



IEA GEOTHERMAL



*Goals, Activities, Benefits,
Obligations and Cost*

International Energy Agency

Geothermal

Implementing Agreement

16 March 2016

IEA GEOTHERMAL IMPLEMENTING AGREEMENT (GIA)

The GIA provides a powerful framework for international cooperation on a broad spectrum of geothermal research and technology topics. It connects major national and industry programmes in exploration, development and utilization of geothermal resources, and establishes direct links among the geothermal experts in the participating countries, industries and organizations. The activities are chiefly directed towards sharing results and information gained from Members' national, industry and industry organizations geothermal programmes, the production of authoritative geothermal information and documenting best practices.

IEA Geothermal commenced operating on 7 March 1997 with an initial mandate to operate for a period of five years. With the support of the IEA Renewable Energy Working Party (REWP) and approval of the IEA Committee on Energy Research Technology (CERT) the work is in its 4th (2013-2018).

Membership is as a Contracting party or a Sponsor. Contracting Parties include the European Commission, governments or parties designated by their government. Sponsors are industry, groups, organisations or national organizations that are not designated by the government of their country.

As of March 2016, the European Commission (EC), 13 countries: Australia, France, Germany, Iceland, Italy, Japan, Mexico, New Zealand, Norway, Republic of Korea, Switzerland, the United Kingdom and the United States; and three Sponsors: Canadian Geothermal Energy Association (CanGEA), Spanish Renewable Energy Association (APPA) and ORMAT Technologies, Inc., are members.

The balance of the document discusses the :

- Mission
- Objectives
- Activities
- Structure and Members Obligations
- Financial Aspects and Annual Costs

MISSION AND OBJECTIVES

Current IEA scenarios indicate that governments need to implement major energy reforms including accelerating the uptake of renewable energy options, focus on reducing pollution and climate change effects from energy activities and enhance energy security.

The GIA seeks :

To promote the sustainable utilization of geothermal energy worldwide by optimizing international collaboration to improve technologies, thereby rendering exploitable the vast and widespread global geothermal resources, by facilitating knowledge transfer, by providing high quality information and by widely communicating geothermal energy's strategic, economic and environmental benefits, hence contributing to the mitigation of climate change.

Seven strategic objectives guide our efforts:

Objectives

- Actively promote effective cooperation on geothermal RD&D, including with industry partnership, through collaborative work programmes, workshops and seminars
- Provide policy makers with information about the newest developments in geothermal energy and highlight its advantages for sustainable development, the environment and economy
- Inform and educate international financial institutions about the value and hurdles specific to geothermal deployment
- Identify and deal with geothermal energy RD&D issues and opportunities, and encourage collaboration to improve/develop cost-effective methods and technologies
- Increase membership in the GIA with particular emphasis on encouraging non-IEA Member countries with significant potential geothermal resources
- Encourage collaboration with other international organizations and appropriate implementing agreements
- Be an unbiased source of reliable, current worldwide information about geothermal energy and increase its dissemination to the IEA family and global decision makers, financiers, researchers and the general public.

ACTIVITIES

The general scope of activities consists of the following international collaborative efforts:

Major Efforts

- Compile and exchange information on geothermal energy research and development. This includes existing, new and potential technologies and practices
- Document improved technologies for geothermal energy utilization and
- Improve the understanding of the environmental benefits of geothermal energy and ways to avoid or minimize environmental impacts

Work is presently being pursued in five topic areas. These work efforts are called Annexes. Each Annex has a participant members and is coordinated by an Operating Agent (appointed by the participants and confirmed by unanimous agreement of the GIA Executive Committee) through an Annex Leader. The work can be divided up into task, with tasks guided by Task Leaders. .

The topics are identified in the table below and the hyperlinks will take you to the relevant pages on the web site:

Topics

[Environmental Impacts of Geothermal Development \(Annex 1\)](#)

To encourage sustainable development of geothermal energy resources in an economic and environmentally responsible manner. Activities include identifying ways to avoid, remedy or mitigate adverse environmental effects, and quantifying and balancing the adverse and beneficial effects of geothermal energy development.

[Direct Use of Geothermal Energy \(Annex 8\)](#)

To provide unbiased information, communication, and worldwide knowledge transfer to enhance deployment of geothermal direct use. The main objectives are to encourage cooperation and knowledge sharing between experts worldwide, and to increase the use of existing technologies, especially by boosting awareness of the many advantages of this reliable, efficient and non-polluting renewable energy source.

[Data Collection and Information \(Annex 10\)](#)

Through Annex X, data on geothermal energy uses, trends and developments in member countries is collated and published (<http://iea-gia.org/category/publications/annex-x-publications/>).

[Deep Roots of Volcanic Geothermal Systems \(Annex 12\)](#)

To advance knowledge on the nature and characteristics of deep heat sources and heat transfer processes in the roots of volcanic geothermal systems. Objectives are to collect and disseminate relevant information and to facilitate cooperation between scientists involved in research into improved exploration and modelling methods.

[Emerging Geothermal Technologies \(Annex 13\)](#)

Co-operative research and collaboration on geothermal exploration, drilling, logging, reservoir creation, reservoir enhancement, reservoir management and innovative technical solutions for utilisation of geothermal energy.

The outputs from work include: technical papers, databases, conference proceedings, handbooks and comprehensive annual and trend reports. The GIA website provides information available to the public, including access to GIA reports and papers, links to the IEA and participant sites and other geothermal announcements. A password-protected Member's section provides participants access to Executive Committee meeting minutes and presentations, specially collected data, reports and other documents. The GIA, through its Secretariat, and with the assistance of the ExCo, also promotes itself, its activities and the worldwide sustainable use of geothermal energy through the publication of articles and brochures, participation in international geothermal conferences and workshops, and participation in IEA organized meetings, seminars and the [IEA OPEN Bulletin](#).

Funding for the Annexes is *task-shared* with the participants allocating resources and personnel to conduct the Annex work at their own expense.

MEMBER BENEFITS

Technical and policy information for research, government, industry and academic sectors is the significant membership benefit.

Collaboration provides researchers with opportunities for joint R&D cooperation and information exchange on recent R&D developments via meetings, symposia, workshops and networking. Policy and decision makers are able to gain international perspectives on geothermal issues, opportunities and development.

In addition, there are significant benefits to society that arise from the sustainable development of geothermal resources.

More specifically, membership of the GIA provides the following benefits:

Benefits

- Opportunities to increase R&D capabilities through joint efforts
- Provides appropriate focus for R&D, avoiding duplication
- Provides opportunities for research networking
- Develops skills and knowledge required to meet future technical challenges
- Improves R&D cost effectiveness by sharing research costs and technical resources
- Provides easier access to key information, research results and technological capabilities
- Provides impartial information and analysis to help guide national policies and programmes
- Provides the opportunity to review current issues, ongoing research and the need for future research
- Investigates barriers to development
- Helps develop technical standards and methodologies
- Contributes to the development of energy policies

STRUCTURE AND MEMBERS OBLIGATIONS

Members of the GIA participate in the Executive Committee and participate in one or more of the Annexes. They coordinate their activities with other task participants in order to avoid duplication and enjoy mutual benefits from resources and expertise. They cooperate in the Annex work and endeavour, on the basis of an appropriate sharing of burdens and benefits, to encourage cooperation among other participants with the objective of advancing the understanding of all participant members.

Members designate an Operating Agent for each Annex. Each Annex is binding only upon its Operating Agent and the participants therein, and does not affect the rights or obligations of other members.

Management control of the GIA is vested in the Executive Committee (ExCo). Decisions made by the ExCo are binding on all members. The ExCo consists of one voting member from each member country and each sponsor. An alternate member is designated to serve on the ExCo if the designated member is unable to do so.

The ExCo meets twice a year and members and/or their alternates are strongly encouraged to attend. The ExCo manages all administrative activities resulting from or affecting the GIA. During ExCo meetings the members report on national and industry programmes, exchange information and results of work conducted in the Annexes, and consider ongoing and arising issues.

Members cover the travel expenses and time for their representatives to attend meetings and workshops. Travel costs are minimized by doing business by mail and e-mail whenever possible. To the extent practicable, meetings are scheduled to coincide with other events, such as international geothermal and renewable energy conferences. Each participant bears all the costs they incur in carrying out their task activities, including reporting and travel expenses. Unless otherwise specified, the cost of publishing Annex reports and summary assessments is borne by the Operating Agent.

The GIA ExCo Secretariat is based in Taupo, New Zealand, and managed by the Executive Secretary who provides secretarial, administrative and other duties as required for the organization.

FINANCIAL ASPECTS AND ANNUAL COSTS

The expenses for the operation of the GIA Secretariat are met from the Common Fund, administered by GNS Science, based in Wellington, New Zealand.

To support the Common Fund, an annual monetary contribution is made based upon the number of shares assigned to each member through unanimous decision by the GIA ExCo. Sponsors from member countries are assessed half the number of shares of their member country, with a minimum of 1 share allocated. For the current membership, the apportionment is:

Membership and Shares

Australia	2	Norway	2
European Commission	4	Republic of Korea	2
France	4	Switzerland	2
Germany	4	United Kingdom	2
Iceland	1	United States	4
Italy	2	CanGEA	1
Japan	4	APPA	1
Mexico	1	ORMAT	2
New Zealand	1		
<i>Total = 39 shares</i>			

The cost per Common Fund share is currently US\$ 3,500/year.

Contributions are made annually on a calendar year basis. The number of shares assigned to new members is determined by the ExCo acting in unanimity.

Other common funds may be established as required to meet the needs of Annexes or Tasks. The costs will be shared among the participants of the relevant Annex in accordance with the number of shares set out in the Table above. The designated Operating Agent will serve as the Custodian of the Annex common fund. Arising issues of finance and budgeting are decided based upon the conditions and requirements of Article 7 of the GIA Implementing Agreement document.

To Find Out More

Interested in joining or learning more about the IEA Geothermal Programme:

Contact the IEA-GIA Secretary

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OR

Visit the IEA-GIA Website

[IEA Geothermal](#)

Cover photo: Champagne Pool, Waiotapu Geothermal Field, New Zealand
(Courtesy of GNS Science, New Zealand)

The IEA Geothermal Implementing Agreement (GIA), also known as the Implementing Agreement for a Cooperative Programme on Geothermal Energy Research and Technology, functions within a framework created by the International Energy Agency (IEA). Views, findings and publications of IEA GIA do not necessarily represent the views or policies of the IEA Secretariat or of all its individual member countries.