

PA AID 702  
975.61

**ASSESSMENT OF TRAINING NEEDS IN THE OIL & GAS  
SECTOR OF GEORGIA**

**NIS INSTITUTIONAL BASED SERVICES ENERGY  
EFFICIENCY AND MARKET REFORM PROJECT  
CONTRACT NO CCN-Q-00-93-00152-00**

**GEORGIA OIL & GAS SECTOR REFORM PROGRAM  
DELIVERY ORDER NO 16**

*Prepared for*

United States Agency for International Development  
AID/ENI/EUR/DR/EI  
Ronald Reagan Building  
Room 5 10-072  
1300 Pennsylvania Avenue, N W  
Washington, DC 20004-3002

*Prepared by*

Hagler Bailly  
1530 Wilson Boulevard  
Suite 400  
Arlington, VA 22209-2406  
(703) 351-0300

August 1998

---

## TABLE OF CONTENTS

### Executive Summary

### Chapter 1 Organization of Oil & Gas Sector

1 1	Ministry of Fuel and Energy	1-1
1 2	State Enterprises	1-2
1 3	The Role of Private Sector	1-5

### Chapter 2 Study Approach

2 1	Interviewing Oil & Gas Sector Enterprises	2-1
2 1 1	The Georgian International Oil Company	2-3
2 1 2	Saknavtobi	2-4
2 1 3	Saktrangazmretsvi	2-4
2 1 4	Saknavtoproducti	2-4
2 1 5	Saqtkevadgazi	2-5
2 1 6	The Georgian International Gas Company	2-5
2 1 7	Others	2-6
2 2	Other Donor Agencies	2-7
2 3	Lessons Learned From Previously Conducted Workshops	2-8

### Chapter 3 Areas of Training Needs and Proposed Solutions

3 1	Policy and Strategy to Solve Georgia's Energy Crisis	3-1
3 2	General Management and Commercialization	3-2
3 3	Management Information Systems	3-4
3 4	Synergy Between Training and Other Strategies to Bring About Reforms	3-5

### Appendices

A	Requests for Training Needs
B	A Proposed Workshop on Strategic Planning

---

## EXECUTIVE SUMMARY

### ES 1 TASK OBJECTIVE-TRAINING/STUDY TOURS IN INTERNATIONAL OIL & GAS PRACTICES

The objective of this sub-task is to improve the knowledge base of government and enterprise officials and thereby support the reform of the oil and gas sector in Georgia. Particular attention is to be paid to the augmentation of negotiating skills to be employed in the development of international oil and gas pipelines and in the further development of Georgia's of domestic oil and gas resources

In recent years, there has been a rapid transformation of the oil & gas sector which has had both positive and negative results. On the minus side, the State Owned Enterprises (SOEs) like Saknavtobi (E&P), Saknavtoproducti (Oil Products' Distribution), Saqtkhevadgazi (LPG Sales), and Saktransgazmretsvi continue to be administered by the Ministry of Fuel & Energy. On the plus side, many significant operations in the oil & gas sector are either in the private hands (retail sales of gasoline, diesel and LPG) or under corporate ownership (albeit most are 100% owned by the government). Examples of the latter are entities like the Georgian International Oil Company (to collect rent from the Early Oil Pipeline) and the Georgian International Gas Company (created to operate gas pipelines). Some of the infrastructure like oil depots belonging to Saknavtoproducti and assets of some gas distribution companies have been sold to private parties in opaque transactions. Finally, certain management franchises have been awarded such as recently happened in April 1998, when management control over Saktransgazmretsvi was "sold" to a private party (again in less than transparent transaction).

What is most significant, however, is that assets in oil & gas sector owned directly or indirectly by the government earn little or no return. Money is not being invested in modernizing infrastructure, public safety is at risk, and the Georgian economy continues to suffer from an acute energy crisis.

The following report, after describing briefly the deficiencies and weakness of various oil & gas sector enterprises (mostly from the point of view of better utilization of assets), suggests various training programs to improve the knowledge base as well as the management skills of those involved in the Georgian oil & gas sector.

## ES.2 CONCLUSIONS

The government is fully aware of the energy crisis and the need to reform the oil & gas sector, however, some of the steps taken by the government in terms of “privatization” are neither transparent nor rational. The policy behind some of the reforms is not based on sound strategic planning. Some illustrative examples are the recent “sale” of Saktransgazmretsvi and the sale of some of the gas distribution companies.

Managers in charge of many of the enterprises or companies are neither aware of the nature and value of the assets they are managing, nor are they familiar with the need to earn a minimum rate of return on those assets. Not many SOEs have departments like Economics and Planning, Management Information Systems, Finance, or Human Resources Development, which are needed by any commercial organization to earn a return on assets. Even in the rare case that an SOE has these departments, they are more involved with routine administrative functions rather than management tasks.

In every enterprise we interviewed there was a superabundance of administration generating very detailed reports, but there was little management of these enterprises. There are no meaningful management reports which can assist the management to improve earnings. For that matter, managers are wholly unfamiliar with simple concepts such as the definition of an asset, the rate of return, profit, project evaluation, depreciation, etc. Managerial economics or modern management tools like capital budgeting, setting profit objectives, conducting strategic planning or having an employee appraisal system are totally alien concepts.

The Georgian oil & gas sector labored under the old Soviet centralized planning system for a very long time. This old system had only one goal – achievement of target production levels. The shift from this old system to a market oriented system will require a cultural revolution. Both the older and the younger generation must orient their thinking to accept western-styled economic concepts and business practices. What is ironic is that many managers argue that they know everything that is to be known about management and planning and insist that what they lack is money.

Hagler Bailly, under the aegis of USAID, has so far conducted three workshops for oil & gas sector personnel. They are

- 1) International Oil & Gas Contracts,
- 2) Oil & Gas Accounting,
- 3) International Petroleum Economics

All of these were well attended. Nonetheless, our initial survey has indicated that they did not have the desired results. They did not reach the target audience. On-off lecture seminars without case study discussion and follow-up fail to make an impact.

Ironically, all the oil & gas sector organizations we contacted except GIOC have expressed their desire for more training. Our repeated requests to GIOC for information on their training needs have been unanswered. This is surprising considering the fact that GIOC has and continues to receive substantial grants and technical assistance from many donor agencies.

### ES.3 RECOMMENDATIONS

- I Besides giving training in the already chosen oil & gas specific subjects (Pipeline Transport Economics, International Contract Negotiation Skills, Environmental Impact Assessment, Legal Principles of Trans-country Pipeline Construction and Operation, Principles of Oil & Gas Accounting, General Accounting and Operations, Project Financing, Oil & Gas Marketing), we need to consider subjects like general management principles and managerial economics.
- II We should consider developing one-week courses on general management including managerial economics stressing the importance of earning a minimum return on assets employed. This course should be taught to all the top level executives both in the state enterprises and in the governmental departments working in the oil and gas sector.
- III We should write a short manual (less than 50 pages) on general management principles and include basic concepts of managerial economics. This manual could be used in a one-day short course on general management theory and presented to every employee in the oil and gas sector. The objective would be to teach the new “mantra” of improving return on assets employed in the new market based economy.
- IV While implementing the above two steps, we may implicitly or explicitly follow the model Edward Deming used so successfully to implant the idea of quality control to help develop the war devastated Japanese economy. In the case of Georgian economy the new “mantra” to be propagated is the need to earn a minimum return on assets employed using modern management.
- V In addition to classroom-type seminars, on the job training in the areas of accounting, financial planning, employee appraisal etc., should be offered.
- VI We can consider training 10 to 15 young executives with high potential both in the area of general management and oil & gas specific strategic planning in two to three weeks of intensive programs either in the USA or in a place outside Tbilisi.
- VII Workshops on energy planning and management information systems should be conducted for the Ministry of Fuel & Energy and also for the advisers to the parliamentary sub-committees on energy.

VIII Product quality standards, environmental standards, and development of Management Information Systems (MIS) to capture energy statistics are very specialized subjects. In lieu of seminars on these subjects, a better course of action is to send select individuals, one or two specialists for each subject, to the United States for more intensive training at universities, government institutions, or oil companies for an extended stay of three to four weeks.

---

# CHAPTER 1

## ORGANIZATION OF OIL & GAS SECTOR

### 1.1 MINISTRY OF FUEL AND ENERGY

The Ministry of Fuel and Energy (MOFE) was established in June 1996. It is responsible for the State's energy policy and strategy. The MOFE is also responsible for the establishment of priorities for the development of the oil and gas sector, including investment policy and implementation of energy conservation programs throughout the economy.

The MOFE's other duties include management of oil & gas sector reforms, elaboration and implementation of personnel (HRD) policy, development of the legal and regulatory framework for the sector, monitoring the sector's financial and technical condition, planning and coordinating technical assistance, and determining state policy for handling emergency energy situations.

The MOFE was established based upon TACIS recommendations. But the actual organization of the Ministry deviated significantly from TACIS recommendations. At present the Ministry has hardly any one who has expertise in oil & gas sector. It faces many challenges in this transition period of moving from centralized state control to a market based economy. There are inherent conflicts between the Ministry's role as an energy policy maker and regulator and its position as an owner and operator of oil and gas properties. These conflicts have given rise to a poor utilization of assets, opaque command and control management, profiteering by private parties, "leakage" of customs and excise duties, and generally inefficient operations across the sector. The energy crisis, which may have been inevitable after independence and the subsequent civil war, has been exacerbated by the lack of a coordinated strategy to achieve badly needed reforms in this sector.

An example of the foregoing is the fact that there are more than twenty five gas distribution companies in Georgia but only five have been privatized (to one company, the same company, it should be noted, that was awarded the management franchise over the gas transmission company),<sup>1</sup> and that was done under opaque conditions. These companies are local monopolies,

---

<sup>1</sup> In April 1998 Saktransgazmretsvi, the state owned natural gas transmission company was suddenly 'sold' to a private party again under less than transparent conditions. What was the compelling reason for 'selling' this organization which has to operate and maintain the gas pipelines owned by GIGC which in reality, is owned and controlled by the state?

yet there is no regulatory structure in place to control their operations. Currently these distribution companies have no supplies of natural gas, therefore, the lack of a regulatory authority has not presented any problem. Presumably, this dearth of gas supply is only temporary. When this situation is reversed, governmental regulation of natural gas distribution monopolies will be necessary as a guard against abuse.

Another example of loss of control is the fact that various individuals are "transporting" gasoline and diesel into the country without paying the requisite customs and excise duties. Such "imports" result in huge revenue losses to the state treasury. This situation should not be allowed to continue. The government must "plug" these revenue "leaks." A necessary first step in this effort is the installation of an efficient information system capable of capturing meaningful statistics on imports, exports and consumption of petroleum products.

As we see it, the Ministry's efforts to reform the oil and gas sector are handicapped by several factors. Among them are an inexperienced and poorly paid staff, an administration lacking basic management skills, and the shortness of the Ministry's own existence. The combination of low wages, opportunities for corruption, and the inability or refusal of management to detect and punish offenders results in opaque decision making. Staff training, alone, will not correct this situation. However, when coupled with other measures, training is a useful tool to achieve rational reform in the sector.

## 1.2 STATE ENTERPRISES

Saknavtobi is the de facto national oil company of Georgia having the responsibility to carry out the exploration and production functions in the country. It reports to the Ministry of Fuels and Energy. Saknavtobi has functioned in various forms since 1930. Its current incarnation was established on January 17, 1996, pursuant to Decree No. 124. The company's goals and objectives include:

1. Definition and execution of oil and gas industry development programs,
2. Satisfaction of the country's demand for oil, oil products, natural gas, and oil imports,
3. Production, transportation, refining, and sales of oil through its structural units.

The organizational structure of Saknavtobi is as follows:

1. "Oil Constructions" Ltd, providing construction and installation of facilities,
2. "Oil and Gas Exploration" Ltd, providing exploration works,
3. "Oil Service" Ltd, providing oil related service in the country,
4. Department of oil and gas mining,
5. Commercial center for oil and gas sales,
6. Georgian-foreign investor joint ventures.

While Saknavtobı had 7,538 employees in 1993, it currently employs less than 20% of that number while overseeing an annual production of about 100,000 tons per annum all produced by non-affiliated operators. Though there have been plans for corporatizing this SOE and then transferring it to the supervision of the Ministry of State Property Management, nothing has happened so far <sup>2</sup>

Saknavtoproductı is a state owned enterprise charged with the responsibility for wholesaling and retailing petroleum products like gasoline, diesel, mazut (fuel oils) etc. It was established on June 11, 1995, pursuant to Presidential Decree 288. The company was established during the transitional period of the Georgian economy in order to exercise State economy policy on oil product distribution and to create State reserves of oil products. However, in recent years, private parties have taken over most of the wholesale and retailing business (more than 95%). Saknavtoproductı has been left with the operations of yet to be privatized depots. Since it is "unable" to collect proper charges from the private parties for services rendered, Saknavtoproductı has been unable to maintain those depots in safe conditions thereby threatening the environment <sup>3</sup>. The company also controls the main oil product pipelines from the seaports of Georgia to the internal territories of the country and abroad. The main oil product pipeline has a diameter 530 mm and a length of 232 km. At present the company is negotiating with Chevron to convert this pipeline to move crude oil from Khashuri to Batumi.

---

<sup>2</sup> Saknavtobı is a joint venture partner in production sharing contracts signed with various transnational oil companies like Frontera, JKX, Ramco etc.

<sup>3</sup> Recently the government has announced plans to privatize some of these depots. It is possible that when the government disposes all the depots there may be no rationale for the government to continue with this SOE.

Saqtkevadgazi was established in April 1995, as a joint stock company reporting to the MOFE. It has the responsibility of importing LPG, bottling it and selling it in the retail market. Saqtkevadgazi employs about 450 and has LPG sales of about 40,000 tons per annum. In 1990, when consumers could use natural gas, LPG sales were about 90,000 tons. Today with very little availability of natural gas, required LPG for cooking is about 180,000 tons. There are private parties who also import LPG and bottle it directly from the trucks in very unsafe conditions. It is highly unlikely that such private parties will meet the deficit of 140,000 between the supply by the state LPG company and demand. There is plenty of spare capacity for bottling at the state owned plants. However when we interviewed the Director General of Saqtkevadgazi, he told us that he was not going to help the private parties to compete against him <sup>4</sup>

Until recently, the state owned enterprise, Saktransgazmretsvi, operated the country's main natural gas pipeline system and the distribution system, complete with secondary pipelines (the assets themselves are owned by the state). This company was established by the Ministry of Fuels and Energy by Decree No 48, on November 11, 1996, and is a legal successor to the former department "Sakgas" and of the Joint Stock Company "Transgas". Time was when forty-six Georgian cities and two hundred thirty rural villages throughout the country consumed natural gas through a pipeline network which exceeded 10,000 km in length. This network included a 2,300 km trunk line, thousands of gas distribution stations, related equipment, and electrochemical and protective stations. It also supplied gas to large industrial consumers, including the power generating station located at Gardabani.

By Presidential decree, dated April 20, 1997, the main pipeline system was transferred to a newly formed joint stock company known as the Georgian International Gas Company ("GIGC"). GIGC was also given the authority to represent the State in all natural gas related negotiations and agreements with third countries. At present GIGC is negotiating with Gazprom and Enron concerning natural gas pipeline related issues to transport gas to Turkey. GIGC has only 15 employees on its payroll. In April 1998, the government "sold" Saktransgazmretsvi to Intergas a subsidiary of Interpak a move considered as "irrational" by the President of GIGC. Thus, GIGC, though having the right to negotiate with any other party to operate and maintain its pipeline (the main transmission line), in reality has now to negotiate the maintenance contract with Interpak <sup>5</sup>

---

<sup>4</sup> The cost of one bottle of LPG with 10 Kg is about 3.5 to 4.0 Lari and Saqtkevadgazi sells them to retailers at 4.5 Lari who in turn sell them to consumers at 7 to 9 Lari. Thus there is a hefty margin in the retail business. Should not the competition drive down the price especially with private wholesalers bottling LPG too?

<sup>5</sup> Natural gas consumption in Georgia which was 6.1 billion cubic meter in 1989 has fallen to a low level of one billion cubic meter today mostly due to the inability on the part of the government to pay for the imports at international price and then recover it from the consumers. Very conservatively at least \$100 million investment is required to rehabilitate the pipeline system. It is in very bad condition due to lack of proper maintenance.

In addition to the state owned enterprises mentioned above, there is one more corporation owned by the government the Georgian International Oil Company (GIOG) GIOG was established by Presidential Decrees N477 and N178 dated November 11, 1995 and February 18, 1996 respectively and chartered as a joint stock company The purpose of the company is to engage in the transport of "Early Oil" from the Caspian Sea through Georgia as part of a broader development of Caspian Sea oil by AIOC Thus GIOG was formed specifically to negotiate the transportation of Early Oil with AIOC and was organized solely as a rent collector, though it has consistently overstated its role, maintaining that it is the operator of the Early Oil Pipeline, or that it owns the Early oil pipeline (The Pipeline is owned by the Government and operated by GPC, an AIOC affiliate) Nonetheless, GIOG will play a big role in negotiating contract terms for the Main Export Pipeline Many donor agencies had been helping GIOG with liberal grants and technical assistance It was supposed to be the "showpiece" in Georgia with full transparency, a modern management system and public accountability However until an audit by an internationally reputed accounting firm is conducted, question marks regarding the operations of GIOG remain

### **1 3 THE ROLE OF PRIVATE SECTOR**

Whether or not it is a well planned and properly thought out strategy, a significant part of oil & gas sector today is managed by private sector/interests in Georgia (though often masquerading as state officials) Most, if not all the exploration investment in the country is carried out by transnational oil companies At present, five companies have production sharing contracts and five more are in the negotiation stage This has happened despite the fact that estimated probable reserves of crude oil are only 580 million tons according to a Georgian estimate Chevron has independently estimated the reserves to be around only 300 million tons

A significant portion of the wholesale and retail sale of gasoline and diesel are carried out by private parties Soon almost all the oil depots will be in private hands Retail LPG sales are in the hands of private parties though all the bottling plants are owned and operated by the SOE Even here, the private wholesalers have entered this very lucrative market Batumi refinery owned by the state is non-operational and is a liability A small "tea-kettle" refinery, with a capacity to process 2,000 barrels per day (100,000 tons per annum), is being built near Tbilisi It will process local crude, and is owned jointly with the state, though operated by a foreign company

---

## CHAPTER 2

### STUDY APPROACH

#### 2.1 INTERVIEWING OIL & GAS SECTOR ENTERPRISES

In order to assess training needs, the Hagler Bailly consultant met with the top executives of various oil & gas sector enterprises (with the exception of Saknaproducti, whose cooperation was not forthcoming), and also some responsible government officials. In the case of some of the enterprises, some middle level officials were also interviewed. The organizations contacted were Saknavtobi, Saktransgazmretsvi, Saknavtoproducti, Saqtkhevadgazi, the Georgian International Oil Company, the Georgian International Gas Company, the Ministry of Fuel and Energy, the Ministry of Environment and Natural Resources and the Parliamentary Sub-Committee on Energy.

In every case, an in-depth interview was conducted to explore how major decisions regarding investment are taken, how the management keeps itself informed about the financial and operational health of the enterprise, how information flows up and down the organization, how the management tries to make the best use of the assets under its control, and how each organization implements what we have come to recognize as modern management functions (see table 1, on the next page).

Most enterprises were asked to provide a written response indicating the subjects in which they wanted training. To our surprise, GIOC was the only company who failed to communicate their training needs to us in writing. In the case of Saknavtoproducti and Saqtkhevadgazi, we did not make such request. Just arranging interview with the responsible officers itself was difficult in the case of these two organizations.

TRAINING NEEDS ASSESSMENT OF OIL GAS SECTOR IN GEORGIA

	Saknavtobi	Saknavtoporoducti	Saktransgazmretsvi	Saqtkhevadgazi	GIOC	GIGC
<b>Planning</b>						
Capital Budgeting	Required	Required	Required	Required	Required	Required
Profit Objective	Required	Required	Required	Required	Required	Required
Project Evaluation	Required	Required	Required	Required	Required	Required
Long Range Planning	Required	Required	Required	Required	Required	Required
Strategic Planning	Required	Required	Required	Required	Required	Required
<b>Management information system</b>						
Providing Executive reports	Required	Required	Required	Required	Required	Required
Comparing budget vs actual	Required	Required	Required	Required	Required	Required
Competitor information	Required	Required	Required	Required	Required	Required
Industry information	Required	Required	Required	Required	Required	Required
Exception reporting	Required	Required	Required	Required	Required	Required
Historical information	Required	Required	Required	Required	Required	Required
Database management	Required	Required	Required	Required	Required	Required
Customer information	Required	Required	Required	Required	Required	Required
<b>Finance</b>						
Data reporting	Required	Required	Required	Required	Required	Required
Annual reports	Required	Required	Required	Required	Required somewhat	Required
Financial Reporting	Required	Required	Required	Required	Required-somewhat	Required
<b>Accounting</b>						
Accrual Basis	Required	Required	Required	Required	Required	Required
Proper inventory valuation	Required	Required	Required	Required	Required	Required
Credit collection policies	Required	Required	Required	Required	Required	Required
International Standards	Required	Required	Required	Required	Required	Required
Internal Audits	Required	Required	Required	Required	Required	Required
external audits	Required	Required	Required	Required	Required	Required
<b>Treasury</b>						
Management of funds	Required	Required	Required	Required	Required	Required
cash flow forecasts	Required	Required	Required	Required	Required	Required
Use of funds	Required	Required	Required	Required	Required	Required
Risk evaluation	Required	Required	Required	Required	Required	Required
banking arrangement	Required	Required	Required	Required	Required	Required
Exchange control	Required	Required	Required	Required	Required	Required
Working capital management	Required	Required	Required	Required	Required	Required
<b>Human Resources Development</b>						
Selection	Required	Required	Required	Required	Required	Required
Promotion	Required	Required	Required	Required	Required	Required
Training	Required	Required	Required	Required	Required	Required
Performance evaluation	Required	Required	Required	Required	Required	Required
Salary management	Required	Required	Required	Required	Required	Required

Hagler Bailly

### 2 1 1 The Georgian International Oil Company

During an "unofficial" meeting with GIOC, it became apparent as to why GIOC was not responsive to our request. USAID and other donor agencies had played a major role in the formation of GIOC, and had also given substantial technical and financial assistance in the past. Even now GIOC is getting substantial aid through TDA. GIOC informed us of the help they were getting from the World Bank, EU-TACIS and UNDP. They told us that many of their requests to the US Embassy regarding technical assistance were not responded to, however GIOC could give only one example. GIOC had requested help to study the privatization of GIOC and the Embassy did not show any interest. Still GIOC tried to impress that whenever the USAID conducts workshop on pipeline related subjects, they would like to participate. They also mentioned that instead of just seminars, if the USAID can assign some lawyer to GIOC who can be on their premises to give advice, it would be big help. If that is not possible, then they would welcome the opportunity to discuss various legal principles involved in pipeline negotiations with the USAID/Hagler Bailly lawyers. This they viewed as being of great assistance.

During an earlier meeting with Mr. Chanturia, the President of GIOC, he tried to impress upon the Hagler Bailly consultant how GIOC would like to be a model international company with maximum transparency, publishing annual reports, conducting annual internal and external audits, undertaking strategic planning etc. It is true that GIOC has some young and bright employees with training in modern management. In cooperation with international consultants, GIOC is undertaking feasibility studies on the economics of an export refinery in Supsa as well as the viability of an export pipeline from Baku to Ceyhan through Georgia. GIOC is able to secure training in technical aspects of pipeline operations thanks to the assistance of EU-TACIS, whose consultants are already working in the GIOC offices. The World Bank has also provided consultants to give training in pipeline economics and pipeline negotiations, however it should be noted that the World Bank representative in Tbilisi felt that the funding levels may be sufficient only for the near term and the World Bank may not be in a position to continue to provide assistance when the pipeline negotiations start in earnest.

### 2 1 2 Saknavtobi

Mr Tevzadze, the president of Saknavtobi was quite keen to expose his staff to various subjects like management principles, economics, project financing, legal regulation, and computer-based management information systems through seminars and workshops Meetings as well as interaction while conducting workshops with middle level managers at Saknavtobi has further indicated the need to expose management not only to subjects like accounting concepts, the latest advances in exploration and production technologies, and modern project evaluation techniques, but also to more fundamental management principles Discussions with accountants and economists of Saknavtobi very clearly showed the absence of any urgency on the part of the management to improve the company's return on assets It was not possible to get any meaningful information on assets employed, earnings, criteria employed to choose competing projects, etc

### 2 1 3 Saktrangazmretsvi

It was not any different at Saktrangazmretsvi Assets employed in the company, the rate of return earned on those assets, and a need to earn a minimum rate of return were alien concepts The organization's ability to pay its employees (about 750) out of its cash flow was the most significant achievement, considering the shock the Georgian economy has suffered and the fact that the annual gas consumption in Georgia has fallen from 6 1 billion cubic meters in 1989 to less than one billion cubic meters today

What are the long-term costs of the organization? Has it been able to maintain its pipeline in operable conditions through proper and timely maintenance? Has Saktrangazmretsvi explored new projects to improve productivity and increase the utilization of the existing assets? What does it cost to move 1000 cubic meter of gas over a distance of 100 km? How does the company monetize the gas it gets as payment for transporting gas? It was not possible to get meaningful responses to these obvious questions No organization in a free market economy can function for a long time, if it does not know the answer to these questions

### 2 1 4 Saknavtoproducti

It was not easy to get an interview with Saknavtoproducti Finally when we did succeed, it again proved how the statistics on petroleum consumption are not very transparent in Georgia Saknavtoproducti is negotiating with Chevron on rehabilitating its product pipeline between Khasuri and Batumi Though the manager could give a lot of technical details on that project, he could not give any information on the economic viability of the project, nor was he familiar with the techniques used to evaluate such projects

Saknavtoproducti has divested all of its service stations, but recently it has entered into a joint venture with the South Korean company "Hanva Energy" and a Greek company "Eko-Georgia". Was there any strategic need for such an investment? There was no answer. The manager not only had no idea of how to evaluate the economics of a service station investment, he seemed not to "know" much about the activity of the company's competitors. This discussion again proved the need to train managers on managerial economics as well as the need to improve productivity.

### **2.1.5 Saqtkhevadgazi**

The meeting with the Director General of Saqtkhevadgazi has pointed out the need for training in a number of areas. Since Georgia has not been able to import natural gas to meet the cooking requirements of residential consumers, many have been forced to depend upon more expensive LPG. On a very conservative basis, Georgia may need 180,000 tons of LPG per year. However, according to Vakhtang Tsaava, Saqtkhevadgazi imported only 40,000 tons in 1997 and private traders imported 20,000 tons. He could not explain such a big disparity between the potential demand of 180,000 tons and the actual "import" of 60,000 tons.

Private LPG traders who are buying bottled LPG from Saqtkhevadgazi at 4.5 lari per 10kg bottle are able to sell it for 7 to 9 lari and are able to earn a huge profit. He could not explain why they are making such a huge profit. Nor could he explain satisfactorily why his company could not enter such a lucrative market. The bottling plants owned by Saqtkhevadgazi are not used fully and have a huge spare capacity. Though Saqtkhevadgazi can earn money by bottling LPG for private traders, no such efforts are undertaken lest they compete against the state company. Still, the market share of private traders seems to be improving. Many of them are operating from very unsafe facilities and often from the roadside. This shows either the absence of proper regulations to control LPG trade or lax implementation of safety laws by local authorities or both.

### **2.1.6 The Georgian International Gas Company**

Dr. Gotsiridze, the president of GIGC, like his counterpart at GIOC, was very articulate in describing the mission and vision for his young organization, which has just 15 employees. He has been negotiating with Gazprom and Enron to make better use of the main transmission (north to south) pipeline. He is also planning to make better use of existing distribution pipelines. His people with whom we had met had expressed their training needs in the following areas:

- 1) Management, operation, construction and planning of the pipelines,
- 2) Economic evaluation of the pipeline project,
- 3) Project Financing,
- 4) General economic issues,
- 5) Legal aspects of drafting agreements.

They also would like to learn more about international gas markets. As mentioned in other parts of this report, there is considerable doubt about the actual relationship between GIGC and Saktransgazmretsvi. GIGC has told us that as "owners" of the gas pipeline system, they have the monopoly for importing gas into Georgia. Saktransgazmretsvi has contradicted the statement.

## 2.1.7 Others

Mr. Kutelia, of the Ministry of Environmental Protection and Natural Resources, showed interest in making full use of the technical assistance offered by USAID. He also gave some suggestions to get more out of the training programs that we arrange. One such suggestion was to hold the workshop outside the city and for two or three days. His Ministry's areas of interest were:

- 1) Legislation on the sub-soils and the licensing,
- 2) Marketing and general economics,
- 3) Economic appraisal of oil and gas resources,
- 4) Accounting methods concerning oil and gas exploration and cost recovery.

Prof. Teimuraz Gochitashvili, an adviser to the Parliamentary Sub-committee on Energy, needed assistance in the following subjects:

- 1) The possible routes for transportation of Caspian Oil, investment information concerning those routes, and methodology for determining tariff for transit of oil and gas,
- 2) International legal regulations for constructing and operation of export pipelines,
- 3) Guarantees connected with pipeline operations, international experience on sharing of responsibilities in case of environmental disasters and the associated legal liabilities.

Prof. Gochitashvili was planning to invite advisers from other concerned committees to take part in these discussions. He had attended the seminar on International Petroleum Economics given by USAID/Hagler Bailly and had used some of the material from that seminar in a report he was presenting to his committee.

The discussion with one of the directors of Ministry of Fuel and energy was helpful in formulating some of the recommendations embodied in this report. While he first suggested that consumption statistics were state secret, he agreed to give them to us later. Once he came to know the Hagler Bailly consultant better as a result of participating in the seminar conducted by the consultant, he even came forward to correct the official statistics. He readily agreed that it did not make much sense to replace the use of natural gas with LPG, and that the price paid by consumers for LPG was exorbitant. Though he did not like to use the word "mafia" to describe the forces behind such an irrational policy, he was clear in stating that certain vested interests controlled many policies affecting petroleum products. He also stated that there is no well

thought-out energy policy, and agreed that no attempts are made to improve the return on the assets employed in the oil & gas sector

## 2 2 OTHER DONOR AGENCIES

The Hagler Bailly consultant interviewed representatives of other donor agencies such as the British Know How Fund, EU-TACIS, The World Bank, UNDP and EBRD. With the exception of EBRD (it is giving priority to other sectors), all other agencies are taking a keen interest in helping Georgia develop its oil and gas sector. Thanks to the weekly donors' meeting, where different projects to assist the oil & gas sector are discussed, there is a good deal of cooperation and coordination between donors.

British Know How Fund had organized a study in 1997 especially for those involved in the drafting of Georgia's Petroleum Law. It was a big help to USAID as the assistance was rendered at the same time as Hagler Bailly was helping the GOG draft an internationally acceptable PL. In 1996, the BKHF also provided an accountant to GIOC for nine months to assist that company in developing its accounting system, and most recently, the Fund provided a legal consultant (who was supposedly funded by the BKHF but turned out to be funded by JKK) to work on the Petroleum Law (this effort was not coordinated with the other donors).

The World Bank is taking a keen interest in the export pipeline project and has enough funds to help GIOC with its economic evaluation and with legal matters associated with Main Export Pipeline (MEP) planning, at least at the early stages of the process. The World Bank's contractor from Canada is already in Tbilisi helping GIOC. It is worth noting, however, that the World Bank representative felt additional assistance from USAID might still be required during later stages of the MEP negotiation.

Assistance by the UNDP seems to be limited to GIOC, but that assistance has been and will continue to be considerable. The UNDP has provided a resident expert who works from the premises of GIOC, and overall the UNDP has budgeted \$4.2 million to help the company.

The assistance given and yet to be given by EU-TACIS is extensive in scope and has more or less the same objectives as that of USAID. The project objectives of EU-TACIS are "to assist the MOFE in its role to plan and implement energy policy, to develop an adequate legal framework, to specify and facilitate investment and to improve transparency and monitoring of cash flows in the energy sector." In order to achieve the above objectives, EU-TACIS has defined the following tasks:

- **Policy Development and Planning**
  - Review of Policy Framework and Priorities

- Priority Plans for the Electricity Sub-sector
- Priority Plan for the Natural Gas Sub-sector
- Strategy for Energy Efficiency
  
- **Legislative Basis in the Fuel and Energy Sector**
  - Emergency Assistance with the Drafting of a Petroleum Law
  - Regulatory Framework, Structures and Policy Instruments
  - Advice on Energy Legislation
  
- **Attraction of Investments**
  - Identification of Potential Investment Projects
  - Project Analysis and Appraisal of Bankability
  
- **Institution Building in the Ministry of Fuel and Energy**
  - Review of Present Institutional Set-up
  - Institution Building, Ministry of Fuel and Energy
  - Information System
  - Energy Modeling

As can be seen from the above, there are some overlapping areas where both USAID and EU-TACIS are rendering the same assistance. It should be mentioned, however, that EU-TACIS is mindful of this overlap and has recommended a closer cooperation with USAID/Hagler Bailly. It should also be pointed out that this close cooperation between EU-TACIS and USAID was not a chance event but was brought about as a result of deliberate co-ordination.

### **2.3 LESSONS LEARNED FROM PREVIOUSLY CONDUCTED WORKSHOPS**

USAID/Hagler Bailly has conducted three workshops for the oil and gas sector employees on

- 1) International Oil and Gas Contracts
- 2) Oil & Gas Accounting
- 3) International Petroleum Economics

All the seminars were well attended, but we were not satisfied with their impact, and hence we have questioned the effectiveness of giving seminars of the type conducted. We therefore subsequently surveyed the participants in order to arrive at a strategy to improve the program in the future.

We have concluded that conducting the seminars away from the place of employment and even away from the city would help focus the participants on the subject matter. We used to conduct

workshops in the Saknavtobi meeting room. It was not an ideal place, in part because participants used to run to attend to their phones or attend meetings for "a few" minutes.

We also have concluded that it is better to conduct a workshop in two days rather than in four half days. This will reduce the dropout rate. Also, it will be better to have case studies rather than continuous lecturing. That way participants will have a chance to apply their newly acquired knowledge.

We also learned that it is not possible to get the right people just by sending an invitation to the head of an institution. We should use our knowledge of the organization to determine who should attend and then try to gently "influence" management to nominate them. In fact, it would even be better to visit with those prospective participant organizations, explaining to them the purpose of the workshop a few days prior to its commencement in order to motivate the organization to participate in a serious way.

To test these conclusions, we conducted a short, one-day workshop on the Principles of International Petroleum Economics. This workshop was, in fact, a repeat of one which had been taught earlier. The changes introduced were very successful. We were able to get the proper attendees and the dropout rate was low. The participants took an active part during the discussions. Most importantly, we were able to impress upon the participants the need to improve the rate of return on assets employed in the oil and gas sector, and to communicate to them what was needed to accomplish that.

---

## CHAPTER 3

### AREAS OF TRAINING NEEDS AND PROPOSED SOLUTIONS

#### 3.1 POLICY AND STRATEGY TO SOLVE GEORGIA'S ENERGY CRISIS

In 1980, Georgia was largely able to meet its commercial energy consumption of 4.5 million tons of oil equivalent per year from its own resources. Today, with a lower level of energy consumption (estimated to be between 3 to 4 million tons per year), and depleted reserves, Georgia has to import over 90% of its petroleum product and 60% of primary energy requirements.

Georgia was always dependent upon imported gas to meet its overall primary energy requirement, even in 1980. Now, by one estimate, 28% of Georgia's energy is met through firewood which adversely affects its environment. By any standard, Georgia's energy crisis is extremely severe. However, it is not apparent that Georgian decision-makers have adopted a strategy or policy to face this problem.

As demonstrated in this report, a not insignificant portion of the oil and gas sector is already in private hands. But this has been achieved haphazardly and not according to some well thought out plan. It also has been too often done in non-transparent ways which have resulted in the state getting less revenue than warranted for the property disposed.

All over the world and especially in developing countries, vertical integration is the model followed by governments for their national oil companies. While pointing this out, we are not assuming or concluding that it is the optimum way to organize the oil & gas sector activities to achieve maximum efficiency. However, Georgia has gone to the other extreme and has independent state companies to look after exploration and production, marketing, LPG, gas pipeline operations and maintenance, oil pipelines and gas pipelines. Is this the optimum way to organize?

It is commendable that Georgia has started down the road of privatizing its oil and gas sector activities. However, it should be noted that the Government, in a statement made in April of this year, has said that it will not privatize any more energy SOE's. Moreover the strategy the government employed in the past raises a lot of questions. For example, what was the compelling reason for "selling" management control over Saktransgazmretsvi to Interpak? After disposing of most of the service stations, why is Saknavtoproducti still entering into joint ventures for

investing into a non-strategic activity such as service stations? There are many issues like these which show clearly the absence of a well thought out strategy by the MOFE

### **Conclusions**

The MOFE, as a new entity with less expertise, needs intensive training in policy and strategy formulation for the reasons given above. Since EU-TACIS has also recognized these needs, USAID may try to coordinate its assistance with them.

We may also consider inviting certain officers from other concerned ministries such as the Ministry of Environment and Natural Resources, the Ministry of State Property Management, the Ministry of Economics, etc. to these training programs.

Since Georgia does not have many experts in the oil and gas sector with a broad exposure to international petroleum operations, we may expect to contribute significantly to the future development of this sector by training 10 to 15 young Georgians with high potential who are presently working in the oil and gas sector. It would be our objective to get them to think and plan strategically in order to address and solve the problems facing the country. A detailed outline for such a workshop on strategic planning is provided in Appendix II.

## **3.2 GENERAL MANAGEMENT AND COMMERCIALIZATION**

Our attention and efforts to date have been to concentrate on very technical subjects like international contract negotiations, international petroleum economics, oil and gas accounting, environmental impact assessments, legal principles involved in transnational pipeline investment and operations, project financing, etc. Not surprisingly, the vast majority of requests that have been made by various enterprises and government bodies have been also along the same lines. However, our interviews, discussions and earlier seminars point out the need for training in what may be considered as the more mundane area of general management. This need was to some extent brought out in an earlier Hagler Bailly report titled "Assessment of the State of Commercialization in the Oil and Gas Sectors of Georgia."

With every institution that we have visited and every individual that we have talked to on the problems faced by the oil and gas sector, the uniform response has been that if additional money were available or if strategic partners could be found for new investment, "performance" would automatically be improved. Even discounting the fact that the interviewees for the most part had no idea of what "performance" meant (i.e., improving the return on assets employed), investment by transnationals, "soft loans," or funding by donors alone is not going to solve the problems faced by these enterprises. Legal and regulatory reform projects will undoubtedly help to

improve performance somewhat, but by themselves they too will not go nearly far enough to solve the problem

As made clear throughout this report, none of the organizations prepares any information on assets employed or attempts to measure the returns earned on those assets. What is even more troubling is that no need is felt to generate surplus cash to earn a minimum return on the assets employed. Because of the persistence of Soviet era practices in which all the investment and important operating decisions were made centrally and specific assignments were given to each department and individual, there is no initiative or creativity on the part of the individuals to come forward to solve the problems faced by their institutions. It is not that individuals are incapable or disinterested, rather, it is a failure of the overall management system.

We can diagnose this simply as the problem attendant with that of any public sector enterprise, but this is only partially the case. Even if the SOEs are completely freed from government control, they will not be in a position to earn profits for their shareholders. None of these organizations are familiar with ordinary management functions like Planning, Control, Organization, Coordinating, Communications, Employee Appraisal, Employee Motivation, Delegation etc. In the past, when the organization met the production target set by a central body regardless of quality, safety and environmental standards, it was considered performing well. Every decision, every operation, every investment was administered (and that, too, by a distant central body) without taking into consideration the need to earn a minimum return on assets employed. The guiding principle that influenced every action was the overriding need to meet target production at any cost.

But in the changed circumstances of today where the free market is expected to influence investment decisions, the organization has to be responsive to its various stakeholders such as employees, shareholders, consumers, NGOs, civil servants, political leaders, etc. This simple truth is not, in the main, recognized. Even when it is recognized, the knowledge of how to go about becoming responsive to stakeholders is absent.

Many of these enterprises have departments such as Economics and Planning or Accounting. But none of them are in a position to help management by performing the real functions including strategic planning, the preparation of annual profit objectives, project evaluation, the collection of information on markets or competitors, etc. The personnel department, where one exists, is not familiar with the concepts of employee appraisal, promotion and succession planning, salary administration, etc.

It is not necessary that these state enterprises immediately adapt all of the modern management practices of a well run transnational company. However, there is a definite need to change over from the current centralized administration to a more decentralized management system with a greater involvement of people from all levels within the organization in the decision making process.

In the United States there was justified criticism of the blind application of Theory Z, which worked in Japanese companies but had different results in the alternate climates of U S and European companies We should be just as wary of employing U S managerial strategies in Georgia, where realities are such that many organizations cannot even pay employees subsistence level wages

### **Recommendations**

Based on the above analysis, it is recommended that an intensive five day course on general management and managerial economics be given to all the top level executives both in the state enterprises and in their associated government departments As a part of this workshop, a manual with Georgian examples and case studies should be developed to be more effective

Two points to be stressed in these workshops are

- 1 Organizations in the oil and gas sector should change from centralized soviet type administration to decentralized modern management system
- 2 Organizations should earn a minimum return on the assets employed to satisfy the needs of all the stakeholders

In addition, a one-day short course is also recommended for all the employees in the oil and gas sector on general management theory, with the objective of teaching the necessity of improving returns on assets employed A short book of no more than 50 pages should be developed and then distributed during or prior to the workshop

### **3 3 MANAGEMENT INFORMATION SYSTEMS**

Throughout this report, the need for better data has been repeatedly stressed Data may deal with statistics on energy consumption and production, the importation of petroleum products or they may deal with financial information for the various state enterprises Import statistics can help the state to plug the leakage in customs and excise duties They will also be of great help in energy planning

The kind of reporting and information required for a state enterprise is vastly different today than it was in the past However, this is still not recognized by many state enterprises EU-TACIS has donated many computers, especially to the MOFE and GIOC For the most part, these are not used for their intended purposes Productive use can be improved significantly if training can be provided and modern management information systems introduced

As far as training the MOFE in MIS, EU-TACIS has already planned some workshops Therefore, USAID need not plan any new training courses EU-TACIS has also recognized the

importance of collecting information on petroleum product import statistics and the energy supply/demand balance

However, donor agencies have no plans to offer any assistance to help the state enterprises to develop their MIS. It is here that the USAID can plan to offer training which will have far reaching impact

### **3.4 SYNERGY BETWEEN TRAINING AND OTHER STRATEGIES TO BRING ABOUT REFORMS**

USAID has wisely adapted a five pronged strategy to contribute to the development of a successful, commercially viable oil and gas transport sector in Georgia. These five strategies are

- 1 Restructuring
- 2 Legal/regulatory reform
- 3 Commercialization
- 4 Privatization
- 5 Training

It is also recognized that, for the successful development and implementation of the first four strategies, it is important to have a carefully planned training program. Despite the critical importance of a training program, its usefulness is sometimes misunderstood.

There are collateral benefits to training which are not immediately apparent. A workshop gives rise to a special bond between the participants and the resource person similar to the one between students and a teacher. It also establishes greater credibility and trust. We have seen the effects of this in Georgia. One of the parliamentary advisers who attended the international petroleum economics workshop has requested that Hagler Bailly present a short seminar on pipeline related subjects. One participant, as a result of his participation, apprised our consultant on the true nature of the official statistics. The participant, after stating that energy statistics were "state secret," came forward to give his own assessment of the energy consumption. We were also able to get more reliable information on Saktransgazmrestvi thanks to the cooperation of one of the seminar participants.

It is useful to note here some of the synergies obtained from a successful training program conducted by Hagler Bailly in the Central Asian countries of Uzbekistan and Turkmenistan. For example, USAID/Hagler Bailly had a very difficult time in establishing a proper working relationship in Turkmenistan. However, soon after the first workshop was conducted, the Competent Body, the counter part of Hagler Bailly in Turkmenistan, started to cooperate and actively seek advice on important subjects such as Strategic Planning, Environmental Rules and Regulations, etc. Similarly, thanks to various workshops conducted by Hagler Bailly, officials in

Uzbekistan, who heretofore had no interest in the restructuring and privatization of its oil and gas sector, came forward seeking USAID/Hagler Bailly assistance. Hence, the lesson that can be drawn is that the number of oil and gas sector "graduates" of various workshops that were conducted by Hagler Bailly are more likely to cooperate as a result of the trust established during these workshops.

It is also important that the trainer has a detailed knowledge of the country and its oil and gas sector prior to the commencement of the workshop. One-time workshops given by resource persons without any knowledge of the country are ineffectual. Historically, this in turn might have led to downplaying the value of training both by the donor agencies and by the potential participants. A well-developed workshop given by a trainer with sufficient local expertise can play a significant role in the reform process.

Overall, training should be viewed as a critical component in the reform process. It is training that helps to implant "reform" ideas in the mind of influential people (which is why choosing the right people to attend the workshop is one of the critical factors) who later can help to achieve consensus and implement the required reforms.

24

---

## APPENDIX A

### REQUESTS FOR TRAINING NEEDS

- 1     **Saknavtobi** (as per a written communication dated July 9, 1997)
  - 1)     Theoretical seminars to the experts and managerial staff on the subjects of management, economics, project financing and legal principles connected with petroleum contracting We also appreciate the possibility of sending some of our experts on petroleum production related courses
  - 2)     Opportunity to participate in the conferences of the International Petroleum Negotiators Committee related to the drafting of the Model Form of Production Sharing Contract
  
- 2     **Ministry of Environmental Protection and Natural Resources** (as per the letter from Deputy Minister Zurab Kutelia dated February 2, 1998)
  - 1)     Legislation on the sub-soils and the licensing regimes
  - 2)     Marketing and general economics (Micro and Macro Economics)
  - 3)     Economic appraisal of oil and gas resources
  - 4)     Accounting methods concerning oil & gas exploration, cost recovery
  
- 3     **Saktransgazmretsvi** ( letter from I Zazashvili dated February 2, 1998)
  - 1)     Legal issues
  - 2)     Accounting principles
  - 3)     Technical issues
  
- 4     **The Georgian International Gas** (letter from M Katsitadze dated April 13, 1998)
  - 1)     Management operation, construction and planning of the pipeline
  - 2)     Evaluation of pipeline project
  - 3)     Project financing
  - 4)     General economic issues
  - 5)     Legal aspects of drafting agreements

5 **Parliamentary Sub-Committee on Energy** (letter from Prof Teimuraz Gochitashvili dated April 30, 1998)

- 1) The possible routes for transportation of Caspian Oil
- 2) Investment information concerning those routes
- 3) How to determine tariffs for transit of oil and gas?
- 4) International legal regulations for constructing and operation of export pipelines
- 5) Guarantee of pipeline operations
- 6) International experience on sharing of responsibilities in case of environmental disasters
- 7) What are the legal liabilities?

---

## APPENDIX B

### A PROPOSED WORKSHOP ON STRATEGIC PLANNING

#### **Objective**

To train 10 to 15 young, high potential Georgians who are presently working in the oil and gas sector either in government or industry to think and plan strategically to solve the problems facing Georgia's oil and gas sector

#### **Strategy to Achieve the Objective**

The workshop will be conducted in a unique way in that the trainees will be motivated to define problems that are likely to be faced by the country in the future in the oil and gas sector and also to develop solutions for them through active discussion among themselves

Strategic planning is a process through which an individual or an institution can plan in advance in a formal way to achieve the mission even when there is little or no information on how a scenario will unfold in the future

Strategic planning is very different from operational planning. This can be illustrated through an example. What type of refinery to build or whether to build a refinery at all to meet future requirements of a country involves strategic planning. However, how to operate a refinery or which crude oils to run in the refinery or how much crude to run to meet the product requirements involves only operational planning. It is not that there is no uncertainty involved in operational planning or that we have all the information to plan for the future while doing the operational planning. It is just that the degree of uncertainty in the case of the operational planning situation of operating a refinery is considerably less in comparison to situations where we need to do strategic planning. Using operations research techniques like linear programming, one can determine an optimum way to operate the refinery to maximize profit. However, in situations involving strategic planning, one is usually faced with a multiple criteria optimization problem characterized by considerable uncertainty.

The workshop organized to give training in strategic planning cannot be expected to make the participants instant strategic planners. In fact, during the workshop the trainees will at best be given the "mantra" to start them on a long and arduous road to train themselves to be strategic planners.

By discussing various case studies where managers made wrong decisions as a result of failing to overcome problems which arose out of being unduly influenced by recent events, the workshop participants will be conditioned to think in creative ways about various possible scenarios.

### **How Will the Workshop Be Conducted?**

The workshop will be conducted over a period of five days. Every day, the resource person will talk about the world scenario concerning the subject of that day. The participants will then discuss what impact the world environment will have on Georgia and will also try to draw up different scenarios to define what kind of problems Georgia will face under different scenarios and then develop alternatives to solve them.

### **Day 1 - World Energy Supply and Demand through 2010**

Using the 1998 International Energy Outlook report of the US government, we will study different world energy supply/demand scenarios. We will also study how supply and demand has changed during the last twenty years in different parts of the world. This will give an insight into various factors influencing the energy policy choices in different part of world.

With this background, the participants will try to construct a strategic forecast of energy supply/demand for Georgia and also try to develop different alternatives to meet the energy requirement of the country in an optimal manner.

### **Day 2 - World Crude Oil Supply/Demand - Long Term Crude Oil Price Forecast**

As a starting point we will take up the long term crude oil supply/demand forecast developed in the 1998 International Energy Outlook to develop different long term crude oil price forecasts. We will also discuss how energy economists have failed in the past to accurately forecast long term crude oil supply and demand and the reasons for such dismal performance. Forecasts of long term crude oil prices made by various consultants and institutions will also be discussed. We will also study what impact different supply/demand scenarios may have in attracting foreign investment in exploration and production projects. We will also study the future of institutions such as OPEC and IEA in shaping long term crude oil prices.

The participants will define different pricing scenarios and then discuss their impact on the Georgian economy in general and the oil and gas sector in particular.

### **Day 3 - World Refining Supply/Demand, Gas Supply/Demand, Gas Pricing, LNG Economics and LNG Trading**

Combining the statistics from the BP Statistical Review Of World Energy 1997 and the International Energy Outlook 1998, we will try to forecast the need for constructing additional refining capacity in the world. We will also study the refining profitability in light of historical product prices. Using this background we will attempt to develop a refining scenario for the country.

We will also study the world gas supply/demand scenario and also gas pricing issues to develop different scenarios for exporting gas to the world market, and the future development of LNG in meeting the world gas demand.

28

We will attempt to answer such questions as Why was the petroleum industry forced to adopt vertical integration during its early development? Why are some private sector oil companies now changing their strategy of vertical integration when some national oil companies from Venezuela, Kuwait, Libya etc seem to be moving in the opposite direction?

The participants will then be invited to discuss the pros and cons of constructing a new refinery or rehabilitating Batumi refinery

#### **Day 4 - Transportation Requirements for Crude Oil, Petroleum Products and Natural Gas**

For the land locked countries of the Central Asian Republics and the Caspian Sea, export pipelines are the most significant strategic factor We will develop an approach to study these projects and also to choose the optimum combination for each country given its respective resource base and the limited options open to it This may turn out to be completely a theoretical exercise But it will be a good case study into the significance and challenges of strategic planning

The participants will discuss various strategies to increase the utilization of existing gas pipelines in Georgia They will also discuss what Georgia should do to attract export pipelines

#### **Day 5 - Miscellaneous Subjects**

Environmental protection (Green house gases and global warming), free market economy and petroleum product pricing will be addressed along with questions such as, Is there a need for government interference in energy industry?

During the final day of discussions, the impact of the above mentioned topics will be covered Depending upon how the world community decides to attack the problem of global warming, it will have a tremendous impact upon the future demand for different forms of energy resources Though there are many compelling reasons to allow the free market to decide petroleum product prices, there are also many strategic factors to be considered before taking such a decision particularly in the case of developing countries The examples of a developing country like India and also that of the developed economies of the USA, Western Europe, etc will be studied to assess the impact of government interference in setting petroleum prices on the economy

The participants will discuss how Georgia's oil and gas sector should be restructured to provide maximum benefit to the Georgian economy and to supply petroleum product prices at the lowest cost without interruption

#### **Factors That Will Determine The Success Of This Workshop**

The most significant factor that will influence the success of this workshop is the care with which the participants are selected The more diverse the group and the more qualified they are professionally and academically, the greater the likelihood of success

The second obvious factor is the amount of effort spent in preparation, the level of the instructor's practical experience in the oil and gas sector, as well as their familiarity with the local oil and gas sector

The third factor is the amount of preparation done by the participants in advance by reading up on the subjects pertaining to Georgia and collecting information on different energy related subjects prior to the commencement of the workshop. Every effort will be made to provide materials well in advance of the workshop's commencement

**Reference Books to be Used in the Workshop:**

- 1 International Energy Outlook 1998 by U S Department of Energy
- 2 The Prize by Daniel Yergin
- 3 The Rise And Fall Of Strategic Planning by Henry Mintzberg
- 4 Strategic Planning by George Steiner
- 5 The Genie Out Of The Bottle by M A Adelman
- 6 BP Statistical Review of World Energy 1997
- 7 Natural Gas Study Report by IEA 1995