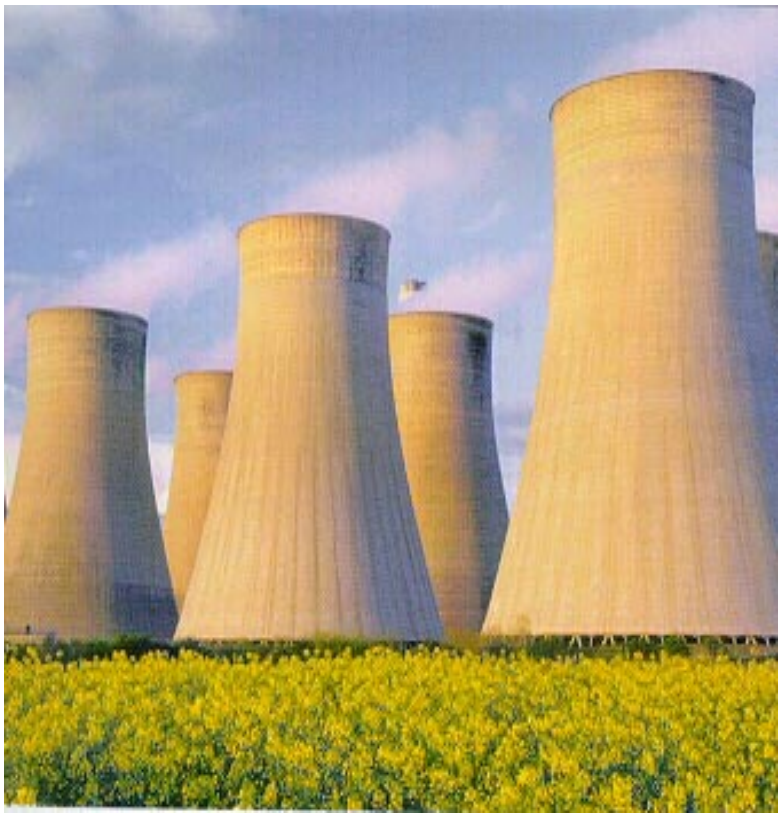

THE ENERGY IN ALBANIA

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THE ENERGY IN ALBANIA

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DIALOGUE GEF - ALBANIA

On July 9th - 11th 2002, in the premises of Congresses' Palace in Tirana, organised by the Ministry of Environment and GEF - UNDP, took place the Seminar "Dialogue GEF - Albania" with the participation of representatives from Albanian Parliament, Council of Ministers, Ministry of Environment and other line Ministries, country academical and scientific institutions, environmental NGOs, international financial institutions functioning in Albania, etc. The Seminar goal was to meet the following objectives:

· To inform a broad auditor of country representatives on the GEF strategy - mission, policy and procedures;

· To ease the communication GEF - country representatives and to share with them information concerning GEF programmes in order to enable the GEF financial support towards national priority projects;

· To give practical information how to identify, prepare and apply activities eligible for GEF financing.

GEF was established on 1991 and has been restructured after the Earth Summit in Rio de Janeiro (1992) to promote the international cooperation and to finance activities related to 4 critical threats of global environment: loss of biological diversity, climate change, degradation of the waters and international waters, and depleting of ozone layer. In the group of problems that could be recently financed by GEF are included also those of land degradation and the new field of Persistent Organic Pollutants (POPs). The

GEF implementing agencies are UNDP, UNEP and WB.

Albania has been cooperating with GEF since 1994. A number of projects are realised related to some of the GEF focal areas: Strategy and National Action Plan for Biodiversity, First National Communication in the framework of Climate Change Convention, Protection of Ohrid Lake, MedWet 3, and besides them is also the Small Grants Programme which aims to support environmental NGOs to develop and apply projects in the respective GEF focal areas.

Regarding the actual plans in cooperation with GEF, Ministry of Environment is working towards two directions:

· To prepare the project-proposal for financial assistance from GEF for the Enabling Activities in the framework of the Stockholm Convention on Persistent Organic pollutants. The first draft of this proposal was launched in the Seminar and aims at the creation of sustainable national capacities to enable Albania to meet its obligations towards POPs Convention.

· To prepare the Ozone National Phase - Out Plan, which will identify all the measures to be taken by the country in order to reach the figure of 0 tons ODS in 2010 from 40 tons ODS, which is the consumption of the base year 1995 - 1997. This Plan should be submitted to the Executive Committee of the Multilateral Fund on September 2002, for getting financial assistance, and since this Plan will identify all the problems and barriers Albania has in report to the meeting of its obligations under the Vienna Convention and Montreal Protocol, the cooperation with GEF will then be considered in order to cover what could be unrealised from the Plan.

Regarding the threat of global environment by climate change, in the Seminar, the Project Office on Climate Change - Ministry of Environment, reported the achievements of Albania for meeting its obligations concerning the Climate Change Convention starting from 1995, the year of Convention's ratification:

· Finalisation of the First National Communication document where are included the GHG Inventory, GHG abatement analysis, Vulnerability Assessment and Adaptation options and the Action Plan as well;
· Building capacities;
· Raising public awareness;
· Regional cooperation;
· Usage of First National Communication's conclusions in function of finalization of National Energy Strategy.

Among the most important conclusions of the GHG abatement analysis, performed for Albania, for the period 1994 - 2020, is the fact that the main GHG abatement potential belongs to Energy - Transport Sector, while in the analysis are also listed the most effective measures to be taken, which are chosen based on the analysis of their cost/unit of CO_2 eqv. reduced:

· Introducing of thermal insulation of households which use fuelwood/LPG/electricity/kerosene for meeting their energy demand for space heating;
· Improvement of power factoring industrial/services consumers;
· Introducing of efficient lighting in the households/services/industry sectors;
· Introducing of efficient industrial boilers;
· Promotion of renewable energy (solar/wind/small HPPs/) and energy integrated schemes as well;
· Increasing of energy efficiency in the industry/services/households sectors.

Keeping in mind the abovementioned GHG abatement measures proposed even in the Action Plan of the First National Communication, and thinking on their application possibilities, the Seminar was very useful, since in its non-plenary sessions was presented the full picture concerning the possibilities to apply for GEF technical/financial support for projects in the energy-transport sectors (each of the measures above could be a proposal for application) which correspond to one of the 4 GEF Operational Programmes under the focal area of Climate Change:

· The first operational program "Removal of barriers to Energy Efficiency and Energy Conservation" is concentrated to the assessment of the scope for energy conservation and energy efficiency improvement, estimation of the contribution of such projects to GHG emissions reduction, identification of all barriers to those energy conservation investments taking place and proposal of specific measures to remove permanently all identified barriers. Examples of such projects are building capacities of the institutions involved with energy efficiency matters in the country, improvement of the building materials standards/energy building code, ESCOs establishment, pilot demonstration projects in the field of energy efficiency improvement/energy conservation, etc.

· The second operational program "Promoting the Adoption of Renewable Energy by Removing Barriers and Reducing Implementation Costs" has the objective to remove the barriers to the use of commercial or near-commercial renewable energy technologies. The projects of such category include the usage of solar panels for hot water preparation/space heating, usage of photovoltaic cells for electricity generation, usage of biomass/solid wastes for energy purposes, methane gas production from landfills technologies, usage of wind power, usage of small HPPs for electricity generation, usage of geothermal energy, etc.

· The third operational program "Reducing the Long-Term Costs of Low Greenhouse Gas - Emitting Energy Technologies" has the objective to accelerate technological development and increase the market share of low gas-emitting technologies that have not yet become commercial least-cost alternatives, but which show promise of becoming so in the future. The projects of such category include photovoltaics for grid-connected bulk power and distributed power, advanced biomass power through biomass gasification and gas turbines, solar thermal-electric technologies in high insolation regions, wind power for large scale grid connected applications, etc.

· The forth operational program "Promoting Environmentally Sustainable Transport" aims at the reduction of GHG emissions from ground transport sources through the promotion of non-motorised transport, fuel cell or battery operated 2 & 3 wheelers, advanced biomass to liquid fuels conversion technologies, etc.

The Guidebook UNDP - GEF discussed in the Seminar and also distributed in each of the participants dossier, explains in details everything concerning the modalities a project-proposal should go through, starting with its design, in order to be eli-

gible for GEF funding, bearing in mind that country projects funded by GEF need to focus on preserving the integrity of the global environment -improving environmental conditions and ensuring sustainability at all levels.

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STUDY ON THERMODYNAMICS OF STEAM BOILERS OF BALLSH THERMAL POWER PLANT

In the Ballsh Thermal Power Plant (Ballsh TPP), since its start-up phase in 1974, are installed steam boilers, which work under a pressure of 3 kPa (in the burners) and have following parameters:

- Super-heated steam pressure 39.24 bar (40 ata);
- Super-heated steam temperature 450 °C;
- Boiler capacity 120 t/h;
- Fuel's calorific value 38,100 kJ/kg.

These boilers are the only steam boilers installed in Albania, which work with pressure in the burners while all the other boilers are vacuum boilers. As a result, their utilization for a period over 25 years has built-up a very useful experience in this field. The experience with the utilization of such boilers shows that many problems related to their security of work, better utilization, maintenance, and environmental protection have been faced.

This study is undertaken in order to analyze the possibility of overcoming or reducing the effect of many factors, especially those related to the working conditions with a high sulfur content fuel. The study consists of:

- Thermal calculations of the steam boilers;
- Gas-dynamics calculations of the steam boilers;
- Economic evaluations of the constructive changes in the steam boilers.

The thermal and gas-dynamics calculations are carried out for 4 assumed different working conditions of steam boilers, such as:

1.Working conditions when it is assumed that the pressure in burners has changed from 3 kPa into vacuum, in which the pressure in burners became 50 Pa. Other parameters of the steam boilers like capacity, fuel etc. has remained unchanged.

2.Working conditions when it is assumed that the fuel is heavy fuel oil, which has a higher calorific value of 38,500 kJ/kg.

3.Working conditions when it is assumed that the capacity of the steam boilers has been reduced to 112 t/h. Such working conditions are considered not only the best ones, but also at tainable. The fuel is heavy fuel oil, which it is assumed to have a calorific value of 38,500 kJ/kg.

4.Working conditions when it is assumed that the capacity of steam boilers has been again reduced to 90 t/h. The fuel is heavy fuel oil, which has a calorific value of 38,100 kJ/kg.

Changing the working conditions of the steam boilers from pressure in burners into vacuum needs as necessity the replacement of the existing air ventilators and installment of new aspirators as well.

For the 4 different working conditions, after all the necessary calculations are carried out, are defined the main parameters such as:

- Capacity;
- Pressure;
- Number of rotations;
- Power.

From the 4 working conditions taken into consideration, the fourth one represent the most appropriate conditions for the steam boilers because:

- Steam productivity meets the demand of the thermal consumers.
- It isn't necessary the replacement of the existing air ventilators. Only the rotation number of the existing air ventilators has to be reduce, which will result in the reduction of the electricity consumed by them.
- The steam can be used also for the production of electricity.

As a result, for the fourth working conditions of the steam boilers, the calculations are carried out also by considering the possibility of replacement of the air pre-heater. Such replacement will help the steam boilers to have a longer life span.

Above all, the undertaken study has served as a good start for analyzing also the possibilities for a combined heat and power production, which will bring an improvement in the efficiency of the energy sources utilization.

Prof. Hysen AGOLLI
Chairmen
Albanian Thermodynamic Association

SITUATION IN OIL INDUSTRY AND REFORM UNDERTAKEN

Recent organization of Albanian oil and gas industry

Oil and gas industry, as one of the main branches of Albanian economy, during the last 10 years has been organized under

free market economy conditions. Efforts for restructuring this industry began since 1992 by the creation of Oil Enterprise "Albpetrol" Sh.A. and were finalized in 1998 with the full restructuring.

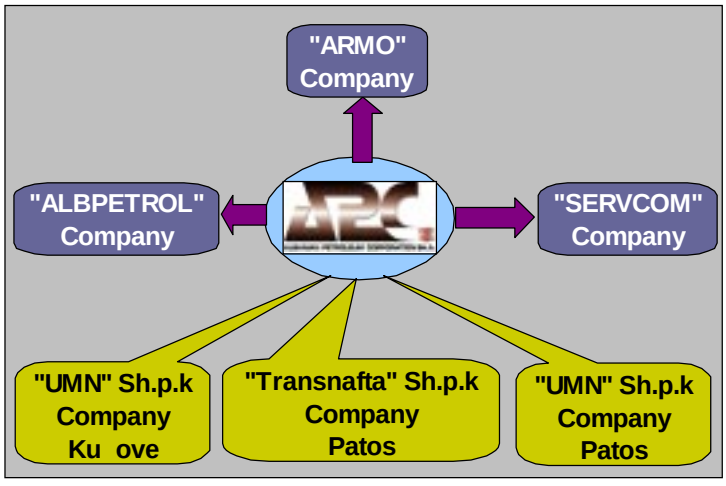
By entering of Albanian economy in the transition period toward a market economy, the hydrocarbon sector was also differently positioned. Since 1993 the Albanian Government has fully liberalized the trade of oil products from public sector, through gradual removal of any protective measures for internal production. In this way were created possibilities of operation of private sector in this field, which actually fulfills around 70 % of needs for oil products against 30 % form public sector.

During the last years, there have been great changes in the organizational structures of public oil and gas sector. Since the beginning of transformations was evidenced a discrepancy between the needs for investment in the sector and the limited sources of finance.

Actually the public sector of oil and gas is organized as a Group of Companies of "ALBANIAN PETROLEUM CORPORATION" (APC) Sh.A., created in by Government Decree Nr. 756 date 26.11.1998, "On restructuring of former company ALBPETROL Sh.A.". According to this decree it is created the mother company "APC" Sh.A with a controlling function and three operational companies "Albpetrol" Sh.A., "ARMO" Sh.A., dhe "Servcom" Sh.A.

The Government Decree was deemed necessary after a full analysis of sector situation, in conformity with Albanian privatization strategy, approved by the Albanian Parliament on March 1998. This operational structure has had the approval of foreign experts of the Ministry of Public Economy and Privatization of that period and has been discussed in meetings of Economic Politics Committee.

The organisation structure of the group of companies of "APC" Sh.A. is shown below. The group of companies of "APC" Sh.A. is formed and operates according to known rules of commercial companies. "APC" Sh.A. which is the owner of 100 % of shares of three other described companies, performs a management, coordination and control role while the other compa-



Organisation Structure of the Group of Companies of "APC" Sh.A.

nies perform operational activities, pure commercial and are controlled companies.

The activity of the Group is performed in:

- Exploration and production of oil and gas from the existing fields and in four other blocks, through "Albpetrol" Sh.A. in Patos.
- Refining process in the Refinery Plants of Ballsh and Fier and trade of oil and gas products in the distribution system, through "ARMO" Sh.A. in Fier.
- Supporting services for well drilling, geophysical activities and other services, through "Servcom" Sh.A. in Fier.
- Supporting services for mechanical and transport activi ties, through Mechanical Plant in Kucova, Mechanical Plant in Patos and TRANSNAFTA company in Patos.

The controlled companies operates as independent from each other but as a group, there is a mechanism of coordination of activities, which is defined and approved by the Ministry of Economy and managed by APC" Sh.A. The independence of operational companies is relative because of the need of coordination between them, their services and unique product.

Historic view and need for transformations

1.Main problems 1992-1997

The transformation into a commercial company in 1996, without undertaking any organizational, financial and human resource restructuring, was only a legal step that does not changed the concept and the way of operation of former company "Albpetrol" Sh.A.

Apart the stretch of market spaces, public companies during the period 1992-1997 have faced many other interrelated problems:

- The decline of oil production from 584 thousand tons in 1992 to 360 thousand tons in 1997.
- The decline of gas production of about 25 times.
- The decrease of investments from around 2 billion leks in 1992 to around 350 million leks in 1997. This was more evident in non-productive segment.
- Physical deterioration of the equipment and technology in production, refineries and distribution infrastructure.
- Corruptive and other abusive actions.
- Exes of work force with extension in all the territory of the country.
- Low level liquidities and lack of payment capability for: salaries, credit obligations to state budget and social insurances (the debt toward these last two was 2 billion leks).
- Damages, demolitions, thefts during the unrest in 1997 that almost blocked the activity of the company.
- Negative financial result: **- 315** million leks in 1997 and **- 380** million leks in 1998.

(.....continued on next issue.....)

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