

GTI ONLINE - MATCHING GAS TECHNOLOGIES WITH GLOBAL GAS MARKETS

M. Lang, (mlang@icgti.gri.org; (202) 662-8943)
D. Manor, (dmanor@icgti.gri.org; (202) 662-8944)
IEA International Centre for
Gas Technology Information (ICGTI)
13331 Pennsylvania Ave., N.W., Suite 730N
Washington, DC 20004

ABSTRACT

The International Centre for Gas Technology Information (ICGTI) is a technology information centre of the International Energy Agency (IEA). Its members include Canada, Denmark, Japan, New Zealand, Portugal, Russia, Spain and the United States and one corporate sponsor, Columbia Gas System. Its participants include gas companies in Finland and Sweden as well as British Gas. These members account for more than half the world's natural gas production and consumption.

ICGTI was formally established in April 1995 to accelerate the pace of technology transfer for the global gas industry by providing an international forum for information exchange and collaboration. ICGTI is accomplishing this mission by developing a World Wide Website, GTI Online (<http://www.icgti.org>).

GTI Online is designed to cover all aspects of the gas industry from production to end-use as well as supporting technologies, including market assessments, national energy policies, environmental information and computing and modeling techniques. It is designed to use existing information sources wherever possible, so as not to duplicate public and/or commercial efforts. It is intended to fill the gap in providing useful international information to both the US and global market.

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INTRODUCTION

The recent successes in the gas industries have much to do with gas technology. In exploration and drilling, 3D seismic and downhole measurement equipment and techniques have significantly lowered drilling and exploration costs. Sophisticated computer systems have allowed the freedom unleashed by open access to yield significantly more efficient transmission systems. Combined cycle gas turbines have significantly reduced costs of gas-fired power generation, thereby opening major new markets.

In addition, natural gas use is expected to grow worldwide for the next twenty years. This increase will be driven by technology in some regions, by regulations (such as environmental and/or safety), by increasing population, by increasing GDP as well as a combination of these forces in others. This growth can be met by transferring natural gas experience and technology from a mature gas industry that is constantly searching for new gas markets to areas with natural gas demand and/or supply requirements. International technology development and deployment is the means to match these needs with state-of-the-art technology and experience.

IEA INTERNATIONAL CENTRE FOR GAS TECHNOLOGY INFORMATION

The International Energy Agency (IEA) established the International Centre for Gas Technology Information (ICGTI) in April 1995 in Paris, France. The primary mission of ICGTI is to provide an international forum on gas technology information so that gas technologies are transferred and global gas market needs are met efficiently. ICGTI's strategy to meet this mission is to combine advanced communication techniques, information technologies and industry expertise to serve senior executives and technical and marketing professionals' needs.

The charter members of ICGTI represent more than half of the world's gas production and consumption. These members include Canada, Denmark, Japan, New Zealand, Portugal, Russia, Spain and USA. The first US corporate sponsor is Columbia Gas System, Inc. In addition, Sweden and Finland are and as February 1st, Canada became a member of ICGTI. Although ICGTI counts eight countries as its members, any company or organization headquartered in these countries is able to receive all the services offered by ICGTI.

ICGTI is operated by Gas Technology Information, Inc. (GTI). GTI is a joint venture between the Gas Research Institute (GRI) and the Danish Gas Technology Centre. The Executive Director of ICGTI is William Hederman and Aksel Hauge Pedersen is the Deputy Director of ICGTI. The GTI Board of Directors is chaired by Dr. Stephen Ban, President of Gas Research Institute and the Vice-Chairman is Hans Jorgen Rasmusen, President of the International Gas Union. ICGTI's staff is primarily experienced in natural gas technology and

market issues rather than information services. This focus attests to the ICGTI's dedication to provide the global gas industry with useful value-added natural gas information rather than linking it to as many worldwide natural gas databases as possible.

ICGTI's initial technical product is to develop an international gas technology information exchange on the Internet. That product, GTI Online, is found on the World Wide Web at "<http://www.icgti.org>".

USING THE INTERNET TO TRANSFER TECHNOLOGY

ICGTI developed an Internet system to take advantage of the many benefits provided by this new and growing technology. The most important benefit that the Internet provides is that it is a global network that provides ideas, problems and solutions to the entire spectrum of industry players, ranging from industry executives, engineers, government officials, marketers, large consumers, service companies, equipment manufacturers and independent power producers to technical and marketing staff.

Some of the benefits of working on the Internet:

- International collaboration on the Internet takes a fraction of the time that traditional communication and conferencing methods takes. As a result, research can be made available in a timely way and information can be disseminated worldwide virtually instantaneously with little concern for global time differences or geographic distances.
- Internet connections are a fraction of the cost of international travel. Oftentimes, the highest ranking executives are permitted to attend international conferences on technologies. The Internet allows middle level management and technical /marketing staff to gather the same type of information via the Internet.
- As research and development funding has declined for energy companies as well as technical staff, there remains a need for technical and professional staff to use Internet as an information resource as well as a meeting place to develop collaborative efforts and/or joint ventures.
- The Internet is convenient because it can be accessed 24 hours a day from any personal computer and modem. Time differences across the globe are virtually eliminated.
- The Internet can handle questions and responses that range in complexity. The user can tailor specific information requests and discussion to match their needs.
- The Internet is language friendly. We have found that English is used throughout the world. However, if English is not one's native language, certain technical phrases can be misunderstood. The Internet allows the user to understand information at one's own pace, increasing the opportunity for more clear communication.

ICGTI GTI ONLINE SERVICES

GTI Online is currently undergoing major revisions in services, organization and design. GTI Online is designed to fill the gap in providing useful technology information in order to accelerate the commercialization of gas technologies worldwide. The current GTI Online services are described below.

Question and Answer Board. Users have the opportunity to ask and answer natural gas technology questions very similar to discussion groups currently available on the Internet, except this Q&A Board is exclusively devoted to natural gas technologies and related issues. For members questions, the ICGTI staff are required to provide a timely response to their inquiries. Members receive a specialized research service that can be helpful in decreasing the cost of their research gathering efforts.

Marketplace/Directory. This is a unique service from other databases because it lists advertisements from specific companies who want to promote their equipment and/or services in the global gas market. Vendors of gas technologies (manufacturers of natural gas equipment) and providers of other related services (such as power plant developers, consulting, educational and legal services) have the opportunity to detail their specialties. More than 1500 companies already list on GTI Online's Marketplace/Directory. This section also houses requests by companies or organizations in member countries/companies for technology and/or qualifications including bid specifications, specific RFPs and/or RFQs, etc.

Technical Library. The Technical Library is intended to house a variety of relevant state-of-the art information on technologies at varying levels of complexity. Detailed technical specifications and graphics enhance the Technical Library's entries. For example, primers or introductions on selected topics have been included like "What is Gas Cooling?" Another type of information are summaries of literature searches from recent years (1993-present) on such topics as pipeline repair and rehabilitation and gas processing. These literature searches include US sources but are primarily aimed at gathering international information on selected topics. At another level, there are descriptions of gas technologies that have been provided by members including the pigging technologies developed by Tokyo Gas and Osaka Gas. Profiles of the member companies including the Japan National Oil Corporation and Gazprom and the Gas Association of New Zealand are also included here.

One unique contribution to the Technical Library are the housing of abstracts from recent international gas conferences. GTI Online currently has the English versions of more than 350 abstracts from Gazprom's recent conference on Underground Gas Storage (September 1995) and the more than 800 abstracts from the International Gas Research Conference (November 1995). In addition, GTI Online is the only online source for the proceedings from the recent IEA Conference on Natural Gas Technologies held in Berlin, Germany (September 1996).

Expert Networks. These networks provide a means for experts from around the world to work together on determining key technology advances in selected areas. Only members can participate in these networks or access the results of these experts discussions. The

existing expert networks are focused on technology issues related to non-giant field development, transmission, storage, distribution, and residential/commercial markets.

Industry Events. GTI Online goes beyond standard conference listings by including registration and accommodation information and program schedules complete with speakers and paper topics where applicable. GTI Online is the exclusive source for promoting the upcoming International Gas Union (IGU) World Gas Conference to be held June 1997 in Copenhagen, Denmark. GTI Online currently lists the authors and titles of more than 350 papers that have been accepted by the IGU for presentation. In addition, GTI Online designed and is maintaining the website for the 1998 International Gas Research Conference to be held in San Diego, California.

Gas Technology Guide to the Net. Users can connect via the Internet to external gas information sources like government and research organizations and gas companies. One of the most informative databases available to ICGTI international members is GRI/Net - the WWW server established at GRI. Recently, ICGTI conducted a review of nearly 400 websites and their notable features for Hart Publications. This 1997 Guide to Selected Oil and Gas Websites can be found on GTI Online as well as in Hart's Gulf States Directory, 1997 edition.

Newsstand. This section provides senior gas industry executives and others interested with a quick overview of news related to gas technology and a concise set of news from the global gas industry. The Newsstand houses tables of contents or headlines from gas periodicals and publications and other late breaking news as well as information from the Director on natural gas technology and/or market trends, as appropriate. Two recent additions to GTI Online include Natural Gas Week's table of contents (updated weekly) and British Gas Research and Development Centre's quarterly publication, The Innovator.

ICGTI BENEFITS AND UNIQUE FEATURES

The primary benefit from GTI Online is access to a dynamic and customized WWW site that can aid gas technical, marketing and executive staff in researching questions about gas technologies and potentially accelerating the commercialization of these technologies worldwide. Because membership has been paid by the US Department of Energy for 1997, any interested company in natural gas issues headquartered in the US can use this Internet service free of charge. A sample of the exclusive member services include:

- Access to worldwide natural gas industry and technology information specifically designed to meet the industry's needs.
- Access to international gas technology information that is not available on any other WWW site.
- Opportunity to gather marketing intelligence on and access to potential customers, competition and key industry decisionmakers.

- Opportunity to promote equipment and services worldwide.
- Opportunity to find out who, what, when and how equipment and services can be purchased to meet one's own gas needs.
- Opportunity to ask and receive timely responses from ICGTI staff to questions posted on the Q&A Board.
- Opportunity to collaborate internationally with others in selected fields through individual contacts or through the expert networks on specific technology trends.

If you wish to register for GTI Online or have any questions about membership and services, you may contact us online at our homepage "www.icgti.org" or directly at our Headquarters located in Washington, DC (202) 662-8991 (fax: (202) 393-6092).