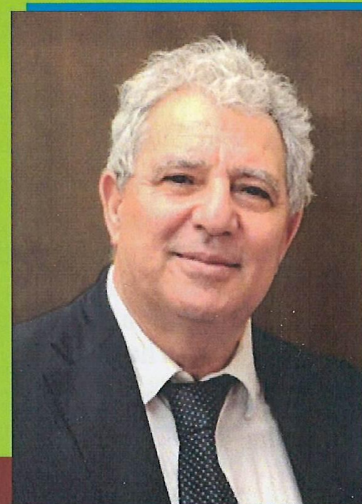


INTERNATIONAL ECOENERGY ACADEMY

BAKU - 2017

INTERNATIONAL ECOENERGY ACADEMY

The president of International Ecoenergy Academy Fagan Ganbar oglu Aliyev was born in 1945 in Agjabedi district of the Republic of Azerbaijan. In 1969 he graduated from Azerbaijan Polytechnic Institute. After graduating the post-graduate study in the Institute of Construction Physics in Moscow he defended PhD (1977) and doctorate theses (1988). F. Aliyev has been engaged in researches on the problems of buildings' energy management and controlling systems, development and implementation of alternative energy technologies. His work "Optimization of energy saving in a large Sport Complex in Baku city through automated management and controlling using computer systems" was awarded with the honours diploma of Academy of National Economy of the former USSR.



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F. Aliyev participated in designing and led the construction of more than 25 buildings such as the Republic Cycle Track, Athletic Arena, Baku Sport Palace (present Sport and Concert Complex named after H. Aliyev), Complex of the Republic Medical-Athletic Health Center, State Olympic Boat-racking Base in Mingechaur city, etc.

One of the directions of prof. Aliyev's activity is ecosystem protection and radiation safety of various buildings and structures including the environmental problems of industrial development, particularly oil-gas operations.

F. Aliyev's scientific activity has always been associated with other engagements. He used to be the deputy-chairman of Azerbaijan State Committee for Science and Technology, head of Foreign Investment Department at the State Plan Committee of Azerbaijan Republic and deputy-chairman of Azerbaijan State Sport Committee on construction.

F. Aliyev founded Scientific-Manufacturing Association "Gunesh" (1990) and International Ecoenergy Academy (1994).

At present, being the president of International Ecoenergy Academy, prof. F. Aliyev is the head of "Engineering Ecology" department of Azerbaijan Architecture and Construction University. He holds lectures and developed courses on the application of energy efficient and renewable energy technologies in buildings, environmental risk assessment and radiation safety, etc. He is the member of Russian Academy of Construction and Architecture, International Association AVOC, honorary prof. dr. of Islamic Azad University and councillor of International Association Hydrogen Energy T. Nejat Veziroglu World Hydrogen Energy Trust (IAHE-TNV-WHET) on Central Asia.

F. Aliyev led a great number of international projects implemented under the support of EU, UNIDO, UNDP, UNEP, USAID, World Bank and other funds. He participated in the UNECE project "Development of the Renewable Energy Sector in the Russian Federation and in CIS countries: Prospects for Interregional Cooperation" as national expert.

Prof. F. Aliyev participated and delivered lectures in international scientific forums held in USA, Great Britain, France, Finland, Denmark, Turkey, Iran, Pakistan, Russia and other CIS countries. Involving Azeri and foreign scientists he organized 10 International Baku Congresses "Energy, Ecology, Economy" and edited 15 volumes of proceedings of these international forums.

F. Aliyev is the author of numerous papers, inventions, textbooks and monographs published in Azerbaijan, USA, Finland, Great Britain and Russia, the founder and chief editor of scientific popular journals "Energy, Ecology, Economy" and "Kainat", scientific journal "Ecoenergetics", and the member of editorial board of scientific "Biomedicine" journal.

F. Aliyev was awarded with the academician Yu. Mamedaliyev and V. Boguslavsky medals for his scientific and organizational activities.

The economic, ecological and socio-political situation in the present days requires thorough consideration of the complex global problem "Energy, Ecology, Economy".

The problem "Energy, Ecology, Economy" is causing great concerns also to the scientists and specialists of Azerbaijan involved in various fields of science, technology and education.

In 1990, with support from Azerbaijan Academy of Sciences and State Planning Committee of Azerbaijan Republic, the Scientific-Manufacturing Association (SMA) "Gunesh" was established by a dedicated resolution of Cabinet of Ministers of Azerbaijan Republic. The mission of the Association was to promote the latest achievements of science and technology in effective utilization of conventional and renewable energy resources while protecting the environment and human health.

International Scientific Forum "Energy, Ecology, Economy" organized by "Gunesh" in 1991 has become regular and has been named as the Baku International Scientific Congress. Participants of the International Scientific Forums approached the United Nations with a proposal to develop regional and interregional scientific-technical and environmental co-operation under a slogan "Energy, Ecology, Economy" and establish regional organizations of the same name. A suggestion was put forward to set up an International Ecoenergy Academy in Azerbaijan Republic making use of the facilities of "Gunesh" SMA.

In 1994, the International Ecoenergy Academy (IEA) was founded on the basis of SMA "Gunesh".

The National Academy of Sciences of Azerbaijan Republic, Association "Gunesh", Clean Energy Research Institute of USA, Russian Academy of Architecture and Construction, Russian Association ABOK are the co-founders of the IEA.

The main objectives of the Academy are:

- Research into fundamental problems of renewable and environmentally clean energy development and application
- Research and monitoring of environmental impacts of offshore oil field developments upon the Caspian ecosystem, to ensure the sustainable development of the Caspian region
- Research of environmental problems associated with contamination of the air, water and land resources caused by anthropogenic factors
- Promotion of the development and application of modern environmental standards in partnership with relevant governmental agencies
- Dissemination of knowledge on modern concepts of sustainability and achieving of ecological balance on the global scale, through organisation of joint seminars and training courses in cooperation with national and international partners
- Development and implementation of academic projects in the field of environmental protection and energy security.

A good deal of works was done by the Academy to achieve these objectives. Since 1991, 10 international Baku forums were organized and hosted by SMA "Gunesh" and IEA. Providing opportunities for the exchange of information and discussion of new scientific achievements on energy security, environmental pollution reducing and protection of ecosystem from possible disasters, these meetings at the same time promoted establishing close relationship between Azeri and foreign scientists. Director of the US Clean Energy Research Institute T. Nejat Veziroglu became honorary chairman of the International Baku forums "Energy, Ecology, Economy".

The First Baku International Symposium "Energy, Ecology, Economy" was held on 20-23 August, 1991. It was the first in the series of scientific forums addressed the issues of energy generation and the related environmental problems, energy efficiency, renewable energy resource use and ecosystem protection.

The main organizers of the first Symposium were Scientific-Manufacturing Association "Gunesh", US Clean Energy Research Institute and Azerbaijan Academy of Sciences. The First Symposium was held under sponsorship of "Austroclima" company of Austria.

The Symposium was attended by scientists and specialists from all over the world including USA, Canada, Austria, Russia, Portugal, Greece, Iran, Turkey and other countries.

A number of reports addressed the Symposium topics were presented in the following sections and subsections:

Section 1. Heat and Cold supply, Non-conventional energy source utilization.

- Subsection 1. Solar heat and cold supply, photoelectricity
- Subsection 2. Hydrogen energy
- Subsection 3. Wind power
- Subsection 4. Thermal waters

Section 2. Heating, Ventilation, Air conditioning, Indoor climate.

- Subsection 1. Heating, Ventilation and Air conditioning
- Subsection 2. Indoor climate
- Subsection 3. Structural Heat physics

Section 3. Environment, Control and Radiation protection techniques

- Subsection 1. Industry and environment
- Subsection 2. Oil processing and environment
- Subsection 3. Control of the radiation protection techniques

The Second Baku International Symposium "Energy, Ecology, Economy" was held on 17-20 August, 1993.

The Symposium was organised by Scientific manufacturing Association "Gunesh", Azerbaijan Academy of Sciences, Clean Energy Research Institute (USA) and Tabriz University (Iran). The Second Symposium was sponsored by BP Exploration (Azerbaijan) bLimited on behalf of the BP/Statoil Alliance.

The Symposium was held under chairmanship of F.G.Aliyev, the president of "Gunesh" Scientific Manufacturing Association.

Director of the US Clean Energy Research Institute T.N. Vezir oglu, H.P. Faizi from Iranian University of Tabriz and N. Seljuk from Middle East Technical University of Turkey were co-chairmen.

The main topics at the Second Symposium were:

Energy

- Fossil fuels (coal, oil, natural gas)
- Nuclear (fission, fusion, breeders)
- Hydro. Geothermal. Solar. Wind. Ocean (OTEC, waves, currents, tides)
- Biomass. Synfuels. Alcohols. Hydrogen. Power generation. Co-generation
- Energy from waste. Energy efficiency. Energy storage. Energy transmission

Ecology

- Greenhouse effect (global warming, sea level rise, climate change)
- Caspian sea ecological issues. Acid rain. Air pollution. Ozone depletion
- Indoor pollution. Solid waste. Recycling. Radiation. Radon (gas) issues
- Microclimate of buildings and structures. Ventilation. Air-conditioning
- Electric and magnetic fields

Economy

- Feasibility studies. Trends and forecasts. Economy of depletable resources
- Costs of environmental damage
- Ecological economy

T.N. Veziroglu (USA), N.Seljuk (Turkey), J. W. Sheffield (USA), F.Staffel (Austria), E. Khoshhravan (Iran), Yu.A. Tabunshikov (Russia), A.D. Obozov (Kyrgyzstan) , V.Sh.Kakabadze (Georgia) were among the foreign participants of the Symposium.

Once established in early 1994 the International Ecoenergy Academy (IEA) carried on the tradition and held the **Third Baku International Congress "Energy, Ecology, Economy"** on 19-22 September, 1995. Scientific-Manufacturing Association "Gunesh", Azerbaijan Academy of Sciences, Clean Energy Research Institute (USA) and Tabriz University (Iran) participated in the Congress organization. The results of the latest researches in the field of the energy resource development and its environmental impacts including health effects and the related economic, policy and social aspects were discussed during the Congress. Plenary lectures were delivered by **F. G. Aliyev** (congress chairman, president of IEA), **A. Ishlinsky** (Russia), **R. Pallabazer** (Italy), **R. Talebi-Daryani** (Germany) and **E. Khoshhravan** (Iran). About 350 reports were presented at 13 sectional meetings including:

- *Ecoenergetic problems of development of oil, gas and gas condensate deposits under complex conditions*
- *Geology, geophysics and mineral energy resources*
- *Chemical, technological, ecological and economic aspects of utilization of the major by-products and residues of the oil processing industry*
- *Energy saving, ecology and management in power engineering*
- *Renewable energy sources*
- *Water ecosystem: conservation and utilization of water resources*
- *Agricultural ecology*
- *Industrial ecology: social problems*

The **Fourth Baku International Congress "Energy, Ecology, Economy"** was organized and hosted by the International Ecoenergy Academy from 23 to 26 September of 1997 under **UNESCO** auspices. The main purpose of this Congress was to discuss and disseminate the latest knowledge in energy technology and its consequential environmental effects as well as the results of researches on the Caspian ecology and the "Contract of the Century", the Northern and Western oil pipelines and Silk Road issues. Azerbaijan National Academy of Sciences, State Oil Company of Azerbaijan Republic, "Azerenerji" Joint-Stock Company, Clean Energy Research Institute of USA and the ABOK company of Russia were among the Fourth Congress organizers.

The Congress opened by the Congress chairman prof. F. Aliyev. Keynote addresses were made by F. Magsudov, the pre-sident of Azerbaijan Academy of Sciences, N. Aliyev, president of SOCAR and M. Imanov, president of "Azerenerji" JSC. The Opening Ceremony was attended by senior officials, foreign ambassadors, representatives of UN and foreign companies.

Well-known scientists from USA, UK, France, Spain, Japan, Iran, Turkey, Russia, Georgia, Kazakhstan, Kyrgyzstan and Uzbekistan took part in the work of the 4th Congress.

The Congress Programme included plenary meetings and technical sessions, visits and cultural events.

Prof. **A. J. Vazquez** (Spain), prof. **Yu. Tabunchikov** (Russia), prof. **C. Abdullayev** (Uzbekistan), dr. **J. Bown** (UK), prof. **A. Obozov** (Kyrgyzstan) and prof. **V. Kakabadze** (Georgia) delivered interesting scientific lectures at plenary sessions.

More than 180 reports were presented in 3 sections:

- *Ecological problems of the Caspian Sea*
- *Ecological problems of Northern and Western Pipeline Routes*
- *Energy saving and renewable energy resource*

The **Fifth Baku International Congress** held by the International Ecoenergy Academy on 21-24 September, 1999 provided the forum for discussion and dissemination of the latest knowledge in energy efficiency and renewable energy resources utilization, environmental impact of oil-gas fields development on the Caspian Sea and Absheron peninsula. A wide range of subjects covered the recommendations on environment protection, legislative and regulatory documents, etc.

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A full Congress programme included visiting scientific and high-educational institutes, museums, and historic sites of Baku city and also a variety of cultural events. Azerbaijan National Academy of Sciences, Tacis Coordinating Unit in Azerbaijan, State Oil Company of Azerbaijan Republic, "Azerenerji" JSC, Clean Energy Research Institute of USA and "Gunesh" Scientific-Manufacturing Association participated in the Congress organization.



The 5th Congress participants laid flowers on the graves of National Heroes (Shehids) before the Congress opening



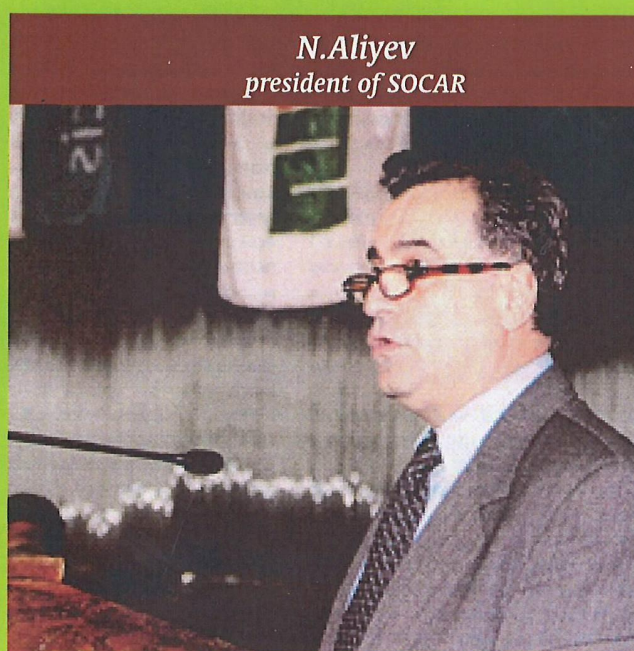
Opening of the 5th Baku International Congress "Energy, Ecology, Economy" in Gulistan Palace

(left to right: E. Murat (UN resident coordinator), T.N. Veziroglu (director of US Clean Energy Research Institute), N. Aliyev (president of State Oil Company of Azerbaijan Republic), F. Aliyev (president of International Ecoenergy Academy, chairman of the Congress), D. Woodward (president of BP Amoco company), E. Tresselt (vice-president of Statoil company), F. Schwalb Hoth (Tacis Coordinating Unit) and W. Chandler (director for advanced international studies of the US Pacific North-West National Laboratory))

The Congress Opening Ceremony was attended by leaders of the related government ministries, companies and institutions, resident-representative of UN and ambassadors of foreign countries (US, Norway, Iran, Georgia, Libya) to Azerbaijan

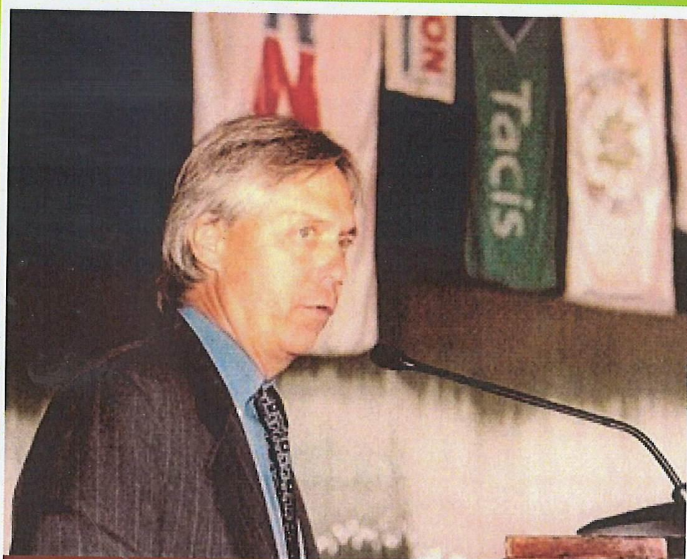


E. Murat
UN resident coordinator



N. Aliyev
president of SOCAR

INTERNATIONAL ECOENERGY ACADEMY



W.Chandler
Pacific North-West National Laboratory (USA)

More than 95 scientists and specialists from advanced scientific centers of USA, Great Britain, Norway, Spain, Russia, Turkey, Iran, Georgia, Ukraine, Kazakhstan, Turkmenistan participated in the Fifth Baku International Congress. More than 300 reports were presented. Speakers from foreign companies including BP Amoco, ExxonMobil, Pennzoil, Lukoil, Statoil, Chevron, Kvaerner, Texaco, El as well as from scientific-research institutes of the republic and foreign countries delivered interesting lectures at plenary and technical sessions.



A view of the meeting hall at Gulistan Palace



Taking into account the high intellectual potential, scientific and organisational capacities of the International Ecoenergy Academy, the Fifth International Congress "Energy, Ecology, Economy", in its resolution, set up a number of objectives for the International Ecoenergy Academy, which can be achieved under the auspices and with direct assistance and support of International Organisations.

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The open parliamentary meeting and sectional meeting of the 5th International Congress

According to the established tradition, starting from 1991 International Ecoenergy Academy held International Baku Congress "Energy, Ecology, Economy" ones in 2 years.

The Sixth Baku International Congress planned for September 23-26, 2001 was postponed to May 30-June 3, 2002 year due to the terrorist act happened on 11 September, 2001 year in USA and in a mark of the protest of the IEA scientists against such anti-human act.

The Congress opening ceremony in "Gulistan" Palace was attended by the heads of governmental bodies, ambassadors of foreign countries, press representatives, delegates from international organizations and business circles.

The chairman of the 6th Congress Fegan Aliyev made an opening speech. Welcoming talks were made by the president of the State Oil Company of Azerbaijan Republic N. Aliyev, Minister of Ecology and Natural Resources of Azerbaijan H. Bagirov, the president of ExxonMobil company D. Goodbread, representative of BP company F. Askerov, ambassador of Russia N. Ryabov and ambassador of Iran A. Gazai.

Speakers mentioned the role of the International Baku Forums "Energy, Ecology, Economy" in the solution of such global problems as maintaining ecological balance, reduction of anthropogenic pressure upon ecosystems, rational use of natural resources, including fuel and energy resources and protection of the environment. An important result of these congresses is the increase of coordination of activities of scientists from various countries and regions, their cooperation, understanding and support by governmental bodies in the solution of organizational, economic and technical problems and also exchange of information.

Scientists and experts from Azerbaijan, USA, Russia, Germany, Denmark, Iran, Yemen, and Ukraine took part in the work of the 6th Baku International Congress. Submitted on plenary session the reports of O. Fanger (Denmark) "Human requirements in future air-conditioned environments", prof. Y. Tabunshikov (Russia) "Energy efficient building. The ideology of architecture and construction of the XXI century", Kh. S. Al-Maamari (Yemen) "The first steps of oil and gas exploration history in Republic of Yemen and suitable investment atmosphere" caused special interest of the participants. In the opening day of the Congress in "Gulistan" Palace an exhibition was organized to demonstrate works of the young artists devoted to nature protection. All works differed by the individual approach of the authors to environmental problems and handwritings of national school of fine art. Most worthy of them were awarded special premiums of the Congress. The participants of the congress also familiarized by modern devices on quality control of atmospheric air brought by the experts from Germany - the participants of the congress prof. T. Blum and dr. W. Kolberg.

About 250 reports addressing global energy and environmental problems including climatic changes, ozone layer depletion, energy saving and use of renewable energy sources were presented in the technical sessions "Environmental issues of the Caspian sea", "Safety and environmental issues of Northern and western pipeline routes", "Energy saving. Climate Change. Renewable energy sources".

On 26-27 June, 2003 International Ecoenergy Academy held the next Seventh Baku International Congress "Energy, Ecology, Economy".

International Ecoenergy Academy, Azerbaijan National Academy of Sciences, State Oil Company of Azerbaijan Republic and Japanese Kobe University were the Congress organizers.

The main topic discussed during the 7th Congress was seismic design and safety of pipelines. Issues relating to seismic design, safety and environmental aspects of pipeline routes were discussed at plenary and working sessions including:

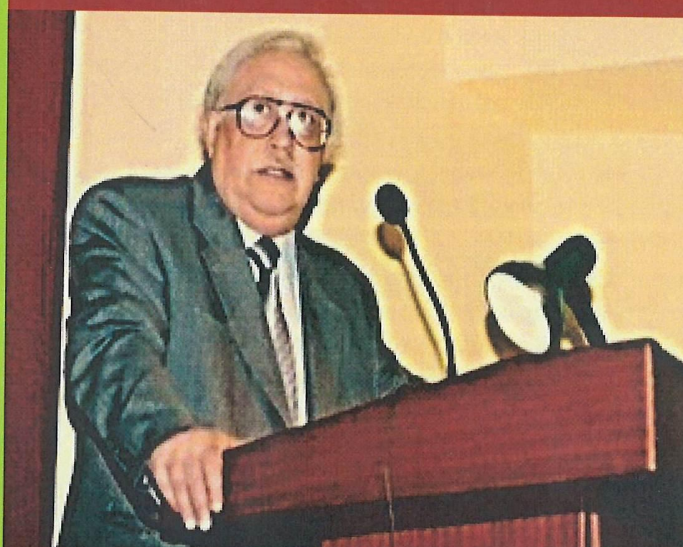
1. Ecology and safety (oil contaminated soil remediation and produced water cleaning)
2. Safety and environmental issues of oil and gas pipeline routes.
3. Seismic design and countermeasures for water supply system;
4. Seismic design and countermeasures for gas supply system;
5. Seismic design and countermeasures for oil facility system;
6. Lifeline damages during Kobe (Japan) Earthquake.

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Presentations were made by scientists and specialists of Azerbaijan, Japan, Germany, Italy and Islamic Republic of Iran. At the Congress Opening Ceremony in the building of Middle East Petrol company the Congress chairman, president of International Ecoenergy Academy F. Aliyev addressed participants with opening speech.

The chairman of the State Architecture and Building Committee Sh. Hasanov, director of the Institute of Geology Azerbaijan National Academy of Sciences, academician A. Alizade, professor of Japanese Kobe University Sh. Takada and professor of Power and Water Institute of Technology of Iran N. Hassani welcomed the Congress participants.

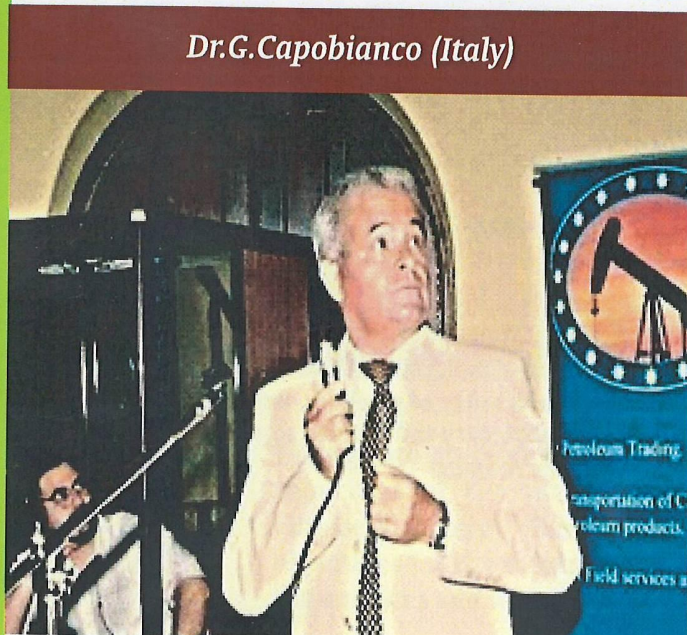
All participants intently listened to the lectures of prof. Sh. Takada "State of the arts on lifeline earthquake engineering in Japan", general director of the Republican Seismology Survey Center, prof. A. Hasanov "Seismicity and seismic risk of Baku city" and dr. G. Capobianco "Fuel oil transportation improvers: a way to reduce air pollution", prof. T. Koike "Japanese seismic design code for water supply systems after the Kobe Earthquake", dr. Y. Ogawa and Y. Yanou "Damage of gas pipelines caused by the Hanshin-Awaji Earthquake and supply restoration activities" presented at plenary sessions.



Prof. A. Hasanov (Azerbaijan)



Prof. Sh. Takada (Japan)

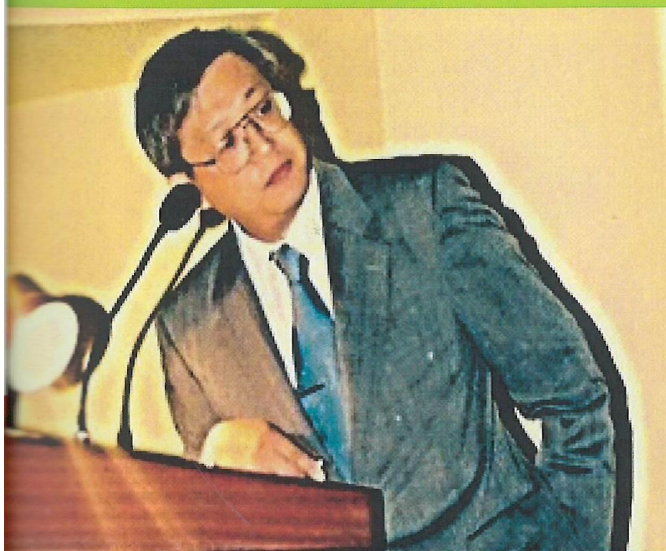


Dr. G. Capobianco (Italy)

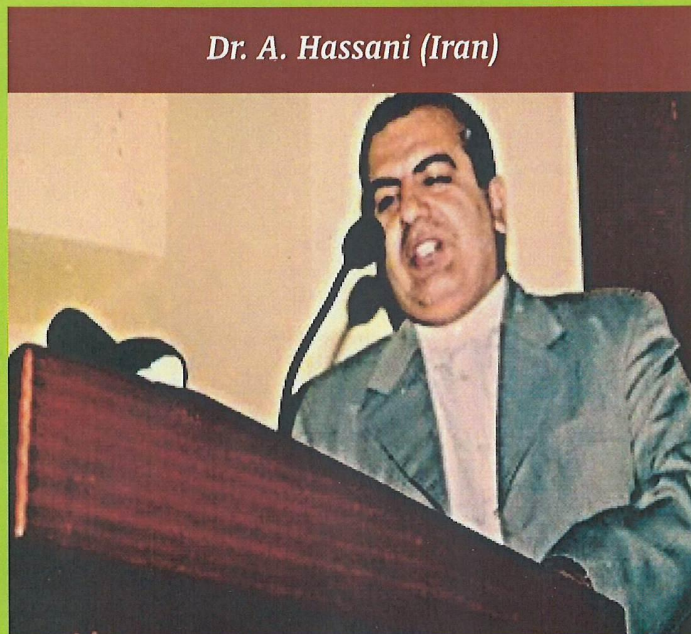


Dr. Y. Ogawa (Japan)

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Prof. T. Koike (Japan)



Dr. A. Hassani (Iran)



Prof. F. Aliyev and prof. T. Bluhm (Germany)



A view of the meeting hall



T. Fugiwara, ambassador of Japan and K. Shinohara, attaché embassy of Japan attended the 7th Baku International Congress

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On June 1-3, 2005 International Ecoenergy Academy held the **Eighth Baku International Congress "Energy, Ecology, Economy"** under UNESCO auspices.

The 8th Congress assembled local and foreign scientists, representatives of oil companies, related ministries and NGO's to discuss global energy and environmental problems, demonstrate the latest achievements in the field of environmental friendly and energy saving technologies, including renewable energy technologies. The Congress paid particular attention to the Caspian environment issues, impact of oil-gas pipelines on the region's flora and fauna and people health together with economic, social and legislative aspects.

The following topics were discussed at plenary and technical sessions:

- *Environmental issues of energy production*
- *Renewable energy resources (solar, wind, biomass, hydroresources, etc.*
- *Energy saving technologies*
- *Caspian environmental problems*
- *Problems of atmosphere air. Air quality control*
- *Climate change*
- *Radiation problems. Health protection and safety*
- *Environmental issues and safety of oil-gas pipeline*
- *Ecological and economic problems of corrosion and metal constructions' protection*
- *Waste management. Utilization of industrial and household wastes*
- *Soil problems. Contaminated soil remediation*
- *Protection of water resources. Water processing systems*



The 8th Congress Opening Ceremony was attended by the leaders of governmental bodies, foreign ambassadors, representatives of international organizations, business entities and mass media.

Welcome addresses were given by: president of State Oil Company of Azerbaijan Republic N. Aliyev, ambassador of Italy M. Costa, representative of the USA embassy J. Hyland, ambassador of Iran A. Suleymani, ambassador of Pakistan M. Hafeez, ambassador of Egypt Y. A. El Sarkavi and ambassador of Libya M. Jaber. All speakers emphasized the importance of the International Baku Congresses "Energy, Ecology, Economy" in the solution of global problems of the new millennium-maintaining ecological balance, reducing anthropogenous pressure upon the ecosystem, rational use of natural resources and climate change.



Participants of the 8th Baku International Congress: prof. T. Nejat Veziroglu (USA), Y. A. El Sarkavi (ambassador of Egypt), prof. T. Bluhm (Germany), prof. Sh. Takada (Japan) and dr. A. Piccioni (Italy).

6 presentations were given in two plenary sessions held on 1 June 2005 after the Congress Opening Ceremony. Plenary presentations were made by: president of IEA, prof. F. Aliyev, director of US Clean Energy Institute, prof. T. Nejat Veziroglu, prof. of University of Kobe Sh. Takada (Japan), prof. of Düsseldorf University Th. Bluhm (Germany), chancellor of Urmia University G. Sadeghi (Iran) and representative of scientific-manufacturing firm "Combustion regime automatization" A. Melikhov (Russia).



The IEA's Gold Medal awarded to prof. Sh. Takada (Japan) and prof. U. Mamedyarov (Azerbaijan) for their contribution to the development of science and technology



8th Baku International Congress



Memorial photo of the 8th Baku International Congress participants

The Congress Programme was very wide and the presentations covered many different aspects of energy saving technologies, renewable energy resource use, environmental problems of Caspian Sea, protection of atmosphere air, land and water resources, etc.

Scientists from Azerbaijan, USA, Russia, Germany, Italy, Japan, Great Britain, Austria, Iran, Turkey, Kazakhstan, Georgia, Libya and Yemen had come together in the 8th Baku Congress to discuss the results of latest researches and concentrate their efforts in elaborating new ideas helping to save our environment from man-generated disasters. 200 papers were presented at 7 technical sessions: "Environmental problems of energy production, renewable energy resources and energy saving technologies", "Environmental issues of the Caspian Sea", "Protection of ecosystem during oil-gas production and transportation", "Protection and rational use of natural resources", "Problems of atmosphere air. Climate change", "Radiation safety. Health protection" and "New environmental friendly technologies. Waste management and utilization" on 2-3 June 2005.

The Ninth Baku International Congress "Energy, Ecology, Economy" held on 7-10 June, 2007. The aim of the 9th Congress was to discuss major global problems such as environmental pollution, energy shortage, climate change and ozone layer depletion, etc. It provided an excellent opportunity for participants to be informed, and exchange opinions and findings on environmental friendly technologies, in particular, alternative energy technologies. The 9th Congress structured around plenary and technical sessions, press-conferences, visits and cultural events.

The main topics of the Congress were:

1. *Energy development and global environmental problems*

- Impact of conventional fuels on natural environment and living resources
- Global warming, climate change, ozone depletion and disasters
- Control of atmosphere air. Greenhouse gases abatement

2. *Sustainable energy development*

- Energy saving
- Environmental friendly technologies
- Alternative energy resources
- Hybrid energy systems
- Prospects of hydrogen energy

3. *Environmental problems of the Caspian Sea and Absheron peninsula*

- Impact of the development of oil-gas fields on the regions' landscapes, flora and fauna, and people health
- Safety and environmental problems of oil-gas pipelines and engineering-communication systems.
- Radiation safety.
- Water and land resource protection.
- Waste management and utilisation

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Delegates from the related ministries, NGOs, scientific-research institutes and universities as well as foreign embassies and international companies participated in the congress ceremony and plenary sessions held on 7 June.

A number of interesting lectures was delivered by scientists and experts from Azerbaijan, Japan, Germany, Georgia, Russia and Turkey at the Congress technical sessions on 8-9 June. The Congress was concluded with discussion and adoption of the Congress Resolution on 10 June, 2007.

The Tenth Baku International Congress "Energy, Ecology, Economy" held on 23-25 September 2009 in "Gulustan" Palace.

A number of delegates from all over the world were invited to this anniversary forum. Specialists of well-known scientific centers of USA, Japan, France, Germany, Norway, Turkey, Iran, Russia, Georgia and other CIS countries came to Baku to participate in it.

The 10th Congress topics included:

1. Energy development and global environmental problems

- Impact of conventional fuels on natural environment and living resources
- Global warming, climate change, ozone depletion and disasters
- Control of atmosphere air.

2. Sustainable energy development

- Energy saving
- Environmental friendly technologies
- Alternative energy resources
- Hybrid energy systems
- Prospects of hydrogen energy
- Legal and regulatory framework for renewable energies (RE)

3. Environmental problems of the Caspian Sea and Absheron peninsula:

- Impact of the development of oil-gas fields on the regions' landscapes, flora and fauna, and people health
- Safety and environmental problems of oil-gas pipelines and engineering-communication systems.
- Radiation safety.
- Water and land resource protection. Soil remediation
- Waste management and utilisation

The Congress Opening Ceremony was attended by state officials, ambassadors of foreign countries, guests, representatives of international companies, NGOs, mass media and civil society.

The Tenth Baku
International Congress
"Energy, Ecology, Econo



Homage of the National Leader H. Aliyev's memory before the 10th Congress Opening



Homage of the National Leader H. Aliyev's memory before the 10th Congress Opening

*The congress chairman, president of International Ecoenergy Academy **F.G.Aliyev** opened the 10th Congress and addressed the participants with welcoming speech.*

*Congratulatory remarks were made by the president of Azerbaijan National Academy of Sciences **M. Kerimov** minister of Industry and Energy of the Republic of Azerbaijan **N. Aliyev**, chancellor of Azerbaijan Architecture and Construction University **G. Mammadova**, professor of Aalen University **E. Hering** (Germany), representative of Economic and Environmental office OSCE in Baku **R. Zahn** as well as foreign ambassadors and guests.*



The 10th Congress opening at Gulustan Palace, 23 September, 2009.



G. Mammadova



M. Kerimov



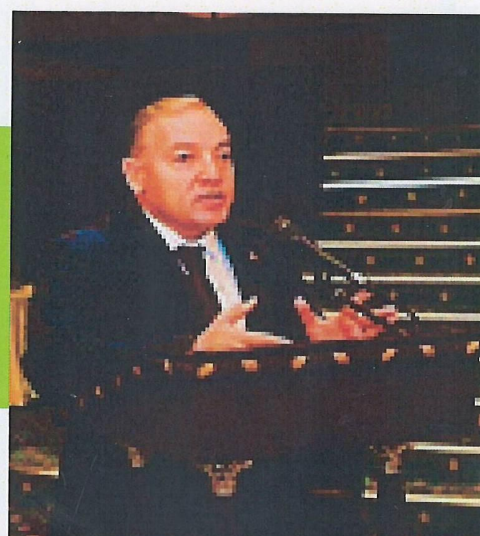
N. Aliyev



E. Hering



R. Zahn ambassador

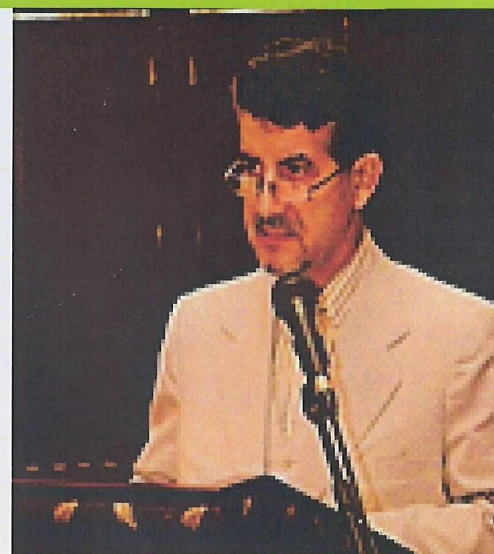


*H. Kilich
ambassador of Turkey*

INTERNATIONAL ECOENERGY ACADEMY



President of IEA Fegan Aliyev awards the IEA Gold Medal to president of National Academy of Sciences, vice-president of IEA Mahmud Kerimov at the 10th Congress Opening Ceremony



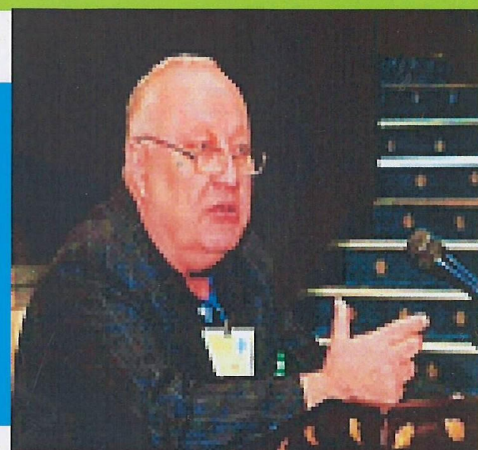
ambassador of Iran M. Bahrami



The IEA Gold Medal was also awarded to minister of Industry and Energy N. Aliyev for his contribution to International Baku Congresses "Energy, Ecology, Economy" and to chancellor of Azerbaijan Architecture and Construction University G. Mammadova for her continued activities devoted the development of science and education

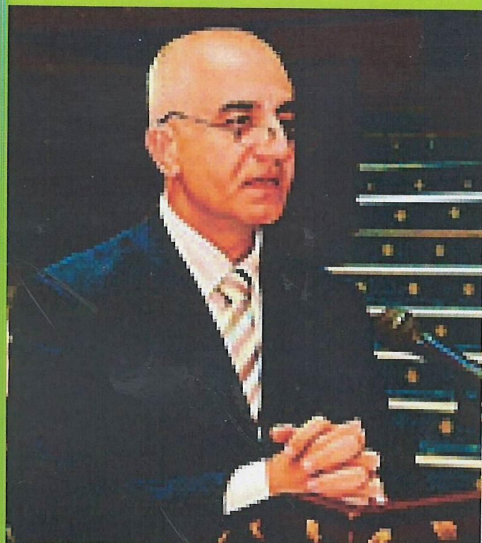


Plenary reports were presented by the president of International Ecoenergy Academy prof. F. Aliyev (Azerbaijan), prof. T. Dixon and B. Osmanoglu (USA), prof. E. Hering and H. Dettinger (Germany), dr. Y. Ueno (Japan), dr. T. Tupy (Germany), dr. B. Rubesa (Norway), prof. N. Begalishvili (Georgia), prof. N. Yusifbeyli (Azerbaijan) and A. Masoudi (Iran). In addition, the Congress Programme included 120 research reports and 29 posters of local and foreign specialists.



N. Begalishvili

INTERNATIONAL ECOENERGY ACADEMY



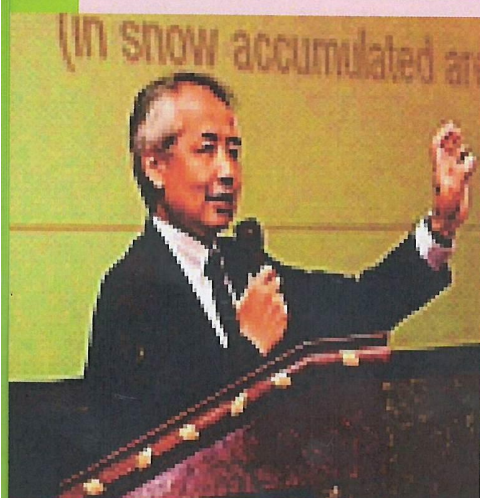
N. Yusifbeyli



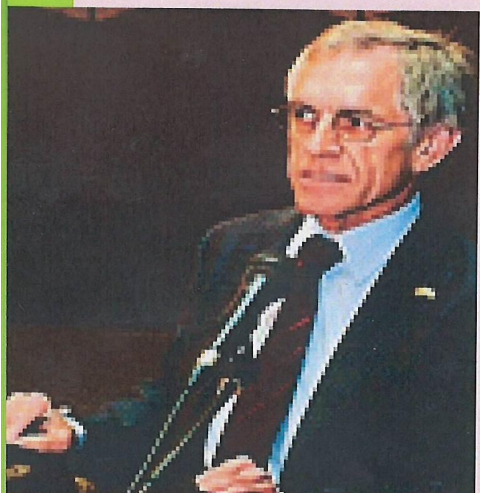
B. Rubesa



T. Tupy



Y. Ueno

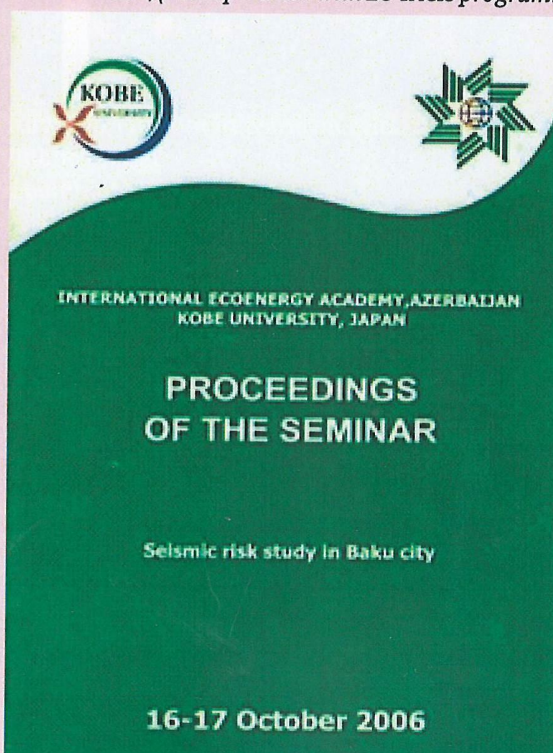


H. Dettinger

Along with the traditional Baku congresses, IEA regularly organises scientific-practical seminars, workshops and conferences to discuss the results of the implemented projects, provide information about new technologies and methods on ecosystem protection, energy saving and alternative energy resource development, etc. Dozens of important conferences and seminars were held by the Academy including:

- Scientific-technical Conference "State, problems and perspectives of oil and gas production in Azerbaijan oil and gas fields", 1996;
- Scientific Conference "Corrosion problems and protection", 1996;
- International Scientific Practical Workshop "Industrial and environmental safety of oil and gas operations in the Caspian Sea", (in cooperation with Russian LUKOIL company) 1998

International Scientific Practical Workshop "Protection of the biosphere and contaminated land reclamation", (in cooperation with EU TACIS programme) 1998;



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- International Scientific Practical Workshop "Climate change. Renewable energy resources. Energy efficiency", 2000;
- International Scientific Practical Workshop "Environmental problems of industrial wastes' anthropogenous impact on Absheron peninsula", 2002;
- Scientific-practical Conference "Creation and development of an infrastructure for the use of alternative energy sources in Azerbaijan Republic", 2004;
- Seminar "Seismic risk study in Baku city" (in cooperation with Japanese Kobe University), 2006;
- Potentialities and perspectives of alternative and renewable energy source use in Azerbaijan, 2010;
- International Conference "Azerbaijan 2020: Renewable Energy and Sustainable Development", 2012.

Seminar "Seismic risk study in Baku city" held on 16-17 October in Baku to discuss the results of project "Study on seismic disaster prevention/mitigation basic plan in Baku city" implemented jointly by International Ecoenergy Academy and Japanese Kobe University under the support of Ministry of Education of Japan.



President of International Ecoenergy Academy prof. F. Aliyev opens the Seminar on Seismic risk study in Baku city



President of Azerbaijan National Academy of Sciences M. Kerimov, chancellor of Azerbaijan Architecture and Construction University G. Mammadova, deputy minister of the ministry of Emergency of Azerbaijan O. Hajiyev and representative of "KiSKA" Technical Construction Company of Turkey Z. Ilkilinc at the Seminar opening.



Professor of Kobe University Sh. Takada addresses the Seminar participants

Since the time of its foundation, IEA participated in the development and implementation of a number of projects of state importance. The main projects developed and implemented are:

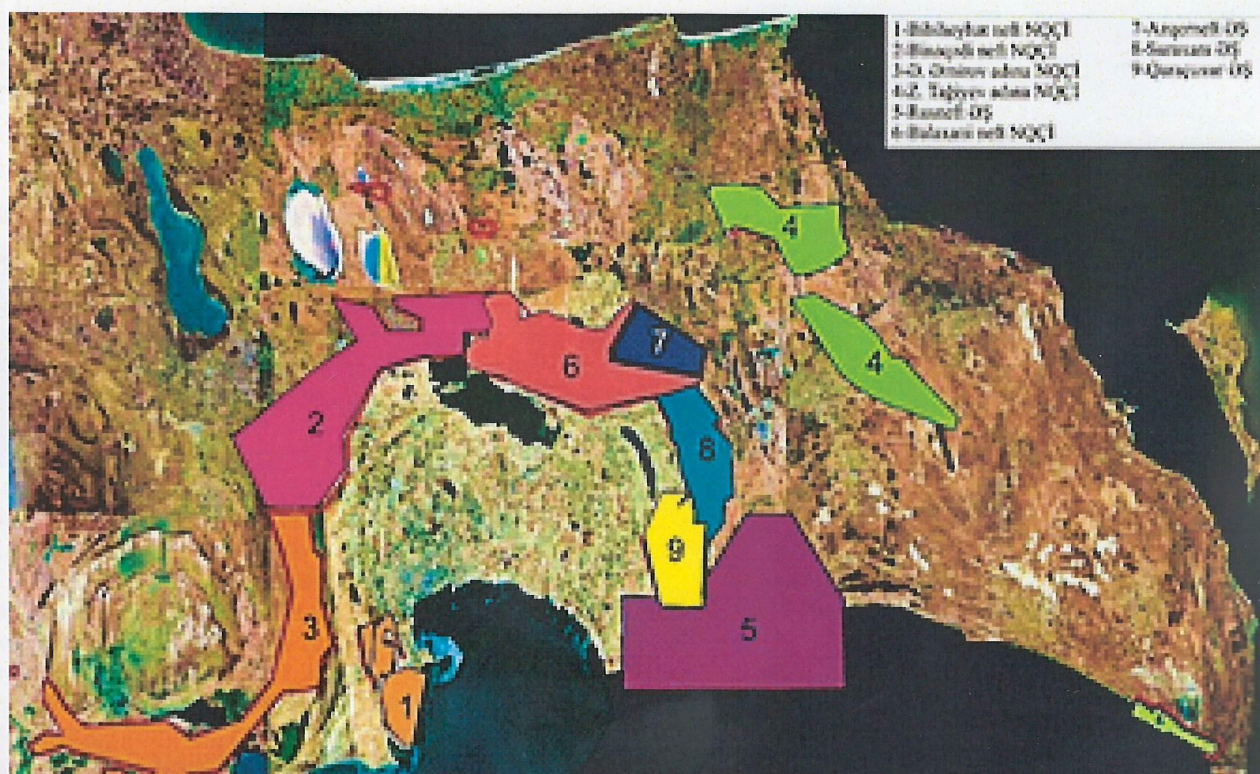
- Basics of Azerbaijan Energy Development for Period through 20
- Application of Solar Collectors in Power Supply
- Feasibility Study of Wind-Electric Conversion Systems for Offshore Oil Platforms in Azerbaijan (in cooperation with Trento University, Italy)
- Automated Energy Supply, Conditioning and Regular Microclimate Controlling Systems
- Assessment of Radio-Ecological Situation in the Absheron Peninsula in Association with Oil&Gas Exploration and Production
- Key Directions of National Scientific Programme "Radon" for 1998-2010 years
- Remediation of the Absheron Oil Contaminated Soils

- Assessment and Monitoring of Toxic-Radio- Ecological Situation during Oil & Gas Fields' Development in the Caspian Contract Area
- Ecotoxicological Regulation of Discharges to the Caspian Sea
- Protection of Population from Harmful Impact of Radon and Radio-Nuclides
- Assessment of Current Environmental Situation on Zykh-Govsany Oil Field in the Absheron Peninsula
- Air Quality Control in Azerbaijan (in cooperation with DBG company, Germany)
- Seismic Risk Study in Baku City (in cooperation with Japanese Kobe University)
- Feasibility study of Azerigas Modernization Project for Integrated SCADA System (in cooperation with Toyo Engineering Corporation and Osaka Gas Engineering Co. Ltd.)
- Hydro-Hydrogen Pilot Project for Guba-Khachmaz Region, Azerbaijan Republic (in cooperation with UNIDO-ICHET)
- Use of Hybrid Alternative Energy Systems in Mountainous Khinalig Village, Guba region, Azerbaijan

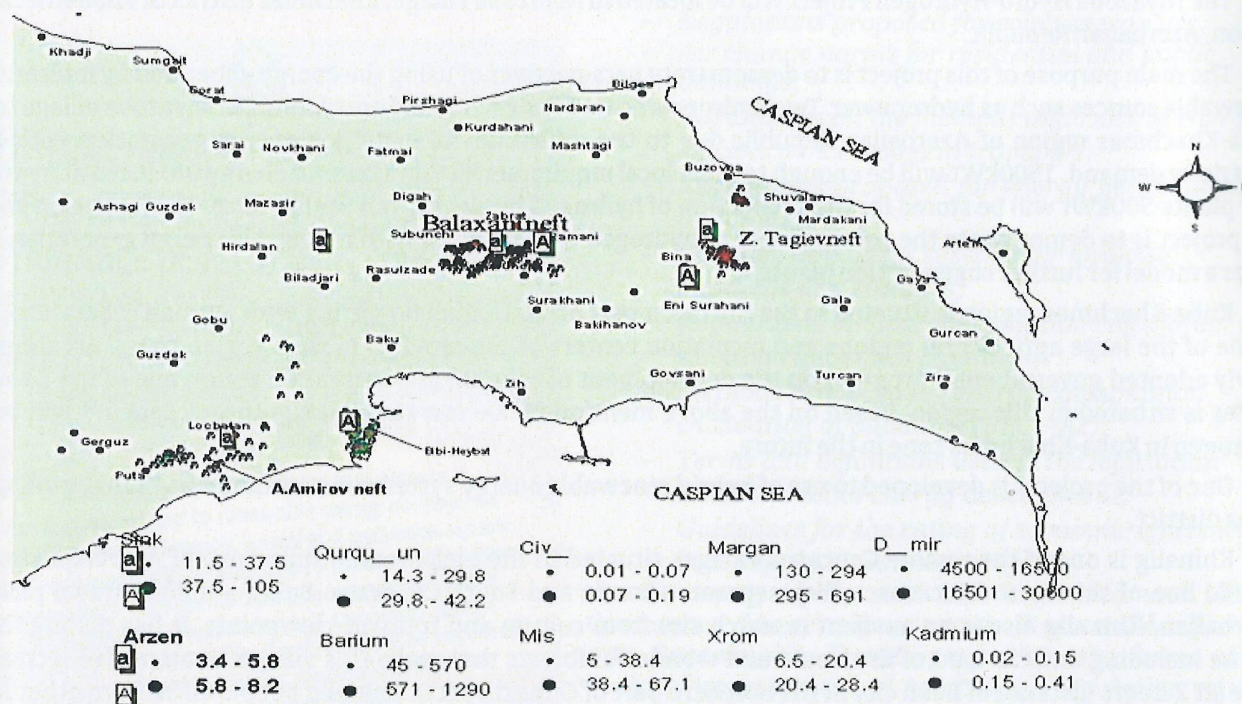
A number of projects have been developed upon request from clients, including:

- "Development of Large-Scale Electronic Maps (1:10000) of Oil-Contaminated Soils of the Absheron Peninsula". The Project was implemented within the framework of Action Plan under the Presidential Decree from 28 September 2006 (client-SOCAR)
- "Environmental Impact Assessment and Development of Ecological Passport of Two Administrative Districts of Baku" (client – "Lukoil-Azerbaijan" JSC)
- "Assessment of Current Environmental Situation on Zykh-Govsany Oil Field in the Absheron Peninsula" (client – "Lukoil-Azerbaijan" JSC)
- "Building Radiation Safety" – within the project on Development of Azerbaijan Republic's State Construction Standards and Norms (client- Azerbaijan State Committee for Construction and Architecture)
- Quality Assurance for Radio-Nuclide Studies along the Chirag-Sangachal Pipeline, around Chirag 1Y, GChA-6 and GChA-6 Oil Wells (client- BP Azerbaijan)
- Environmental Monitoring of Asbestos Disposal Sites (client- ERT Ltd., UK)
- Radioecological situation assessment on the Absheron peninsula caused by oil field exploration and development (client –SOCAR)
- Study and development of a technology for the cleaning of the produced water and sewage from oil, oil products and phenols in Offshore Oil and Gas Production Association (client –SOCAR)
- Environmental monitoring on "Kelameddin-Mishovdag" Contract area (client -"Karasu" Operating Company)

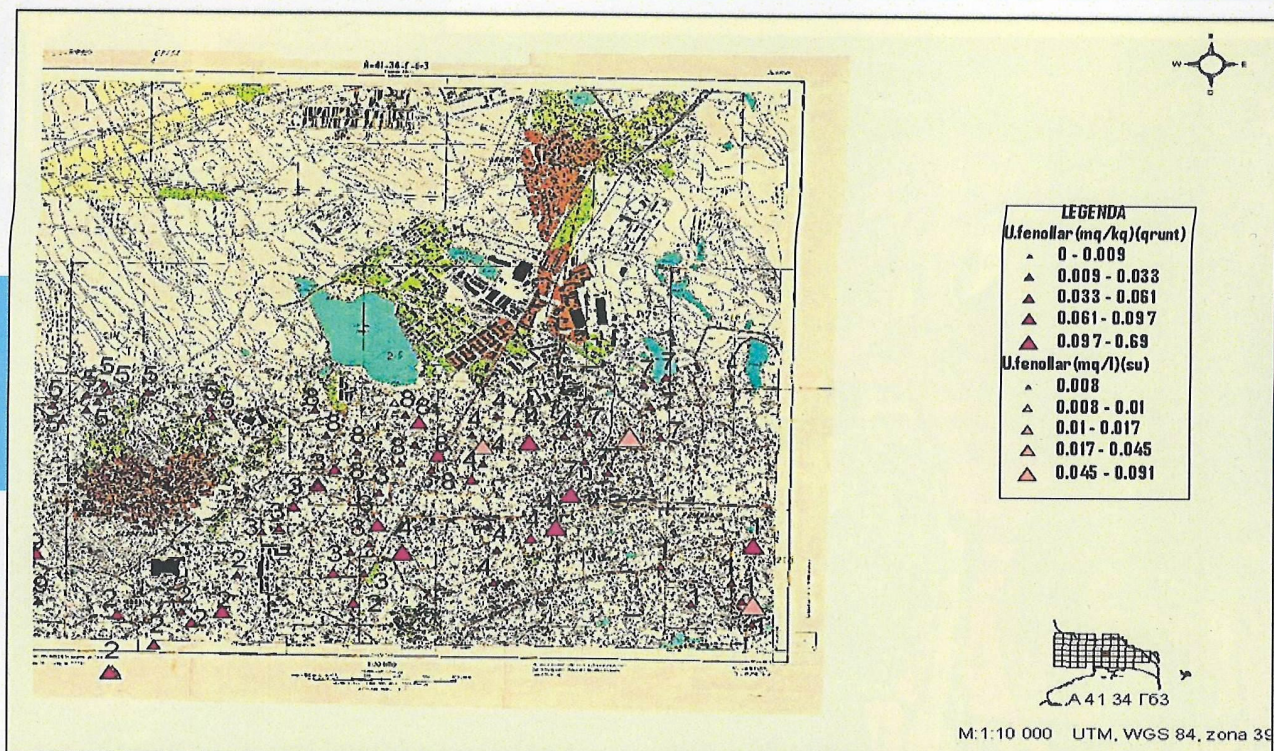
A big deal of works was carried out under the project "Development of Large-Scale Electronic Maps (1:10 of Oil-Contaminated Soils of the Absheron Peninsula" implemented within the framework of Action Plan under Presidential Decree from 28 September 2006.



Interactive model of the Absheron oil fields' map prepared for the development of electronic maps of oil-contaminated soils



A map of heavy metal pollution of Absheron oil fields



A map of pollution of Balakhani oil field by phenols

“Hydro-Hydrogen Pilot Project” developed on the basis of cooperation with UNIDO-ICHET is one of the important steps of IEA towards renewable energy development.

The Niyazoba Hydro-Hydrogen Project will be located in Niyazoba village, Khachmas district of Kuba-Khach region, Azerbaijan Republic.

The main purpose of this project is to demonstrate perspectives of using the energy generated by intermittent renewable sources such as hydropower. Two hydropower stations each 1 MW are planned in Niyazoba village in Kuba-Khachmas region of Azerbaijan Republic due to the difficulties of matching energy generation with electricity demand. 1500kWt will be enough to meet local requirements. The excess of energy produced at hydropower plants-500kWt will be stored for the production of hydrogen by electrolysis for later use. The long term goal of the project is to demonstrate the compatibility of hydrogen technologies with renewable energy generation, act as a model for further cogeneration plants.

Kuba-Khachmas region is situated in the Northern part of Azerbaijan bordering with Russian Federation. It is one of the large agricultural regions and recreation centers of the republic in the Caspian coast. According to the newly adopted governmental program on the development of tourism and recreation zones, one of the 5 tourist routes is situated in this region. Based on the above mentioned, we can say that significant demand will be for hydrogen in Kuba-Khachmas zone in the future.

One of the projects is developed to use of hybrid renewable energy systems in mountainous Khinalig village Guba district.

Khinalig is one of the remote Caucasus villages situated in the highest mountain zone of Azerbaijan on the middle line of the Great Caucasus, which separates Russia and South Caucasus. Being a unique travel place in Azerbaijan, Khinalig also is an ancient research site from culture and tourism viewpoints. It has distinguished nature including ancient land of fire, rocks and wonderful forests that make this village an attractive recreation zone (at 2 hours distance of Baku city in the northern part of Guba district). Khinalig people differ from other Azerbaijan people by their specific language, tradition and culture.

The primary goal of the project is to supply heating and electricity demand of Khinalig village through hybrid renewable energy systems.

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In 2009-2010, IEA participated in the Civil Society Project: Advocacy Campaign "Effective Utilization of Renewable and Alternative Energy" in Azerbaijan.

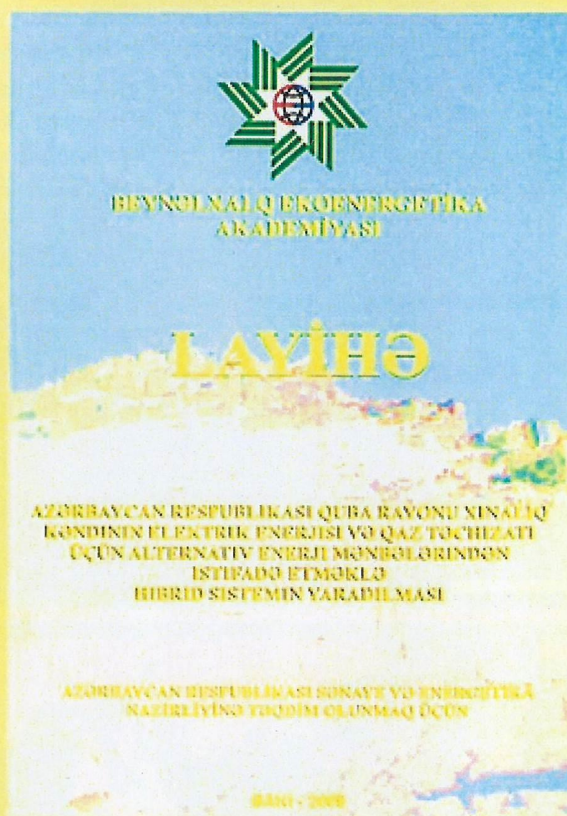
The project was implemented under USAID support.

On July 14, 2010 IEA organised and held an International Conference "Potentialities and perspectives of alternative and renewable energy source use in Azerbaijan" to discuss the project results.

IEA participates in the UNECE project "Development of the Renewable Energy Sector in the Russian Federation and in CIS countries: Prospects for Interregional Cooperation". The purpose of this project is to promote interregional cooperation to overcome the existing barriers to the development of renewable energy resources.

In 2010-2011, under the EU ERSP the International Ecoenergy Academy implemented a project "Improvement of Azerbaijan's legislation relating to Renewable Energy Sources and Energy Efficiency and its bringing in conformity to the EU legislation".


Draft laws and standards regulating development of non-traditional renewable energy sources and energy saving were developed. Among them there are draft laws "On Energy Saving and Increasing Energy Efficiency" and "On utilization of Renewable Energy Sources" and 23 secondary legislation documents needed to ensure the implementation of these laws. In addition, a package of proposals on the amendments in 17 of the existing laws were prepared and submitted to Azerbaijan government.



The main regulations and standards developed under the project are:

- Regulations proposed for solar energy use;
- Air change norms for residential and public buildings;
- Regulations on the methods and rules of energy efficiency increasing in transport;
- Regulations proposed for energy performance of buildings;
- Complex intelligent systems for low-rise buildings and cottages;
- Regulations on heat consumption calculation for existing residential buildings;
- Methods proposed for energy consumption calculation of buildings (BEC – Az);
- Terms and definitions used in the legislation related to wind energy development;
- Guidelines for the rating of economic efficiency of heat supply investment project.

On 24-25 April, 2012 IEA organized and held a Conference "Azerbaijan 2020: Renewable Energy and Sustainable Development" in the frame of the Project "Improvement of Azerbaijan's legislation relating to Renewable Energy Sources (RES) and Energy Efficiency (EE) and its bringing in conformity to the EU legislation" under the EU Program "Support to Energy Reforms".



INTERNATIONAL ECOENERGY ACADEMY
AZERBAIJAN 2020: RENEWABLE ENERGY and SUSTAINABLE DEVELOPMENT CONFERENCE
 Organized in the frame of the Project "Improvement of Azerbaijan's legislation relating to Renewable Energy Sources (RES) and Energy Efficiency (EE) and its bringing in conformity to the EU legislation" under the EU Program "Support to Energy Reforms"
 24-25 April 2012 Baku / THE REPUBLIC OF AZERBAIJAN
 Venue: Small Hall of Azerbaijan National Academy of Sciences (10, İstiqlaliyyət str.)

The aim of the Conference is to discuss the issues related to renewable energy development including environmental, social and legislation aspects. The Conference will be attended by local and international specialists, representatives of governmental bodies, international organizations and companies, foreign embassies and NGOs. The Conference will be structured around scientific sessions, discussions, business meetings and cultural events.

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The aim of the Conference was to discuss the issues related to renewable energy development including environment, social and legislation aspects. The Conference was attended by the minister of Industry and Energy of Azerbaijan **Natig Aliyev**, the president of Azerbaijan National Academy of Sciences **Mahmud Kerimov**, the chairman of Azerbaijan Parliament's Ecology Committee **Valeh Aleskerov** and other officials as well as local and foreign scientists, representatives of the related governmental entities, international companies and NGOs, etc.



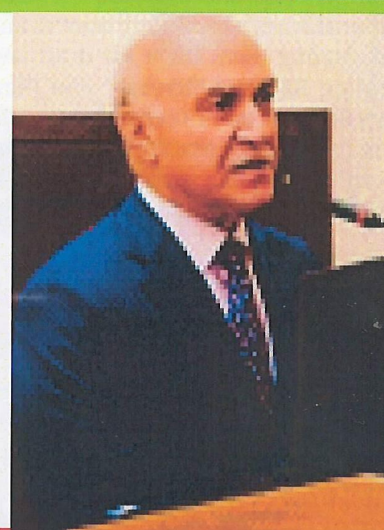
President of IEA Fegan Aliyev opens the Conference "Azerbaijan 2020: Renewable Energy and Sustainable Development", 24 April 2012.



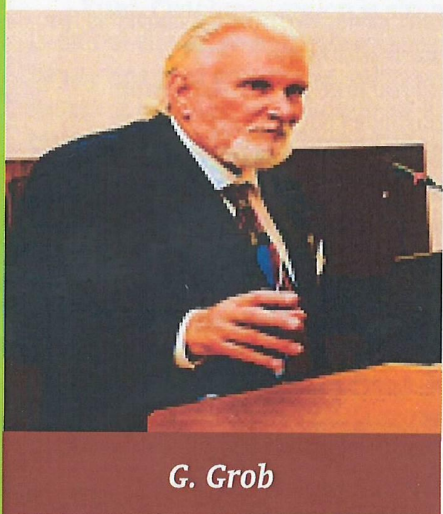
N. Aliyev
minister of Industry and Energy



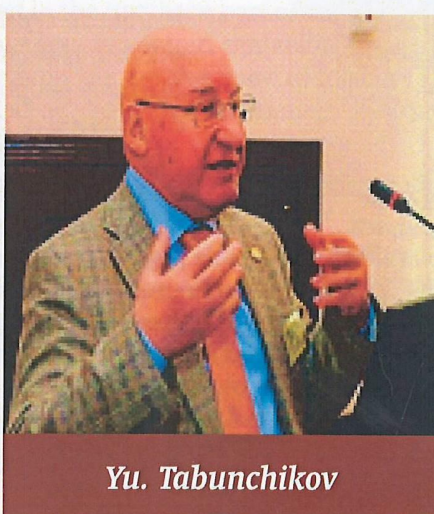
M. Kerimov
president of National Academy of Sciences



V. Aleskerov, chairman of
Azerbaijan Parliament's Ecology Comm



G. Grob



Yu. Tabunchikov

Plenary lectures were delivered by **Gustav** (president of ICEC, CMD, Switzerland), **Piciga** (Ministry of Agriculture and Environment, Slovenia), **Farhad Aliyev** (vice-president of IEA, Azerbaijan), **Yuri Tabunchikov** (president of ABOK, Russia), **Demir Inan** (president of Energy Foundation, Turkey), **Geoffrey Han** (Cooperation and Partnership Section U. Economic Cooperation and Integration Division, Switzerland), **Adam Sek** (UNECE-U Nations Economic Commission for Europe), **Berthold Breid** (Renewable Academy AG, many) and other scientists.

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F. F. Aliyev

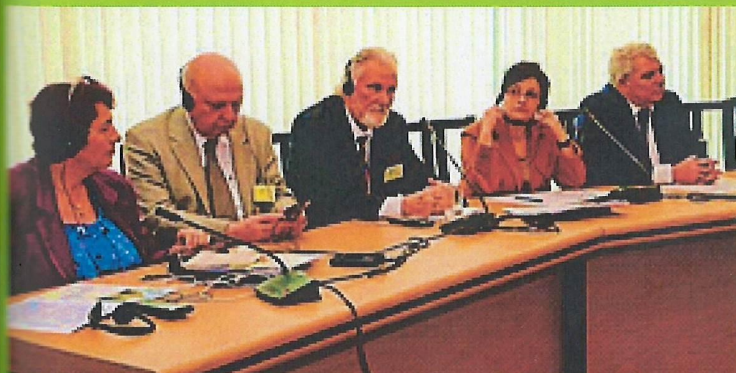


A. Sek

Since the time of its foundation the IEA has been in close cooperation with a number of scientific institutions and advanced research centers such as:

- Clean Energy Research Institute, University of Miami (USA)
- International Association for Hydrogen Energy (USA)
- ABOK (Russia)
- Russian Academy of Architecture and Construction
- Kobe University (Japan)
- University of Trento (Italy)
- Center for Euro-Asian Studies at the University of Reading (UK)

SCANVAC, Federation of SVAK Group in Denmark, Finland, Norway, Sweden



At the closing session, the Conference participants discussed and passed a Resolution addressed to the president of the Republic of Azerbaijan Ilham Aliyev.

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In 1997, jointly with UK specialists (ERT Caspian) the Caspian Environmental Laboratory (CEL) was established with mission to provide international-standard services in environmental monitoring, analysis and testing, reports to industry and government.

The scope of the Laboratory's services covers a wide range of activities including:

- *marine biological and chemical surveys;*
- *analysis of water, sediment and tissue for hydrocarbons and other organic;*
- *mathematical analysis of taxonomic data;*
- *ecological assessment;*
- *eco-toxicological testing of environmental samples and industrial chemicals*



ERT Caspian

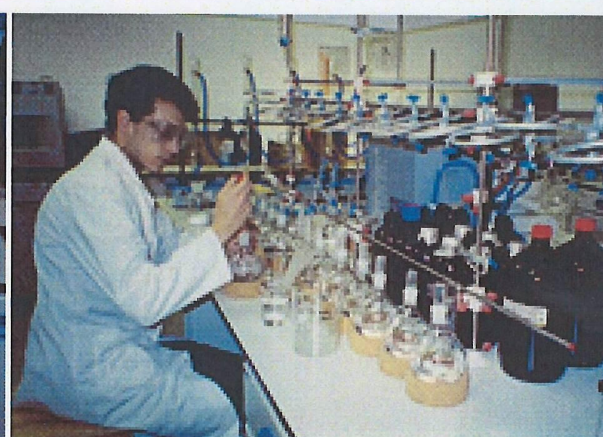
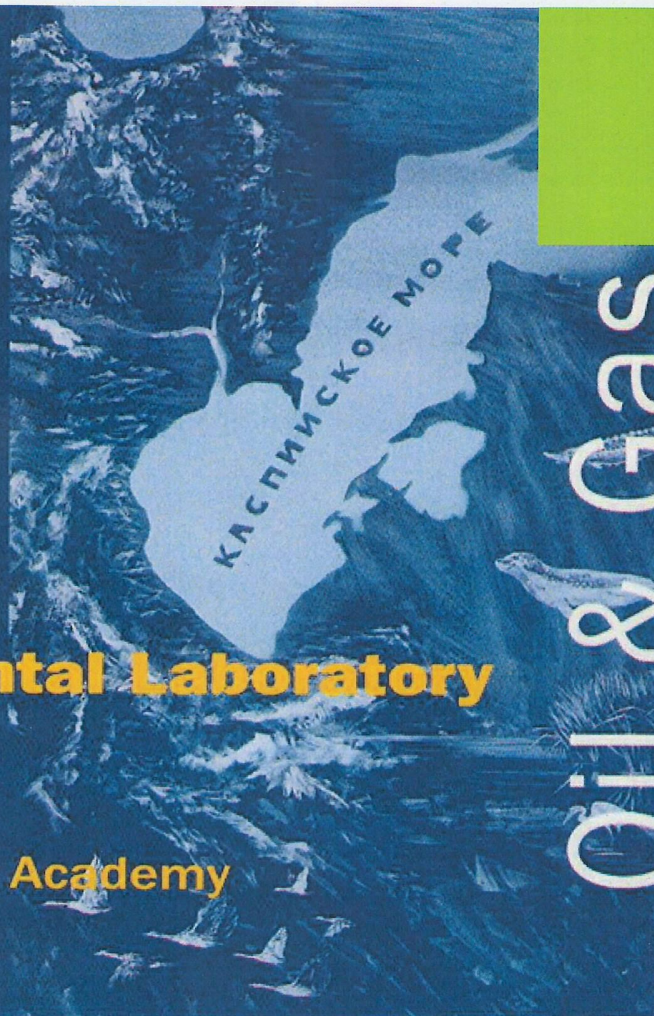
Caspian Environmental Laboratory



ERT Caspian



International Ecoenergy Academy

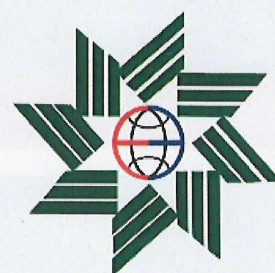


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Discussion of laboratory activities by Azeri and foreign partners

In 2009 IEA established a new laboratory aimed at capacity building and technology transfer in the field of environmental friendly production of galvanic surfaces in partnership with German ZEH GmbH and Aalen University.

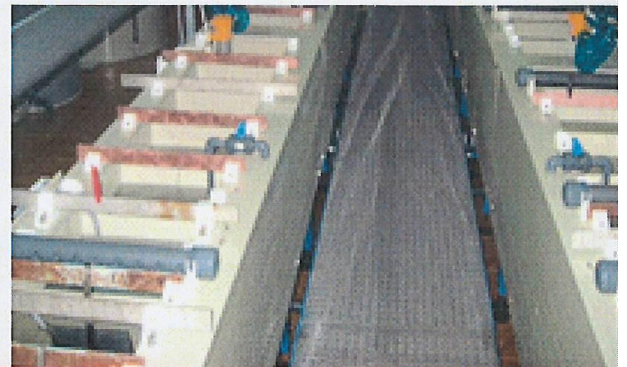
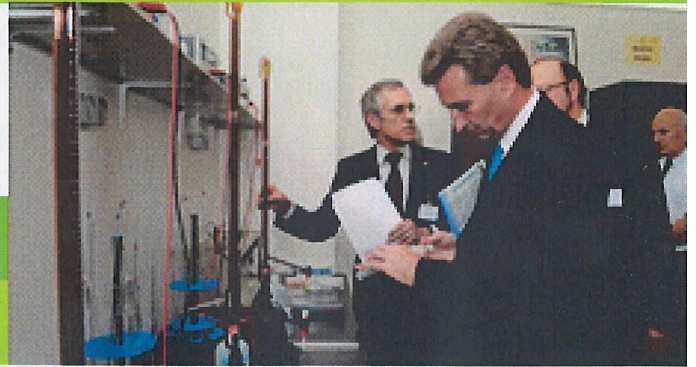


Minister-President of Baden-Württemberg Günther Oettinger, (Germany), prof. of Aalen University E. Hering (Germany) and president of International Ecoenergy Academy Fegan Aliyev at the Laboratory Opening Ceremony



Director –general of ZEH GmbH H. Dettinger provides information about the Laboratory facilities

INTERNATIONAL ECOENERGY ACADEMY



General view of the galvanic surface production facilities



Training of Azerbaijani specialists in environmentally friendly galvanic surface production



In recognition of valuable contribution to development and promotion of new vision of renewal energy concept and applications at the national and international levels, and to building of supportive environment for activity of the International Ecoenergy Academy a Gold Medal was established in 1999. Since that the Medal was awarded to a number of distinguished scientists, cultural figures and policy-makers including:

1. Ch. Juvarly

doctor of sciences, professor, specialist in power engineering, academician of Azerbaijan National Academy of Sciences and International Ecoenergy Academy, Azerbaijan;

2. A. Pashayev

doctor of physical sciences, professor, specialist in semiconductors' physics, academician of Azerbaijan National Academy of Sciences, president of Azerbaijan National Aviation Academy, Azerbaijan;

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3. **T. Salahov**
national painter of Azerbaijan Republic, art scientist, academician of Azerbaijan National Academy of Sciences and International Ecoenergy Academy, Azerbaijan
4. **M. Kerimov**
the former vice-president of IEA and president of Azerbaijan National Academy of Sciences
5. **M. T. Abbasov**
academician of Azerbaijan National Academy of Sciences, Azerbaijan;
6. **X. B. Yusifzade**
academician of Azerbaijan National Academy of Sciences, Azerbaijan;
7. **G. Mammadova**
chancellor of Azerbaijan Architecture and Construction University
8. **N. Aliyev**
minister of Industry and Energy of the Republic of Azerbaijan
9. **H. Bağırov**
minister of Ecology and Natural Resources of the Republic of Azerbaijan
10. **T. Nejat Veziroglu**
director of Clean Energy Research Institute, Miami, USA. Author of projects of solar energy systems for a number of countries; member of 18 international scientific organisations, president of International Hydrogen Association and UNIDO-ICHET, USA;
11. **P. O. Fanger**
doctor of technical sciences, professor of Danish Technical University, specialist in HVAC, Denmark;
12. **J. L. Bown**
doctor, academician of the International Ecoenergy Academy, Great Britain
13. **Yu. A. Tabunshikov**
doctor of technical sciences, professor; President of AVOK, Russia;
14. **E. Tresselt**
doctor of chemistry, professor; specialist in risk analysis and pollution control, Norway;
15. **S. Takada**
doctor of engineering, professor of Kobe University, expert in lifeline earthquake engineering and urban disaster mitigation, Japan;
16. **R. Tait**
doctor, specialist in risk analysis and environmental assessment, USA;
17. **G. Grob**
president of International Clean Energy Consortium, Switzerland



The first medals were awarded to honorary president of IEA
T. Nejat Veziroglu and academician of National Academy of Sciences Ch. Juvarly

E. Tresselt, Norwegian scientists and member of IEA delivers speech at the award ceremony



J. Bown is one of the foreign members of IEA, who significantly contributed to international Baku forums



*Awarding the famous painter T. Salahov with IEA Gold Medal
President of IEA F. Aliyev, president of National Academy of Sciences M. Kerimov and
1st vice-president of Azerbaijan State Oil Company Kh. Yusifzade at the ceremony of medal award*

IEA founded 5 scientific journals, specifically:

1. Two language (English and Russian) journal "Energy, Ecology, Economy"
2. Two language (English and Russian) scientific journal "Ecoenergetics"
3. Russian language journal "Biomedicine"
4. English language journal "Caspian journal of applied mathematics, ecology and economics"
5. Azeri language journal "Kainat" (Universe)

Two of them—"Ecoenergetics" and "Biomedicine" are included into a list of the journals of Azerbaijan Higher Attestation Commission.

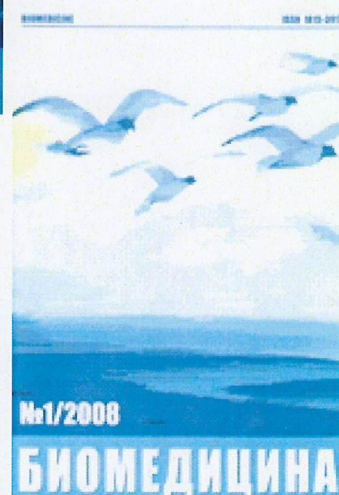
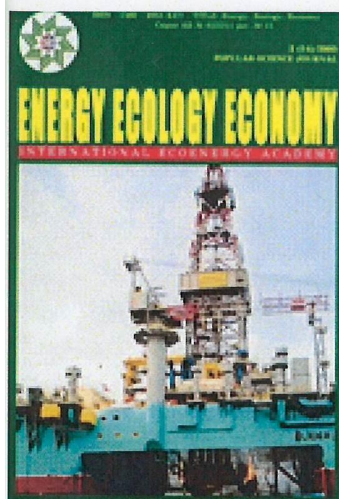
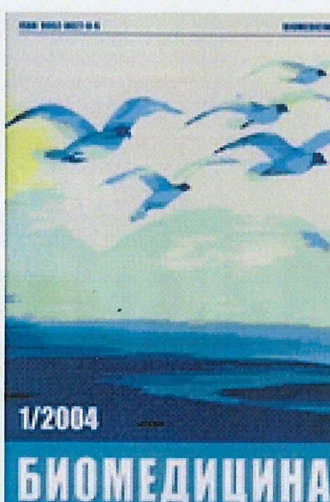
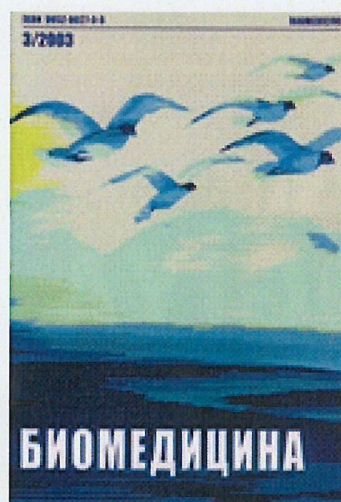
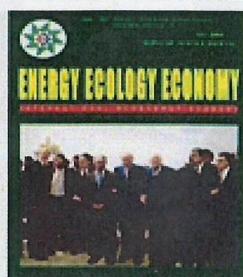
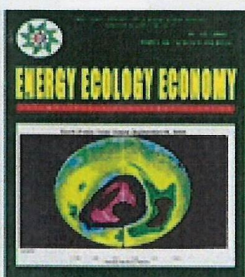
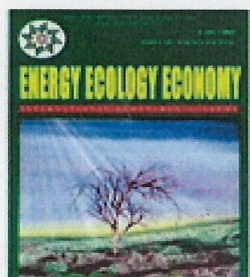
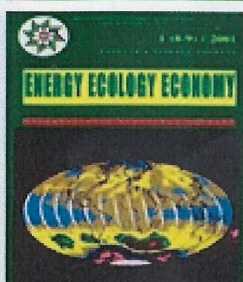
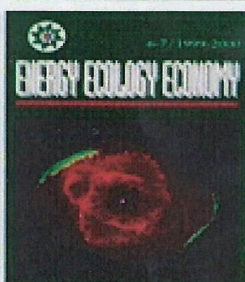
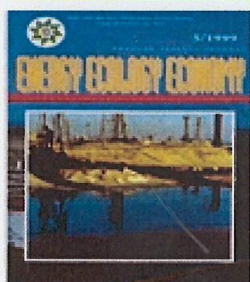
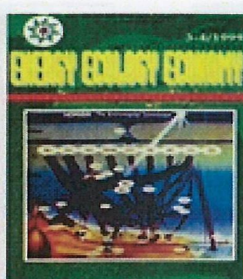
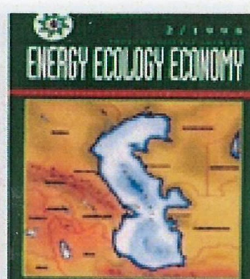


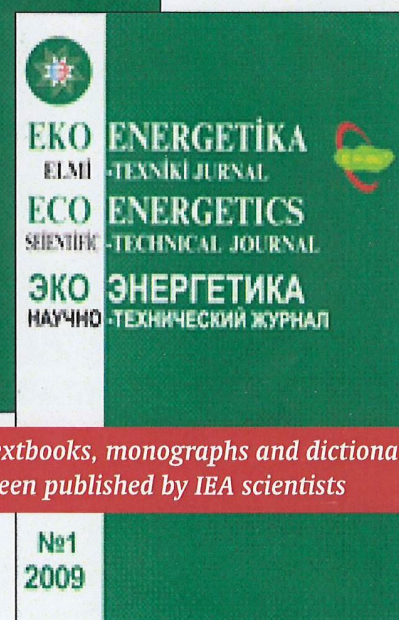
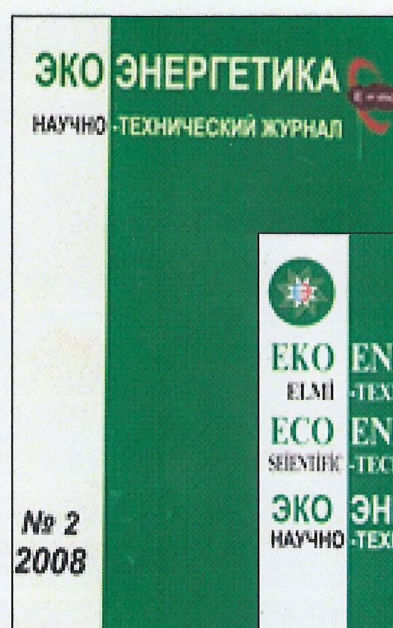
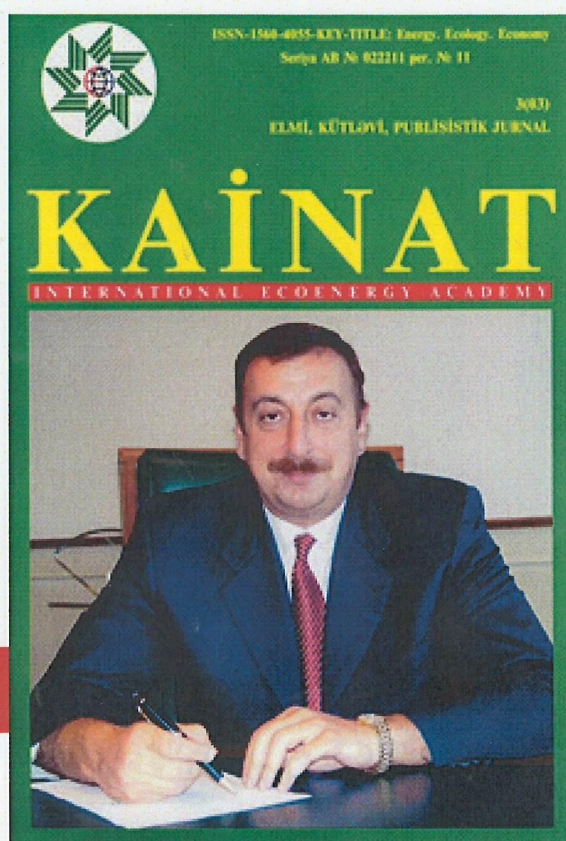
*Akademik Arif Pashayev, Akademik Chingiz Qacar
Russian Architecture and Construction
Academy Member Fagan Aliyev*



Akif Alizade

President of Azerbaijan National Academy Science





A number of textbooks, monographs and dictionaries have been published by IEA scientists

