International Ecoenergy Academy

The president of International Ecoenergy Academy Fagan Ganbaroglu 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.

F. Aliyev participated in designing and led the construction of morethan 25 buildings such as the Republic Cycle Track, Athletic Arena,Baku Sport Palace (present Sport and Concert Complex named afterH.Aliyev), Complex of the Republic Medical-Athletic Health Center, StateOlympic 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 StateCommittee forScience and Technology, head of Foreign InvestmentDepartment at the State Plan Committee of Azerbaijan Republic anddeputy-chairman of Azerbaijan State Sport Committee on construction.

F. Aliyev founded Scientific-Manufacturing Association "Gunesh" (1990) and InternationalEcoenergyAcademy (1994).

At present, being the president of International Ecoenergy Academy, prof. F. Aliyevis the head of "Engineering Ecology" department of Azerbaijan Architecture and Construction University. He holds lectures and developed courses on

theapplicationof 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. NejatVeziroglu 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 inUSA, Great Britain, France, Finland, Denmark, Turkey, Iran, Pakistan, Russia and otherCIS 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.

Academy History

The economic, ecological and socio-political situation in the present days requires thorough considerationof 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**.**

International Conferences

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 theexchange of information and discussion of new scientific achievements on energy security, environmental pollution reducing and protection of ecosystem from possible disasters, these meetingsat 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 organized 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)* Limited 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. Veziroglu, 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. Khoshravan (Iran),Yu. A. Tabunshikov (Russia), A. D. Obozov(Kyrgyzstan) , V. Sh. Kakabadze (Georgia) were among the foreign participants of the Symposium.

The Third Baku International Congress "Energy, Ecology, Economy"

Once established in early 1994 the International Ecoenergy Academy (IEA)carried on the tradition and held the Third Baku International Congress 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 itsenvironmental 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. Khoshravan** (Iran). About350 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"

wasorganized and hosted by the International Ecoenergy Academyfrom 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 president of Azerbaijan Academy of Sciences, N. Aliyev, president of SOCAR andM. 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 andWestern Pipeline Routes
- Energy saving and renewable energy resource

The Fifth Baku International Congress

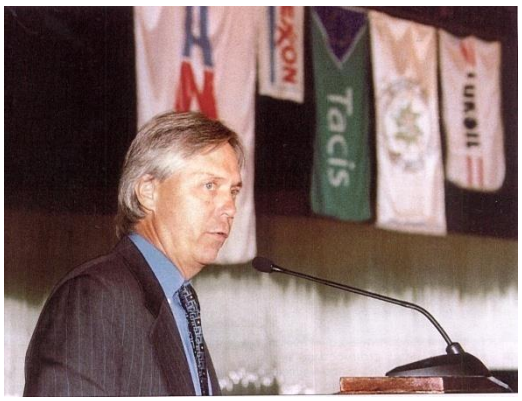
held by the International Ecoenergy Academyon 21-24 September, 1999 provided the forum for discussion and dissemination of the latest knowledge in energy efficiency and renewable energy resources utilization, environmental impact of oil-gas fields development on the Caspian Sea and Absheron peninsula.A wide range of subjects covered the recommendations on environment protection, legislative and regulatory documents, etc. 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 Gulustan 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. SchwalbeHoth (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 coordinatorN.Aliyev, president of SOCAR



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, Russia, Georgia, Ukraine, Kazakhstan, Turkmenistan participated in the Fifth Baku International Congress. More than 300 reports were presented. Speakers from foreign companies including BPAmoco, ExxonMobil, Pennzoil, Lukoil, Statoil, Chevron, Kvaerner, Texaco, Elf 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 Gulustan Palace

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

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.

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

In the course of the 20th century the interaction between humans and nature could be characterized as constructive human activities accompanied by destruction of the environment. The progress which we achieved in science and technology led us to believe that humans have an inevitable superiority over nature. People have behaved not as though they are a part of the environment but like its master, treating the natural world like a ruthless conqueror would with inhabitants of an enslaved country. We now realize that this could not last forever.

Through degraded landscapes, polluted seas and air, and vanishing species, nature has awakened us from our misguided dreams by displaying the harsh scars of so-called "progress". Over the past one hundred years, environmental degradation has increased to the point where it now threatens human life itself. Today, we are forced to safeguard the remaining natural areas, to prohibit environmental pollution, to prevent deforestation and soil degradation, and to regulate hunting and fishing in order to ensure that species are not harvested in amounts exceeding their natural reproductive rates.

We live today in a high-speed world. An ever-growing population consumes natural resources at a constantly increasing rate. In a global context, it is estimated that the world population, which is presently around 5.5 billion, will rise to 8.3 billion by the year 2025 and to 10-12 billion by the year 2050. It is evident that such increases present us with tremendous environmental challenges.

But how to overcome the challenges? Economic development in the modern world is inherently tied to the utilization of natural resources, yet excessive consumption of finite supplies will inevitably lead to a deepening of the environmental crisis. The only way to avoid the crisis while continuing the development process is to reconsider current status quo perceptions of environmental management and to move from the "expansive growth" towards "sustainable development".

The concept of sustainable development implies development that meets the needs of the present without compromising the ability of future generations to meet their own needs. Its primary goal is to minimize adverse impacts upon the environment by promoting a reasonable balance between population growth, economic development and "consumption culture".

We, the United Nations, represent the will of the international community in securing the sustainable economic, social and cultural development throughout the world. The United Nations Development Programme is mandated to promote sustainable human development, which, as a goal in itself, requires environmental sustainability as one of the necessary components of what is considered to be a "normal" human life. Therefore, the environment has been identified as one of UNDP's priority areas. Worldwide, UNDP supports an expanding portfolio of projects aimed at improvement of the environment and building capacity in environmental management.

I am pleased to pay tribute to the efforts of the Azerbaijan Republic in tackling environmental issues of both national and global concern. Azerbaijan is party to many of the major International Conventions on environmental protection, including the Vienna Convention on Protection of the Ozone Layer, the Montreal Protocol on Phasing out of Ozone Depleting Substances, the United Nations Framework Convention on Climate Change, and the International Convention to Combat Desertification. Presently, UNDP is implementing a several-million dollar programme on improving the environmental situation in the country, and supporting the Azerbaijan Republic in complying with the commitments it has made under the International Conventions.

The Caspian Environment Programme, which unites the efforts of five riparian countries and the international donor community, is designed to preserve the unique Caspian ecosystem and to promote its sustainable development. The fact that the programme Coordination Center has been established in Baku clearly shows both the openness of Azerbaijan to the international community and the capacity of the country to play a leading role in regional programmes of this kind.

The regularly held Baku Congress on "Energy, Ecology and Economy" is another vivid example of the significant interest and concern regarding environmental problems which has been expressed by the scientific community and public of Azerbaijan. Azerbaijan is rich in energy resources, and it is predicted that the country will soon experience another oil boom, just as it did at the beginning of the century. However, the economic and social prosperity of Azerbaijan will very much depend on its ability to translate oil revenues into long-lasting development, and to ensure that the delicate balance between humans and the biosphere remains sustainable for many generations to come.

Ercan Murat
UNDP Resident Representative
UN Resident Coordinator

Dear Participants and Guests of the Congress,

Allow me to congratulate you on behalf of Azerbaijan Academy of Sciences and myself personally on the opening of this important International Forum.

Azerbaijan, with its rich natural resources, especially energy resources, at the same time has acute environmental and economic problems.

It is not eventual that Azerbaijan Republic and its capital Baku became the traditional place for holding these events. It reflects our country's deep historical tradition and considerable intellectual potential as well as the international scientific relations in the sphere of energy, ecology and economy.

The poblems defining a subject of the Traditional Baku Congresses are the basic global problems which confront all humankind on the eve of the 21st century. The increasing consumption of energy, the using of the natural resources of our planet and the conservation of the inhabited environment require balancing interactions.

These forums help establish close collaboration between the scientists and experts of Azerbaijan and other countries. This is of great importance these days, when the successful solution of global environmental and energy problems may ensure the survival of all humankind.

The previous Symposia (1991, 1993) and Congresses (1995, 1997) were notable examples of understanding and cooperation between scientists , specialists, business representatives and government officials, which contributed to the consolidation of our international scientific–technical relations.

The Fifth Baku International Congress «Energy, Ecology, Economy» is held in the brink of two centuries. I very much hope, that this Congress will help solve our immediate problems and promote the development of rational use of the countries' natural resources, and to restore and preserve the world ecological balance in the coming XXI Century.

Please, let me once again welcome all the Congress participants and wish them a fruitful cooperation during the Congress.

F. G. Magsudov
President Azerbaijan Academy of Sciences,
Chairman of Azerbaijan Organising Committee of the Congress

Dear Guests and Compatriots,

Greeting you at the Fifth Baku International Congress «Energy, Ecology, Economy» gives a really great pleasure to me.

Nowadays' historical period at the edge of the millennium owing to the insolubility of the magic triad «Energy, Ecology, Economy» is specified also by a tremendous inner potential descending from the realization of the extremely valuable perspectives of Azerbaijan Area in economical, political and other World Development Scenarios.

«Energy, Ecology, Economy» is the triad of the Century. Having its mathematical, physical and philosophical content and meaning this triad gives a solution of the important problems of the future generations.

As it was noted by the author of the law on conservation and transformation of energy, great scientist Newton, there is nothing to be absolute, only God is absolute.

The triad of great scientist Darwin on variability, sequence and natural selection has been running through two centuries. The future of our people should be founded on the base of energy research, ecological imperative and economic development.

Scientific collaborations established between intellectuals of Azerbaijan and famous researchers from all over the World are commemorated by their common successes in fulfillment of the International Economical Projects, among which are practical realization of the project of the Century, Early Pipeline start, etc.

Sustainable development of our region and civilized exploitation of the resources of fossil fuel, renewable resources of energy, possibilities of Caspian sea, presume effective cooperation of considerable intellectual potential of worldwide known scienists with Azeri professionals, that's why Baku is a traditional venue for this Congress.

The Baku International Forums held previously promoted the development of regional and interregional cooperation on worldwide scientific, technical and social problems of «Energy, Ecology, Economy». Among the steps taken as a result of proposals of the First and Second Forums was the establishment of the International Ecoenergy Academy in Azerbaijan in 1994.

The third and fourth Baku International Forums greatly expanded the contacts among scientists from all over the world in order to solve the problems related to the three global issues, presented in the name of the Congress.

I think, that the Fifth Congress will make an advance in achieving the envionmental sustainability and also in solving the urgent economic and energy problems.

I wish you all success for the Congress.

F.G. Aliyev
Congress Chairman
President International Ecoenergy Academy

The Sixth Baku International Congress

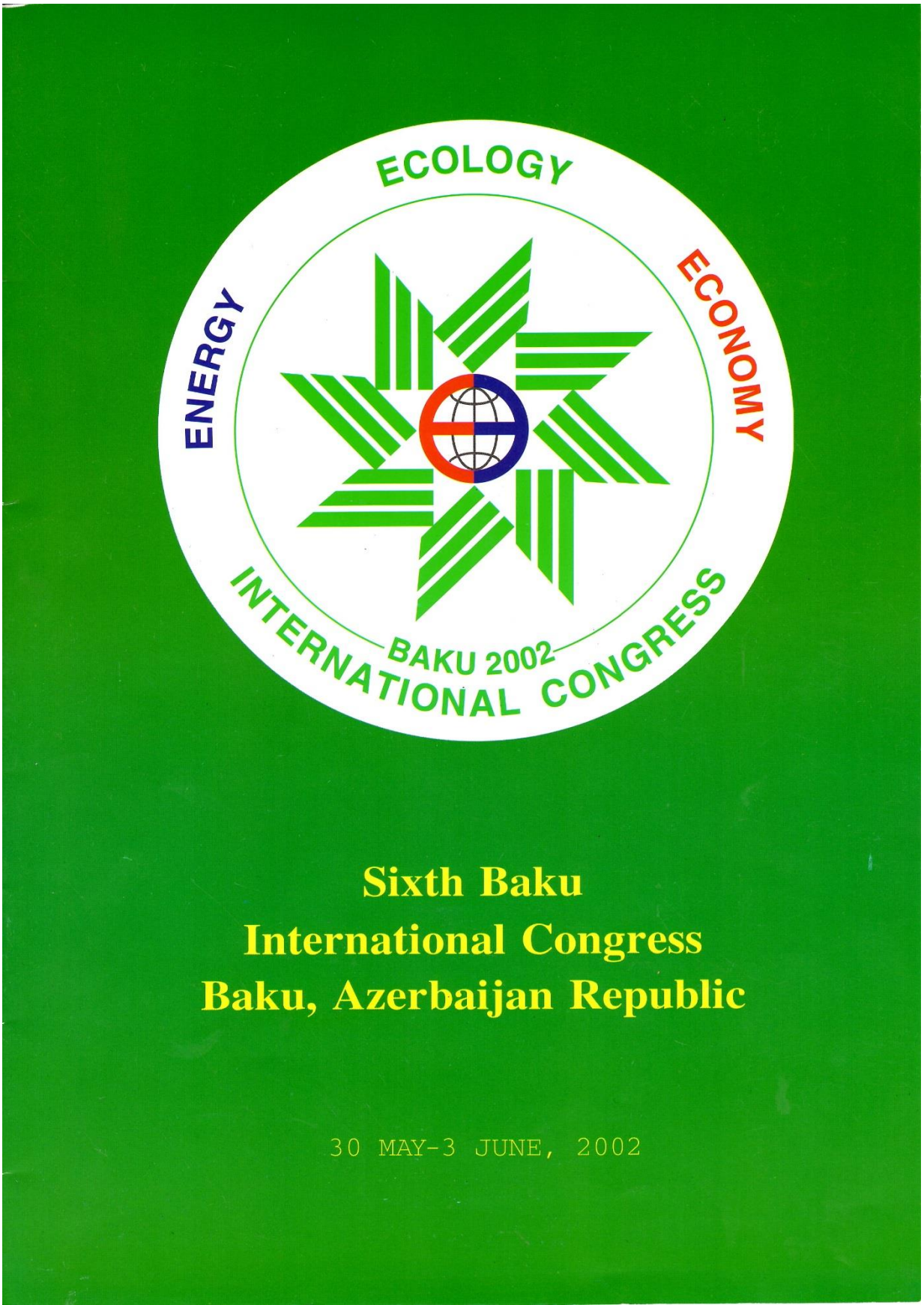
planned for September 23-26, 2001 was postponed to May 30-June 3, 2002 year due to the terrorist act happened on 11 September, 2001year in USA and in a mark of the protest of the IEA scientists against such anti-human act.

The Congress opening ceremony in "Gulustan" 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 FeganAliyev 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 "Gulustan" 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 globalenergy and environmental problems includingclimatic 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”.



The Sixth Baku International Congress "Energy, Ecology, Economy" will provide an International Forum to discuss and disseminate the latest knowledge in energy technology and its consequential environmental effects, including the research on the Caspian ecology and the «Contract of the Century», as well as Oil and Gas pipelines and Silk Road issues.

A wide range of subjects covers the recommendations on legislative and regulatory documents, related economic, social and policy aspects.

The Sixth Congress will be structured around plenary and technical sessions, business meetings and cultural programmes as well as visits and excursions.

In addition, Congress will organise an exhibition to demonstrate state-of-the- art equipment.

UNESCO

The Sixth Baku International Congress "Energy, Ecology, Economy" is held under the UNESCO auspices

Congress is sponsored by:

bp

ExxonMobil

To participants in the Sixth Baku International Congress "Energy, Ecology, Economy"

Dear ladies and gentlemen!

I have an honour to greet you at the Sixth Baku International Congress.

International Baku "Energy, Ecology, Economy" Congress continues its tradition for ten years.

These forums is of great importance in view of development of the International Ecoenergy Academy as an independent scientific organization and integration of Azerbaijan science into the world scientific community as well as in view of involving all world scientists and specialists in complex solution of global "Energy, Ecology, Economy" problems.

Definitely, it is not possible during these ten years to solve all the global problems, which were discussed in Congress. To avoid these problems we have to start working on new projects and predetermine what can human face in the future. We have to be focused on economical use of energy resources, environmental safety, and set up an ecological balance on the Earth.

While our republic is on the way of freedom, it is important for people to understand protection and safety of environment. Scientists have to propose projects on using natural resources in correct manner.

To keep clean the atmosphere, safety of natural resources and human life have to become the duty of every people, especially scientists.

By gathering in this Congress, discussing and solving problems world's scientists achieve tremendous performance to safe the future of our planet.

I'm sure that 6th Baku Congress will bring new results to the global science.

My best wishes in the coming Congress.

Fegan Aliyev
Chairman of the
Sixth Baku International Congress
President of International Ecoenergy Academy

Congress Organization International Patrons

International Ecoenergy Academy Tacis Coordinating Unit, Azerbaijan Azerbaijan Academy of Sciences Clean Energy Research Institute, USA State Oil Company of Azerbaijan Republic «Azerenergy» Joint-Stock Company «Gunesh» Scientific-Manufacturing Association

Chairman of the Congress

F.G. Aliyev, president, International Ecoenergy Academy Co-Chairmen *of the Congress*

Bagirov, minister of Ecology and Natuiral Resources of Azerbaijan Republic T. N. Veziroglu, director, Clean Energy Research Institute, USA

N. Aliyev, president, State Oil Company of Azerbaijan Republic D. Woodward, president, BP Exploration (Caspian Sea) Ltd.

Azerbaijan Organising Committee

Chairman: M. Kerimov, president, National Academy of Sciences of Azerbaijan

A. Manafova, chairman, Azerbaijan Parliament Commission on Ecology, Energy and Natural Resources

Mamedov, chairman, State Land Committee of Azerbaijan Republic Kh. Yusifzade, vice-president, SOCAR

R. Kurbanov, director general PA «Offshore oil and gas production», SOCAR

R. Mirzoyev, director general PA «Azerneftyag», SOCAR

V. Aleskerov, head of department, SOCAR

R. Huseynov, president, International Fund «KHAZAR»

R. Gurbanov, corr.-member of Azerbaijan Academy of Sciences

M. Rustamov, director, Institute of Petrochemical Processes of Azerbaijan Academy of Sciences

A. Abduliayev, Institute "Gipromorneftegas", SOCAR

M. Akhundov, SOCAR, Complex Environmental Researches Laboratory

Khalilova, head of «International Relations» department, International Ecoenergy Academy

K. Kerimov, director general of PC «Geophysics and Engineering Geology», SOCAR S. Karayev, chancellor, Azerbaijan State Oil Acaddemy H. Mamedov, chancellor, Azerbaijan Technical University G. Mamedova, chancellor, Azerbaijan Civil Engineering University F. Abilov, director, Azerbaijan SRDI "SUCANAL"

F. Veliyev, manager, Centre "Renewable energy development and energy efficient technologies", International Ecoenergy Academy

N. Rahmanov, manager, Centre "Energy saving", International Ecoencrgy Academy

A. Askerova, International Ecoenergy Acadcmy

M. Brodskaya, International Ecocnergy Academy

P. Nagizade, International Ecoenergy Academy

K. Ajamov, head of chair, Azerbaijan State Oil Academy

Ch. Khalifazade, head of chair, Azerbaijan State Oil Academy

Congress Organization

F. Teymurova, head of laboratory, Azerbaijan SRDI «GAS»

F. Aslanov, head of department, Republic Centre of Hygiene and Epidemiology

B. Soultanli, Baku State University

R. Mamedov, Institute of Geography of Azerbaijan Academy of Sciences

International Executive Committee Chairman: G. Vidrine, director HSE, BP Exploration (Caspian Sea) Ltd.

B. Chandler, director, Advanced International Studies Unit Pacific Northwest National Laboratory, USA

F. Askerov, co-director, HSE, BP Exploration (Caspian Sea) Ltd. R. Tait, senior environmental adviser, EXXONMOBIL

Aliyev, general director, LUKOIL

K. Sjoen, HSE manager, STATOIL Azerbaijan K. Morishita, ITOCHU Oil Exploration Co. Ltd.

Piccioni, resident team leader, Tacis

Ballerini, French Petroleum Institute, France

Davies, BP Company

T. Bluhm, University of Duesseldorf, Germany Ju. Tabunshikov, ABOK, Russia P. **O. Fanger**, Technical University, Denmark E. Khoshravan, Tabriz University, Iran J. Kates, Great Britain

N. Seljuk, Middle East Technical University, Turkey

D. AbduIIayev, Uzbekistan

R. Pallabazzer, University of Trento, Italy

A. J. Vazquez Vaamonde, CSIC, Spain

V. Kakabadse, Academy of Sciences, Republic of Georgia

A. Obozov, «GUN» Business Project, Kirghiz Republic

Y. Kasimov, «Larmag-Cheleken» Joint Venture, Turkmenistan

Ju. Zaytsev, senior HSE advisor, BP Exploration (Caspian Sea) Ltd.

R. Waynes, URS Dames&Moore

P. E. Evensen, ERT Ltd.

Seventh Baku International Congress "Energy, Ecology, Economy"

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 :

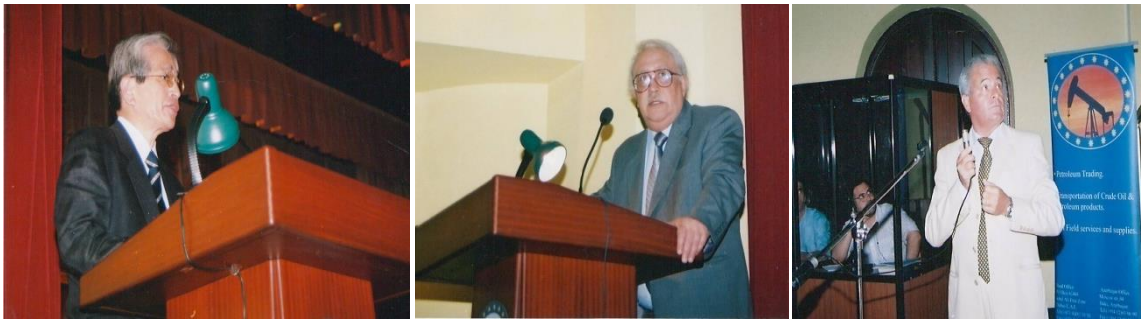
1. Ecology and safety (oil contaminated soil remediation and produced water cleaning)
2. Safety and environmental issues of oil and gas pipeline routes.
3. Seismic design and countermeasures for water supply system;
4. Seismic design and countermeasures for gas supply system;
5. Seismic design and countermeasures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

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.

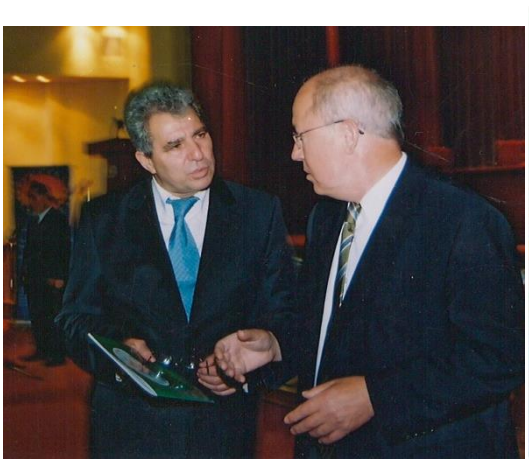
The chairmanof the State Architecture and Building Committee Sh. Hasanov, director of the Institute of Geology of Azerbaijan National Academy of Sciences, academician A. Alizade, professor of Japanese Kobe University Sh. Takada and professor of Power and Water Institute of Technology of Iran N. Hassani 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"Siemicity 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. Sh. Takada(Japan)Prof. A. Hasanov (Azerbaiajan) Dr.G.Capobianco (Italy)

Dr. Y. Ogawa(Japan) *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

Eighth Baku International Congress"Energy, Ecology, Economy"

On June 1-3, 2005 International Ecoenergy Academy heldthe 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.

The Ceremony opened by the Congress Chairman, president of International Ecoenergy Academy

FeganAliyev.

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.

President of SOCAR N. Aliyev and ambassador of Italy M. Costa at the 8th Congress opening

Participants of the 8th Baku International Congress:prof. T. NejatVeziroglu (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. N. 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

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 on7-10 June, 2007.The aim of the 9th Congress was to discuss major global problemssuch 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 environmentalfriendly technologies, in particular, alternative energy technologies.

The 9th Congress structured around plenary andtechnical 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

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 7June.

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.

Ninth Baku International Congress

Baku, Azerbaijan Republic

7-9 June, 2007

International Ecoenergy Academy is proud to invite you to the 9th Baku International Congress "Energy, Ecology, Economy".

The aim of the 9th Congress is to discuss major global problems such as environmental pollution, energy shortage, climate change and ozone layer depletion, etc. It will provide an excellent opportunity for participants to be informed, and exchange opinions and findings on environmental friendly technologies, in particular, alternative energy technologies.

The topics also include the environmental issues of the Caspian Sea and Absheron peninsula with all the relevant economic, social and regulatory aspects.

The 9th Congress will be structured around plenary and technical sessions, business meetings, visits and cultural events.

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Congress Organization

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International Ecoenergy Academy National Academy of Sciences of Azerbaijan Republic Clean Energy Research Institute, USA Azerbaijan Engineering Academy

Honorary Chairman

N. **Veziroglu,** director, the US Clean Energy Research Institute, president of the International

Association for Hydrogen Energy

Chairmen

F. Aliyev, president. International Ecoenergy Academy

M. Kerimov, president, National Academy of Sciences of Azerbaijan Republic

A. **Mehdiyev,** president, Azerbaijan Engineering Academy

Organizing Committee

H. Bagirov, minister of Ecology and Natural Resources of Azerbaijan Republic

N. Aliyev, minister of Industry and Energy of Azerbaijan Republic

Kh. Yusifzade, first vice-president, State Oil Company of Azerbaijan Republic

A. Hashimov, first vice-president. National Academy of Sciences of Azerbaijan Republic

H. Khalilova, director foreign department, International Ecoenergy Academy

G. Mainedov, chairman of Azerbaijan State Committee of Land and Cartography

F. Mamedova, chancellor, Azerbaijan Architecture and Construction University
S. Karayev, chancellor, Azerbaijan Slate oil Academy

G. Mamedov, chancellor, Azerbaijan Technical University

O. Hajiyev, deputy minister of Emergency of Azerbaijan Republic

M. Mamedov, vice-president, International Ecoenergy Academy

M. Babayev, director, Institute of Soil Science and Agrochemistry of ANAS

S. **Aliyev,** director general, Engineering Services Closed JSC, SOCAR

R. Aliyev, head of economic department, Azerbaijan Ministry of Industry and Energy

A. Efendiyev, director, Institute of Polymer Materials of ANAS

R. Mustafayev, director, Azerbaijan Research and Designing Prospecting Institute of Energetics O. **Mamedyarov,** Azerbaijan Research and Designing Prospecting Institute of Energetics **F. Hajiyev,** head of department, Scientific-Research Institute SOCAR **F. Hajizade,** director, Azerbaijan SRI "Ecology"

M. **Akhundov,** director, Azerbaijan Research Institute of Fisheries of Ministry of Ecology and Natural Resources

R. Khalilov, president. International Foundation SEC A

A. Janahmedov, scientific secretary, Azerbaijan Engineering Academy

F. Aslanov, Republic Center of Hygiene and Epidemiology, Ministry of Health of Azerbaijan

Congress Organization

International Executive Committee

A. Goozal, Middle East Pertrol Sh. Takada, Kobe University, Japan T. Bluhm, Diisseldorf University, Germany

G. Newcombe, director Health, Safety, Environment and Security, BP Azerbaijan

F. Askerov, co-director HSE, BP Azerbaijan

Z. lkilinc, KiSKA Technical Construction Company, Turkey

A. Piccioni, company G& Fint, Italy

Yu. Tabunshikov, ABOK, Russia

E. Khoshravan, vice-president Corp. Marketing, Iran

Ballerini, French Petroleum Institute, France

Yal, KiSKA Technical Construction Company, Turkey M. Harada, Cospa International Inc., Japan

E. Ture, director sponsored programmes, UNIDO-ICHET, Turkey M. Sadeghi, Elite Academy, Iran

The Tenth Baku International Congress"Energy, Ecology, Economy"

held on 23-25 September 2009 in "Gulustan" Palace.

A number of delegatesfrom 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 Bakuto participate in it.

The 10thCongress 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.

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

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

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 Industryand 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 rector Azerbaijan University of Architecture and Construction

The President Azerbaijan National Academy of Sciences.

The Ministry of Industry and Energy N.Aliyev

University of Architecture and Construction Prof,GMammadov

Aalen University prof. Hering Ekbert

Economic and Enviromental Officer OSCE office in Baku Mr.Robert Zahn

Ambassador of Turkey H. Kilich

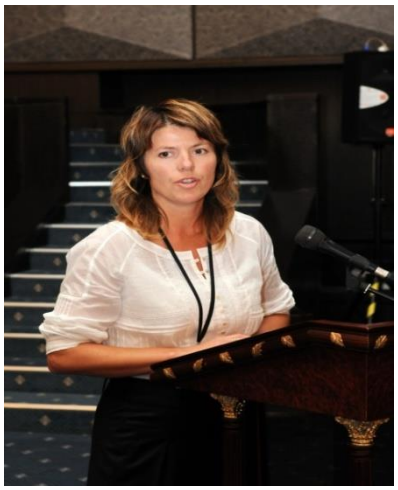
Ambassador of IranM. Bahrami

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


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

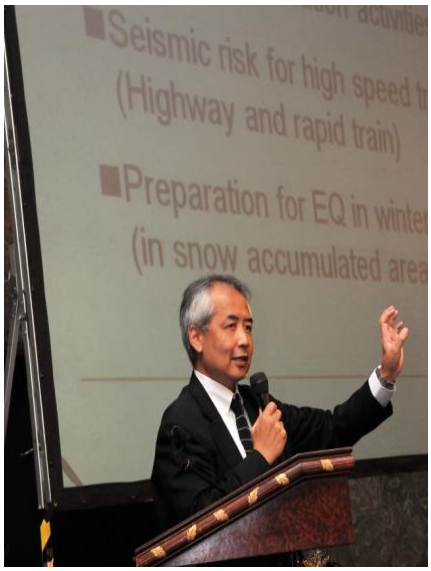
Plenary reports were presented by the president of International Ecoenergy Academy prof. **F. Aliyev**(Azerbaijan), prof. **T. Dixon** and **B. Osmanoglu** (USA), prof. **E. Hering** and **H. Dettinger** (Germany), dr. **Y. Ueno (Japan)**, dr. **T. Tupy** (Germany), dr. **B. Rubesa** (Norway), prof. **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.

Institute of Georgrahpy, Tbilisi, Georgia.V.Bagrationi



Statoil Hydro's environmental excellence in the gas industry. Mrs. Baiba Rubesa

N. Yusifbeyli, *Azerbaijan Scientific-Research and Designed-Prospecting Institute of Energetics, Azerbaijan*



Dr. Junichi Ueon Research
Institute of Lifeline Engineering Inc.

H.Dettinger. ZeH. GmbH.Germany

Eclareon GmbH Germany
OSCE office in Baku. Mrs.Tatiana Tupy

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10-cu Beynəlxalq Bakı "Energiya, Ekologiya, Ekonomiya" Konqresi

Bakı, Azərbaycan Respublikası

23 - 25 Sentyabr, 2009

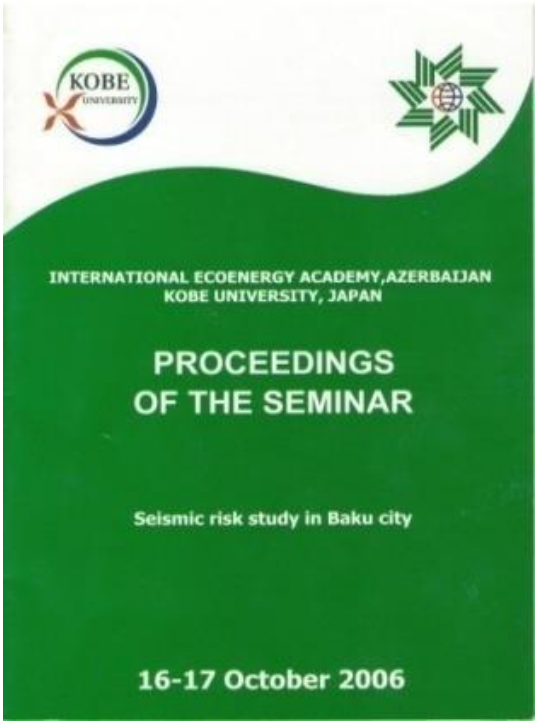
Proqram

Azərbaycanda hər iki ildən bir "Energiya, Ekologiya, Ekonomiya" devizi altında keçirilən Beynəlxalq Bakı Konqreslərinin məqsədi enerji təhlükəsizliyi, ətraf mühitin çirklənməsi və əhalinin təbii fəlakətlərdən qorunması kimi qlobal problemləri müzakirə etməkdir. Xəzər dənizi və Abşeron yarımadasının ekoloji problemləri də Konqresin əsas mövzularındandır. Bu ilki forumda qeyri-neft sektorunun inkişafı və onun iqtisadi inkişaf strategiyasının reallaşdırılmasında roluna xüsusi diqqət yetirilir. Konqresdə ekoloji təmiz texnologiyalar, xüsusilə alternativ enerji texnologiyaları, sahəsində elmi nəticələrin müzakirəsi, tətbiqi və təcrübə mübadiləsi üçün geniş imkan yaradılacaq.

10-cu Konqresin proqramında plenar və texniki iclasların, işgüzar görüşlərin və digər tədbirlərin keçirilməsi nəzərdə tutulur.

Along with the traditional Baku congresses,IEAregularly organises scientific-practical seminars, workshops and conferencesto discuss the results of the implemented projects, to provide information about new technologies and methodsonecosystem protection, energy savingand alternative energyresource 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 recultivation”, (in cooperation with EU TACIS programme) 1998;
- 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** andrepresentative 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 implementedare:

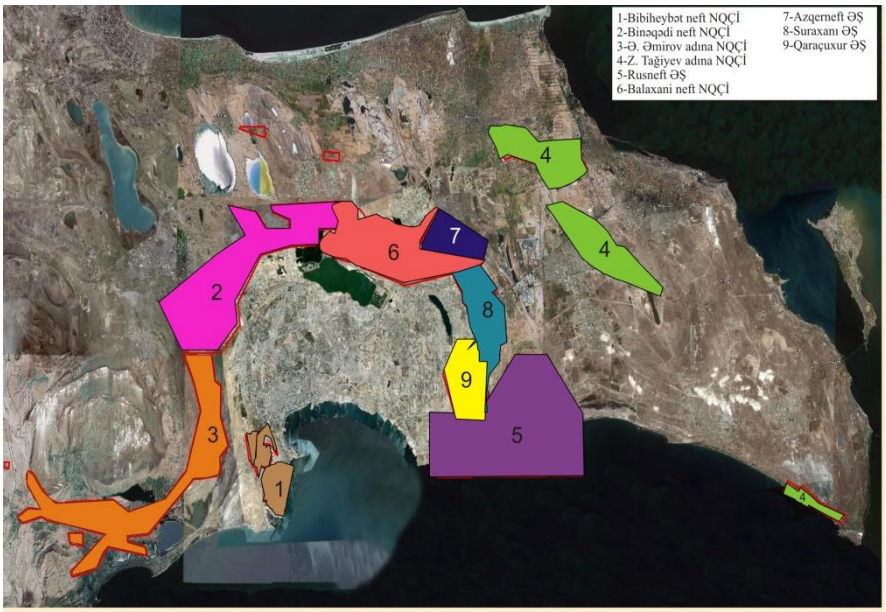
- Basics of Azerbaijan Energy Development for Period through 2010
- Application of Solar Collectors in Power Supply
- Feasibility Study of Wind-Electric Conversion Systems for Offshore Oil Platforms in Azerbaijan (in cooperation with Trento University, Italy)
- Automated Energy Supply, Conditioning and 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 Toxico-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:

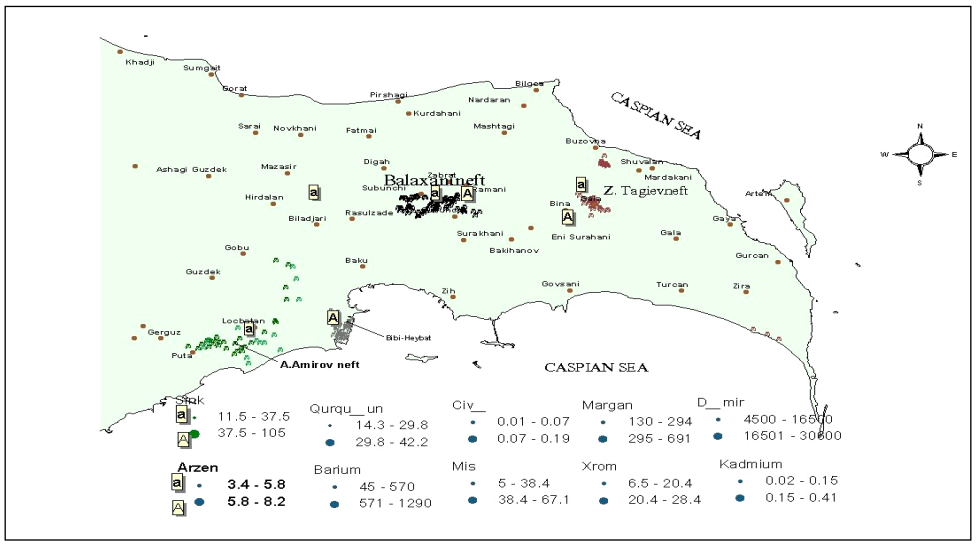
- "Development of Large-Scale Electronic Maps (1:10000) of Oil-Contaminated Soils of the Absheron Peninsula". The Project was implemented within the framework of Action Plan under the Presidential Decree from 28 September 2006 (client-SOCAR)

- “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, 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).

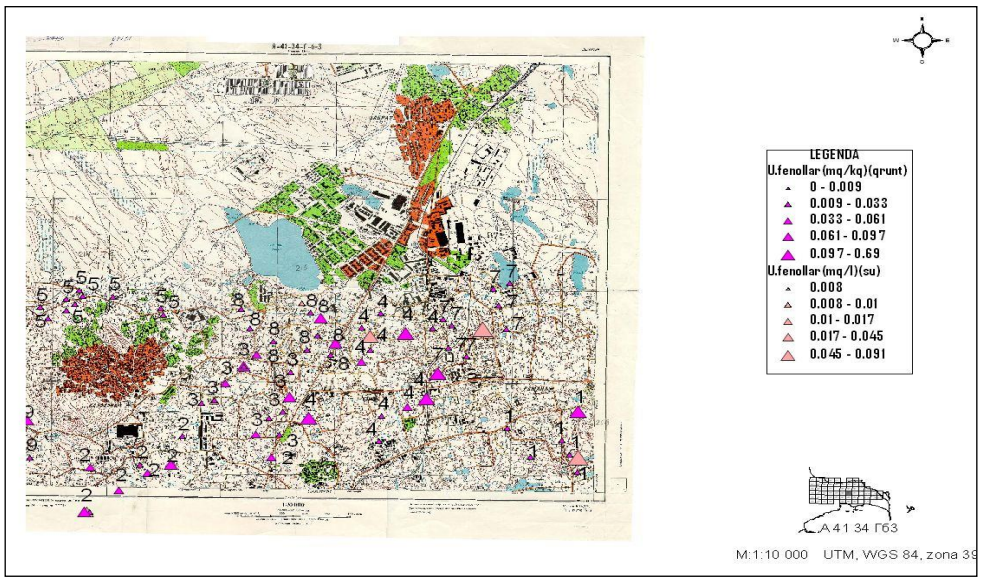
A big deal of works was carried out under the project “Development of Large-Scale Electronic Maps (1:10000) of Oil-Contaminated Soils of the Absheron Peninsula” implemented within the framework of Action Plan under the Presidential Decree from 28 September 2006.



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-Khachmas 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 the Kuba-Khachmas region of Azerbaijan Republic due to the difficulties of matching energy generation with local electricity demand. 1500 kWt will be enough to meet local requirements. The excess of energy produced at hydropower plants – 500 kWt 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, and act as a model for further cogeneration plants.

Kuba-Khachmas region is situated in the Northern part of Azerbaijan bordering with Russian Federation. This is one of the large agricultural regions and recreation centers of the republic in the Caspian coast. According to 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 of 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 of 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 Azeri 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.

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 purposeof 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 theProject "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".

The aim of the Conference was to discuss the issues related to renewable energy development including environmental, 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, representaties

of the related governmental entities, international companies and NGOs, etc.

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

Conference opening

The Republic of Azerbaijan towards "Azerbaijan 2020: Renewable Energy and Sustainable Development" is in its own path to become more reliable and active member of the world community in energy saving and renewable energy sources usage.

The energy sector dominates Azerbaijan's export, and it is essential in the development of the Republic of Azerbaijan. The large volume of energy exports contributes to a massive trade surplus of almost 50% of GDP. At the present, the International Ecoenergy Academy (IEA) is implementing an important 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".

The aim of the conference was to discuss the project results with local and foreign experts in the field of renewable energy sources usage, energy efficiency development, environmental improvement, social, and legislative aspects.

Below brief texts of presentations and recommendations of some of the Conference participants and the appeal to the President of the Republic of Azerbaijan Mr. Ilham Aliyev are given.

Keynote speeches were made by:

The Minister of Industry and Energy of the Republic of Azerbaijan

The President of Azerbaijan National Academy of Sciences

Vice Speaker of Azerbaijan Milli Majlis (Parliament)

Chairman of Ecology and Natural Resorces Commisison

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

Gustav R. Grob

President of International Sustainable Energy Organization ISEO

President of International Clean Energy Consortium ICEC

Fellow of the Energy Institute London (ex. F.IP)
Chairman of ISO/TC203 Technical Energy Systems Analyses
Founder & ex-Chairman of ISO/TC197 for Hydrogen Energy
Member of American and Swiss Automatic Control Associations
Life hon. member of Swiss Electrotechnical Association
Gold medal laureate of IEA, Baku (2012)

The title of presentation: "Clean Sustainable Energy Sources, Carriers & Storage"

Azerbaijani and foreign experts gathered at the 11th IAE conference from 23 to 25 April 2012 to discuss a sustainable energy future. Recognizing the adverse effects from the use of chemically and radioactively polluting energy sources on human health, the environment and the prosperity of nations, the conference parties saw the need for a new energy paradigm, requiring truly clean ecologically sustainable energy systems.

It was stated that the renewable energy mix consisting of solar, wind, hydro, geo, bio and novel energy systems is competitive with finite conventional mineral energy sources, considering their external, social cost. Mineral energies must be replaced within the living generation to safeguard the petroleum and natural gas resources for higher added-value uses by the chemical industry.

The polluters-pay principle must be made mandatory in all nations by levies and/or taxes, to be harmonized and enforced by the United Nations. Clean, sustainable energy systems create lots of new jobs and foster universities and research.

Methanol produced from clean energy was presented as the fuel of the future, reducing Greenhouse gas emissions. Electric vehicles fed by methanol converters or advanced batteries reduce the energy consumption considerably compared with combustion engines.

Better energy systems efficiency reduces the adverse effects of energy emissions and saves money as promoted by ISEO and many energy efficiency NGOs, but missing in IRENA.

The importance of international ISO and IEC standards was stressed with an invitation to partake actively in technical committees like ISO/TC203 on energy systems analyses and the specialized TCs on photovoltaics, wind and hydro power of IEC. It was also pointed out that the illegal and misleading energy unit Toe (ton oil equivalent) must be banned from renewable energy statistics to be replaced by the legal SI energy units Joule (J) or multiples of Wh (kWh, MWh, TWh).

A major part of the multi-billion defence budgets should be re-chanelled into clean, sustainable energy systems for the survival on Earth, rather than financing oil wars, wasting fossil and fissile resources and taxpayer's money.

Better coordination among national and international clean, sustainable energy organizations is needed as a counterweight to lobbies of non-renewable polluting energy like the biased WEC in London or the International Energy Agency IEA in Paris, representing only industrial nations with their incomplete energy statistics, neglecting the millions of non-commercial renewable energy systems and endangering the health and environment. The International Ecoenergy Academy IEA must spread its ecological credo around the world in synergy with UN-accredited NGOs like ISEO and the virtual International University of Sustainable Life (IUSL) in Geneva, Switzerland.

The 11th IEA ecoenergy conference is appealing to all nations to speed up the progress for the development of a truly clean sustainable energy future, in a concerted effort according the eight principles of the Global Energy Charter for Sustainable Development, as proclaimed at the UN Summit in Rio de Janeiro in 1992, reiterated at its 10th anniversary in Johannesburg in 2002 and at the 2012 World Sustainable Energy Conference in Geneva with its appeal to the 20th anniversary of the Rio summit in June 2012, and the Secretary General of the United Nations.

Prof. Yuri Tabunchikov

President ABOK, Russia

Foreign Expert of the Project

The title of presentation: “Green Building-New Ecologically Sound and Energy Efficient Habitat of Human “

Green building is a construction of buildings as inhabitancies of the human, which meets the requirements of comfort, energy efficiency, ecological compatibility and environment protection, according to the principles of sustainable development. The "Green" building estimation quality is carried out on the basis of rating systems which contain criteria of stability of inhabitancy.

Generally the rating system represents a set of quantity and quality of indicators characterizing the level of comfort, energy efficiency, ecological compatibility, environmental protection. Also, the availability of any near to the building a park zone, sports and children's playgrounds, places for automobile and bicycle parking, distance from public transport stops and etc.

At the present, there are more than fifty rating systems exist worldwide, which applied to buildings in the international practice (designing, building and operation). The variety of rating systems explains the distinction of standard approaches, national features and priorities in the field of energy, ecology, a climate, economy at the developing countries.

Recommendations for Azerbaijan

1. Green construction is one of the most promising directions for development not only in the construction complex, but also in the social environment of the environment.

In order to evaluate buildings according to the green construction system necessary for Azerbaijan will design standard “Green construction. Residential and public buildings. Rating system for environment sustainability evaluation.” This Standard contains requirements for energy efficiency and environmental performance of buildings, as well as for a building in general as the human environment.

There are certain priorities demands must be meet in ecology and energy efficiency for Azerbaijani conditions.

Evaluation of a building as human environment is related not only to the construction facility itself, but to other parameters, including the meaning of “human environment”, namely: availability of parking zones, sport and children’s facilities, parking spaces for cars and bicycles near the building, distance to public transport stops, etc.

2. Green buildings, as human environment, are attractive for investors, designers, utility equipment manufacturers and housing owners.

Requirements for green buildings are sufficiently high and cannot be met by the traditional design principles based mainly on typical solutions. As a result we need to arm designers, builders and operators with new creative knowledge.

3. This standard is not the "final word" of the construction business development in Russia, but a road map that the construction industry must follow.

Adam Sek

Regional Adviser on Energy
Sustainable Energy Division
UN Economic Commission for Europe

Renewable Energy Barriers in CIS – UNECE Recommendations for Azerbaijan

Foreign Expert of the Project

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The title of presentation: "Renewable Energy as a Tool for Sustainable Development in UNECE Region

Given the commitment of Azerbaijan to improve the ecological situation, ensure sustainable socio-economic development and implement green technologies State Program on Energy Efficiency, State Program on Development of Fuel and Energy Sector, National Program on the Use of Alternative and Renewable Energy Sources and National Program on Ecologically Sustainable Socio-Economic Development and other important legislative acts were adopted.

The major goal of the very programs is to effectively and efficiently use alternative and renewable energy sources in order to develop and advance clean energy production. Ensuring sustainable socio-economic development in Azerbaijan by

stimulating adoption of modern renewable energy technologies is of utmost importance. In this regard, starting from 2011, the resources of the State Oil Fund, as well as Government budget of the Republic of Azerbaijan will be used to implement renewable energy projects in the country. The Government of Azerbaijan intends to raise the overall level of using alternative and renewable energy sources by 15% till 2015.

Recommendations.

In order to ensure successful implementation of the above-mentioned ambitious plans it is important to identify, analyse and address the range of possible political, regulatory, institutional and financial barriers to the deployment of renewable energy technologies. The UNECE recommendations in this regard are as follows:

- To ensure appropriate coordination of renewable energy activities on the national level(Why National Renewable Energy Agency was not attending the Conference??);
- To make sure that the existing policies are enforced. To adopt the bottom up approach in this respect (to examine the cases of lack of secondary legislation);
- To identify how to enhance investment climate for the development of renewable energy sources(lack of economic incentives: funds, energy finance facilities, feed-in tariffs or fiscal incentives, ESCOs);
- To extend regional cooperation on the development of renewable energy sources (joint RES projects, synergies in RES national programs, joint cross-border infrastructure projects, joint capacity-building programs);
- To analyse the impact of energy subsidies on renewable energy development in Azerbaijan(low energy prices & tariff changes issues, examining the need of tariff changes to enhance renewable energy contribution to the energy balance of Azerbaijan);
- To ensure electric power grid access (TPA, to provide information on the national power grid master plan development to the energy actors and potential investors);
- To analyse the cases of inadequate returns for project finance (RES investment projects in rural and peri-urban areas are not attractive for the investors, to examine the need for public private partnership scheme);
- To analyse the scale of the detrimental impact of global economic downturn on RES development in Azerbaijan and to adopt appropriate measures.
- To identify the barriers and challenges to the transfer of modern energy technology needed for RES development;
- To ensure transparent procedures for authorization, public procurement and tendering;
- To enhance the development of the cooperation of key renewable energy institutions/actors in Azerbaijan with appropriate international organizations

(including IRENA, UNECE, UNFCC, UNIDO, IEA, EU, World Bank, EBRD, ADB, OECD, EPC CIS etc.).

Geoffrey Hamilton
Chief, Cooperation and Partnerships Section
United Nations Economic Commission for Europe (UNECE)
Economic Cooperation and Integration Division

The title of presentation: "Importance of the Good governance of PPPs in Sustainable Energy"

Renewable energy can be best delivered through new forms of financing such as **Public-Private Partnerships** (PPPs). PPPs harness strengths of the public sector expertise in regulations and control with the private sector's strength in innovation, management and financing. PPPs can be described as public sector projects managed and financed and identified by the private sector, encompassing different variety of modules. There is now a successful track record of renewable energy projects being undertaken using this model. The development of the model further requires close attention to the 'governance' of projects, that is, transparent procedures, a strong legal framework and accountability of the project to citizens. Such principles are found in the UNECE Guidebook of good governance in PPP. The author concludes by describing the UNECE PPP initiative, consists of the Toolkit of best practices, guides and centre of Excellence established under the UN to provide support to government like Azerbaijan, which are interested in embarking on the PPP journey.

However certain principles need to be developed related to the good governance of specific projects.

Recommendations.

Key recommendations for the government of Azerbaijan in promoting and developing PPPs:

I would to focus our recommendations in 3 main issues that lead to successful implementation of PPP projects, which are the (1) legislative framework: (2) institutional framework; and (3) developing public sector capacity in PPPs.

1. **PPP Legislative Framework**.

Investors in PPPs need predictability and security in legal frameworks, which means fewer, simpler and better rules. In addition, the legal framework needs to take account of the beneficiaries and empower them to participate in legal processes, protecting their rights and guaranteeing them access in decision-making. However, to date the current legislation of Azerbaijan does not permit the PPP module to be used in the country, namely there are no any clear PPP procurement rules, no sectors are defines that can be developed through PPP, not even mentioning about the opportunity of 'step-in' of lenders in the project.

Azerbaijan therefore could make use of UNECE expertise in PPP legislation, by sending its current legislation for UNECE's review and will receive detailed recommendations for improvement. . Azerbaijan may also make use of UNECE initiative by itself establishing a 'specialist cente' in an appropriate PPP sector. This action will help it to accelerate its PPP programmes and the same time raise its profile to prospective international investors. However certain principles need to be developed related to the good governance of specific projects, which are discussed in the UNECE guidebook on good governance in PPPs.

2. PPP Institutional Framework

The implementation of PPP projects requires the establishment of proper focal institutions and empowering them to undertake PPP projects. This is an important measure to boost the confidence of potential investors. Whether foreign or national investors, they will need to know which state agency or organizations is empowered to award the PPP contacts and which organizations will be contracting authorities. This is vital not only to investors, but also for the government agencies as well, since before starting the PPP projects in the country, they would need to know how to communicate with other agencies involved, such as the ministry of finance, if the government is willing to provide any financial guaranties, and the ministry of economy, which usually hosts the PPP unit in most countries with vast PPP experience. Therefore, it is highly recommended for the Government of Azerbaijan to establish relevant insititions that will be responsible for the coordination of different line ministries, undertake the roster of ongoing PPP projects, be a hub on PPP

information in the country, and others.

3. Developing Public Sector Capacity in PPPs

One important measure to ensure successful implementation of PPP project in the country that relevant line ministries before announcing the tender on particular PPP projects is to conduct thorough assessment of the project's feasibility, which includes economic and financial aspects, such value for money or potential revenue and bankability, among others. For this it is important that the Government of Azerbaijan pay high attention of developing the capacity of its people, especially dealing with PPP projects, namely in stages such as, project identification, undertaking tendering procedures, in negotiating contractual arrangements, as well monitoring the ongoing project and transfer of the project back to the management of the government. These and other recommendations explained in detail in the UNECE's Guidebook on promoting Good Governance in Public-Private Partnerships, if followed can develop the country's policy on PPPs.

Francisco Boshell

Technology Standards Analyst IRENA

The title of presentation: "IRENA Activities for Accelerating Renewable Energy Deployment"

Recommendation

The Republic of Azerbaijan is already untaken important actions with the aim of accelerating the deployment of renewable energy in the country, e.g.:

- Scientific studies concerning renewable energy resources and potential in the country,

- Required reforms to energy legislation and regulations,
- Arise awareness of benefits of renewables, via Conferences as this one.

In order to maintain and take advantage of this momentum, Azerbaijan may wish to consider, inter alia:

- The development of sectorial energy roadmaps that will guide and streamline the efforts and action on the area of renewables,
- Conduct sound and comprehensive barriers and challenges analysis concerning the deployment of renewables, similarly as the Renewables Readiness Assessments methodology from IRENA, in order to set concrete and effective actions to overcome those barriers,
- Continue its efforts to establish partnerships with international and regional organisations and agencies, as IRENA, in order to share best practices in policy, technology and institutions, and facilitate capacity building,
- Conduct studies on the tangible benefits of a renewables robust strategy for Azerbaijan, e.g. jobs creation, use local resources in a more cost-effective manner,
- Continue strengthening its institutions that will administer and ensure a stable energy strategy in a long-haul,

Ratify IRENA's Statutes.

Darja Piciga

Ministry of Agriculture and the Environment of the Republic of Slovenia

The title of presentation: "Towards a Low Carbon Strategy of Slovenia: Learning and Innovating for Global Challenges"

According to the OECD Perfomance Review, Slovenia is among the first countries that have already drawn a comprehensive strategy for a transition to a low carbon society, defining the low-carbon society[1] as a society (or economy), of which the greenhouse gas emissions are lower than the absorption capacity of the global ecosystem, and at the same time based on the principles of sustainable development. Draft Strategy for the Transition of Slovenia to Low-Carbon Society by 2050, submitted in September 2011 by the Government Office of Climate Change to public consultation and revised in March 2012, proposes the vision of Slovenia in 2050 as a highly integrated and inclusive society with an excellent business sector and a high quality of life, space and natural environment. Thus, the global climate change problem has been taken as the starting point for developing a general strategy of sustainable development, which integrates the sustainable energy policy as the key pillar, thus representing a promising approach for learning and innovating to adequately address the complexity of contemporary global challenges.

The strategy focuses on reducing emissions through green growth (including green tax reform), adaptation and supporting horizontal strategies (innovation and education, local and regional initiative, awareness and communication, active role in international community). The strategy further sets objectives and policies for 13 specific thematic areas, with more or less accentuated energy component: Energy, Transport, Low carbon technologies, Buildings, Industry, Services, Agriculture, Solid waste, Spatial planning, Forests, sinks, biodiversity, Waters, Health, Natural disasters. Across these thematic areas, a number of sectors and technologies are defined that are already or should be included in the green growth (from energy efficiency with intellectual services and building refurbishment to local communities providing local services that reduce the demand for transport).

The holistic feature of the Slovenian Low-Carbon Strategy is the result of several integrative processes in general policy planning and implementation as well as in relevant sectoral and cross-sectoral policies during the past decade. Two approaches are especially promising for the enforcement of integral policy planning, namely the scenario planning exercise in 2008 (Development Scenarios for Slovenia to 2035. Trends and opportunities in times of climate change) and the application of the *International Futures (IFs)* model in the 3-year research project Slovenia – A Low Carbon Society.

In the process of preparing the Draft Low-Carbon Strategy, a new Integral Approach proposed by Ronnie Lessem and Alexander Schieffer has been partially applied. According to this approach, every social system needs to find, in order to be and stay

sustainable, a dynamic balance between its four mutually reinforcing and interdependent ‘worlds’ and its ‘center’. In the case of Integral Economics:

- Center: Moral Economic Source, founded in religion and humanity
- South: Self-sufficient Economy, founded in nature and community
- East: Developmental Economy, founded in culture and spirituality
- North: Social Economy, founded in science and technology
- West: Living Economy, founded in finance and enterprise

As a convincing alternative to the mainstream neo-liberal economic model, Lessem and Shieffer analyzed a number of already existing and successfully operating economic models which are in accordance with the proposed integral theory.

Further development of the Low-Carbon Strategy within the Integral Approach framework would establish Slovenia as a model in the process of creating a more resilient global economic system, giving intrinsic value to cultural diversity and rediscovering the spiritual and moral economic core, from which our economic systems have been detached. Integral Approach also represents a promising framework for future projects of transferring good practices in policy planning between countries from different cultures, e.g. Slovenia and Azerbaijan.

Recommendations:

1) The complexity of challenges on national, regional and global levels, require more holistic approaches in accordance with the basic principles of sustainable development. Therefore it is advisable to integrate the sustainable energy policy of Azerbaijan into a general development strategy.

2) In order to promote coordination and cooperation among different bodies of government administration and also with non-governmental sector, good practice of Slovenia in developing a comprehensive strategy for transition to a low-carbon economy and society could be explored and adapted.

Isabelle Wachsmuth-Huguet
Innovation Information Evidence and Research
World Health Organization

The title of presentation: "Intersectoral Research & Policy Approach to Address Challenges in Health & Environment"

It is generally accepted that a wide range of factors determine the health and life style of a population, many of which are beyond the remit of the different ministries, national institutions and stakeholders of the country. The aim of intersectoral policy is to influence these factors. Success depends on a multi-stage process. The presentation aims to provide support for the stage of this process in the form of a quick scan (paradigm used, methods and tools) for appraising the feasibility of intersectoral policy and to support Azerbaijan to improve the ecological situation and by this way condition of health and life of the population in Azerbaijan. The quick scan distinguishes between three factors: (1) the availability of evidence, (2) the degree of support, and (3) the availability of tools for implementation (such as collective and collaborative intelligence to create coherent system and to have holistic view of issue, network of networks approach to interconnect the range of stakeholders influence the context of the country, national policy dialogue).
At the national level, ministry and national institutions in environment and energy are directly responsible for energy and environment services and education and have key impact on sustainable development environment. However, many determinants of environment including choices in type of energy are outside its control and impact directly and/or indirectly health and life style of population. This means that ministry and national institutions in environment and energy are often dependent on collaboration with other ministries and national institutions to achieve energy policy targets and how national institutions influence energy orientation can realize its aims in other policy sectors. The aim of intersectoral policy is to provide an answer. Intersectoral policy plays a part at local and context level and in public-private partnerships. It appears critical for Azerbaijan to use and implement intersectoral policy approach in energy and environment areas to improve better understanding and framing of intersectoral issues and to develop and implement evidence informed strategies and interventions for effective impact in the same time on ecological situation and health status of population.

Recommendations:

Given the commitment of Azerbaijan to develop and implement national program on ecologically sustainable socio-economic development and other legislative acts it appear that successful implementation will be able to be done with intersectoral policy approach to be sure all range of stakeholders at national level influence implementation of the program will be identify and part of the process in the beginning. With this way, the chance of implementation of interventions and application of laws will be increased. The recommendations in this regard are as follows:

- Increase awareness of national stakeholders about the benefit to apply intersectoral policy approach to implement national program on ecologically sustainable socio-economic development and other legislative acts
- Use national policy dialogue to engage stakeholders and improve their commitment and responsibility

- Implement efficient monitoring and reporting mechanisms to follow implementation of interventions trough state programmes and application of laws on sustainable development
- Identify and compile all relevant evidence available at international, regional (CIS) and national levels to have better understanding of issues and existing interventions and adapt them to the context of Azerbaijan. This work can be effective through networking of all national universities and institutions work or influence energy and environment sectors and others sectors
- Value results of research and expertise from national universities and institutions of Azerbaijan at CIS regional and international levels
- Increase technical and scientific capacity to address implementation of intersectoral policy and research approach and organize capacity-building workshops and seminars to present results to others national institutions and others CIS countries.
- Develop research and increase evidence in energy & environment system to reduce fragmentation of knowledge and to develop energy and environment system performance
- Define boundaries of the energy system and their mutual benefits to improve scope for policy actions (current status, barriers, policy support and capacity building)
- Adjust data collection systems on energy and environment to variations in demography, social, cultural, economic circumstances of nation
- Create Knowledge Management platform on energy and environment to promote knowledge sharing, lessons learned and learning environment
- Increase awareness of national stakeholders about the benefit of constructive and collective collaboration to tackle issues with more efficiency to accelerate economic and social impacts
- Shift the paradigm to consider complexity and interdependency of all sectors together and to be able to design coherent system in term of governance, delivery, human resource and financial arrangements

Prof. Dr. Christoph Stuckelberger

Executive Director and Founder of Globethics.net, the global network on ethics with its headquarter in Geneva, since 2008.

Professor of Ethics (Systematic Theology) at the Theological Faculty of the University of Basel since 1997.

The title of presentation: "Energy Ethics for Sustainable Future"

The conference was a truly international interdisciplinary experts' consultation: highly qualified experts in technological innovation, long term policy planning, system analysis, political, ethical and economic perspectives have been looking for renewable energy solutions. They all shared the vision that a mid and long term mix of renewable energy sources for the post-fossil-fuel period is possible and very needed. The professional conference organization and warm welcome in an open minded and friendly atmosphere showed the potential of experts in Azerbaijan to contribute with innovative ideas for a competitive country.

The contribution "Global Energy Ethics for a Sustainable Future" of Prof. Dr Christoph Stückelberger, Professor of Ethics at the University of Basel and Executive Director/Founder of Globethics.net in Geneva, can be summarized in the following key points and recommendations:

1. Energy policy must be based on energy ethics. It means that decisions are not only money-driven or power-driven, but value-driven.
2. Fundamental values for an energy policy are sustainability, responsibility, stewardship/accountability (using entrusted resources like a good steward, caretaker), caring/sharing and justice/ fairness.
3. These values are the basis for sector-specific principles as benchmarks for decisions. E.g. on

   3.1 Climate Ethics: The internationally recognized *polluters-pay-principle* means that the polluters have to bear the costs of pollution. The *capability-to-contribute-principle* means that those with more means/richer countries have the obligation to contribute more (even if they are not main polluters) than countries with less capabilities and means.

   3.2 Finance Ethics is crucial in order to finance necessary investments in renewable energies. The *truth-principle* means that prices must tell the truth of all real costs, including internal and external environmental costs e.g. of pollution and CO2-emissions. If this is respected, renewable energies are very competitive and fossil energies need to be taxed more.

   3.3 Tax Ethics is important to get fair income as a state owning the natural resources. The *white-money-principle* means that taxes on revenues and assets are paid in fair and just way and capital flight for tax evasion is reduced. As a consequence of the polluter-pay-principle, non-renewable energy has to be taxed higher than renewable energies which stimulates innovation and broader use of renewable energies.
4. Practical proposals to implement these principles include:

   4.1 Agreement between supplier (e.g. Azerbaijan) and consumer (e.g. Switzerland/EU) on a Renewable Energy Fund (Carbon tax for oil and gaz)!

   4.2 1% of all oil/gaz income for foundation/fund for post-fossil Azerbaijan(see the Quatar Foundation as an example). SOFAZ Fund of Azerbaijan exists as a

good start. Put an emphases on future knowledge based society: scholarships, good education as the future resource (human resource) of Azerbaijan.

4.3. Include ethical education to strengthen the ethical foundation of the society for long term economic success. www.globethics.net with its global online library on ethics (especially business ethics) is willing to be partner.

4.4. Azerbaijan is member of the Extracting Industry Transparency Initiative EITI as a good step. Implementation of the standards and accountability not only on revenues from the energy sector, but also on its use would further increase transparency and trust.

Based on such values, principles and proposals, a sustainable and credible energy future of Azerbaijan as of all producing and consuming countries are possible. Ethics pays, economic and ethical rationality are then reconciled.

Farhad Aliyev

The International Ecoenergy Academy

The title of presentation: "Development of Azerbaijan's Legislation and Regulation Basis Relating to Renewable Energy Sources and Energy Efficiency"

Azerbaijan has serious environmental problems due to intensive development of the region's hydrocarbon resources, increasing amount of consumed fossil fuels and greenhouse gas emissions. Analysis of the present situation shows that in order to prevent future disasters the country must change the existing energy systems. Azerbaijan must seek new ways of generating energy, which do not sacrifice the natural environment, and which protect the health of the population and promote sustainable development of the region.

Azerbaijan has great potentialities for the use of solar, wind, geothermal, biomass and other non-traditional energy resources. However, there is a number barriers delaying renewable energy development including the lack of legislation framework.

Currently, International Ecoenergy Academy is implementing the project "Improvement of Azerbaijan 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".

According to work plan and technical task of the project, first the existing state of legislation and energy policy of Azerbaijan Government were analyzed and the EU countries were studied. Academy also studied the legislation system of CIS republics such as Russia, Belarus, Ukraine, Kazakhstan, and Kirgizstan.

In order to promote RES development and EE a package of proposals were prepared to make amendments to the existing legislation of Azerbaijan. Draft Laws were prepared by IEA experts and presented to the Ministry of Energy and Industry of Azerbaijan and Alternative and Renewable Energy Agency. In addition, 20 secondary legislation documents have been prepared to ensure the implementation of laws in the field of RES and EE.

To accelerate this process we need cooperation between public and private sector, a cooperation between national agencies, cooperation between national policy makers and scientific communities.

Conclusions

Conference participants recognize the importance of decisions made by the President of the Republic of Azerbaijan in the area of Renewable Energy and Energy Efficiency and highly value its historical impact in Azerbaijan. They specifically noted the necessity of the carrying out of the projects in the frame of the Energy reforms program in adaptation of the European law and regulation in Azerbaijan between European Union and Republic of Azerbaijan. Also, signed memorandum between EU and Azerbaijan was mentioned as an historic achievement.

The adaptation of the Azerbaijan's to the European legislation is one of the main factors of the Republic's integration into the European community. The International Ecoenergy Academy's fulfilled role in above mentioned project was discussed, valued, and highly appreciated by international experts and conference participants.

At the same time, in order to increase public awareness and education in the field of Renewable Energy and Energy Efficiency, Conference participants mentioned the need for strengthening Mass Media's role and necessity of the training of local personnel. The International Ecoenergy Academy will be able to successfully fit and fulfill the high-level training of the local personnel.

The International Ecoenergy Academy was established in 1994. Since then, all these years in development of our independent republic the Academy carried out and played a huge role in usage of Renewable Energy Sources, Energy Efficiency, and environmental protection.

Dear Mr. President, please take under your supervision the support of the budget of the International Ecoenergy Academy for development of its activity in the future

Sincerely,

Gustav R. Grob

President of International Sustainable Energy Organization ISEO

President of International Clean Energy Consortium ICEC

Adam Sek

Regional Adviser on Energy
Sustainable Energy Division
UN Economic Commission for Europe

Prof. Yuri Tabunchikov

President ABOK, Russia

Geoffrey Hamilton
Chief, Cooperation and Partnerships Section
United Nations Economic Commission for Europe (UNECE)
Economic Cooperation and Integration Division

Francisco Boshell

Technology Standards Analyst

IRENA

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Professor of Ethics (Systematic Theology) at the Theological Faculty of the University of Basel since 1997.

Marianna Brodach

Professor of Moscow Architectural Institute (State Academy)

Microclimate and Ecological Safety of Dwellings

Russia

Dipl.-Ing. Frithjof Clauss

Technische Universität Darmstadt

TU Darmstadt Energy Center and Institute and Laboratory of Geotechnics

Germany

Alexey Svishev

The Dean of Applied Economy and Commerce Faculty

Moscow State Institute of International Relations

Russia

Demir Inan

Presidednt of Clean Energy Foundation

Turkey

Berthold Bried

Cheif Executive Officer,

Renewables Academy AG (RENAC) Germany

Hakki Karacaoglan

SMA Solar Technology AG



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

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:

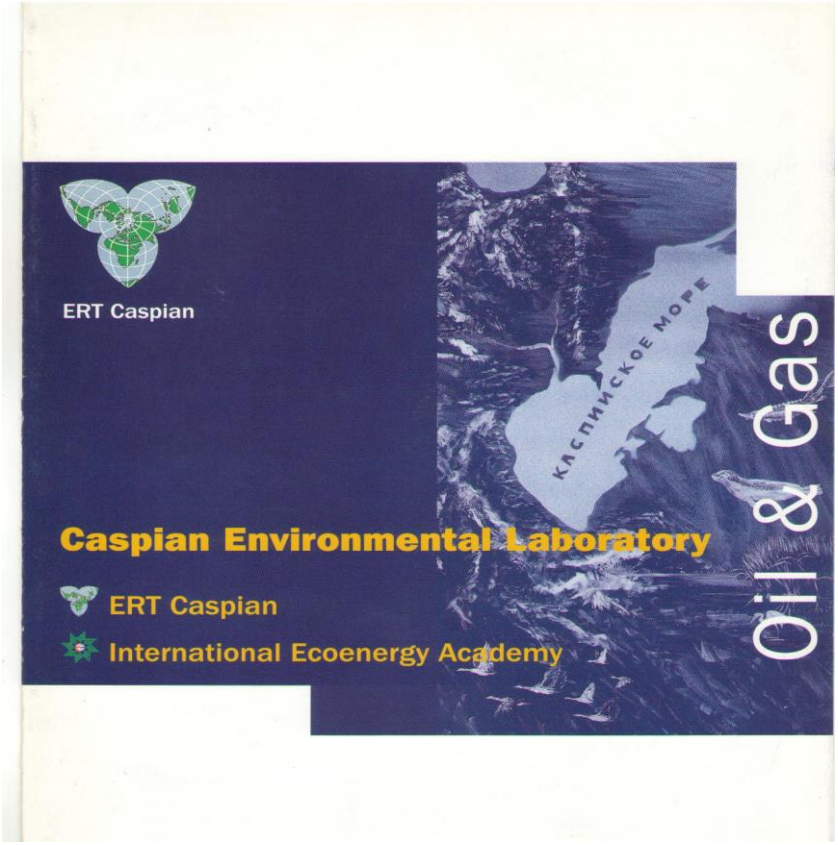
- Clean Energy Research Institute, University of Miami (USA)
- International Association for Hydrogen Energy (USA)
- ABOK (Russia)
- Russian Academy of Architecture and Construction
- Kobe University (Japan)
- University of Trento (Italy)
- Center for Euro-Asian Studies at the University of Reading (UK)
- SCANVAC, Federation of SVAK Group in Denmark, Finland, Norway, Sweden

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, and 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

Laboratories International Ecoenergy Academy



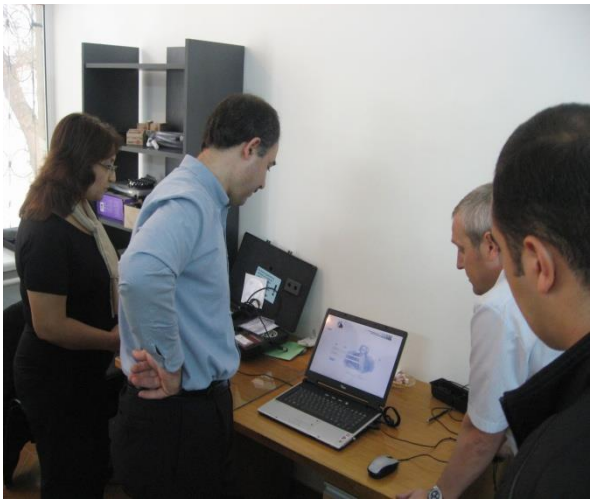
Discussion of laboratory activities by Azeri and foreign partners

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 ***GüntherOettinger****, (Germany), prof. of Aalen University* ***E. Hering*** *(Germany) andpresident of International Ecoenergy Academy FeganAliyev at the Laboratory Opening Ceremony*

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

General view of the galvanic surface production facilities

Training of Azerbaijani specialists in environmentally friendly galvanic surface production

Gold Medal International Ecoenergy Academy

In recognition of valuable contribution to development and promotion of new vision of renewable 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 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 AzerbaijanNational Academy of Sciences, president of Azerbaijan National Aviation Academy, Azerbaijan;
3. **T.Salahov**- national painter of AzerbaijanRepublic, 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 ConstructionUniversity
8. **N. Aliyev** –minister of Industry and Energy of the Republic of Azerbaijan
9. **H.Bağırov –** minister of Ecology and Natural Resourcesof the Republic of Azerbaijan
10. **T. NejatVeziroglu** - 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 DanishTechnicalUniversity, 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 KobeUniversity, 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 IEAT. NejatVezirogluand academician of National Academy of Sciences Ch. Juvarly

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

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

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

Journals International Ecoenergy Academy

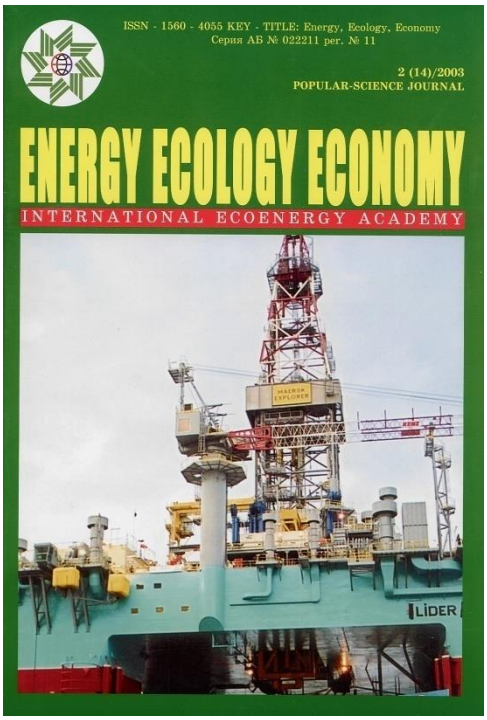
IEA founded 5 scientific journals, specifically:

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.

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


ENERGY ECOLOGY ECONOMY
INTERNATIONAL ECOENERGY ACADEMY
1 1998
2 / 1 9 9 8
3-4/1999
5/1999
6-7 / 1999-2000
1 (8-9) / 2001
ENERGY ECOLOGY ECONOMY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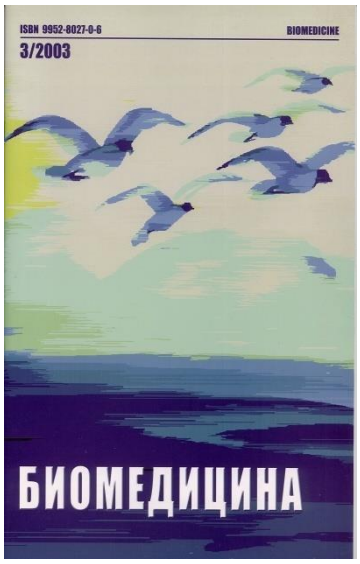
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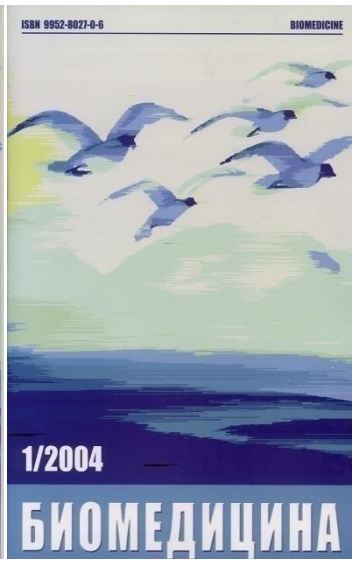
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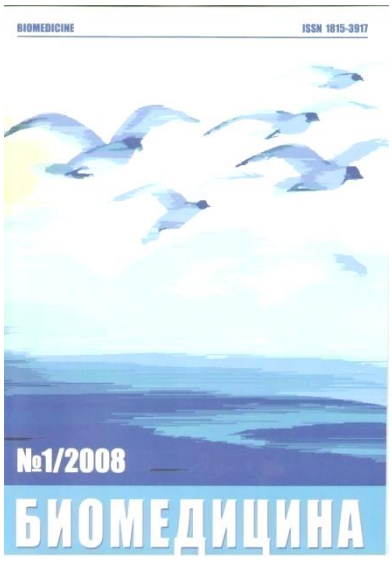
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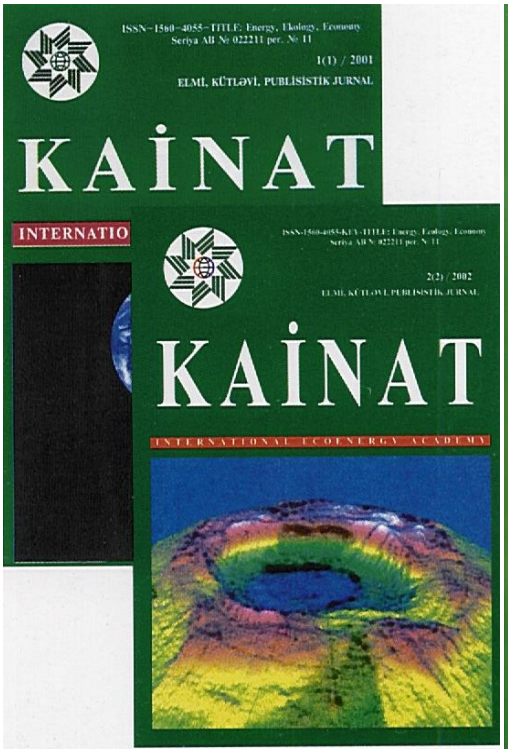
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INTERNATIO
2(2) / 2002
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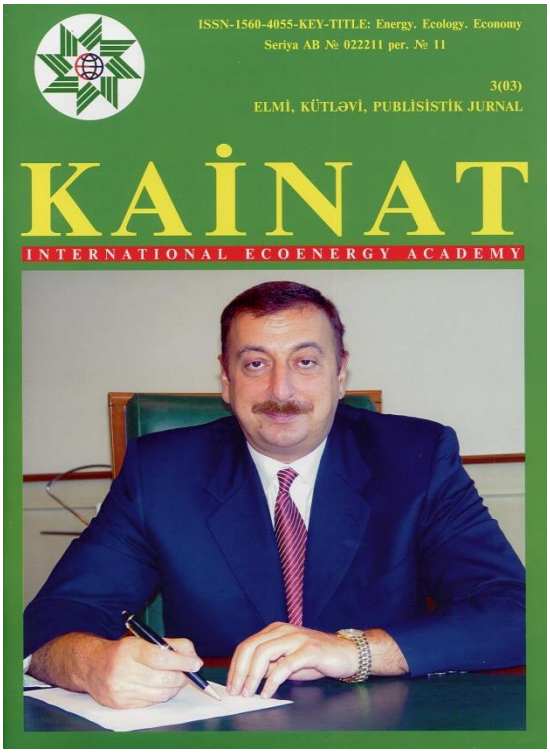
INTERNATIONAL ECOENERGY ACADEMY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INTERNATIONAL ECOENERGY ACADEMY


ЭКО ЭНЕРГЕТИКА
E = mc²
НАУЧНО-ТЕХНИЧЕСКИЙ ЖУРНАЛ
№ 2
2008


EKO ENERGETİKA
ELMİ -TEXNİKİ JURNAL
ECO ENERGETICS
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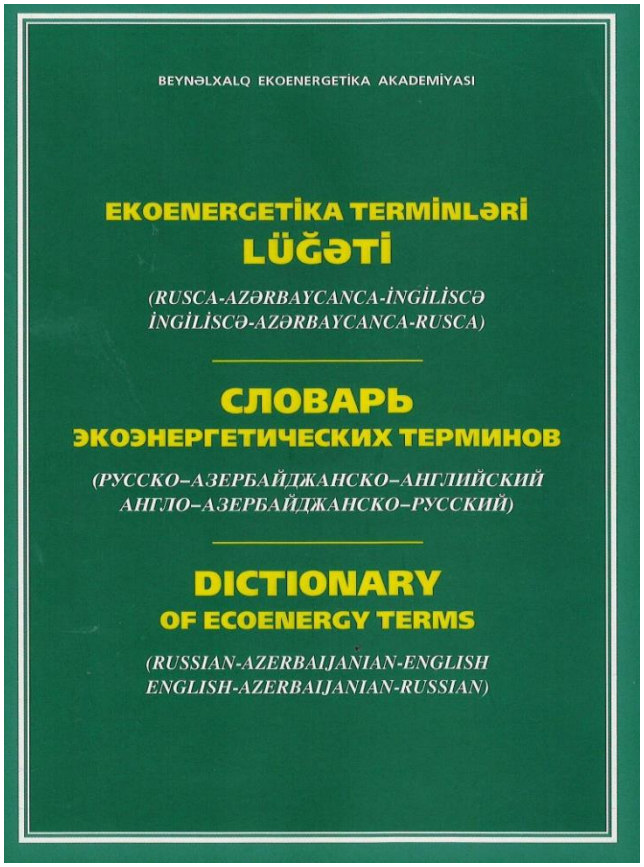
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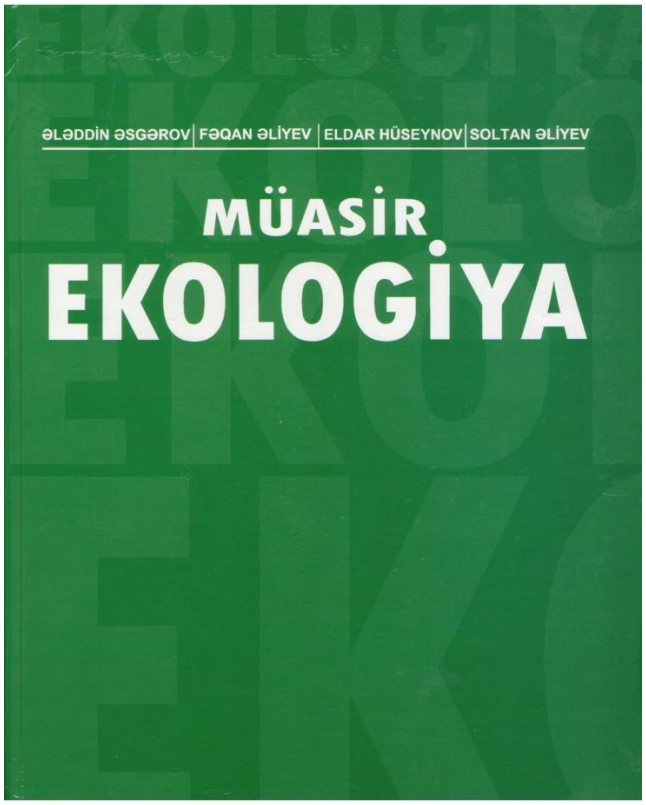
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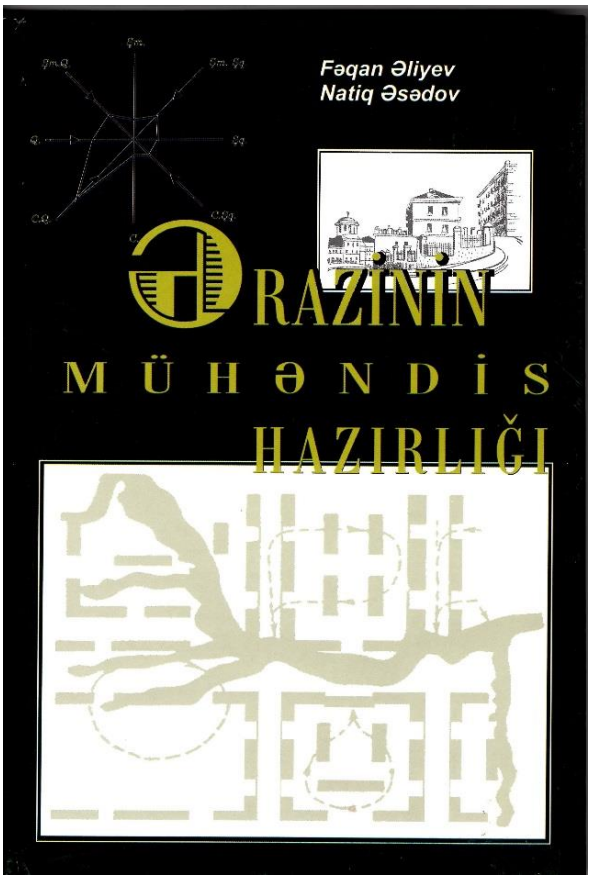
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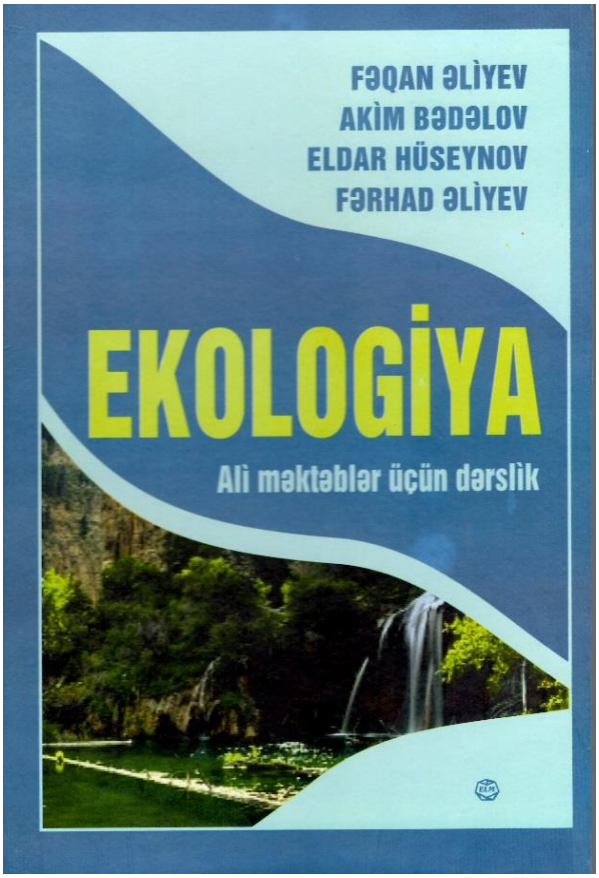
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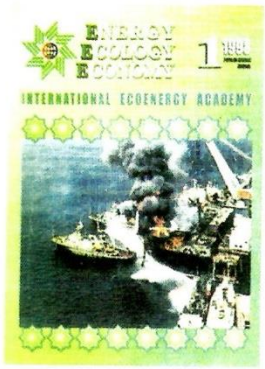
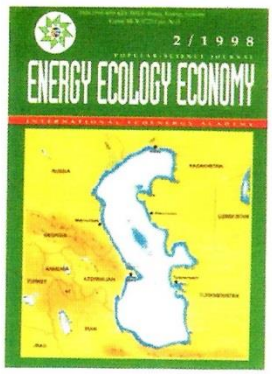
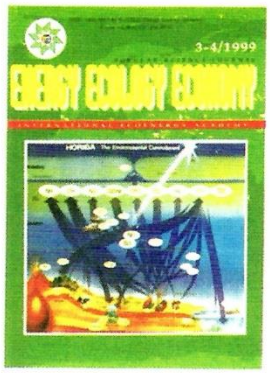
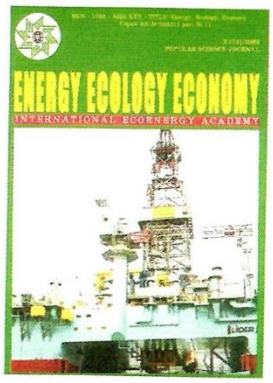
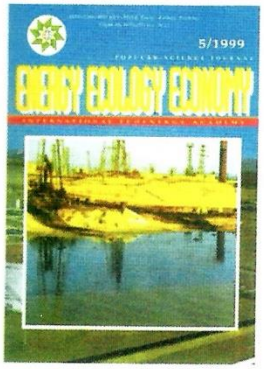
Alİ məktəblər üçün dərslİk

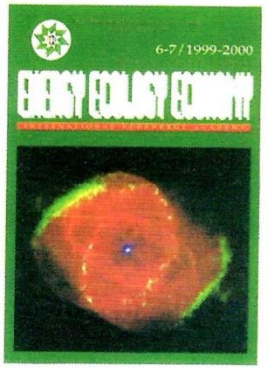


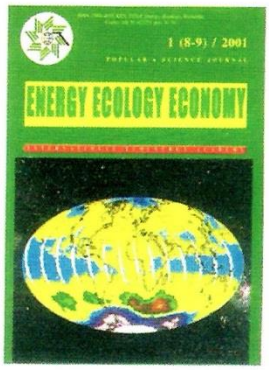


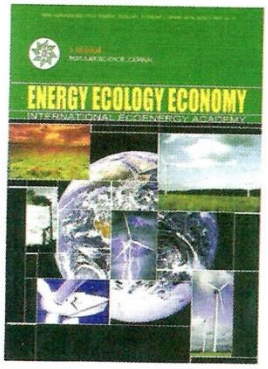


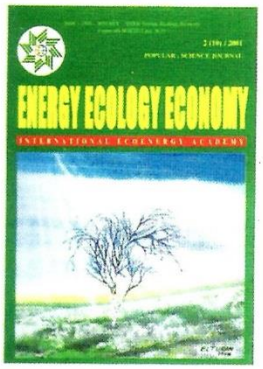


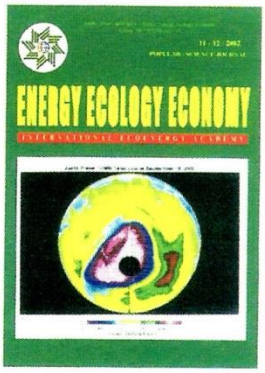


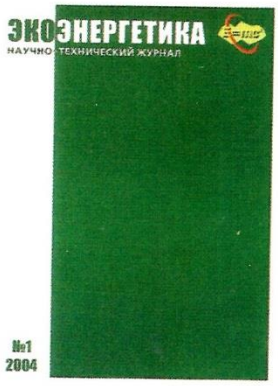


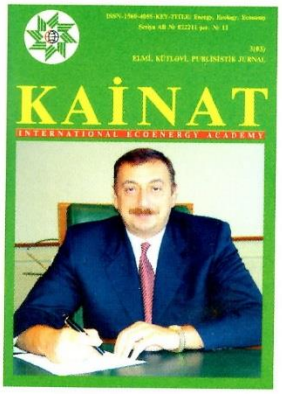


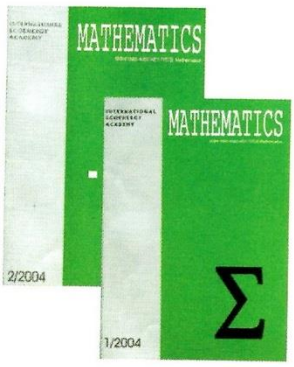


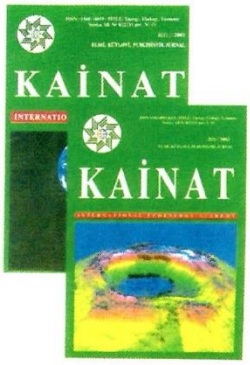


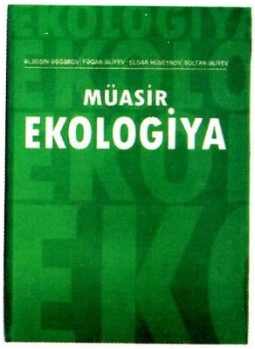










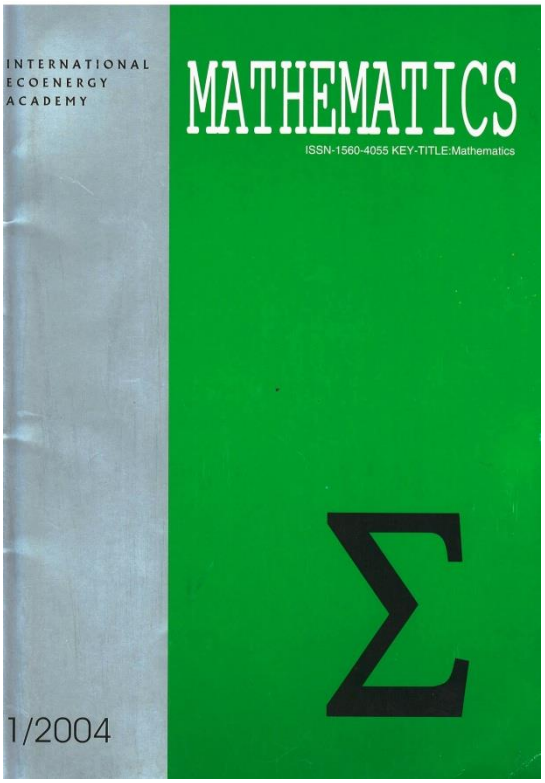


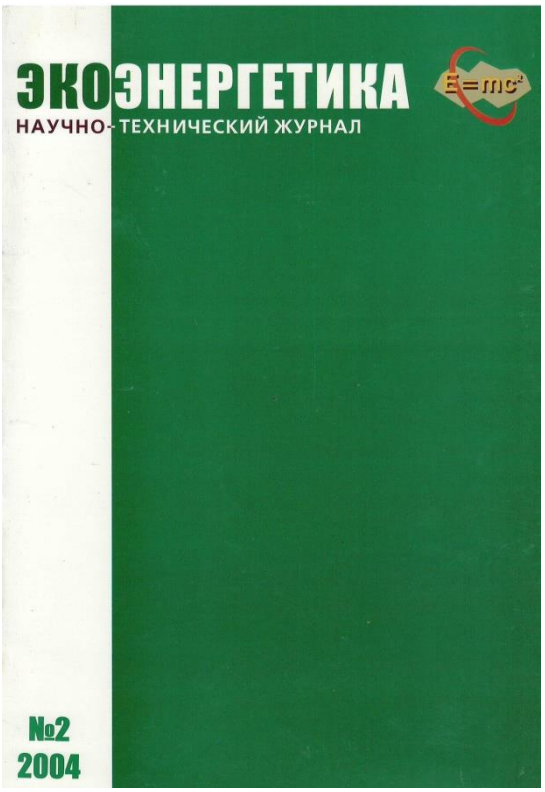
AZERSUN

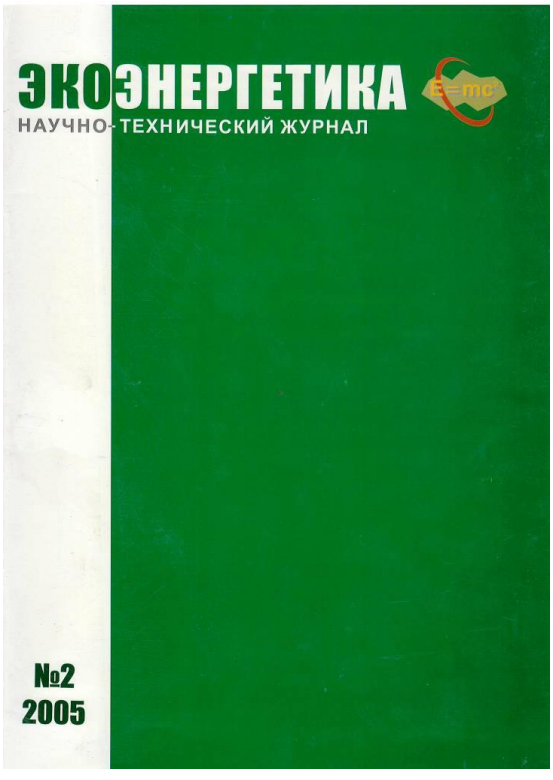
Azersun Holding

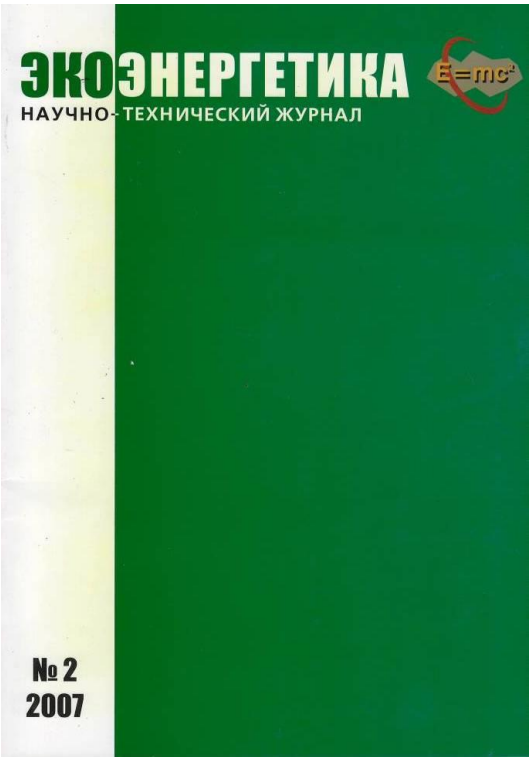
International Ecoenergy Academy

Of scientific-popular journals “Energy, Ecology, Economy”










ЭКО ЭНЕРГЕТИКА
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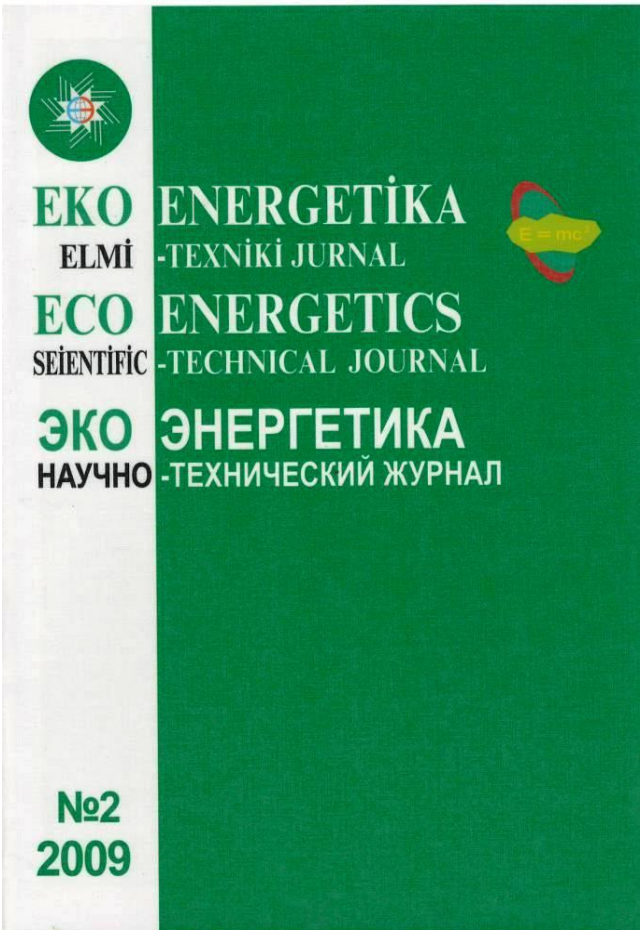
№ 2
2008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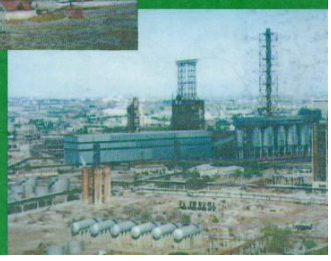

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№3
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№4
2010

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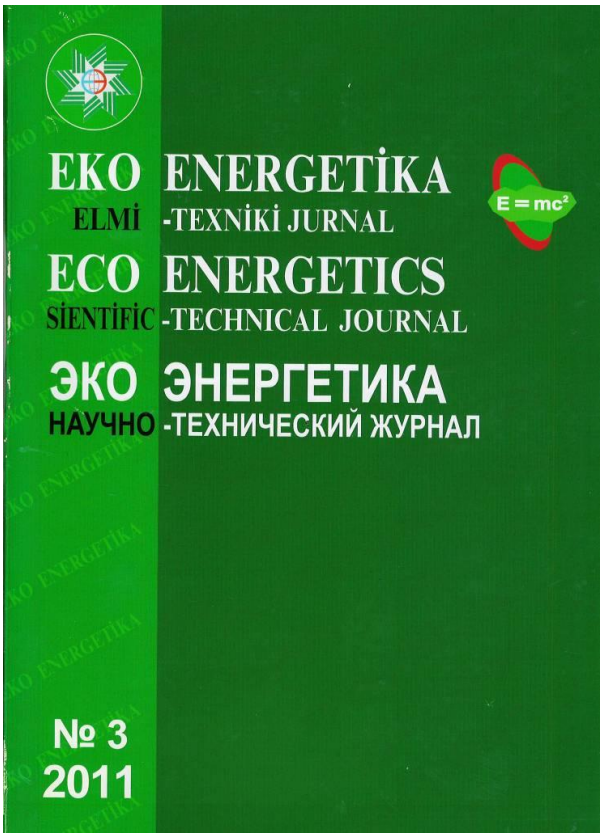
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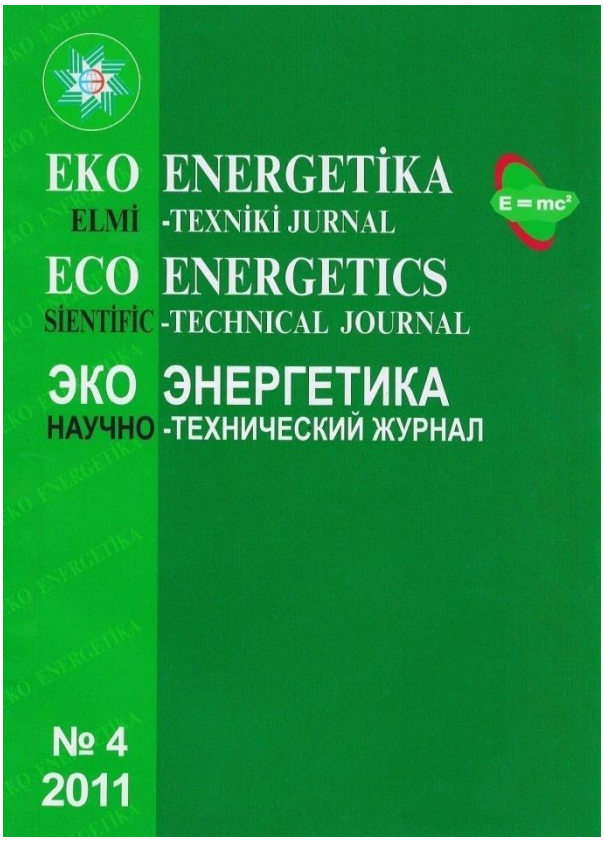
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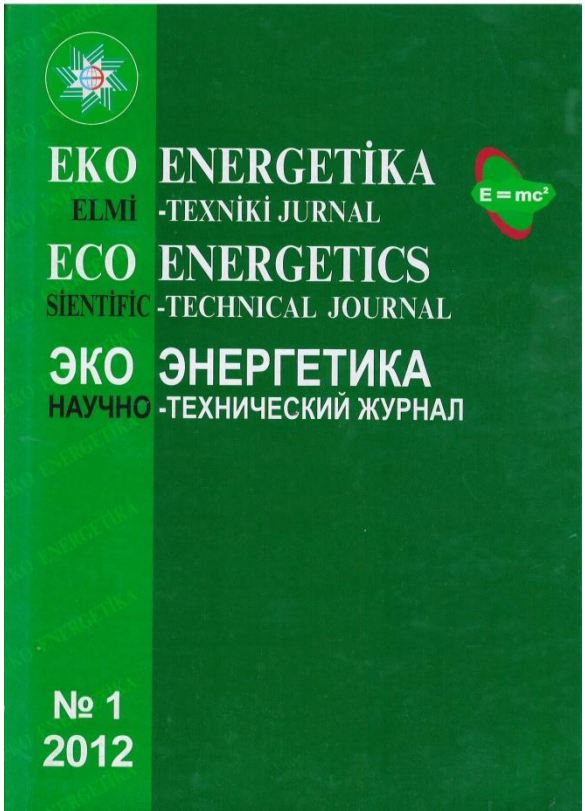
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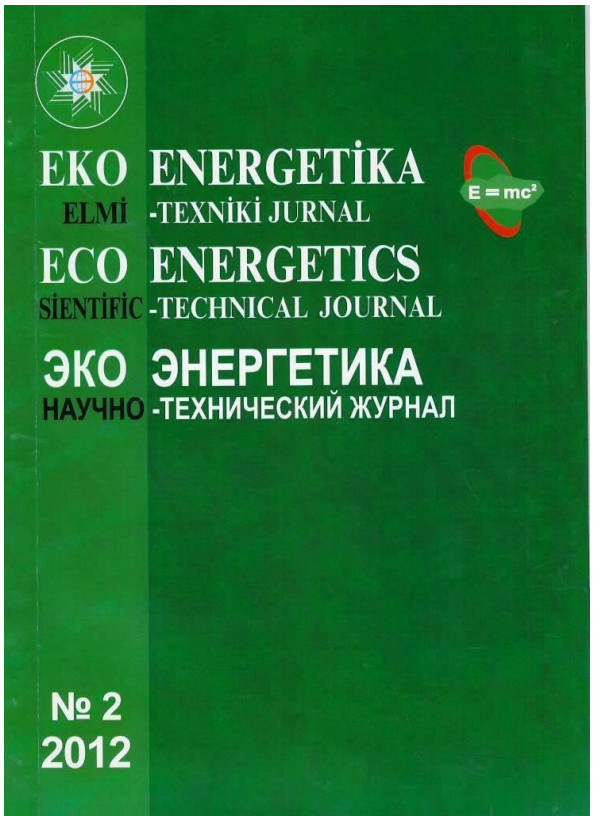
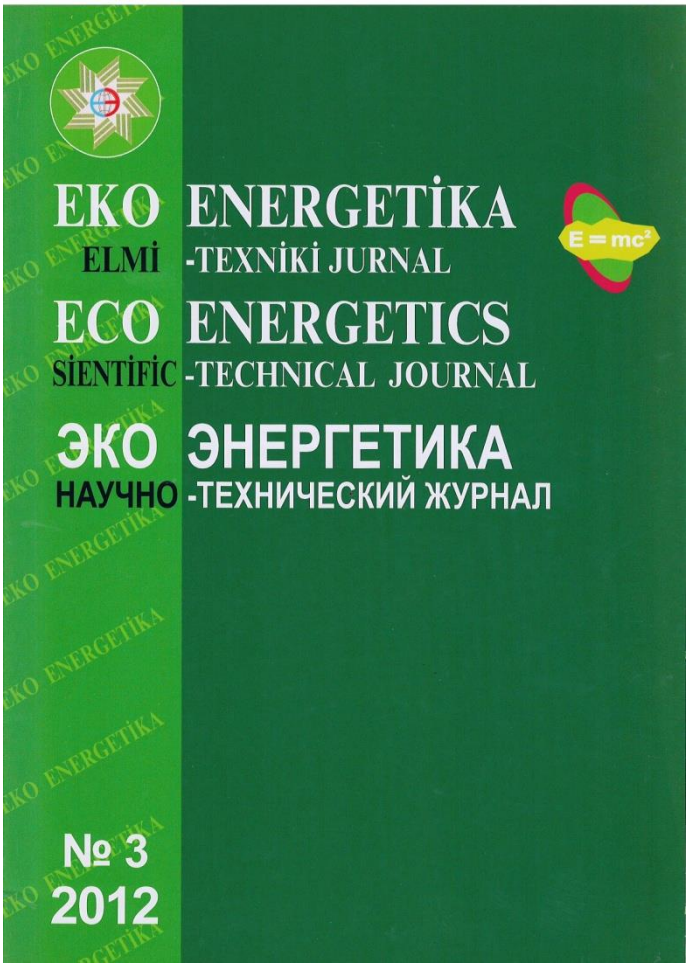

EKO ENERGETİKA
ELMİ -TEXNİKİ JURNAL
ECO ENERGETICS
SİENTİFİC -TECHNICAL JOURNAL
ЭКО ЭНЕРГЕТИКА
НАУЧНО -ТЕХНИЧЕСКИЙ ЖУРНАЛ
E = mc²
№ 2
2012


EKO ENERGETİKA
ELMİ -TEXNİKİ JURNAL
ECO ENERGETICS
SİENTİFİC -TECHNICAL JOURNAL
ЭКО ЭНЕРГЕТИКА
НАУЧНО -ТЕХНИЧЕСКИЙ ЖУРНАЛ
E = mc²
№ 3
2012