in Eastern Europe, Turkey, Belgium, Germany, China, Georgia and India. He has also acted as a student supervisor at the United Nations University geothermal training programme.

Alvaro Aguilar

CFE Mexico

Operation of the Cerro Prieto Field

Profession: Geologist, graduate from "Universidad de Guanajuato" in 1986. Currently coursing a MBA in "Universidad del Valle de México". He worked 16 years in the Mining Industry in México with different national and international companies. He also, has 14 years of experience in geothermal with CFE. Works in Cerro Prieto Geothermal Field since 2002 and currently works as Studies Head, he is in charge of steam production control and program, exploration of new areas, and the medium and long term planning. In the Geothermal Industry, he has presented several studies focused on exploration of new areas around the Cerro Prieto Geothermal Field, at northwest of Mexico.

Guðni Axelsson

Iceland GeoSurvey ISOR

Olkaría – Kenya

Guðni Axelsson, Ph.D. is Head of Geophysics and Reservoir Physics at Iceland GeoSurvey, ÍSOR and Adjunct professor in geothermal science at the University of Iceland. Mr.Axelsson specializes in geothermal reservoir physics, including testing, monitoring and modelling of geothermal reservoirs, as well having long experience in geothermal resource management, including reinjection, tracer testing and sustainable utilization. He has e.g. worked on geothermal projects in Iceland, China, The Philippines, Kenya, Central-America and Europe. Guðni has been involved in world-wide geothermal training and technology transfer for 25 years, in particular through the United Nations University Geothermal Training Programme. He is first author of more than 50 international publications, co-author of numerous others as well as author or co-author of more than 250 reports.

Operation of Power Plant

Inga Dóra Hrólfsdóttir

Veitur

Session chair

Inga Dóra Hrólfsdóttir is the Managing Director of Veitur, the largest utility company in Iceland. Veitur is a subsidiary of Orkuveita Reykjavíkur (OR, Reykjavík Energy) and distributes electricity, hot and cold water, and operates sewerages. Veitur serves about three-quarters of the Icelandic population and appeared under its own brand in late 2015. Inga Dóra holds a master's degree in civil engineering and started working for Reykjavik District Heating, OR's predecessor, in 1996. Before taking on the managing role for the utilities, Inga Dóra led departments within OR regarding GIS systems, construction and technologies.

Guðmundur J. Bjarnason

DMM

Asset management for geothermal plants – what it is and isn´t

Guðmundur Jón Bjarnason is the CEO at DMM Solutions Iceland and an experienced asset management specialist. Guðmundur has over 20 year experience in the energy sector. He worked for Landsvirkjun from 1996–2000 and has since, on behalf of DMM, worked with HS Orka, ON Power and Landsvirkjun in all the geothermal power plants in Iceland, with focus on asset management systems. He is one of the founders and a board member at FVSI, the Icelandic Asset Management Association and he was an observing member on behalf of the Icelandic Council for Standardization while ISO 55000 was under development, the first international standard for asset management, published in 2014. Guðmundur Jón Bjarnason holds a M.Sc. degree in Electrical Engineering from DTU, The Technical University of Denmark, and a MBA degree from Reykjavik University.

Geir Þórólfsson

HS Orka

Case - Svartsengi - Reykjanes

Geir Þórólfsson is Engineering Manager at HS Orka. Geir has over 40 years' experience in Geothermal Engineering. He holds a Cand Scient and MS degrees in Mechanical Engineering from the University of Iceland (1976, 2002). He worked at the VGK consulting engineering company on design and supervision of building the Power Station in Svartsengi, before joining HS Orka in 1981. He has served as Power Plant Manager, Project Manager, and trouble shooter during his 35 years of duty.

Sigurður H. Markússon

Landsvirkjun

Krafla - Electricity generation from an active volcano

Sigurður Markússon is a Project Manager at Landsvirkjun, The National Power Company of Iceland. For the past five years Sigurður has been involved in innovation projects related to geothermal development, ranging from utilization of geothermal gases to the development of near magma geothermal reservoirs. Sigurdur holds a M.Sc. degree in Geochemistry for University of Iceland.

Anthony Hinde

Exergy

Binary plant retrofitting of a single flash steam plant

International marketing and sales director Anthony Hinde graduated from Nottingham University in the UK with a BEng (Hons) in Mechanical Engineering. Most recently he obtained his MBA from Purdue University in the US and Tilburg University in the Netherlands. Anthony has worked in the power industry for over 13 years, specialising in both heat recovery and Organic Rankine Cycle (ORC). He has spoken at a number of the leading industry forums, and is a Chartered Engineer. As International Marketing and Sales Director for EXERGY, Anthony services clients across the globe, with in-depth specialist knowledge. He also manages the sales team and oversees the strategic marketing direction of the business.

Dany Batscha

Ormat

The Right Technology For A Geothermal Resource, The Puna Example

Dany Batscha is a senior thermodynamic engineer in ORMAT responsible for all thermodynamic design aspects. Dan Batscha joined Ormat in 1988 after working for fossil power plant design and has since risen in Ormat to be the authority in power plant design. Danny has vast experience in developing power cycle solutions for the geothermal and waste heat applications and design of related equipment such as turbines, shell & tube and air cooled heat exchangers. Following his view of improvement & development, Danny is fully engaged with field tests of equipment and performance analysis of power plants. Danny holds a B.Sc. in Mechanical Engineering, has 14 patents to his name and has written scientific papers on the efficient use of geothermal energy.

Technical Solutions

Sunna Björg Reynisdóttir

Efla Consulting

Session Chair

Ms. Sunna Björg Reynisdóttir is a project manager at the geothermal division at EFLA consulting engineers. Her key tasks have been business development and project management. She oversees new business opportunities and tenders related to renewable energy, geothermal power and direct geothermal utilization. As well as focusing on development of projects, planning and project team management. Since joining EFLA in 2012 Sunna has been actively working on international geothermal projects, primarily in Kenya and Turkey. Prior joining EFLA she worked on research in the field of mechanical engineering at the Hong Kong Polytechnic University and as Assistant Teacher at the University of Iceland. Sunna sat as a board member in the Project Management Association of Iceland and was chairman of IPMA Young Crew Iceland. Sunna holds a degree in Industrial Engineering from the University of Iceland.

Bjarni Már Júlíusson

ON Power

The Sulfix Project

Bjarni Már Júlíusson is the Managing Director of Technical Development at ON Power, subsidiary of Reykjavik Energy. Bjarni has extensive experience within the geothermal sector with over 25 years' experience in power plant construction, refurbishment, operation and maintenance of both hydro- and geothermal power plants .He holds a B.Sc. in electrical engineering from Denmark and an MPM degree from Reykjavik University in project management. Before joining Reykjavik Energy in 2012, as a common project manager for the Icelandic geothermal power companies develop the Icelandic H2S abatement method "SulFix", Bjarni worked for Landsvirkjun for 22 years, as a station manager in Krafla geothermal power plant and technical manager among other positions.

Elín Hallgrímsdóttir

Mannvit

Geothermal Well Head Units

Elin Hallgrimsdottir is an engineer specialized

in the mechanical engineering of geothermal power plants. She has for the past several years been the project manager at Hellisheidi power plant. Elín has recently been a part of the engineering consulting team for the 4x45 MW geothermal power project in the North-East of Iceland being developed by Landsvirkjun. She has extensive experience in geothermal projects in Iceland and internationally, including projects in Kenya and Chile.

Yngvi Guðmundsson

Verkís

Yngvi Guðmundsson is a project manager in Geothermal Energy at Verkís Consulting Engineers. He has been involved in Geothermal Projects in Iceland, Kenya, Indonesia and South America. He received M.Sc. degree in Mechanical Engineering from Stellenbosch University in 2011 and B.Sc. degree in Mechanical engineering from the University of Iceland in 2008. Before Verkis, he worked for an Icelandic Prime Contractor in the construction of the Harpa Concert Center. He is also a part time lecturer at the University of Iceland and in the UN Universtity Geothermal Training Program.

Vigfús Arnar Jósepsson

Verkís

Steam Seperation System Development Reykjanes - Iceland

Vigfús Arnar Jósefsson is a mechanical engineer in the Energy division at Verkís. He has five years of experience as a consultant in geothermal projects both abroad and in Iceland, mostly focusing on process design and control systems. More recently, he has focused on hydrodynamical design both in geothermal energy and hydropower. He has been a lecturer at the University of Iceland, both in thermo-fluid sciences and geothermal energy courses at undergraduate and postgraduate levels. He holds a B.Sc. degree in Mechanical Engineering from the University of Iceland and a joint M.Sc. degree in Mechanical Engineering from the Royal Institute of Technology in Stockholm and the University of Iceland. He also holds a Research Master postgraduate diploma in Environmental and Applied Fluid Dynamics from the von Karman Institute in Brussels.

Dr. Paolo Romagnoli

Enel Green Power

Enel Green Power

Paolo Romagnoli, graduated from Genoa University in Italy with a degree in Chemical Engineering in 1984. He has about 30 years of experience in geothermal activities. His responsibilities have included development, design, operation and maintenance of geothermal resources. Paolo Romagnoli began his career in 1987 in the research field, in 1993 he was given the responsibility to oversee the geothermal Construction Department before being appointed in 1999, Manager of the geothermal power plants in Monte Amiata area in Italy. He currently serves as Manager at Enel Green Power, as head of Geothermal Center of Excellence and Drilling. His responsibilities include the identification of geothermal development opportunities worldwide and the management of Drilling department.

Mr. Joseph Bonafin

Turboden

The Velika Ciglena field

Joseph Bonafin holds a Master Degree in Mechanical Engineering, with specialization in power generation systems. His background with ORC technology started with a project of a heat recovery system integration at Wartsila. In 2009 joined Turboden. Today, having achieved 7 years of geothermal business experience and successful sales campaigns, he coordinates the application as sales leader and business development manager. Thanks to the partnership with Mitsubishi group – world geothermal leader - Joseph looks with great optimism to the future of Turboden's integrated solutions. He promoted the development of the large size geothermal turbines. Currently lives in Turkey to coordinate the expansion of the new born Turkish subsidiary.

Case Studies

Hildur Magnúsdóttir

Iceland Drilling

Session chair

Hildur Magnúsdóttir is a member of the Iceland Drilling team in business development, sales and marketing. Her key tasks has been participating in tenders and negotiations for drilling projects worldwide. Hildur has been a part of Iceland drilling company for more than 10 years where she has been involved with projects domestically and internationally. She has experience as a board member and is the chairman of the board of Ræktunarsamband Flóa og Skeiða, a domestic drilling company. Hildur graduated with a B.Sc. degree in Business Administration from Reykjavik University in 2008.

Simon Addison

Mighty River Power

Case Study from New Zealand

Mr Addison holds a BSc and MSc in Chemistry from Waikato University, New Zealand. Since 2010 he has worked for Mighty River Power as a geochemist focussing on both geothermal reservoir chemistry across all operated geothermal reservoirs and process chemistry at a time of significant geothermal expansion within New Zealand. Prior to this he was at the coal and gas Huntly Power Station focussing on cycle chemistry with a particular focus on corrosion mitigation and steam purity understanding.

Sigurður Ingi Friðleifsson

Orkusetur

Transition from fossil fuels to renewables in Akureyri

Sigurður Ingi Friðleifsson holds an MSc in International Environmental Science from Lund University (2004), BSc in biology from University of Iceland (1997) and a teacher degree from University of Iceland (1999). Sigurður has been the manager of the Energy Agency in Iceland (Orkusetur) the past ten years. Before that he worked as a teacher in primary and secondary school, an expert in a Genetic company and a manager at IKF small software company.

Ásgrímur Guðmundsson

Landsvirkjun

Bjarnarflag – Cascade geothermal utilization and further potentials

Ásgrímur Guðmundsson is a geothermal project manager –senior geologist at Landsvirkjun (The National Power Company), since 2011. In the years 2010-2012 he worked as a geothermal consultant and drilling supervisor with the Qollahuasi mining company Chile and ISOR/VERKIS in Chile. Ásgrímur has a long experience in the fields of geothermal constultance and project managing. From the year of 2003-2011 for ÍSOR (Iceland Geosurvey) and Landsvirkjun. Before that (1983-2003) Ásgrímur was responsible for geothermal exploration, development and monitoring of the Krafla hightemperature area, Iceland. 60 MW Geothermal Power Plant. As well as geothermal recearch program in Námafjall (Bjarnarflag) geothermal area, as a deputy manager at the National Energy Authority (NEA). Ásgrímur is a supervisor in borehole geology and related subjects and data interpretation at the United Nations University Geothermal Training Programs (since 1980).

Dr.Albert Genter

ÉS Géorthermie

Rittershoffen

Dr Albert Genter the Deputy General Manager of ES-Géothermie, a subsidiary of Electricité de Strasbourg (ES). He has 30 years of experience in Geosciences and more specifically in deep geothermal energy. A. Genter was previously Scientific Manager of the EEIG Heat Mining called the Soultz-sous-Forêts geothermal project from 2007 to 2013. Before joining ES-Géothermie, Mr Genter had been working for 27 years for the French Geological Survey, BRGM. From July 2013, Albert Genter has been elected for 3 years at IGA (International Geothermal Association) as member of Board of Director. Dr Albert Genter is a structural geologist with a PhD in Applied Geology from Orleans University (France).

Phase B Session B1 – Silfurberg B hall – 10:30-12:30 **FEASIBILITY**

Risk vs Investment

Harpa Pétursdóttir

BBA Legal

Session Chair

Harpa Petursdottir graduated with a Master of Law in 2010 with emphasis on national and international energy law. Harpa has been working mainly with energy and natural resources law at Reykjavik Energy, for the Icelandic National Energy Authority and BBA Legal. She was a project manager for the National Regulatory Authority of the NEA, responsible for ensuring that licencing and regulation of Iceland´s electricity generation, transmission and distribution was in accordance with national and international law as well as in drafting bills for the Ministry of Innovation and Industry. Harpa also has in depth knowledge of the legal framework for geothermal in Iceland. She has written a number of articles and reports on geothermal as well as assisting foreign governments with legal and regulatory matters Harpa has worked as a Lecturer at the Bifrost University Faculty of Law as well as being a board member for the Environmental and Natural Resources Law Research at the University of Iceland.

Gunnar Tryggvason

KPMG

What is the value of your Geothermal Project Development?

Gunnar Tryggvason is a Senior Manager at KPMG advisory and an energy specialist. Gunnar has advised international geothermal companies and investors on M&A, financing, valuation and strategy. Prior to joining KPMG Gunnar was CFO of a geothermal development company and banker

Achim Fischer- Erdsiek

NW Assekuranz

Geothermal Risk Insurance – "It´s all about Standards"

25 years' experience as an insurance broker. Coming from oil and gas exploration risk management and insurances. Learning about the special needs of the geothermal industrie for over 10 years now. Head of finance and law in the Geothermal Cluster Geoenergy Celle e.V..Dedicated to Iceland via the local drilling company and the Icelandic Geothermal cluster.

Árni Magnússon

Mannvit

Geothermal Development: Mission impossible? or possibly possible.

Arni Magnusson joined Mannvit in February 2013 to head its Energy division. He is a board member of some of Mannvit's subsidiaries including, GTN in Germany, LWRC in the UK and Mannvit kft in Hungary. Prior to joining Mannvit he headed the Sustainable Energy Team at Glitnir-Bank (Islandsbanki) since its establishment in March 2006. He was responsible for the creation of a new product in the U.S. Geothermal Energy Market, high-margin bridge loan facility, shortlisted by the Financial Times for the Sustainability Deal of the year. Furthermore, Arni oversaw the setup and execution of Íslandsbanki›s New York-based subsidiary, Glacier, and sat on the board of the registered broker-dealer. Prior to joining Íslandsbanki (Glitnir) Arni was a member of the Icelandic Parliament and served as the Minister of Social Affairs.

Patrick Dobson

Lawrence Berkeley National Lab

DOE GeoVision Study

Patrick Dobson is a geological staff scientist and the program lead for the geothermal program at Lawrence Berkeley National Laboratory (LBNL), in Berkeley, CA, USA. He received his MS and PhD in geology from Stanford University, followed by postdoctoral stints at Caltech and UC Santa Barbara. He worked for Unocal Corporation for ten years in their research laboratory and as a geologist in their geothermal division, participating in geothermal exploration projects in the US, Indonesia, Guatemala, El Salvador, Nicaragua, Costa Rica, and Chile. Dr. Dobson joined LBNL in 2000, where he currently works on a variety of geologic and geochemical research projects associated with geothermal energy, nuclear waste, and oil and gas resources. He was a Fulbright Senior Specialist at the Universidad de Chile in 2012, and was awarded a Geothermal Special Achievement Award by the Geothermal Resources Council at its annual meeting in 2012.

Atli Björn Þorbjörnsson

BBA Legal

Regulatory Risk

Atli has 15 years extensive experience in practicing law. With an LL.M. from Bristol University, Atli has practiced almost solely in the field of M&A and Finance with a strong focus on energy related projects. The past 10 years Atli became more engaged by Energy related Clients. This includes instructions on projects relating to acquisitions of concessions, district heating projects, drilling projects, acquisitions and sale of power generating companies to advising banks on financing of energy related projects. He has through his work for energy clients been involved on almost every aspect of the value chain for the power intensive industry. This ranges from advising corporate clients on investments into power intensive projects, building and operating power intensive metal plants and expansions thereof, Power Purchase Agreements, Take-off agreements, developing, sponsoring, financing etc. As a member of the BBA team, Atli advised in the development and creation of the legal framework.

Finance & Opportunity

Ágústa Ýr Þorbergsdóttir

Navigo

Session chair

Ágústa Ýr Thorbergsdóttir is the founder and owner of NAVIGO, a consultancy specializing in EU and International affairs with focus on Energy, Climate and Financial markets. Ms Thorbergsdóttir has an extensive professional experience working with the EU and International Finance Institutions. She is an expert on EU Energy and Climate policy and international finance in energy and climate related investments. Ms Thorbergsdóttir has worked extensively with the Icelandic Geothermal Sector in developing international strategy, access to funding and geothermal district heating.

Reynir Jóhannsson

HS Orka

IDDP - Business Case

Reynir Jóhannsson is the chief financial officer for HS Orka. Reynir joined HS Orka in the year 2012. He has over 20 years of experience, including financing and restructuring.

Ingi Ingason

Efla Consulting

Turkish Delight
- with geothermal flavor

Ingi Ingason is a project Director at EFLA Consulting Engineers since 2008. Ingason holds a Master's Degree in Finance and is a certified securities broker. Ingason has been engaged in geothermal projects in various parts of the world performing due diligence for geothermal projects at different development stages. Ingason has been involved in viability evaluations and project management for geothermal projects in Turkey, Indonesia, USA, Iceland, Croatia and Kenya. Prior to joining EFLA Ingason was for over 10 years the Managing Director of the Invest in Iceland agency on behalf of the Ministry of Trade and Industry and the Trade Council of Iceland.

Gestur Bárðarson

Green Energy Geothermal

The developm. of geoth. power projects; Large Scale approach vs Wellhead Approach

Gestur R. Bardarson, VP Technology of Green Energy Geothermal, Ltd. Gestur lead the development and design of the GEG wellhead power plants since the early start of this new innovative business concept in 2011.

Julian McDowell

Jacob Consultancy

A Time to Drill: Geothermal Drilling Costs in a Low Oil Price Climate

Julian is a senior consultant in Jacobs' broader Global Geothermal Group (recently transferred to the Renewables team in Jacobs Consultancy, London office), which comprises a team of geothermal scientists, drilling engineers and reservoir engineers across both Northern and Southern Hemispheres. He has 10 years' consultancy experience (6 years in geothermal) with fields of competence that include reservoir modelling, well testing, resource assessment, and hydrogeology. Countries of work experience include Nicaragua, Guatemala, Indonesia, New Zealand, U.S.A., Papua New Guinea and the Caribbean. Julian has contributed to the University of Auckland's Certificate in Geothermal Energy Technology course and presented at geothermal conferences in the U.S.A and New Zealand.

Adonai Herrera-Martínez

European Bank for Reconstruction & Development (EBRD)

Early stage geothermal development support: PLUTO and EBRD's experience in Turkey

Since November 2009, Adonai Herrera-Martínez is the Energy Efficiency and Climate Change Senior Manager at the European Bank for Reconstruction and Development (EBRD) based in Istanbul. His work includes the coordination of the sustainable energy activities of the Bank in Turkey, covering private sector investments, technical assistance to clients and policy dialogue to support the mainstreaming of resource efficiency and renewable energy. He co-led the development of the Renewable Energy Action Plan for Turkey in collaboration with the Ministry of Energy, and is currently leading EBRD's Early Stage Geothermal Development Support (PLUTO) Programme. Adonai previously worked at UNDP in New York and Dakar, and at CERN in Geneva. He received his MBA degree from INSEAD in 2009 and his PhD in Nuclear Engineering from the University of Cambridge in 2004.

Finance & Opportunity

María E Marelsdóttir

Minister for Foreign Affairs

Session Chair

Ambassador María Erla Marelsdottir was appointed Director General for International Development Cooperation of the Directorate for International Development Cooperation, Ministry for Foreign Affairs in Jan 2012 and ambassador in Dec. 2011. She is the ambassador of Iceland to Ethiopia, Malawi, Mozambique, Palestine and Uganda. Prior to her appointment she was Chairperson of the Negotiating Team for External Trade, Foreign and Security Affairs in Iceland's Accession Negotiations with the EU 2009 - 2013, served as Director of the Department of International Trade Negotiations at the Directorate General of External Trade and Economic Affairs, Ministry for Foreign Affairs 2009-11 and as Counsellor at the Directorate 2007-09. Other positions she has held include: Counsellor and First Secretary at the Embassy of Iceland in Stockholm 2001-05 and the Embassy of Iceland in Bonn and Berlin 1998-2001, and First Secretary at the External Trade Department, Ministry for Foreign Affairs 97-98. Gurbuz Gonul

Gurbuz Gonul

International Renewable Energy Agency

Global Geothermal Alliances

Mr. Gurbuz Gonul joined the International Renewable Energy Agency (IRENA) in 2014 as Senior Programme Officer for administering the Regions Unit. Formerly, he worked as Senior Energy Economist of the Islamic Development Bank between 2010 and 2014, where he led the work for the development of an Energy Sector Policy for the Bank as well as complex loan and technical assistance projects in Africa and Asia. Between 2004 and 2010, Mr. Gonul served as a Senior Expert at the Energy Charter Secretariat in Brussels, where he spearheaded policy analysis, sectoral in-depth reviews, regional / country reviews concerning energy investments, trade and transportation. He also held positions in the EU Delegation in Ankara and Turkey's Ministry of Energy since 1993.

Marie Donnelly

European Commission - DG Energy

The European Energy Union

Marie Donnelly Director, DG Energy, European Commission Ms Marie Donnelly currently works with the European Commission in the Directorate General for Energy as Director for Renewables, Research and Innovation, Energy Efficiency. Previously, Ms. Donnelly worked with the European Commission in the Employment and Social Affairs Directorate General as Director for Resources and Communication and in the Directorate General for Enterprise in the area of Industrial policy in Pharmaceuticals - Human and veterinary medicinal products. She also served as Head of unit for European Social Fund Policy, Coordination in the EQUAL Community Initiative, and was Head of the unit Equality for women and men. Prior to joining the Commission, Ms. Donnelly worked as Industry Group Director with the Federation of Irish Chemical Industries in Dublin, Ireland.

Lauren Boyd

DOE

Major Initiatives & Future Directions of DOE's Geothermal Technologies Office

Lauren W. Boyd is the Program Manager of the Enhanced Geothermal Systems (EGS) program at the U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy. In this role, Lauren oversees all activities related to EGS, including strategic planning, budget formulation, and project execution of a broad RD&D portfolio. This portfolio includes EGS demonstration projects, research and development projects, and new technology initiatives, such as the Frontier Observatory for Research in Geothermal Energy (FORGE), which focuses on EGS validation, optimization and replicability at scale. Prior to joining DOE, Lauren worked in geologic consulting and with the Earth and Planetary Sciences division of the American Museum of Natural History in New York City.

Ms. Meseret Zemedkun

UNEP

East Africa

Dr. Meseret Zemedkun is the Program Manager of the African Rift Geothermal Development Facility (ARGeo) in UNEP since 2011. She is a geoscientist and has a PhD in Earth Sciences-Geothermics. Meseret worked for over 20 years in the Geological Survey of Ethiopia at various level of capacities from geologist to a Head of Department responsible for three operating. Her professional focus - as an International Geothermal Consultant - has been on the development, implementation and coordination of African regional geothermal programmes using her extensive knowledge and experience in geothermal science and engineering. She has substantial experience with developing and supporting geothermal development programs and significant knowledge of the East African rift countries, the geothermal actors, experts and institutions that are active in the region. Meseret has also been closely involved in different international assignments and a visiting researcher in various international institutions.

Carlos Jorquera

New Energy Regulation in the Electric Sector – Geothermal Business

Carlos Jorquera is currently working as an independent consultant in the Electric Sector. Since 2014, an advisor of the Chilean Geothermal Council in all instances of discussion about the new Energy Regulation that the Energy Ministry is conducting. Consultancies 2014-2015 for the companies Energia Andina S.A., Collahuasi geothermal project, Antuko Energy, ENORChile (power producer) and Tritec-Intervento. Before Mr. Jorquera worked as Planning and Development Director at Energia Andina S.A. (2011-2014), Managing Director GeothermHydro (2009–2014) and Project Engineer at Geysir Green Energy group (2007–2009).

European Cooperation

Anna Lilja Oddsdóttir

Orkustofnun

Session chair

Anna Lilja Oddsdóttir is a Specialist at Orkustofnun. She has worked in the energy sector since 2005 first at Reykjavik Energy where she worked on various projects related to heat utilities. Since 2010 she has worked at Orkustofnun as a specialist, on various energy tasks, e.g. on surveillance regarding geothermal and fuel, energy projects and communication issues. She has an M.S.c degree in Geography since 2008 from University of Iceland.

Danica Maljkovic

Energy Institute Hrvoje Požar

Geothermal Energy in Croatia

Ms. Danica Maljkovi has more than 10 years of experience in energy related project, especially in the district heating and renewables and energy efficiency. She worked on numerous of energy projects in the area with the focus on district heating, energy efficiency and renewable energy sources. She has oriented her interests towards project development, market organisation, financing RES and energy efficiency projects, performing due diligences, working with energy efficiency in industry and developing market for district heating. She is and has been managing numerous of projects in the sector. She is involved in a number of projects financed by international financing institution.

Prof. Beata Kepinska

Mineral & Energy Economy Research Institute

Geothermal Energy in Poland: Development, Cooperation and Opportunities

Professor Beata Kepinska is Dr.Sc. in applied geology/ geothermics, professor at the Mineral & Energy Economy Research Institute, Polish Academy of Sciences, academic lecturer. Chairperson of the Polish Geothermal Society, IGA BoD member. UNU GTP graduate (1994) and visiting lecturer (2003). Broad experience in geothermal energy research, various aspects of its exploitation and management (including the first geothermal heating plant in Poland). Author and co-author of over 150 publications. Involved in promotion and activities oriented for wider geothermal uses in Poland.

Paul Serbanescu

Environment Fund Administration

The RONDINE Programme

Paul Serbanescu is Head of the International Programmes Development Unit and Head of the Programmes Strategies Division, within the Environment Fund Administration. He is responsible for financing environment programmes such as renewable energy production and waste management.
He coordinates the Renewable Energy Programme (Rondine) within the EEA Grants. He holds a Master of Science degree in Major Programme Management from the University of Oxford, and an MBA from the Academy of Economic Studies in Bucharest / the University of Ottawa, Canada.

Prof. Cornel Antal

University of Oradea

Geothermal Possibilities in Romania

Cornel Antal is a professor at University of Oradea, Romania and Head of the Geothermal Research Center from the University of Oradea, teaching Thermotechnics for students in engineering, Research activity in geothermal utilization. He has been in UNU-Geothermal Training Programme fellow in 1995, six month course in geothermal utilization.

Social Impact

Ragna Árnadóttir

Landsvirkjun

Session Chair

Ragna Árnadóttir joined Landsvirkjun, Renewable Energy Company, in 2010. First as Executive Vice President and from 2012 as Deputy CEO of Landsvirkjun. Her previous positions include serving as the Minister of Justice from 2009-2010. She was the Director of Legal Affairs in the Ministry of Justice (2002-2008). Ragna held the position Senior Adviser for the Nordic Council´s Secretariat, Stockholm/Copenhagen (1995 – 1999) and worked as a legal expert for the Parliament of Iceland (1991-1995). Ragna is currently the chairman of the Icelandic Growth Forum as well as a board member of Saga Film ehf. She holds a Master of European Affairs LL.M from the University of Lund in Sweden (2002) and completed her Cand. Jur law degree from the University of Iceland (1991).

Dr. Loftur Reimar Gissurarson

Reykjavik Geothermal

Social Impact in Ethiopia

Dr. Loftur Reimar Gissurarson has worked in quality management since 1990. He has implemented a number of audited and accredited management standards in companies, such as ISO 9001, ISO 14001, OHSAS 18001, ISO 27001, ISO 22000, ISO 15489, HACCP, CSR, Green Globe/Earth Check, BREEAM, COSO and Enterprise Risk Management COSO. Before joining Reykjavik Geothermal, he worked as Chief Quality Officer at Orkuveita Reykjavikur for 10 years where he managed with others the infrastructure of the company and re-engineering of processes. Loftur Reimar studied in Scotland where he obtained his Ph.D. in experimental psychology from the University of Edinburg.

Jóna Bjarnadóttir

Landsvirkjun

Theistareykir - New Geothermal Power Plant

Jóna Bjarnadóttir holds an MSc in Environmental Management and Policy from Lund University (2002) and BSc in Biochemistry from the University of Iceland (1999). Jóna joined Landsvirkjun – The National Power Company of Iceland 2014 but before that she was working as a consultant. Jóna has been involved in environmental impact assessment and stakeholder engagement for various projects mainly for geothermal and now also wind energy.

Zoltan Salánki

EU- Fire EGS

The social impact of an EGS demonstration project in Hungary

Mr Zoltán Salánki, M.Sc. geologist, MBA, South Hungarian Enhanced Geothermal System Demonstration Project - project manager, male Mr Zoltán Salánki has more than 15 years of project management and EHS professional experience gathered in international work environment both in consulting and industry. His assignments involved working in environmental consulting projects in various countries and professional fields including environmental due diligence assessments and compliance auditing, environmental management systems environmental permitting, soil and groundwater protection, remediation, risk and liability assessments, carbon-dioxide emission as well as renewable energy utilization related projects. In addition, he has considerable experience in verification services and corporate and site environmental governance and planning. He is a certified ISO 14001 lead auditor. He joined EU-FIRE in 2013.

Dr Páll Valdimarsson

PVald ehf.

The social impact of geothermal

Páll Valdimarsson is a consultant on geothermal utilization and thermal engineering at pvald ehf, as well as an adjunct professor at Reykjavik University. Páll did his first work in geothermal utilization at the VGK consulting engineering company in Reykjavik for the Olkaria 1 geothermal plant in Kenya 1976. He was a researcher and a professor at the University of Iceland for 30 years, and has been a director or manager R&D at Enex, Green Energy Geothermal and Atlas Copco Gas and Process division. He has made shorter professionals detours into standardization, aircraft engines and aircraft accidents as well as Diesel engines. He has been a teacher in geothermal utilization at the United Nations University Geothermal Training Program for almost 30 years. His main field during the last decade or so has been thermal design of geothermal power plants.

Marietta Sander

International Geothermal Associations

COP21 & the Paris Agreement: Any implications for renewables and the geothermal sector

Marietta Sander is the Executive Director of the International Geothermal Association. She is responsible for sector-specific advisory on geothermal energy, the promotion of geothermal energy and the management of the IGA Secretariat in Bochum. Prior to her work for the IGA Sander managed a German-funded technical assistance project with a focus on promoting the use of geothermal energy in countries along the East African rift system, by advising government representatives and practitioners, collaborated with other development partners and lead the initiative on behalf of the Federal Institute for Geosciences and Natural Resources (BGR). She is a certified Project Manager Renewable Energies and has extensive work experience in East and southern Africa, Latin America and South-East Asia. Through her previous work in international development cooperation she has experience in advising decision-makers, government representatives, practitioners, scientists and industry representatives.

Resource Park

Kristín Vala Matthíasdóttir

HS Orka

Session chair

Kristín Vala Matthíasdóttir is a Vice-President of Resource Park at HS Orka, the third largest power company in Iceland. She is also the chairman of the Iceland Geothermal Association. She has a M.Sc. degree in Chemical Engineering from University of Lund, Sweden, and B.Sc degree in the Chemical Engineering from University of Iceland. She has wide experience within the geothermal industry. Prior joining HS Orka, Kristín Vala worked for Magma Energy Iceland, Geysir Green Energy and Enex.

Dr. Halldor G. Svavarsson

Blue Lagoon

Towards a Society Without Waste: Cultivating Microalgae with Non-Condensable Geothermal Gases

Halldor G. Svavarsson is an associate professor at the School of Science and Engineering, Reykjavik University. He holds a B.Sc. in chemistry, a M.Sc. in materials science & engineering, and a PhD. in physics. He has three decades of research experience in a wide array of fields including ceramics, silicon, silica, nanostructures, geothermal resource activities, and algae cultivation. For the past 10 years he has collaborated on research with Blue Lagoon's R&D centre, the focus being the cultivation of blue-green microalgae and derivatives thereof. His collaboration with Blue Lagoon has also involved the supervision of students, many of whom have done their thesis work at Blue Lagoon's R&D centre. The results of Halldor's research collaborations have been published in numerous refereed journals and also presented at various conferences.

Stefán Árnason

Stolt Seafarm

Production of Senegalese Sole above the Arctic Circle, a suitable solution in otherwise an unsuitable environment

Stefán Árnason graduated with Bachelor degree in Biology from the University of Iceland in June 2013 and started in master's program in aquatic biology at the Hólar University in autumn 2013 but did not graduate. Stefán is currently working on master thesis in strategic administration in the University of Iceland, graduation scheduled in June 2016. As relevant working career he had two summer internship at the Icelandic marine research institute (2012, 2013) and has been working as Quality manager at Stolt Sea Farm Iceland Hf since July 2015.

Margrét Ormslev Ásgeirsdóttir

Carbon Recycling Int

CO^2 from geothermal gas to methanol production

Margrét has an education in engineering, economics, and renewable energy systems and policy. She started her professional career at VGK consulting engineers (now Mannvit) in geothermal division in 2004. In 2007, she joined a Renewable energy group in corporate finance at Landsbankinn and later worked on corporate restructuring. In 2011 took on the task within Landsbankinn of supporting startups. In 2015, she took on the position as Finance Manager at Carbon Recycling International, which produces sustainable fuel and exports its environmental technology, and is part of the Geothermal Resource Park at Svartsengi.

Dr. Jefferson W. Tester

Cornell University – USA

District Heating System at Campus of 30,000

Dr. Tester is the Croll Professor of Sustainable Energy Systems in the School of Chemical and Biomolecular Engineering at Cornell University. He also serves as Director of the Cornell Energy Institute and is a Fellow in the Atkinson Center for a Sustainable Future. Prior to his appointment at Cornell in 2009, Dr. Tester was the H.P. Meissner Professor of Chemical Engineering at the Massachusetts Institute of Technology and served as Director of MIT's Energy Laboratory for 12 years (1989-2001). While at MIT, Professor Tester chaired an 18-member international panel that evaluated the long term geothermal potential of the US, resulting a major report in 2007– The Future of Geothermal Energy. Dr. Tester was the US representative for geothermal energy to the IPCC working group which evaluated the global potential of renewable energy. Professor Tester is a fellow of the Royal Society of Chemistry. In 2011 Dr. Tester received the Special Achievement Award, Geothermal Resources Council.

Fida Abu Libdeh

GeoSilica

Utilization of silica in geothermal fluids for silica based health products

Fida Abu Libdeh holds a Master's degree in Business Administration and a BSc degree in Energy and Environmental Engineering, with specialization in the utilization of silica and brine from geothermal power plants. Fida is the CEO and co-Founder of Geosilica Iceland where under her management the company has transcended from the research and development phase to a successful commercial phase. Fida is also an active motivational speaker in Iceland. She received awards and recognition from different awarding bodies, both from Iceland and international.

District Heating

Carine Chatenay

Verkís

Session Chair

Carine Chatenay is the Marketing Manager of the energy Division of Verkis Consulting Engineers. Her responsibilities encompass business development related to renewable energies: geothermal power and geothermal utilization, hydropower, wind etc. She began working in Iceland soon after graduating as civil engineer from the INSA Toulouse (France) in 2000 and has since been involved as a consultant in various geothermal district heating and power projects.

Bjarni Bjarnason CEO

Reykjavik Energy

District Heating in Reykjavik

Bjarni Bjarnason is the CEO of Orkuveita Reykjavíkur in Iceland (Reykjavik Energy). Bjarni holds BSc in geology from the University of Iceland and Technical Licentiate in mining engineering from the University of Luleå in Sweden. Bjarni has served in various CEO positions in the Icelandic energy sector prior to his present position. Reykjavik Energy is the main utility company in Iceland sourcing its heat and power production from geothermal. Bjarni also has wide experience in hydropower and he is a previous vice-chairman of the board of the International Hydropower Association.

Christian Boissavy

GEODEEP – FRA

District Heating in Paris

Doctor in Geosciences at University of Paris in 1978, he is the founding President of the European Geothermal Energy Council (EGEC), International Geothermal Association (IGA) Board.. He began his career in the Geoservices Group and specialized in reservoir engineering, hydrogeology and deep drilling, he acquired a large experience, during 15 years of field works in oil and gas exploration. His activity has been performed worldwide (50 countries) with a strong experience in Eastern Europe and former CIS. Working in the private sector, but also during four years for CFG a subsidiary of BRGM Group, he contributed to the construction of geothermal plants corresponding to a total installed power of over 500 MW. Since 1998, he has occupied high managing positions in a listed engineering company specialized in environmental sector.

Susan Sun

Arctic Green Energy – ISL

District Heating China

An expert in geothermal utilization and project management, Ms. Sun is the Chief Technology Officer of Arctic Green Energy's China operations and Sinopec Green Energy Geothermal. She obtained her M.S. degree from the University of Iceland and is an alumni of the UN geothermal training program. Prior to joining Arctic Green, she was Deputy Manager of Research and Development for the Beijing Institute of Geo-Exploration and Technology. She is an expert in geothermal district heating and has directed the design of geothermal district heating systems and systems based on ground source heat pumps, evaluated project feasibility, conducted economic analysis and designed different applications of HVAC systems.

Philippe Dumas

EGEC

Market Trend in Europe

Philippe Dumas, first worked in a European engineering company as representative in Brussels for EU affairs (2000-2007). Firstly involved in geothermal energy with EGEC, starting as project manager for European projects. He is an author and co-author of several publications; frequent contributor to conferences, workshops and seminars; teacher at university of Marseille on European lobbying; active in a number of EU-funded research and promotion projects from 2000 until today. Since September 2008, He's the EGEC Secretary General in Brussels managing the association.

Gábor Molnar

Mannvit Kft

Geothermal District Heating in Central Europe

Gábor Molnár is assistant manager and senior engineer of Mannvit Kft in Hungary. Gábor Molnár is civil engineer, holding an MSc degree in Structural and Geotechnical Engineering from the Technical and Economical University of Budapest, Faculty of Civil Engineering; and a Geothermal Engineering degree from Technical University of Miskolc, Faculty of Earth and Science. He has an associate degree of Informatics from the Technical College of Budapest. He is designer and project manager of several geothermal projects in Central and Eastern Europe, with main focus on geothermal district heating systems. He was involved in the design and execution of the Szentl rinc geothermal district heating project in Hungary and the preparation of the Miskolc geothermal project, he is involved in the Velika Ciglena power plant design, as well as other geothermal projects under preparation at the moment. He is assistant project manager of the South Hungarian EGS Demonstration Project.

Innovation

Halla Hrund Logadóttir

School of Energy – RU

Session chair

Halla Hrund Logadóttir is the Director of Iceland School of Energy (ISE) at Reykjavík University in Iceland. Halla also serves as an advisor to the Minister of Industry and Commerce on Iceland's Energy Fund and is a co-author of the Harvard case: Iceland's Energy Policy, Finding the Right Path Forward. Previously, Halla worked on entrepreneurship projects in Togo in West Africa, and for the "Aid for Trade" initiative at the OECD in Paris. She also spent several years working for the Ministry for Foreign Affairs, at Iceland's Embassy in Brussels, where she focused on European Union affairs and bilateral relations. Halla studied political science and economics at the University of Iceland, LSE and the Fletcher School at Tufts University.

Birgit Kneschke

Verne Global Data Centre

Iceland - How Geothermal Power is Transforming the Digital Economy

Birgit is responsible for marketing at Verne Global – an innovative data center operator based near Keflavik, Iceland, which is using the country's geothermal and hydro-electric energy to power their 100% green data center campus. Based in Germany, and part of a global team who oversee all marketing campaigns and operations, she has over 15 years of experience in marketing and communications in B2B and B2C environments. Prior to Verne Global she led different marketing teams at Nokia and German Telekom and is a specialist within the international technology and telecoms sectors.

Arna Pálsdóttir

Cornell University

The co-extraction of lithium & rare earth elements from geothermal waters

Arna Pálsdóttir is a doctoral student at Cornell University in Chemical and Biomolecular Engineering. Her research focuses on the extraction of metals from geothermal waters using supercritical fluids. Arna received her undergraduate degree from the University of Iceland in Chemical Engineering in 2013. During her undergraduate studies she did research at Caltech University and the University of Maryland and spent one semester as an exchange student at the Royal Technical Institute in Stockholm.

Souheil Saadi

Haldor Topsoe

Carbon CO^2 revenue stream

Souheil Saadi is a Business Development Manager at Haldor Topsoe A/S where he works with new sulfur recovery technologies, incl. sulfur free CO2 production and lean gas conditioning. Souheil has been with Topsoe for 5 years in two different periods. He holds a PhD from TU of Denmark and has published 8 papers and two patent applications. He is outdoor enthusiast and enjoys outdoor activities with his family.

Joseph Scherer

GreenFire Energy

Design of a Closed-Loop supercritical CO^2 Geothermal

Joseph Scherer is currently President and CEO of GreenFire Energy, Mr. Scherer has 30 years of experience as group leader and C-level financing advisor to innumerable startup, emerging and mature high tech businesses and financing sources in sophisticated corporate and infrastructure project financings, including project financings for wind, solar, biogas, hydro, algae and geothermal projects. Education: J.D. – School of Law, University of California at Los Angeles, 1982; M.B.A. – Anderson Graduate School of Management, University of California at Los Angeles, 1982; B.A. (Economics) – University of California at Davis, 1977.

Field Trips

Wednesday April 27, 13:30-18:00. Bus departure from Harpa Conference Centre at 13:30. Registrations is required. Further information at the registration desk.

Hellisheiði Power Plant

A visit to Hellisheiði Power Plant with On Power

Hellisheiði Power Plant is located in the Hengill area in the southwest of Iceland, to south of Thingvellir, and is one of the country's largest geothermal area. The geothermal area is linked to three volcanic systems in the region, Grensdalur, Hrómundartindur and Hengill which is the youngest system and where Nesjavellir and Hellisheiði Power Plants are located. In this area it is common to feel the volcanic activity beneath your feet.

The tour would start with a ride up to the top of the Hengill area were you will be able to experience the volcanic activity for yourself with a breath-taking view like you have never seen before. We will also stop at a bore hole and learn about the wonders of our exceptional geothermal energy.

We will continue to learn about the wonders of geothermal energy inside our Power Plant, where we will take you through our geothermal exhibition as well as give you a tour of the plant itself. Inside the plant is the first turbine workshop in Iceland.That is way we have put extra focus on the workshop.

To top off the visit we will give you a taste of a very special drink geoSilica. It is a high quality supplement made from 100% natural minerals, extracted from the high-temperature geothermal reservoirs in Iceland. More specifically Hellisheiði. It contains no artificial chemicals and it is said to do magic for our body:

- Lower the risk of osteoporosis
- Stronger and more elastic veins and arteries
- Reduction of wrinkles and even repairs of skin damage
- Less brittle and more beautiful nails and hair
- Overall firmer and healthier skin
- Emission of aluminium from the body
- Newly formed bone tissue more receptive for other minerals
- Stimulation of collagen formation

Schedule

13:30	Departure from Harpa Conference and Music Hall
14:00	Arrive in Hellisheiði – greeted by ON Power staff and guided tour around the Hengill area and its dynamic power of nature
15:00	Geothermal exhibition at Hellisheiði Power Plant
15:30	Turbine workshop and a tour of the plant
16:00	Tasting of the geoSilica drink
16:30	Departure from Hellisheiði to the Blue Lagoon.

Reykjavik District Heating

Reykjavik District Heating

Veitur Utlilities, Reykjavik Energy's subsidiary, operates the world's largest geothermal district heating system in the Capital Area of Iceland.

In 2015, it conducted 82,7 million cubic meters of hot water from low and high temperature areas to customers.

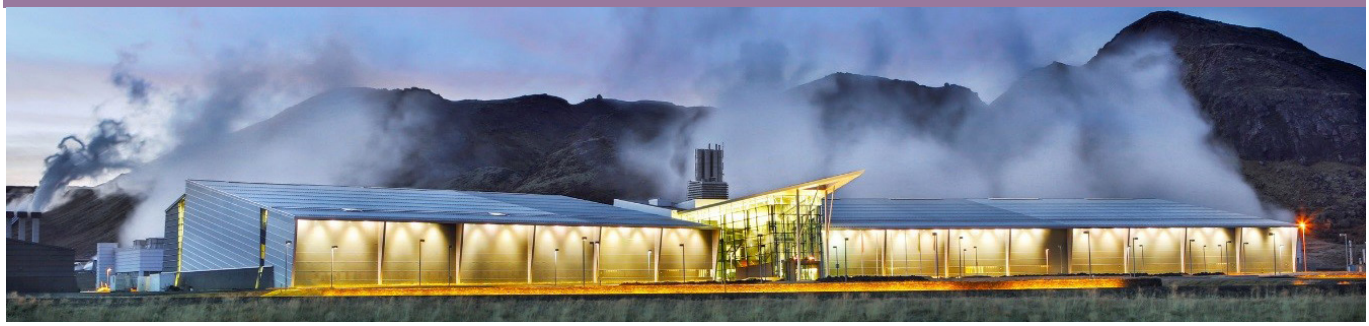
The system dates back to 1930 when the washing geothermal pools in Reykjavik were first utilised for heating.

During these 86 years of operation, the system has allowed Icelanders to reduce their CO2 footprint by xxxx million tonnes.

Schedule

13:30 Departure from Harpa Conference and Music Hall
13:50 Öskuhlíð storage facility
14:15 Bolholt borehole and pumping station
14:45 Þvottalaugarnar
15:20 Reykir í Mosfellsbæ
16:30 Departure back to Reykjavik

Hveragerði Geothermal Village



A visit to Hveragerði: Iceland's Geothermal Capital

Hveragerði is located 45 kilometres east from Reykjavík and has around 2.300 inhabitants. The town is built on a hot geothermal field and pillars of steam from the numerous hot springs in the town may be seen rising up out of the ground and the town has been called the hot spring capital of Iceland. The existence of hot springs led people to settle in Hveragerði.

The natural hot water could be used for space heating, for cooking, baking, laundry and led to the development of jobs. The first market garden, Fagrihvammur, was founded by the Varmá-River in 1929. A year later the first greenhouse was built, marking the beginning of greenhouse horticulture in this region. Horticulture became a key sector of the local economy.

Schedule
13:30 – Departure from Harpa Conference and Music Hall
14:30 – Arrive in Hveragerði – greeted by the locals by the Geothermal Park and guided tour with Reykjavik Energy with emphasis on the geothermal energy use of the area.
14:45 – Geothermal Bread-tasting
15:00 – Agricultural University of Iceland – greeted by the school's director and visits to greenhouses
15:30 – The NLFÍ clinic – short introduction
16:00 – Geothermal Ice cream-tasting
16:30 – Departure from Hveragerði to the Blue Lagoon.

Geothermal Park with Geothermal Bread
The Geothermal Park is centrally located and guests get a short guided tour around the area. Close by is a restaurant uses the geothermal heat for its outdoor kitchen which its visitors find simply fantastic.
Several very active hot springs can be seen that throw colourful mud and clear water in the air.
The swimming pool, which for years was the largest pool in Iceland and can be viewed from the street.

Agricultural University of Iceland
The geothermal surroundings in Hveragerði provide the university with endless supply of heat and energy for the greenhouses – where you can find anything from the Icelandic Birch to tropical banana trees.
In summer Hveragerði is truly a green community, abounding in trees. A green revolution is taking place as areas of woodland in and around expand.

The NLFÍ Health and Rehabilitation Clinic
The NLFI Clinic specializes in medical rehabilitation based on holistic treatment of diseases and injuries. It's professionals use geothermal mud as a part of the treatment and herbal baths with local herbs and flowers. The clinic was founded in 1955 by an Icelandic medical doctor and a pioneer in naturopathic medicine.

Kjörís
Kjörís Ice Cream is one of the oldest ice cream companies in Iceland, founded in 1969. Located in the heart of Hveragerði the company uses the geothermal energy for its factory.
Kjörís regularly create limited edition varieties of ice cream that often harmonizes to the geothermal surroundings and the local flora.

Reykjanes Resource Park

Reykjanes Resource Park

HS Orka operates two power plants at Svartsengi and in Reykjanes. Their core operations have been in the production of electricity and hot water. Excess resource streams have been used by an incredibly varied range of businesses, such as the Blue Lagoon, cosmetics manufacturers, biotechnology companies and aquaculture. The Resource Park that has been developed in the neighbourhood of HS Orka's geothermal plants in the Suðurnes region is unique; it heralds the future, new ways of thinking and encourages even further development of increased and more efficient utilization of what the geothermal plants produce.

The field trip will start with a short lecture about the Resource Park concept given by Mr. Albert Albertsson, the founder of the Resource Park, in Eldborg, Svartsengi. After the lecture the group will be divided into smaller groups.

1. **Power Plant and fish industry:** Visit to Reykjanes, Haustak fish drying company, Stolt Sea Farm the largest fish farm in the country, and Reykjanes Power Plant.

1. **Resource Park – Spa, tourism and Industry:** (sambýli orkuvinnslu og ferðaþjónustu!) Power Plant, hotel NLI, Blue Lagoon clinic, Blue Lagoon R&D centre.

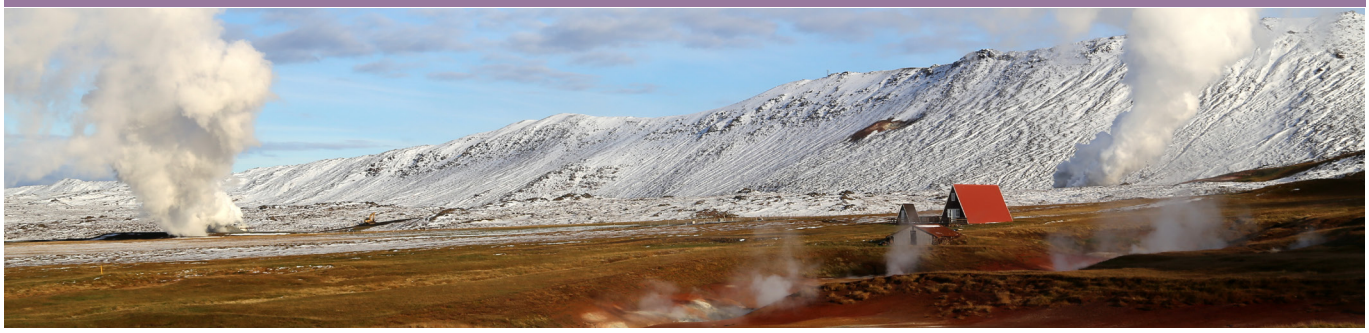
1. **Power Plant and Industry:** Visit to Svartsengi Power Plant, operation and maintenance Introduction to ORF Genetic, Carbon Recycling International.

1. **Power Plant and Geology:** Drive to Eldvörp with geologist, one well has been drilled at Eldvörp which can be flow tested by remote control. Visit to Svartsengi Power Plant, operation and maintenance.

Departure from Harpa Conference Centre at 13:30

Þeistareykir

Field Trip to the North and visit to Theistareykir Power Plant process - Optional - Upon request



Unique Experience in one day

Theistareykir field trip is a day trip up to the North of Iceland to explore geothermal utilization. Participants flies up to Akureyri from where you will be taken to the unique landscape of Lake Myvatn and to the geothermal fields of Krafla, and finally to Þeistareykir. Þeistareykir is where the National Power Company is constructing a new geothermal power plant expected to go online in 2017.

The group will travel between the fields on snow scooters.

Highlights: Krafla power plant, the New Project at Theistareykir, Bjarnaflag – Myvatn Natural Bath, Myvatn Nature Baths, Snowmobile ride (based on snow conditions), flight over the highland of Iceland.

This tour is bookable until 20th of March 2016
Included: RT flight Reykjavik Akureyri, visit to the Krafla and Þeistareykir, transportation, snowmobile ride, lunch and dinner, refreshment and guidance during the day.

Planned time schedule for the trip:

0830:	Flight departure from Reykjavik
09:30	Pick up at Akureyri airport and drive to Þeistareykir
11:00	Þeistareykir Power plant
12-1300	Lunch break in Krafla
1300-1500	Krafla inspection and Snow Mobile ride
16:00	Bjarnaflag inspection
16:30-18:30	Myvatn Natural Bath - bath and light dinner before driving back to Akureyri for flight to Reykjavik
19:00	Departure to Akureyri
20:45	Flight departure from Akureyri to Reykjavik

Sponsors B - GREEN

HS Orka

HS Orka is the third largest power company in Iceland and the only one privately owned. The company was founded in 1974 and owns and operates two CHP geothermal power plants at the Reykjanes Peninsula with a combined production capacity of 175 MW of electricity and 190 MW of thermal heat.

HS Orka´s core operations have been in the production of electricity and hot water. Excess resource streams have been used by an incredibly varied range of businesses such as the Blue Lagoon, cosmetics manufacturers, biotechnology companies and aquaculture. More than 600 jobs can be directly attributed to HS Orka's Resource Park, in addition to other derived jobs.

The Resource Park that has been developed in the neighbourhood of HS Orka's geothermal plants is unique; it heralds the future, new ways of thinking and encourages even further development of increased and more efficient utilization of what the geothermal plants produce.

The object of HS Orka is to serve industries and homes through the multiple, sustainable utilization of resources for the harnessing and sale of eco-friendly energy and other products for the benefit of its customers and society as whole.

Verkís

Verkís Consulting Engineers Verkís is a progressive consulting engineering firm with over 300 employees, originating in 1932 in Iceland. Decades of experience enable us to provide high quality, innovative, technically advanced and comprehensive services in all fields of engineering and related disciplines. In particular, Verkís provides all-encompassing consultation on projects involving hydro and geothermal power, from feasibility stage to operation, both locally and internationally.

Consultation in the field of geothermal energy utilisation is one of Verkís' main service sectors with our Energy Division being comprised of 100 employees specialised i.a. in geothermal applications. Our involvement in the geothermal sector dates back to 1960 and since Verkís has become one of the world´s major consulting engineering companies in the field of geothermal utilization and district heating. We are proud to say that Verkís has participated in the engineering of all geothermal power plants in Iceland and of various projects abroad, covering disciplines such as civil and structural design, mechanical engineering, electrical HV, MV, and LV engineering, systems engineering, automation and control.

Iceland Drilling

Iceland Drilling Ltd. is a leading company in the field of high temperature geothermal drilling and has many decades of experience in both high and low temperature drilling. The origins of Iceland Drilling go back as far as the geothermal industry in Iceland itself, over 60 years. Over this time the company has developed extensive experience in the field of drilling geothermal wells to suit all project and resource types, including deep, high temperature steam to low temperature fluid based resources. Iceland Drilling has drilled over 350 high temperature wells ranging in depth from 1,000 to 4,500 meters and has operated in countries all over the world, e.g. Nicaragua, The Philippines, New Zealand, Denmark, The Azores, Germany, Dominica and Monserrat in the Caribbean.

Iceland Drilling recognizes the importance of any geothermal project developer to manage risk, both technical and financial. Iceland Drilling therefore offers the highest levels of safety standards and consideration for the environment in all our drilling operations. The company has a world-class record on safety with no major incidents in its long history. Iceland Drilling is ISO 9001, ISO 14001 and OHSAS 18001 certified for its QHSE (Quality, Health, Safety and Environment) operation.

Landsbankinn

Landsbankinn is the largest financial institution in Iceland and the market leader in the financial service sector. Todays dynamic and growing Icelandic economy needs a wide range of effective banking solutions and Landsbankinn strives to meet those needs. The bank offers comprehensive online services and B2B solutions, supported by the most extensive branch network in Iceland. Other services offered include capital markets trading, treasury, asset management and private banking. Landsbankinn aims to form strong, sustainable and effective business relationships with its clients, with a clear focus on the customer and delivering mutual benefit.

Landsbankinn is a proud partner of the Iceland Geothermal Cluster. Its team of experts service a corporate portfolio including many leading Icelandic companies in the sector.

Íslandsbanki

A leader in financial services in Iceland, Íslandsbanki is a universal bank with total assets of EUR 7.4bn and a 25%- 50% market share across all domestic business segments.

National coverage with 17 branches, the most efficient branch network in Iceland.

Building on over 140 years of servicing key industries in Iceland, Íslandsbanki has developed specific expertise in the seafood and geothermal energy industries domestically and in the North Atlantic region

With a dedicated team of 919 employees and a vision of being #1 for service Íslandsbanki prides itself of being ranked first among banks in the Icelandic Customer Satisfaction Index (2013, 2014 and 2015).

The Bank was voted 'Best Bank in Iceland' by Euromoney (2013, 2014, and 2015) and by the Banker (2014) and 'Best Investment Bank in Iceland' by Euromoney (2014).

Ísor

Iceland GeoSurvey, ÍSOR, is a consulting and research institute providing specialist services to the power industry, particular in the field of geothermal sciences and utilisation. ÍSOR was originally founded in 1945 as a part of the State Electrical Authority, later the National Energy Authority. ÍSOR became an independent governmental institute in July 2003.

ÍSOR and its predecessors have played a vital role in the provision of geothermal energy in Iceland, with the result that over 65% of primary energy use and 90% of all domestic heating is currently sourced from geothermal.

ÍSOR is able to offer full consultation and services in the following disciplines:

- Geothermal Exploration
- Drilling Consultancy
- Well Logging and Mud Logging
- Well Testing and Evaluation
- Resource Assessment
- Reservoir Management
- Geothermal Training
- Environmental Studies
- Groundwater Studies
- Engineering Geology
- Offshore Exploration

Mannvit

Mannvit is an international consulting firm offering comprehensive engineering, geoscience, drilling, environmental, operational and EPCM services. We offer geothermal development services to projects in Iceland, Europe, Asia and the Americas and can manage the entire geothermal development process or defined parts as the client wishes. Theistareykir, Krafla, Hellisheidi and Nesjavellir geothermal power plants are proud examples of Mannvit's work in Iceland.

From Resource to Power Production

The services range from exploration of high- and low-temperature geothermal fields and designing flash steam power plants that produce electricity and hot water for district heating to the design of geothermal power plants that produce electricity utilizing low-temperature geothermal fluid via binary cycle (ORC).

Exploration and Drilling Consulting

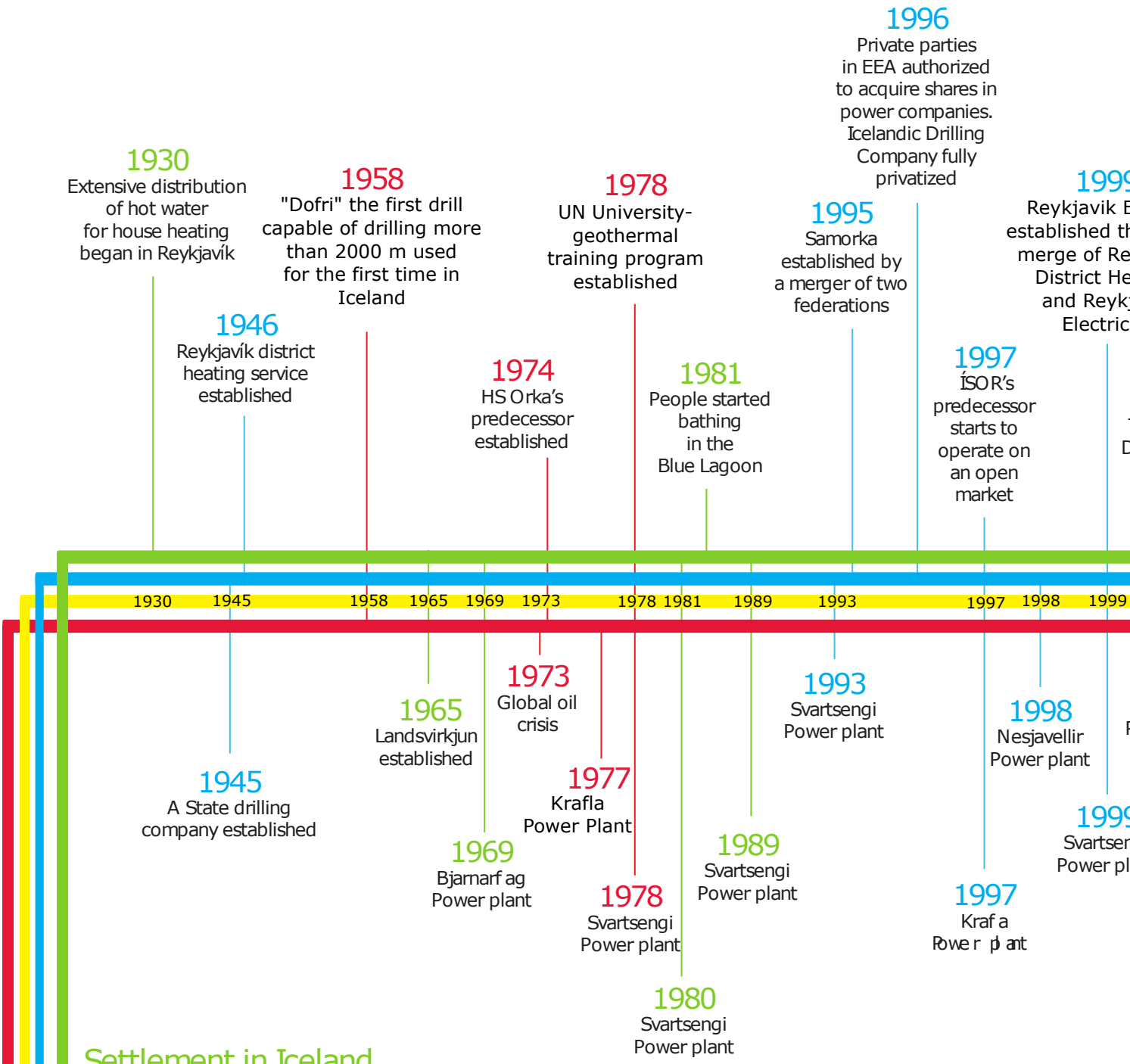
Our team comprises highly trained professionals across all relevant disciplines, e.g. geology, geochemistry and reservoir modeling, capable of carrying out geothermal exploration under diverse conditions. Mannvit offers 40 years of experience in geothermal drilling engineering and related services as well as acting as the client's representative during drilling.

Services:

- Feasibility studies and Due Diligence
- Geothermal exploration
- Environmental consulting and EIA
- Drilling engineering and supervision
- Geothermal plant design
- HV Transmission and distribution
- Operations Software
- Start-up and commissioning
- Training, operations and maintenance consulting

The Development of the Icelandic Geothermal Cluster

Foundations: 1930-1994



Settlement in Iceland

Iceland ́s capital is named after the steam rising from hot springs.
The Reykjavík capital ("The Bay of Smokes") received its name from the steam (smoke) that Ingólfur Arnarson, the f rst settler in Iceland, saw rising from hot springs as he approached the shore.

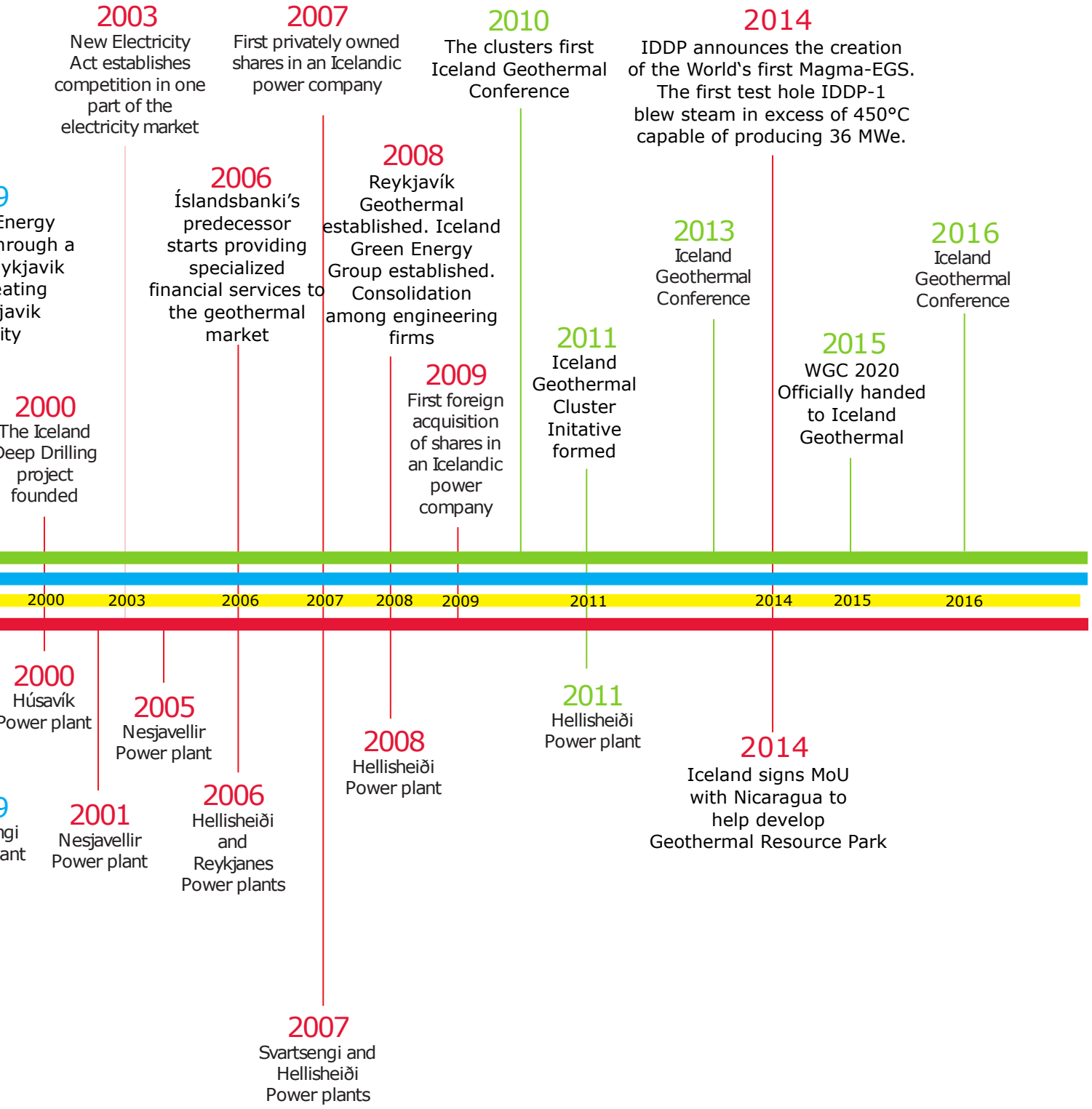
1755-1756
First attempt at drilling for hot water in Reykjavik and Reykjanes

19th century
Outdoor gardening experiments utilizing geothermal energy

1908
First utilization of geothermal for space heating, a farmer near Reykja

1910
The old swimming pools built in Reykjavik

Commercial Growth: 1995-2016



THANK YOU !

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