



GeoFund



International Geothermal Workshop



Gürmat Elektrik Üretim A.Ş.

February 16 - 19, 2009 - Istanbul, Turkey

Hosted at The President Hotel - Tiyatro Cad. No:25 Beyazıt, Old-City Istanbul by:



GeoFund Geothermal Workshop Istanbul, Turkey - February 16-19, 2009



The World Bank and IFC's GeoFund - IGA Geothermal Workshop will be hosted this February 16-19, 2009 in Istanbul Turkey at The President Hotel in the heart of the old-city. The workshop lectures will highlight successful geothermal developments worldwide and the financial underwriting of these geothermal developments. The Workshop offers companies a great opportunity to meet potential partners, developers, industry specialist and financiers.

The goal of the Workshop is for energy officials and businesses to enable geothermal development via private sector financing and introduce the GeoFund as a complementary supporting tool. The GeoFund is an umbrella program to facilitate individual geothermal projects in Europe and Central Asia (ECA). Assistance for project development can be obtained through the following aspects of the GeoFund:

Technical Assistance (TA) will help to build capacity and remove barriers to geothermal development.

Geological Risk Insurance (GRI) is the centerpiece of the program and will insure project developers/investors against the short-term geological risks of geothermal investments.

Direct Investment Funding (DIF) will support selected projects by providing contingent grants and low cost loans.

The World Bank and IFC wish to identify companies ready to initiate geothermal projects. **As Turkey is presently privatizing over 30 sites, and has abundant geothermal potential,** Turkey will be given most of the focus in this workshop. In addition, other notable geothermal international country officials, developers and financiers will be invited to learn more about developing viable geothermal projects.

International geothermal companies and local developers are invited to present a geothermal Kiosk display at the workshop. For additional information - please visit our website or contact us:

<http://www.partnership-international.com/GeothermalEnergy.php>

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Workshop Coordinating Team



INTERNATIONAL SUMMER SCHOOL
on Direct Application of Geothermal Energy



Turkish
Geothermal
Association

EnSight - Washington State University

Monday, February 16

Day 1: Opening the International Workshop - Turkey 2009

The opening session will review current geothermal developments in Turkey, and will describe developments in Geothermal Energy worldwide. Presenters will discuss how to develop geothermal projects by working with the government and the private sector.

Opening Reception

Day 1 Convener: IGA President, Prof. Ladislaus Rybach

13:00 - 18:00 Registration, Reception and Exhibitor Kiosks Set-up

IGA Opening Reception Garden Restaurant - GeoFund

- 16:30 - 16:40 Workshop Commencement - comments by the IGA President, Prof. Ladislaus Rybach
- 16:40 - 17:20 International Workshop Cocktail Reception and Opening Remarks:
- President of Turkish Geothermal Association (TGA) Mr. Orhan Mertoglu
 - Chairman of the IGA Education Committee Prof. Horst Rueter
 - President Ex Officio of Partnership International, Inc., Robert Huffman
- 17:20 - 17:30 GeoFund Overview - Mr. Helmut Schreiber, World Bank
- Geothermal Gala Dinner**
- 17:30 - 17:50 Keynote Speakers - Dr. Hilmi Güler, Minister of Energy and Natural Resources, Turkey
- 17:50 - 18:10 General Directorate of MTA - General Director of MTA, Mr. Mehmet Uzer
- 18:10 - 18:30 The Turkish Success Story, Investing in Geothermal Energy - Susana Vivares, West LB

Tuesday, February 17

Day 2: Geothermal Projects -Successful Case Studies

Geothermal technologies will be explored. Presenters will outline current and future global geothermal developments. Lecturers will present geothermal technologies and their potential future advancements.

Plenary Session

Day 2 Convener: Prof. Kiril Popovski

08:00 - 09:00	Coffee Break - Best Practices - Kiosks Exhibitor Hall
09:00 - 09:15	Summary of Exploration and Development of Geothermal Resources in ECA Region Countries - Prof. Kiril Popovski
	Geothermal Exploration and Development
09:15 - 09:45	Development of Geothermal Projects - Resources and Potential Dr. Ruggero Bertani, IGA Vice President
09:45 - 10:15	History of Kızıldere Geothermal Power plant and its Privatization - Tevfik Kaya
10:15 - 10:30	Questions and Discussion
10:30 - 11:00	Coffee Break
	Best Practices - Kiosks Exhibitor Hall
	Geothermal Power Production Projects
11:00 - 11:20	Development of Power Production Projects - Mr. Gad Shoshan, Ormat
11:20 - 11:35	Binary Power Project - Michael Hayter, Raser Technologies
11:35 - 11:50	Development of Engineered Geothermal Systems – Ryan Law, Geothermal Engineering Ltd
11:50 - 12:00	Questions and Discussion
12:00 - 14:00	Luncheon - Sponsor Spotlights , Convener, Ms. Tracy Mathieu, PI Sponsors Representatives - Enel, Ormat, Power Engineers, and others (TBD)
	Geothermal Direct Application Projects
14:00 - 14:35	Development of Direct Application Projects - Prof. John Lund, IGA
14:35 - 14:45	Questions and Discussion
14:45 - 15:15	Coffee Break
	Best Practices - Kiosks Exhibitor Hall
	Geothermal Direct Application Heat Pumps (GHP)
15:15 - 15:50	Development of GHP - Dr. Burkhard Sanner, IGA
15:50 - 16:00	Questions and Discussion
	Geothermal Technologies - ECA Region
16:00 - 16:15	Development of Power Production Projects in Turkey with Germencik (Guris), Kevin Wallace, Power Engineers
16:15 - 16:30	Binary Power Project in ECA – Horuczi György, Pannergy
16:45 - 17:00	Development of Direct Applications & Heat Pumps in Turkey – Mehmed Uzun, Uzunlar Construction Industry and Trade Inc.
17:00 - 17:10	Questions and Discussion
17:10 - 20:30	Networking - Best Practices - Kiosks Exhibitor Hall (Dinner on own)

Day 3: Geothermal Demand & Securing Financing

The session will cover the economic and financial operating costs of geothermal technologies, and will describe issues faced by project developers and financiers. Lecturers will give an overview the global market, finance and policy drivers. In addition, Lecturers will discuss how to secure international financing and GeoFunds.

Plenary Session

Day 3 Convener: Mr. Helmut Schreiber

08:00 - 09:00	Coffee Break - Best Practices - Kiosks Exhibitor Hall
09:00 - 09:25	Regulatory aspects to attract investors - Prof. Ladislaus Rybach, IGA
09:25 - 09:45	Direct Foreign Investment (DFI) & regulatory aspects in Turkey Mr. Gerhard Sabathiel, Sustainable Asset Management GmbH
09:45 - 10:00	Questions and Discussion
10:00 - 10:30	Coffee Break Best Practices - Kiosks Exhibitor Hall
	World Bank/IFC GeoFund and other Commercial Financing
10:30 - 10:50	Writing successful proposals to obtain GeoFund support for geothermal developments - Ms. Heike Lingertat, World Bank
10:50 - 11:10	Contracting criteria for payments under contingent grants, Mr. Kyoichi Shimazaki, World Bank
11:10 - 11:30	Project requirements for commercial financing - Defne Ateş, IFC Turkey
11:30 - 12:00	Questions and Discussion
12:00 - 14:00	Luncheon Geothermal Investors Spotlights: Convener, Ms. Tracy Mathieu, PI: Keynote: New Energy Finance, Investors: Dundee Securities, Evolution Markets, Jacob Securities, AgFe, and others
	Geothermal Data, Economic & Financial Models Required to Secure Project Financing
14:00 - 14:30	New Developments & Investment Opportunities for Geothermal Sources in Turkey - Ministry of Energy and Natural Resources General Directorate of Mineral Research and Exploration Dept. of Energy Raw Materials, Research and Exploration's Head - Mr. Hayrullah Dagistan
14:30 - 14:50	Economic & Financial modeling needed to secure funding for geothermal projects, Prof. Gordon Bloomquist, IGA
14:50 - 15:00	Questions and Discussion
15:00 - 15:30	Coffee Break Best Practices - Kiosks Exhibitor Hall
	Open Discussions - World Bank Invited Investors, Insurance Co's & Banks.
15:30 - 16:00	Geothermal Market Based Insurance Schemes - Dr.-Ing. Horst Kreuter, GeoThermal Engineering GmbH (GeoT)
16:00 - 16:45	Participants will be asked to submit questions to be presented and answered in an open discussion with investors and banks. Reading of Questions - Mr. Helmut Schreiber, World Bank GeoFund
16:45 - 17:00	Informal Discussions
17:10 - 20:30	Networking - Best Practices - Kiosks Exhibitor Hall (Dinner on own)

Wednesday, February 18

Day 3: Course on Economic Evaluation and Modeling

This short course will cover economic and financial modeling of geothermal projects. Lectures will outline in more detail the economic and financial data needed to secure financing. Participants will learn about economic drivers and financial modeling of a geothermal project.

Economics & Finance Course **Course Convener: Dr. Gordon Bloomquist**

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| 09:00 - 09:15 | Opening |
| 09:15 - 09:40 | Economic criteria - Introduction |
| 09:40 - 10:00 | Economic criteria - Geothermal power production |
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| 10:00 - 10:30 | Coffee Break
Best Practices - Kiosks Exhibitor Hall |
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| 10:00 - 10:30 | Economic criteria - Direct application projects |
| 10:30 - 11:00 | Economic criteria - Combined power/heat production project |
| 11:00 - 12:00 | Financial Modeling Considerations - Introduction <ul style="list-style-type: none">- Financial objectives (cash flow, return on equity, etc.)- Constraints, boundary conditions - analysis period- Ownership - public/private, equity investors, etc- Funding (debt/equity/grants mix)- Fixed and variable costs - fuels, labor, services, materials, etc.- Cost escalation- Taxation (sales, franchise fees, income, etc.) |
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| 12:00 - 14:00 | Luncheon - Investors Spotlights - (Plenary Session) |
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| 12:00 - 14:00 | Networking - Best Practices - Kiosks Exhibitor Hall |
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| 14:00 - 15:00 | Special software application - Presentation of REELCOST software |
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| 15:00 - 15:30 | Coffee Break
Best Practices - Kiosks Exhibitor Hall |
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| 15:30 - 16:30 | Modeling examples <ul style="list-style-type: none">- Example for geothermal power production project- Example for geothermal direct use project (Turkey)- Example of district heating drawing info from a HEATMAP analysis. |
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| 16:30 - 17:00 | Discussion |

NOTE: For each of the examples, separate modeling scenarios (3 to 5 case histories for each) will illustrate key economic analysis for concrete case studies:

- Capitalization (impact of funding sources/mix)
- Emission credits (impact on project viability)
- Break-even pricing (electric sales price needed to meet financial criteria).

A written Guideline for project preparation and implementation will be supplied to the course participants.

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| 17:10 - 20:30 | Networking - Best Practices - Kiosks Exhibitor Hall
(Dinner on own) |
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Wednesday, February 18

Day 3: Closing Reception

- 17:30 - 18:00 **Closing Remarks and Reception**
- President of IGA Mr. Ladislaus Rybach
 - Chairman of the IGA Education Committee Prof. Horst Rueter
- 18:00 - 21:00 **World Bank/ IFC Closing Reception (TBC - Details to be provided at Workshop)**

Thursday, February 19

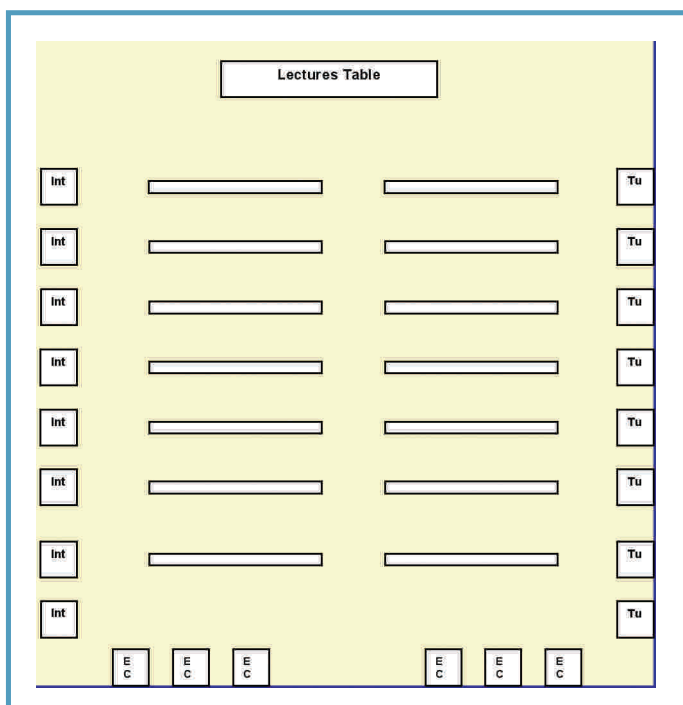
Day 4: Field Trip to Geothermal Site

The field trip is limited to 40 participants. The presentation will address the building of effective Geothermal Heat Pumps for the Metro Hypermarket in Istanbul. A Ground Heat Pump System will be presented by Tunç Korun, FORM Company.

- 08:00 - 09:00 A light breakfast followed by
- 09:00 - 10:00 Presentation of the project by Tunç Korun, FORM Company
- 10:00 - 11:00 Departure to the GHP project in Metro Hypermarket
- 11:00 - 12:00 Visit to the project site, questions, discussion



Kiosk Exhibitors - Success Stories:



Day 1-3 Kiosk: Lecture & Exhibition Hall Layout

To complement the IGA lectures, the workshop will host a showcase of International Best Practice Company and Regional Geothermal Developers.

East Wall: Turkey Kiosks (Tu)

As the Government of Turkey has opened bidding in 2008 on endowed geothermal sites in Turkey, these bidders and other established Turkish Geothermal Companies will be invited to display their abilities to implement Geothermal Projects in Turkey.

South Wall; Europe Central Asia Kiosks (EC)

Companies from ECA participant countries will be invited to showcase their geothermal capacities.

West Wall: International Best Practices Kiosk (Int)

Sponsors and other geothermal best practices will showcase their international best practices and geothermal capacities to assist in developing geothermal potential in the region.

Administrative Remarks

Day 1: Gala dinner will be in Ottoman Style **Garden Restaurant**, on the upper lobby. The room holds up to 200 for a banquet, and is for registered participants only. The workshop will begin with a Welcome Reception with local Turkish cocktail, peanuts and chips, followed by a Gala Dinner. **To register an additional participant**, please email Tracy Mathieu at: tracy.mathieu@partnership-international.com

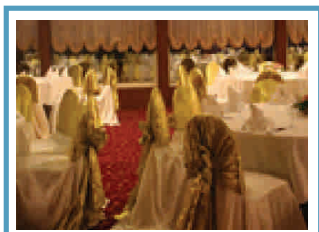
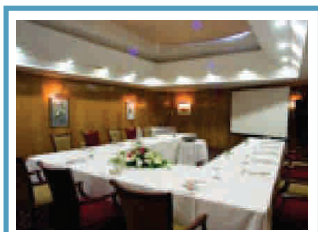
Day 2-3: The workshop will be held in the **Marmara Ballroom** as a classroom-style - which holds up to 200 participants. The surrounding walls of the hall will have Kiosks for International Best Practice Sponsors and local Geothermal Turkish companies to displaying their geothermal project initiatives. This Main Ballroom on the 6th floor has a breathtaking panorama of Marmara Sea and spacious terrace. The nearby committee room will be available for lecturers. In the morning, registered participants will enjoy a light breakfast followed by coffee throughout the day at the Kiosk areas. Luncheon hosted by a Sponsor.

Day 3: The Golden Horn Room will host the **Course on Economic and Financial Modeling** as a parallel session to the plenary on Day 3. The room is limited to 30 participants, so pre-registration is encouraged. **To pre-register**, please email Tracy Mathieu at: tracy.mathieu@partnership-international.com

Closing Ceremony Day 3: (TBC) The World Bank and IFC will host a closing reception. **To register an additional participant**, please email Tracy Mathieu at: tracy.mathieu@partnership-international.com

Day 4 - Field Trip: The field trip will be a **GHP at the Metro Hypermarket Mall**. The bus will depart from the hotel at 9:00 for up to 40, and a bag lunch will be provided. Space is limited to 40 participants, and pre-registration is required. **To pre-register**, please email Tracy Mathieu at: tracy.mathieu@partnership-international.com

Ballrooms, Course and Workshop Facilities:



Location:



Geothermal Workshop Sponsors



Geothermal Best Practice Kiosks



Veizades & Associates



ECA & Turkish Kiosks



About the World Bank GeoFund



The **Global Environment Facility (GEF)/ World Bank (WB) Geothermal Energy Development Program (GeoFund)** objective is to promote the development of geothermal energy in the GeoFund eligible countries of Europe and Central Asia (Albania, Armenia, Azerbaijan, Belarus, Bosnia-Herzegovina, Bulgaria, Croatia, Georgia, Kazakhstan, Kyrgyzstan, Macedonia, Moldova, Montenegro, Romania, Russia, Serbia, Ukraine, Tajikistan, Turkey, Turkmenistan, and Uzbekistan). It is expected that this will add low-cost heat and power generation capacity, improve air quality, increase the security of power supply and promote economic development in the region.

The World Bank invites these GeoFund countries to submit applications for technical assistance, financing and exploration drilling activities suitable for coverage under the GeoFund. The major obstacles to development of geothermal energy are the upfront costs and risks associated with detailed geological exploration and reservoir confirmation drilling, which require a major financial commitment by project sponsors in the face of a risk that a confirmation drilling program may fail to identify an economically viable prospect. Therefore the centerpiece of the GeoFund program is a Geological Risk Insurance (GRI) which will share partially the resource risks of geothermal exploration and reservoir confirmation drilling. Under limited circumstance, the GeoFund could also provide direct grants to support part of the investment cost for exploration under the Direct Investment Funding (DIF) window. In addition, Technical Assistance Grants are available for exploration including but not limited to geologic & lineation mapping, geochemistry & geophysics and thermal gradient drilling activities.

In addition to the GeoFund, the World Bank Board of Executive Directors in 2008 gave formal approval to the creation of the Climate Investment Funds (CIF), a pair of international investment instruments, designed to provide interim, scaled-up funding to help developing countries in their efforts to mitigate rises in greenhouse gas (GHG) emissions and adapt to climate change. Two trust funds will be created under the Climate Investment Funds; total investments, based on preliminary indications from donor countries, are targeted to reach US\$5 billion. One of the funds, the Clean Technology Fund, will provide new, large-scale financial resources to invest in projects and programs in developing countries which contribute to the demonstration, deployment, and transfer of low-carbon technologies. The projects or programs must have a significant potential for long-term greenhouse gas savings. The second fund, the Strategic Climate Fund, will be broader and more flexible in scope and will serve as an overarching fund for various programs to test innovative approaches to climate change. The first such program is aimed at increasing climate resilience in developing countries. For more information visit: <http://www.worldbank.org/>

About the Secretariat - IGA and Partnership International



International Geothermal Association (IGA)

The International Geothermal Association (IGA), founded in 1988, is a scientific, educational and cultural organization established to operate worldwide. It has more than 2000 members in 65 countries. IGA received financing from the World Bank toward the cost of the implementation of ECA region wide Geothermal Workshops as part of the Work Bank Groups Geothermal Energy Development Program (GeoFund). The World Bank GeoFund - IGA Geothermal Workshop aim is to promote geothermal exploration, development and private sector investments. The IGA Workshops are part of ECA regional technical assistance phase of the World Bank Group to enable geothermal development in the region. This workshop focus is on the country of Turkey.

IGA's next event will be the World Geothermal Congress and Exhibition 2010 from 25-30 April 2010 in Bali, Indonesia which will be participated by ministers, dignitaries and experts from different countries. For more information on the IGA, please contact the secretariat at iga@samorka.is or visit <http://iga.igg.cnr.it>



Partnership International Inc, (PI)

Partnership International Inc. founded in 1990, is an international consulting organization with offices in Washington DC that provides institutional, technical and financial advice to clients on projects that promote sustainable development through renewable energy investments. Partnership International was tasked to develop, host and implement this Turkey based Geothermal Workshop for the IGA, and the World Bank/IFC GeoFund. Partnership International has put together international collaborative renewable energy projects for private sector clients, infrastructure developments, multinational organizations and ministries worldwide. PI has extensive experience in developing, negotiating and managing strategic relationships from inception to implementation and/or completion. PI helps provide the development & financing of Geothermal and other renewable energies in emerging and developing counties. PI can recognize opportunities via research and analysis, and presents these opportunities as new business concepts to executives and ministries with a plan for financing and implementation. Partnership International's team of professionals can provide ongoing technical consulting on geothermal financing & sustainable development. For more information, please contact:

PI@Partnership-International.com Tel +1-202-422-7336 or
visit: <http://www.partnership-international.com>

February 16 -19, 2009 - Istanbul, Turkey

Hosted at The President Hotel - Tiyatro Cad. No:25 Beyazıt, Old-City Istanbul by:

