



ARMENIA

ENERGY CHARTER

In-Depth Review of the Investment Climate and Market Structure in the Energy Sector



2004



Energy Charter
Secretariat

**IN – DEPTH COUNTRY REPORT
ON INVESTMENT CLIMATE
AND MARKET STRUCTURE IN THE ENERGY SECTOR**

ARMENIA

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I. PREFACE

The present In-depth Report on Investment Climate and Market Structure (ICMS) of Armenia Report has been prepared by the Secretariat as a pilot project for a possible series of future in-depth ICMS reports. The procedures for the development of the Report included a visit of the Secretariat to Yerevan from 8 – 12 March 2004.

The ICMS-Report has adopted the main structural elements of the previous ICMS-Reports. However, the content has been augmented by drawing on information from Armenian government agencies and foreign and international organizations, as well as from a variety of other sources. The Secretariat has added its own main findings of the Report.

The Secretariat would like to express its appreciation to the Armenian authorities that they have volunteered to be the first country to be reviewed under this procedure. Valuable and indispensable contributions were received from the Ministry of Energy, the Ministry of Finance and Economy, the Armenian Development Agency, the Natural Monopolies Regulatory Commission, and the Armenian Electro Power System Operator. In addition, the Secretariat held talks with several foreign and international bodies operating in Armenia (KfW Entwicklungsbank, World Bank, EBRD, and the WTO Notification Agency).

II. CONCLUSIONS ADOPTED BY THE CHARTER CONFERENCE

The Energy Charter Investment Group reviewed the present country report (together with the ICMS-Report of Romania) at its meeting on 13-14 May 2004. It agreed upon a number of policy conclusions with regard to these reports that were subsequently approved by the Charter Conference on 15 June 2004. These conclusions read as follows¹:

“The Charter Conference,

Having heard the report from the Investment Group with respect to the Reports on Investment Climate and Market Structure from Armenia (ICMS-16 – in-depth review) and Romania (ICMS-17)

WELCOMED

The new procedure of in-depth ICMS-Reports prepared by the Secretariat, which can significantly contribute to further increase the quality of reviews, and which should therefore be conducted more frequently in the future;

NOTED

- a) That the reviews have shown progress in the legislative framework, in particular by adopting a number of energy-related laws and regulations, enhanced transparency and further steps towards restructuring and privatisation of the energy sector in the reviewed countries.
- b) That the reviews have helped to clarify the existence and content of a number of non-conforming measures in accordance with Article 10 (5) of the Treaty, resulting in the modification of one non-conforming measure in the “Blue Book”
- c) In particular, with respect to:
 - (i) *Armenia*
 - Took note with satisfaction that the Armenian economy has been growing strongly in recent years, that a very open trade regime has been put in place, and that a comprehensive stabilisation and structural reform programme has been successfully implemented;
 - Expressed its hope that the necessary conditions for economic development in the region be put in place, and encouraged all parties involved to take steps in this direction;
 - Welcomed that the Armenian government made important steps in creating an attractive and non-discriminatory investment climate, and encouraged the Armenian authorities to continue building up a track record of good governance and to implement the existing legislative framework effectively.

¹ These Conclusions were adopted by the Energy Charter Conference during its regular session in June 2004.

- Took note with satisfaction that the energy sector of Armenia is now fully operational, and encouraged the Armenian authorities to complete the restructuring and privatisation of the electricity and natural gas sectors.
- Encouraged the Armenian authorities to establish a timetable for the privatisation of the remaining state enterprises in the electricity generation sector in order to increase efficiency, and to adopt and implement effective competition rules;
- Welcomed the establishment by the Armenian authorities of an independent regulator for the electricity, natural gas and district heating sectors, and in particular the role of the regulator in mitigating the effects of the current monopolistic structure in the gas transmission and distribution sectors, while at the same time recognising that the small size of the Armenian market makes it difficult to attract supplies from alternative sources.
- Acknowledged with satisfaction that significant progress has been made in streamlining the licensing process, eliminating cross-subsidies and establishing cost-reflective pricing and tariff structures, and encouraged the Armenian authorities to improve transparency and dealing at arm's length.”

III. MAIN FINDINGS OF THE SECRETARIAT²

“The Secretariat would like to draw the attention to some of the main findings of the Report without in any way prejudging the outcome of the discussion in the Investment Group, including the assessment of the examiners:

- After a severe economic downturn following independence, the Armenian economy has been growing strongly in recent years. The country has successfully implemented a comprehensive stabilisation and structural reform programme, although a considerable part of the population still lives in hardship. The prospects for further development could improve significantly if the politically motivated partial isolation of Armenia in the region could be terminated.
- Armenia has a very liberal trade regime with no foreign exchange controls and has acceded to the WTO. However, the benefits of a liberal trade regime are partly offset by high transaction costs arising from an insufficient transport infrastructure, shortcomings in customs procedures, and the trade blockade imposed by some of its neighbours.
- The Armenian Government is strongly committed to attract foreign investment. It has made important steps in creating an attractive and non-discriminatory investment climate, including the establishment of a “one-stop-shop” agency to facilitate inward foreign investment. Foreign companies are welcome to invest in any sector of the economy and are entitled to no less favourable treatment than domestic enterprises. Foreign investors are protected against political risks. This includes a temporary guarantee against legislative changes, and access to international arbitration. Large-scale privatisation offers additional opportunities.
- Despite these achievements, there remain concerns about an effective implementation of existing laws. Armenia therefore continues to be considered as a high-risk country for foreign investors. Establishing a track record of good governance and completing investment-related legislation is therefore crucial. Another constraint on foreign direct investments is the small size of the Armenian market.
- Armenia is heavily dependent on gas and oil imports from Russia. Attempts to supply diversification are hampered by the interruption of economic relations with two neighbouring countries (Azerbaijan, Turkey). Iran has the potential of becoming an important supplier to Armenia, but there are currently no pipeline connections.
- After years of severe power shortages, the energy sector of Armenia is now fully operational. The reform policy concentrates on the electricity and natural gas sectors:
 - As far as the electricity sector is concerned, the distribution system has been completely privatised. One single company owns the electricity distribution. Almost half of the electricity generation plants have been privatised. Establishing a timetable for the privatisation of the remaining assets would be an important step towards increasing efficiency in generation. The market is yet to evolve and the adoption of effective competition rules and their enforcement is of vital importance.

² These findings were submitted by the Secretariat to the regular session of the Investment Group in May 2004.

- A monopolistic structure also exists in the gas sector, where both the transmission and the distribution systems are owned and operated by a joint venture controlled by the Russian companies “Gazprom” and “Itera”. Because imports are supplied through one channel only (from Russia) there is little room for creating a competitive market. The small size of the Armenian market makes it difficult to attract supplies from alternative sources, such as Iran.
- Armenia has established an independent regulator for the electricity, natural gas and district heating sectors. While significant progress has been made in streamlining the licensing process, eliminating cross-subsidies and establishing cost-reflective pricing and tariff structures, there are lingering concerns regarding transparency and dealing at arm’s length. Establishing and maintaining good track record of governance is an important task.
- In 1999-2000, the government reorganized the petroleum products distribution sector, by splitting and subsequently privatizing the former government distribution monopoly. The major problems facing the petroleum sector are related to illegal imports and inadequate collection of taxes and customs duties. To address these concerns, policy steps were agreed between the Government of Armenia and the IMF for implementation in 2004.
- In nuclear energy Armenia cooperates extensively with the international community. The financial management of the only nuclear plant has been assumed by the Russian INTER RAO EES. The plant remains in the ownership of the Republic of Armenia. Armenian and Russian experts believe that the reactor could be operated until 2016. However, the EU has been pressuring Armenia to close the plant, claiming that because the reactor is of first generation design, it cannot meet EU nuclear safety standards.
- In district heating (DH) the policy of the Government is to encourage rehabilitation (where viable) and the construction of new, modern systems. Small systems have been deregulated so that no licensing is required and tariffs are not regulated. This policy has led to the construction of new decentralized DH systems. For larger units, the strategy is to encourage the establishment of supply contracts with the housing complexes, which, however, have limited capabilities to assume payments and liabilities on behalf of the occupiers.”

**INVESTMENT CLIMATE
AND MARKET STRUCTURE IN THE ENERGY SECTOR**

ARMENIA

EXECUTIVE SUMMARY

Since gaining independence in 1991, Armenia is committed to the principles of democracy and market economy. Armenia has made encouraging progress on liberalisation and selected structural reforms compared with other economies of the region. The economy has been growing strongly, reaching double-digit rates in recent years. Inflation has remained low, while the authorities have managed to substantially reduce the fiscal deficit. The current account deficit also declined significantly in 2002. Armenia formally joined the WTO in February 2003.

The Armenian government is strongly committed to attracting foreign investment in order to generate and sustain economic growth. Armenia has set up a non-discriminatory legislative framework for foreign investors, and offers them several investment incentives, including a temporary tax exemption and protection against legislative changes after the investment has been made.

Another reassuring trend is the gradual reduction of the negative current account balance, a feature that until recently used to be attributed to the growth of the import substituting sectors of the economy, but is now resulting from the substantial growth of the export-oriented sectors as evidenced by an increase in exports in 2003 by 34.2% over 2002 levels and by the decrease of the foreign trade deficit as related to GDP from 31.2% in 1999 to 21.1% in 2003.

The private sector, which is now up and running, dominates the economy and produces about 80% of GDP. It is particularly heartening that this state-of-affairs is supported not only by the establishment of new enterprises, but also by the rehabilitation of enterprises that had been pronounced beyond hope by many experts.

The mainstays of Armenia's investment policies are: "open door" policies *vis-a-vis* foreign investment, national treatment (of investors), equal terms for economic activities, protection of foreign investors.

The investment policy implemented by the Government does bear fruit, as evidenced by the volume of foreign investment over the recent years. The number of companies with foreign capital in Armenia has already crossed the 2,000 mark.

Based on data from the annual "Economic Freedom" survey published by the Heritage Foundation and the Wall Street Journal, Armenia ranks in the upper-middle tier of countries and in 2003 was in 44th position along with Hungary.

The linkages between the positive achievements of the real economy and the dedicated and stable improvement of the business environment and the investment climate in the republic are indisputable. In addition, the continuous assurance of the best possible terms for entrepreneurial activity, including the final removal of administrative barriers, the extension of most-favoured treatment to investors, the deployment and improvement of a comprehensive structure for the support of entrepreneurial activity are all among the top priorities of the Government's work programme.

Armenia is almost completely dependent on imported energy. The only domestically produced primary energy is electricity from hydroelectric plants and one nuclear power plant. Armenia's energy strategy therefore consists of both securing fuel and energy resources supply from abroad, and further developing the domestic renewable energy resources. As far

as oil products imports are concerned, a severe constraint is that they can enter Armenia only via Georgia and Iran, since the frontiers with Turkey and Azerbaijan are closed. Currently, almost all imported gas and oil products come from Russia.

The entire gas transmission and distribution system of Armenia is owned and operated by “Armrosgazprom”, a joint venture between the Russian companies “Gazprom” and “Itera”, and the Armenian state, the latter holding 45% of its shares.

Armenia has privatised its electricity distribution network. It is owned by a UK investor, Midland Resources Holding Ltd. As a result, the quality and security of electricity supply to final consumers has increased significantly, and generators are now paid for their deliveries in full. The problem of securing payments for electricity delivered has been virtually eradicated. The Armenian Government has started the privatization of power generating companies. Currently, approximately 60% of generation plants have already been transferred into the ownership of either private entities or the Russian Federation as an offset of government debts. Introducing a higher degree of electricity market liberalization and integration into regional markets remain main tasks for the Armenian authorities.

A. OVERVIEW

Key Information

Official Name	Republic of Armenia
Head of State	President
Head of Government	Prime Minister
National Legislature	National Assembly
Capital	Yerevan
Major Cities	Gyumri, Vanadzor, Ashtarak, Artashat, Goris
Total Land Area	29,800 square kilometres
Population	3.2 million
Labour Force	56%
Literacy (%)	99%
Official Language	Armenian
Independence Declared	1991
Religion	Christian (adopted 301 AD)
Currency	Dram (AMD)
Time Zone	GMT + 4

1. Geography

The Republic of Armenia is a small, strategically important country located at the crossroads of Europe and Asia. It occupies an area of 29,800 sq. km., and borders Turkey to the West, Georgia to the North, Azerbaijan to the East (with Nakhichevan to the Southwest), and Iran to the South (Fig. 1).

The **climate** of Armenia is continental. The average temperature fluctuates between +18⁰C and + 32⁰C in July-August and between -13⁰C and +1⁰C in January.

The type of land is as follows: 37.2% mountains, 29.8% pasture, 21% arable land and 12% woodland.

Armenian mountains are rich in iron, molybdenum, gold, lead, silver, clay, limestone, as well as semi-precious and ornamental stones. Armenia is also rich in natural mineral waters. There are hundreds of natural wells throughout the country. There are 10 natural lakes, 5 canyons and numerous springs and torrents. Lake Sevan is the world's largest highland fresh water lake (1,400 square kilometers). The country's highest peak is Mount Aragats (4,090 meters).



Figure 1: Armenia's geographic location.

2. Population and Employment

Based on current official estimates, Armenia's population is 3.2 million with an annual growth rate of 0.7%. Ethnically, Armenia is a homogeneous country with 95% Armenians. The second largest ethnic group is Russian (1.5%).

Armenia has a worldwide Diaspora comprising about 5 million Armenians. The largest Diaspora Communities are in the US, France, Germany, Russia and Iran.

Armenian is the official language and is spoken by 99% of the population. Russian dominates as the second language. English is the third spoken language as a result of the country's integration into the world economy.

The majority of people are aged between 17 and 59 (56%). The level of education is high, and continues to be one of the main values in the Armenian society. Today, there are about 60 universities with more than 60,000 students. 27 universities are state owned, and 8 are foreign: American University of Armenia, French University, European University and 5 Russian Universities.

The official unemployment rate decreased to 9.4% in 2002 as compared to 10.3% in 2001. It seems, however, that the unofficial rate of unemployment is higher. The combination of graduates and the unemployment rate means that there is a huge supply of highly qualified people available in Armenia.

3. State Structure

According to the Constitution adopted by a national referendum on 5 July 1995, Armenia is an independent and democratic country with a presidential form of government. The President is elected by popular vote for a five-year term. The executive body is the Government of Armenia headed by the Prime Minister, who is appointed by the President. The National Assembly is the legislative body of the country (131 seats; members serve four-year terms). The next elections are due in 2007.

Armenia is divided into 11 regions (marzes): Aragats, Ararat, Armavir, Gegharkunik, Kotayk, Lori, Siunik, Shirak, Tavush, Vayots Dzor and Yerevan. These regions are headed by marzpets (governors).

The judicial system of Armenia is represented by the Courts of First Instance, the Courts of Appeal, and the Court of Cassation. The Constitutional Court decides on compliance of the decrees of the National Assembly, the President, and the Government with the Constitution of Armenia.

Armenia is committed to the principles of multiparty democracy, pluralism, and market economy. Since independence, Armenia has built a strong record of progress on democratic reform, which resulted in its accession to the Council of Europe in 2001. "Armenia's commitment to expanding its integration into Europe fully reflects its domestic priorities of strengthening democracy, the rule of law and human rights. There is no doubt that these principles are the only sound bases upon which Armenia's present and future rest," Mr. Robert Kocharyan, the President of Armenia, said.

The re-election of President Kocharyan in March 2003 and the success of the parties that support the President in the parliamentary elections in May 2003 ensure the continuity of the country's market-oriented reform course. A coalition government has been put in place, which includes representatives of the leading Republican Party and two junior partners, the Dashnaktsutyun and the Orinats Yerkir parties. Both the government and the Parliamentary majority have a pro-reform agenda, which was confirmed in June 2003 with the adoption of the government's Action Plan for 2003-2007. However, effective implementation of newly adopted laws remains a key challenge, and restoring trust and confidence in all of the country's political institutions is essential.

4. Economic Situation

a) Structure, Performance and Development of the Economy³

Under the old Soviet central planning system, Armenia had developed an industrial sector, supplying machine tools, military electronics, chemicals, textiles, shoes, carpets, and other manufactured goods to sister republics in exchange for raw materials and fuel. The specialized industrial roles assigned to Armenia in the Soviet system offered, however, little of value to the world markets from which the republic had been protected until 1991. Furthermore, about 30 percent of the existing industrial infrastructure was lost in the earthquake of 1988.

By 1994, the Armenian Government had launched an ambitious IMF-sponsored economic programme that has resulted in positive growth rates since 1995. In the meantime, Armenia has a successful record of transition creating a favourable macroeconomic climate based on a

³ The following information partially derives from the EBRD Paper "Strategy for Armenia", as approved by the EBRD Board of Directors on 25 November 2003

market economy. The country has successfully implemented a comprehensive stabilization and structural reform programme.

Table 1: Structure of the Armenian Economy

Sector	1996	1997	1998	1999	2000	2001	2002
Industry	23%	23%	21%	21%	22%	22%	22%
Agriculture	35%	32%	34%	26%	22%	25%	23%
Construction	7%	7%	8%	9%	11%	11%	14%
Transport	6%	6%	6%	7%	7%	7%	7%
Trade	10%	10%	10%	9%	9%	10%	10%
Other Branches	19%	21%	22%	29%	31%	25%	24%

Source: National Statistical Service of the RA

Following hyperinflation in 1994 (150% per month) and 1995 (28% per month), the Government instituted a hard monetary policy. As a result, according to official data provided by the Central Bank of Armenia, the average inflation rate amounted to -0.8% in 2000, 3.1% in 2001, and -1.1% in 2002.

The economy grew by 9.6% in 2001, by 13.2% in 2002 and 13.9% in 2003. In the last five years, the most dynamic sectors were diamond cutting, jewellery, high-tech electronics engineering and assembly, information technology, mining and metallurgy, food processing, and construction. The chronic energy shortages that Armenia suffered during the 90's have been largely offset by the energy supplied by its nuclear power plant at "Metsamor".

Existing natural resources include deposits of gold, copper, molybdenum, zinc, aluminium, coal and various construction materials. Mineral springs supply the bottled water industry, a potentially significant export product.

In the process of macroeconomic stabilization, a flexible exchange rate system has been achieved. Substantial progress in tightening fiscal and monetary policies has been made, while reform of the banking sector is under way. The Armenian currency - the Dram - is stable. The Dram is freely convertible and companies can freely open foreign currency accounts in Armenian or foreign banks. In 2002, the annual average exchange rate was 573.3 AMD per 1 US\$ and in 2003 - 578.8 Dram per US Dollar.

According to the annual survey of "Index of Economic Freedom" conducted by the Heritage Foundation/The Wall Street Journal, Armenia was listed in the upper middle tier, occupying the 44th place in 2003 (together with Hungary). Armenia scored considerably better in this list than its Caucasian neighbours Azerbaijan (114th) and Georgia (113th).

Table 2: Basic Economic Data on Armenia

Financial and Economic Data	1997	1998	1999	2000	2001	2002	2003
Real GDP growth (%)	3.3	7.3	3.3	5.9	9.6	13.2	13.9
Inflation rate (% , average)	13.8	8.7	0.6	-0.8	3.1	1.1	3
Total FDI (USD million)	51.9	220.8*	122.0*	104.2*	69.9	110.7	121.2
Balance of Payments							
Current Account (USD million)	-306.5	-402.5	-306.9	-278.4	-200.5	-148.0	-186.7
Capital Account (USD million)	10.9	9.8	12.6	28.3	197.3	254.2	166.5
Trade Balance (USD million)	-659.8	-681.9	-579.6	-63.5	-408.1	-483.8	-432.3
External Debt (USD million)	682.6	775.3	870.3	859.5	905.4	1025.1	1,097.0
External Debt (% of GDP)	42.1	41.1	47.1	45.1	42.7	44.2	39.1
Unemployment Rate (% of labour force)	10.8	9.8	11.2	11.7	10.3	9.4	8.5
Exchange Rate (AMD/US\$ annual average)	490.8	504.9	534.9	539.5	555.1	573.3	578.8

* High values in 1998-2000 are due to implementation of the privatisation programme.

Source: National Statistical Service of the RA, Central Bank of the RA, Ministry of Finance and Economy of the RA

Table 3: Economic Development of Individual Sectors (percent year on year)

	2003	2002	2001	2000
GDP	13.9	13.2	9.6	6.0
Industry	15.4	13.9	3.9	6.6
Construction	44.4	41.5	4.8	28.9
Agriculture	4.3	3.8	11.6	-1.1
Trade	14.5	19.7	17.2	8.8
Transport and Communication	8.2	-1.7	15.8	-0.4
Net Taxes	8.0	14.3	16.9	13.6

Despite these successes, further poverty reduction remains a clear priority for the government. Armenia is a low-income country with a per capita GDP of US\$ 789 at current exchange rates, and US\$ 3,088 at PPP exchange rates. According to the World Bank Integrated Living Conditions Survey (ILCS), the share of the population in poverty is 48.3% (2001), down from 54.8% in 1998/1999.

To increase real incomes and living standards and to target better government assistance to the poor, the government adopted a Poverty Reduction Strategy Paper (PRSP) in August 2003. This strategy forms the basis for future official donor assistance and outlines key policy priorities over the medium term. The strategy aims to reduce the share of the population in poverty to 35% by 2007. Private sector development will be key to ensuring sustainable poverty reduction.

Another severe constraint on economic development is the continuing interruption of political and economic relations with Azerbaijan and Turkey. This deprives Armenia of two potentially important trade partners, and results in high transportation costs via the only open land routes

to Iran and Georgia. This results in a competitive disadvantage for Armenian products in foreign markets. Consequently, Armenia focuses on the export of such products and services that can easily be moved across borders (e.g. information technology, diamond refining).

b) Trade

Armenia has a very liberal trade regime with no foreign exchange controls. In February 2003, it formally acceded to the WTO. However, the benefits of a liberal trade regime are partly offset by high transaction costs arising from an insufficient transport infrastructure, shortcomings in customs procedures, and the trade blockade imposed by some of its neighbours.

The external current account deficit narrowed significantly from 21.3% of GDP in 1998 to 14.5% in 2000, 9.5% in 2001, and 6.6% in 2002, based on strong export growth and subdued import demand. Nevertheless, Armenia's balance of payment situation remains vulnerable, and measures to promote export and encourage domestic savings are needed. The public external debt amounted to around US\$ 905 million at the end of 2001 – which is 43% of GDP and close to 129% of exports of goods and services on net present value terms. Nonetheless, Armenia's external debt situation is less precarious than that of some Central Asian countries.

Due to stable economic growth and an open trade system, exports have increased considerably since 1999, accompanied by import substitution as a result of an increase in domestic production. Exports increased by 5.1% in 1999 while import growth was negative, at -10.1%. In 2000, exports and imports increased by 28% and 9.1% respectively. In 2001, the figures were a 14.1% export increase and a 1.2% import decrease, while for 2002 the figures were a 48% export increase and a 13% import increase.

Table 4: Main Trade Partners (export and import) of Armenia

Country	2002 (% of total exports)	2001 (% of total exports)	2000 (% of total exports)	Country	2002 (% of total imports)	2001 (% of total imports)	2000 (% of total imports)
Russia	13	18	15	Russia	20	19	15
US	9	15	13	US	5	10	12
Belgium	18	14	25	UAE	9	10	5
Iran	6	9	9	Iran	6	9	9
UK	10	6	3	Belgium	9	5	10
Georgia	3	4	5	Greece	3	4	6
Germany	5	3	4	UK	4	2	7

Table 5: Main Regional Trade Partners of Armenia

Country	Exports in 2002	Imports in 2002
EU	39 %	26 %
CIS	19 %	31 %
US	9 %	5 %
Other Countries	33 %	38 %

Table 6: Main Export and Import Products of Armenia in 2002

Products	Main Export Products	Main Import Product
Precious and Semi-Precious Stones	51 %	22 %
Foodstuffs	11 %	8 %
Non-Precious Metal	9 %	6 %
Mineral Products	8 %	18 %
Sewing Products	6 %	4 %
Machinery	4 %	2 %

Source: National Statistic Service of Armenia

Armenia has a liberal foreign trade regime, which consists of a simple two-band import tariff (at 0% and 10%), no taxes on exports, and no quantitative trade restrictions. Import, export, and domestic production licenses are required only for health, security, and environmental reasons. There are no limits on hard currency imports and exports.

The new Customs Code, in force since 1 January 2001, streamlines customs procedures and complies with WTO rules. The main features of the customs regulations are:

- All exports from Armenia are duty free.
- The import tariff rates are 0 or ten percent. The ten percent tariff is levied mainly on consumer and luxury goods.
- Tariffs are in *ad valorem* terms and levied on CIF values.
- Armenia uses the Harmonized Code System for tariff classification.
- No import customs duties are payable in the following circumstances:
 - Imported capital goods (included in the list defined by the Government of Armenia) forming a part of an investment in a business;
 - Transit goods transported across the territory of Armenia;
 - The means of transport (e.g. truck) used for regular interstate transport of freight;
 - Currency and stocks;
 - Goods temporarily imported into Armenia and temporarily exported from Armenia for the purpose of processing or reprocessing.
- All payments must be made in the currency of Armenia

For more details see www.customs.am.

c) Privatisation

By July 2003, the government had privatised 7,178 small-scale and 1,789 medium and large-scale enterprises. Small-scale privatisation began in May 1991, which was followed by large-scale privatisation as of 1995. Almost 95% of medium and small enterprises had been privatised by May 2002. More than 100 large size enterprises were also privatised. The government likewise liquidated a number of medium and large-scale enterprises. As a result, almost all important state enterprises have been privatised. Accordingly, the share of the private sector in GDP has increased to approximately 75% in 2002. In recent years the privatisation process has slowed down, mainly because remaining assets are less attractive and strategic investors are limited. The current privatisation programme covers nearly all remaining state-owned enterprises and sets out a plan for finalising privatisation in 2003, but

its realisation has taken longer than originally expected. The authorities now intend to complete the privatisation process by end-2004.

More than nine hundred companies have been slated for privatisation in 2001-2003. These include the national airlines; hydropower and thermal generating plants; hotels; leading electronics and chemical firms; the main mining and metallurgy factories as well as companies from the following sectors: construction materials; chemicals; textiles and wood processing (for more details see www.privatization.am). In 2001, one of the largest state-owned banks of Armenia – ArmSavings Bank - was privatised with its several branches.

In 2002, Armenia’s power distribution company was sold to British Midland Holding Ltd. (an off-shore company registered in England) after two unsuccessful attempts.

The privatization programme set as its priorities the following:

- in the first instance, increase the operational efficiency of the power distribution companies and transfer into private ownership the retail power trade and collection business;
- secure real cash flow into other companies active on the wholesale power and capacity market and thus make power generation companies attractive for investors;
- facilitate large investments in the construction of generation capacities, in line with the development of the country’s economy and the integration into regional power markets.

The government also entered into a 30-year concession agreement with an Argentinean investor for the operation of the Yerevan international airport in 2002. In 2003, in an encouraging move by the government, the loss-making state-owned airline carrier was swiftly liquidated and its assets sold to two private operators. With little interest shown from Western strategic sponsors, however, most firms have been sold to insiders, investors from the CIS or entrepreneurs connected to the Diaspora.

Table 7: Privatised Companies by Sectors (as of 1 January 2003)

Trade and Industry	598	34%
Agriculture	467	27%
Urban Construction	252	15%
Transport and Communications	83	5%
Energy	33	2%
Others	303	17%

Source: Ministry of State Property Management

Information concerning the legislative framework for privatisation is given below.

d) FDI Policy

With an economy heavily dependent on foreign trade, the Armenian Government is strongly outward-oriented and makes every effort to attract foreign investment. Foreign companies are welcome to invest in any sector and are entitled to no less favourable treatment than domestic enterprises (principle of national treatment). According to a survey conducted by the Heritage

Foundation/The Wall Street Journal, Armenia has the most liberal investment and trade regime among CIS countries⁴.

The Government has expressed its long-term commitment to attracting FDI in order to generate and sustain economic growth and ensure reduction of poverty. In this regard, the Government puts emphasis on foreign investment as a means to develop new industrial activities and to modernize existing enterprises. Another priority of economy development in the medium-term is industry diversification, with a higher degree of value-added and finished production in manufacturing. Large-scale privatisation offers additional opportunities.

Foreign investment is also urgently required to reduce losses and improve efficiency of energy in the country. Restructuring of the energy distribution sector is seen as vital to attract foreign investment in both the distribution and generation sector.

The Lincy Foundation

The contribution of The Lincy Foundation to Armenia is one of the most remarkable developments in the country's investment history. It demonstrates the significant role the Diaspora plays in the economy of Armenia.

The Lincy Foundation, which was founded by Mr. Kirk Kerkorian, has committed **\$172 million** for several projects, including loans for medium and small size businesses, the construction of housing, highways and streets, and the renovation of cultural institutions. So far, 11,000 workers have been employed in these projects.

The Lincy's contributions to Armenia cover:

I. A **\$151 million** grant for the implementation of the following construction projects:

- (a) Road Renovation Project: **\$73 million** for reconstruction of 275 miles of highways, tunnels and bridges
- (b) Yerevan Streets Renovation Project: **\$15 million** for the renovation of 12 main streets in Yerevan

© Housing Project: **\$45 million** for the construction and repair of 4,000 apartment units in the earthquake zone

- (d) Housing Project: **\$45 million** for the construction and repair of 4,000 apartment units in the earthquake zone;
- (e) Cultural Revitalization Project: **\$18 million** for the renovation of 40 cultural institutions, including various museums and theatres throughout Armenia

II. SME development Credit Line: **\$21 million**

The UNCTAD Inward FDI Performance Index by host economy, published in the UN World Investment Report 2002, places Armenia among the top 20 countries having the fastest growth in FDI performance. This index is calculated in order to benchmark success in attracting FDI; it is the ratio of a country's share in global FDI flows to its share in global GDP. As a result of investment liberalisation, Armenia ranked fifteenth in 1998-2000. Thus, Armenia – together with Panama and Nicaragua - was the “biggest winner” in recent years. Due to the considerable improvement in its position, Armenia has moved from a group of countries classified as “Under Performance” economies to the group of “Above Potential”

⁴ The Heritage Foundation's Index of Economic Freedom. Among 161 countries, in 2004 Armenia ranked 44th overall. Armenia has consistently improved its ranking since 1998.

economies, represented by such countries as Brazil, China, Azerbaijan, Kyrgyzstan, Georgia, or Romania.

During 2003, total foreign investments increased to \$229.6 million - which is 5.6% more than in 2002. FDI amounted to \$153.5 million, which is 8,8% more than in 2002.

During the period of 1998-2003, essential structural changes have been observed within the FDI value itself. With privatisation mostly finished, FDI became more important with regard to the establishment of small and medium-sized companies, and reinvesting.

Table 8: Annual FDI Inflows into Armenia (million of dollars)

1995	24.3
1996	17.5
1997	51.9
1998	232.4
1999	130.3
2000	121
2001	76
2002	141
2003	153.5

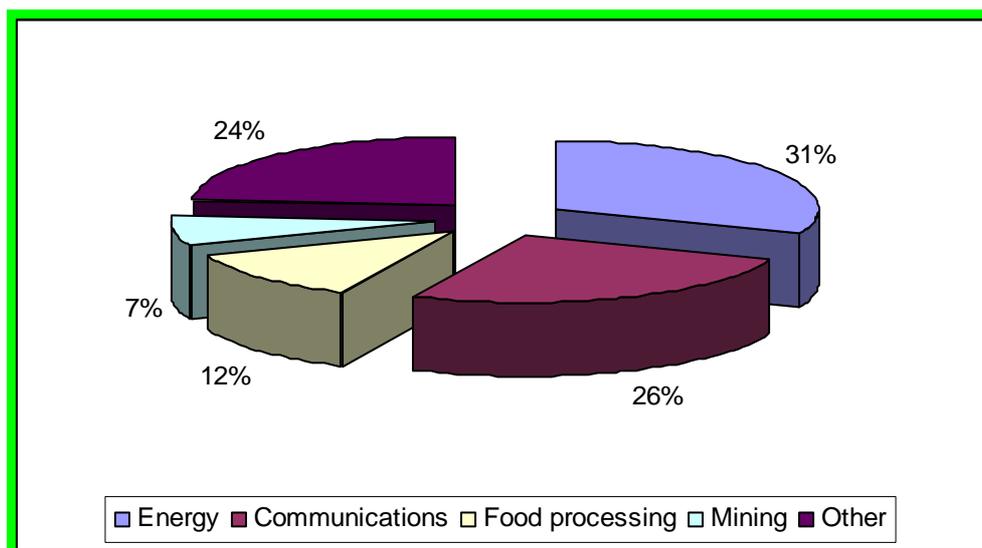
Russian and Greek companies are the main investors in the country. The third largest foreign investor is the US, followed by France, Canada and the United Kingdom. FDI inflows are mostly linked to privatisation.

Table 9: FDI Inflows into Armenia, by Country (Million of Dollars)

No	Country	1991-2003
1.	Russia	253,3
2.	Greece	179,1
3.	USA	105,9
4.	France	65,2
5.	Canada	108,1
6.	United Kingdom	60,3
7.	Luxembourg	29,5
8.	Switzerland	22,1
9.	Cyprus	27,2
10.	Italy	13,2

Since 1991, the number of companies with foreign capital participation has increased. According to official statistics, 2,448 companies with foreign capital have been established between 1991 and 2004 – most of them in recent years. In 1991-1997, the majority of joint ventures and private foreign companies were primarily involved in import-export trade, but since 1998 there is a trend towards investing in local production and services (see the following table).

Figure 2: FDI Flows in 1998-2002 (by major sectors of the economy)



The energy sector is a key area in which foreign investment takes place. On the other hand, measured in absolute terms, the amount of invested capital remains very modest. This reflects the small size of Armenia, and the difficulties that landlocked countries in general face in attracting foreign investors.

Table 10: FDI Inflows into Armenia, energy sector (million dollars)

Sector	Foreign Direct Investments				
	1998	1999	2000	2001	2002
Total	220.8	122.0	104.2	69.9	110.7
Including electricity, gas, steam and hot water supply	43.3	50.7	42.0	24.9	42.4

The main advantages that Armenia offers to foreign investors are:

- Favourable investment legislation, and liberal trade policy;
- Investment guarantees;
- Strong government commitment to FDI attraction;
- Well educated, skilled and easily trainable workforce;
- Cost-efficient labour force and science based skills;
- No restrictions on staff recruitment;
- Corporate tax holidays available for foreign companies with investments of at least AMD 500 million;
- Profit tax exemptions for companies engaged in agro-production;
- 100 % ownership by foreigners permitted;
- No restrictions on remittances;
- Stable local currency;
- Competitive energy cost;
- Access to CIS and Middle East markets;
- No export duty;
- Free conversion of foreign exchange;
- Free repatriation of profit;

- Political and economic stability;

Table 11: Major Foreign Investors in the Republic of Armenia

No	Investor	Country of origin	Type of business
1.	OTE	Greece	Telecommunication
2.	Pernod Ricard	France	Beverages
3.	Corporation America	Argentina	“Armenia” International Airports
4.	AK Development LLC / Marriott International	USA	Hotels
5.	Russky Alyuminy (Rusal)	Russia	Mining/Aluminium
6.	Ferfano Corporation	UK	Diamond Processing
7.	First Dynasty Mines	Canada	Mining, Jewelry
8.	GRAND HOLDING	Russia, Canada, Greece	Diversified
9.	ACP	Switzerland, Luxembourg	Mining/Copper
10.	LEDA SYSTEMS	USA	Information technologies
11.	EpygiLabs	USA	Information technologies
12.	BGI/Castel Group	France	Alcoholic Beverages
13.	Franck Muller Watchland S.A.	Switzerland	Watches industry
14.	Metal Prince LTD	UK	Mining
15.	RENCO Spa	Italy	Hotels
16.	HSBC	UK	Banking
17.	TUFENKIAN TRANS CACUASUS Inc	USA	Production of carpets
18.	Mika Ltd	UK	Production of cement
19.	Gasprom	Russia	Gas supply
20.	Deno	Switzerland	Mining
21.	LLD	Israel	Diamond cutting

MULTINATIONAL COMPANIES NOW OPERATING IN ARMENIA

AEROFLOT
 ALCATEL
 AMYOT EXCO (Member of Grant Thornton Int.)
 BGI/CASTEL GROUP
 BRISTOL MYERS SQUIBB
 BRITISH AIRWAYS
 CARITAS
 COCA-COLA
 CORPORATION AMERICA
 FERFANO CORPORATION
 FIRST DYNASTY MINES
 FRANCK MULLER WATCHLAND S.A.
 GAZPROM
 GLAXOWELLCOME
 GLENCORE
 HSBC
 HUNTSMAN
 ITALTEL
 KPMG
 MACMILLAN
 MARRIOTT INTERNATIONAL
 OTE
 PERNOD RICARD
 RUSSKY ALYUMINY (RUSAL)

The Law on Foreign Investment, adopted in July 1994, regulates foreign investment in Armenia. Foreign companies are encouraged to invest, and are entitled by law to the same

treatment as local companies. In addition, they receive certain advantages and guarantees, including the following:

- Foreign investors are protected against changes in business-related laws for 5 years. Further details concerning the Law on Foreign Investment are provided in Chapter III below.
- Companies with foreign investments of over 500 million AMD (about 855,000 US\$) enjoy a corporate tax holiday for two years after making an investment (for details see Taxation Section). Additionally, there are some special tax incentives in the Gyumri Region.
- Foreign investors can make investments in Armenia through the establishment of fully foreign-owned companies (including representations, affiliates, and branches), the purchase of existing companies and securities, or the establishment of joint ventures. The company registration process takes about a week. There are also incentives for exporters - no export duty and a VAT refund on goods and services exported.
- There are no limitations on the volume and type of foreign ownership, the number of foreign employees and access to financial sources. Although foreigners may not own land, a company registered by a foreigner as an Armenian business entity does have the right to buy land. Foreigners may obtain the permission to use land under long-term lease contracts.
- As provided by the Law on Foreign Investment, in the case of changes in the legislation of Armenia regulating foreign investments, the laws which were in force at the time when the investment was made shall be applied for a five-year period, upon the request of a foreign investor.
- All forms of property and civil rights to own and use property are protected under the Constitution. The Law on Property Registration regulates issues relating to registration of property rights.
- Foreign investments in Armenia may be nationalized or confiscated only as an extreme measure in the case of an emergency declared in accordance with the legislation of the Republic of Armenia (for further details see chapter III.1.d. below).
- There are no restrictions on conversion or repatriation of capital and earnings, including branch profits, dividends, interests, royalties, or management/technical service fees. Cash exports are limited to 10,000 US\$ or its equivalent. There are no limitations on wire transfers. Funds may be converted and transferred through all domestic banks (see also Chapter III.1.d).
- Commercial disputes may be settled either in independent state courts or through alternative dispute resolution mechanisms. This includes international arbitration tribunals, provided that this has been agreed upon in international investment agreements to which Armenia is a party. Armenia is also a member of the International Centre for Settlement of Investment Disputes.

To provide an effective mechanism to monitor the improvement in the investment climate, a Business Support Council (BSC) was established by a Presidential Decree in early 2001. The Armenian Development Agency was appointed as the secretariat to act as an intermediary for the business community. Chaired by the Prime Minister, the evenly balanced private/state membership (the Chief Economic Adviser to the President, the Ministers of Trade and Economic Development, Finance and Economy, the Mayor of Yerevan, the Executive Director of ADA - as the executive secretary of the Council, and six representatives from the

business community on a rotation basis) represents a powerful and influential vehicle to improve the business and investment environment and eliminate administrative barriers to investment.

The Armenian Development Agency (ADA)

The ADA was established in April 1998 by the Government of Armenia to facilitate foreign direct investment and promote exports. The ADA acts as a “one-stop shop” agency for investors assisting them in setting up their business in the country, helping with project implementation, performing a liaison role with the Government, providing information on investment opportunities in the country, as well as investment related regulations and laws.

Today, Armenia is particularly strong in several industrial sectors. These sectors with most potential are information technology, electronics, chemistry and pharmaceuticals, biotechnology, textiles and food processing.

In the field of export promotion the ADA helps to find export markets for products, undertakes market studies and seeks out partners for joint ventures aimed at increasing the volume of exports and developing new products.

Additionally, the ADA provides aftercare services to existing investors and uses the Business Support Council (BSC) headed by the Prime Minister where the ADA acts as a secretariat. The main goals of the BSC are to improve the business and investment environment, and to eliminate administrative barriers to investment.

The ADA offers all of the abovementioned services to investors and exporters free of charge.

Information material concerning the investment climate in Armenia, tax and customs legislation, etc., is available from the ADA as well as from Armenian Embassies.

Armenian Development Agency
Address: Armenia, Yerevan, 375025,
17 Charentsi Street,
Tel/Fax: (+ 374-1) 54 22 72,
Tel: (+ 374-1) 57 01 70, 57 07 10
E-mail: ada@ada.am
Website: www.ada.am; www.businessarmenia.com

The following is a listing of some main functions of the Business Support Council (BSC):

- Assessment of particular complaints and recommendations submitted by individual entrepreneurs and groups of entrepreneurs to BSC for its consideration. Before taking such submissions into consideration, the BSC conducts via the mediation of ADA’s Secretariat consultations with the relevant government offices and leading experts in the field. After completing the consultation process, the relevant proposals and recommendations are submitted to the Presidium of the BSC at one of its meetings. Over the last two years, the BSC has reviewed and developed recommendations on several dozens of issues, including changes in the tax legislation of the Republic of Armenia, simplification of VAT reimbursement procedures for exporters, simplification of the licensing of some types of activities, etc.

- Prior to their consideration by the Government of RA, all draft laws that may have direct or indirect impact on entrepreneurial activities, must undergo a mandatory expert assessment at the BSC. This procedure is very important in preventing the adoption of laws that may negatively impact the conduct of entrepreneurial activity.
- The BSC acts as a Coordination Council on major projects implemented jointly with international organizations that aim at the studying of business climate in the country, and, to that measure, the development of relevant recommendations.

The existing trend to improve the business environment in Armenia has been confirmed by an independent expert group which undertook research on behalf of the Armenian Ministry of Trade and Economic Development. The project was financed by the World Bank. According to this report, the number of businessmen dissatisfied with the regulatory and administrative environment has been decreasing in 2002. In particular, the expert group reported a positive change in the areas of enterprise registration, permission concerning the acquisition of land and building, transparency of government policy, currency stability/inflation, and crime/organized criminality. The report also comes to the conclusion that Armenia ranks second (after Estonia) among CIS and CEE countries with regard to the existing business environment.

e) General Energy Policy of Armenia

Energy security and energy independence represent two important elements of the national security strategy of Armenia. Hence, the development of the energy sector has always been an issue of primary importance within the government's agenda of economic reform. Evidence shows that the energy sector of Armenia is fully operational and cost-effective. A substantial part of foreign investment relates to the projects on rehabilitation and development in the gas and electricity sectors. The Government of Armenia considers the country's energy sector as a driving force in restoring the entire national economy.

Armenia is almost completely dependent on imported energy. It does not have any oil wells, gas wells, or refineries. There is also no coal production. The only domestically produced primary energy is electricity from the hydroelectric plants and the single nuclear power plant. To diversify its fuel supplies, Armenia has attempted to implement pipeline projects that would obtain natural gas from Iran.

The components of the energy sector comprise the electricity (power) system, the heat supply systems, and the gas supply system. It consists of commercial entities (regardless of the type of their ownership), and necessary facilities providing market services in the energy sector. This covers community services, including the production of electricity and heat (including cogeneration), transmission (transportation) and distribution of electricity and heat and natural gas, system operator services in the power and natural gas sectors, the construction of new or the rehabilitation of existing production facilities in the power and heat sectors, as well as the construction of transmission (transportation) and distribution nets in the power, heat and natural gas sectors.

The main principles of the government's policy in the energy sector are:

- The establishment of preconditions needed for the development of a competitive environment in the energy sector, and efficient activities;
- The regulation of activities;
- The unbundling of business activities, government management and regulation;

- Protection of the rights of consumers and business entities and finding a balance of their interests;
- Efficient use of domestic energy resources and alternative sources of energy and, to that end, the use of economic and legal leverage;
- Investment promotion;
- The assurance of transparency in licensing;
- The assurance of security;
- The promotion of energy independence of Armenia, including through the diversification of domestic and imported resources;
- The assurance of environmental protection;
- The promotion of R&D advances and the implementation of new, highly efficient and energy saving technologies, training and re-training of personnel;
- The promotion of the set-up and the development of energy markets; and
- The unbundling of production, transmission (transportation), distribution, export, import, system operator and service provider activities in the electricity markets.

The privatisation strategy provides first for the restructuring and incorporation of interconnected energy complexes, and then for selling them to strategic investors. Non-strategic facilities are privatised by direct transfer to the private sector. Private investors are expected to build new energy complexes under Build-Own-Operate (BOO, and approach preferred by Armenia), Build-Own-Transfer (BOT) and Build-Own-Operate-Transfer (BOOT) schemes.

The Ministry of Energy is responsible for the energy sector, including the reform process. The Ministry is supported by other organisations, such as the Energy Institute and the Energy Strategy Centre (ESC). The main activity of the ESC includes the elaboration of the energy policy, feasibility and audits of energy projects, demand side management and renewable energy.

Armenia's Energy Law was enacted in 1997, and revised as of 11 April 2001. A further amendment, including a supplement, was adopted on 25 December 2003, and became effective on 14 February 2004 (see below). These changes were mostly necessitated by the adoption of the new “Law on the Public Services Regulatory Body” - to the extent that this new body was established on the basis of the Energy Regulatory Commission created (earlier) by the Law on Energy, some clauses had to be incorporated from this law into the new law.

B. LEGISLATIVE FRAMEWORK FOR FOREIGN INVESTMENT IN THE ENERGY SECTOR

The principal laws covering foreign investment in the energy sector in Armenia include:

Law	Year
Constitution	1995
Law on Foreign Investment	1994
Law on Energy	2001
Civil Code	1999
Law on Privatisation of State Property	1999
Law on State Registration of Juridical Persons	2001
Law on Licensing	2001
Law on Concessions	2002
Law on the Public Services Regulatory Body	

While in recent years Armenia has introduced notable reforms to its legal environment, the country continues to face considerable challenges in entrenching the legal rules, institutions and culture upon which its successful transition to a market-oriented economy will depend. All laws of the Republic of Armenia are published in the official State Bulletin. Ministries and agencies publish brochures (guidelines) with the legislation regulating their specific areas of competence. They also make this legislation available on their web sites.

1. Brief description of the contents of legislation relevant to investment in the energy sector

a. Constitutional provisions

The Constitution of the Republic of Armenia was enacted by referendum on 5 July 1995. Important provisions pertaining to the operation of a market economy have been introduced. The main elements, which have major direct effect on the energy sector, are as follows:

- Protection of human rights and freedom, in accordance with the principles of international law;
- Recognition of the right to property, freedom of economic activity and free economic competition;
- Protection of the environment and rational utilisation of natural resources;
- Protection of private property (including foreign property).

b. Establishment of enterprises

The Armenian legislation provides the same legal guarantees and protection for foreign businesses as it does for its own citizens and businesses. Foreign investors have the right to establish any form of enterprise.

The legislation governing the establishment of companies is basically regulated by the Law on State Registration of Legal Persons (in force since 2001), and by the Civil Code (in force since 1999). Registering a legal entity requires state registration with several authorities, including the State Register, the tax authorities, the State Pension Fund, the State Patent Office, and the National Statistical Service. It may also be necessary to get a special or a

sectoral licence from the competent state agency. The registration takes 2-5 working days by law; this is a considerable improvement, which was also confirmed in the recent World Bank document “Regulatory and Administrative Costs Survey” (2002-2003).

The Civil Code of 1 January 1999 establishes the following most common types of enterprises:

- Joint-Stock Companies (open and closed);
- Limited liability companies;
- Business partnerships (general or limited).

The Law on Joint-Stock Companies, enacted on 25 September 2001, deals with the process of establishing and registering joint-stock companies in Armenia. In accordance with this Law, foreign citizens have equal rights with Armenian citizens and legal persons who are residing in the Republic of Armenia. The Law also provides the legal basis for the transformation of all state energy enterprises into closed state joint-stock companies (100% of shares owned by the state).

The Law on Bankruptcy entered into force in March 1997. The Law defines that a debtor is insolvent when it is unable to meet its liabilities for 30 days. The debtor itself, the liquidator or certain groups of creditors may suggest a re-organisation. The liquidator is authorised to seize the debtor’s assets and to examine and challenge claims; it has no authority, however, to investigate the debtor’s financial affairs. With the assistance of the court, the liquidator may void transactions that involve an unfair alienation of property or the transfer of funds of the debtor. With the consent of the court or by public auction, sale of the debtor’s assets is possible. Secured creditors receive priority in liquidation procedures.

c. Licensing

The Law on Licensing, which entered into force in 2001, and the Civil Code govern the licensing of activities of enterprises. There are about 70 different types of economic activity in Armenia requiring a sectoral licence prior to starting operations. Licensing, which - as in other CIS countries - used to be a considerable problem for foreign investors in Armenia, by this moment has been radically improved. The majority of licences can now be obtained by a “simple procedure”; for this simple procedure, a one-stop-shop has been introduced.

The following energy-related activities require a license under the Law on Licensing:

- Power engineering sector: (i) Production, import and export, transport, distribution and trade in/of natural gas; (ii) Production, import, transmission, export, distribution and trade in/of electrical energy; (iii) Production, import and export, transport, distribution and trade in/of thermal energy; (iv) Rendering services on transmission and centralized dispatch of electrical energy; (v) Construction of new capacities in the fields of electrical and thermal powers.
- Nuclear power sector: (i) Works on selection, construction, putting into operation, operation, usage, maintenance and removing away from operation of nuclear and radioactive waste stations, sources and storages of ionisation radiation; (ii) Works with radioactive wastes of nuclear and radioactive materials, including transportation, usage, storage, reprocessing and burial of such materials; (iii) import and export of nuclear, radioactive and special materials, radioactive wastes, special equipment, technologies; (iv) design and preparation of materials, equipment and systems for projects using atomic energy; (v) expertise of projects using atomic energy, their designs and other documents.

The license is granted by the Public Services Regulatory Commission of the Republic of Armenia (in the case of the power engineering sector), or the Government of the Republic of Armenia (in the case of the nuclear power sector).

The specifics of licensing in the field of power engineering are specified in the Law on Energy (see below).

The Law on Licensing does not apply to permits (licenses) issued for usage of natural resources deemed in state ownership. Such permits are governed by the Law on Concessions of 5 November 2002.

d. Entrepreneurship and corporate laws

Foreign investors may establish a subsidiary, representative office or branch in Armenia. A business company is considered to be a subsidiary (dependent company) if another partnership or company holds more than 20% of the charter capital or voting shares in that enterprise.

Foreign investors may establish a subsidiary in the form of a joint-stock company, a limited liability company or a business partnership.

Joint-Stock Company (JSC)

A JSC is a legal entity established on collective or mixed property, and the owners must participate in the enterprise with a capital share. The starting capital is divided into shares, the quantity and value of which is determined by the founders. The liability of the founders is limited to the nominal value, as opposed to the market value of the shares in their ownership.

The Law on Joint Stock Companies provides for two types of JSCs:

- “Open”: If the stocks are sold to the general public; and
- “Closed”: If the stocks are exclusively owned by the founders.

The minimum capital requirements for an open Armenian-owned JSC or any JSC with foreign participation is 1,000 times the minimum monthly wage. For wholly Armenian-owned closed JSCs, this is reduced to 100 times the minimum monthly wage. In certain industries, e.g. banking, a higher minimum investment requirement may apply.

The founders of a JSC are obliged, before registration of the company, to fully pay the charter capital. Upon the founding of a JSC, all its shares must be distributed among the founders.

Limited liability company (LLC)

This form of organization is basically the same as a closed joint-stock company with the only difference that there are no shares. The LLC is a legal entity founded by one or several persons. The profits are divided among them according to the investment share ratio, unless another ratio is stipulated in the charter. The company is limited because of the limited liability of its founders to the initial investments.

Business partnership

A business partnership is a legal entity, which may be set up in the form of a general or limited partnership. Only individual entrepreneurs and/or commercial organizations may be participants in general partnership. They conduct business in accordance with the charter, in

the name of the partnership and bear liability for its obligations with the property belonging to them. A person may participate only in one general partnership.

In a limited partnership, along with participants conducting business in the name of the partnership and being liable for the obligations of the partnership with their property (general partners), there are one or more participants (limited partners), who bear the risk of losses connected with the activity of the partnership within the limits of the amounts of contributions made by them (they do not take part in the conduct of the partnership business). A person may be a general partner only in one limited partnership.

e. Foreign investment legislation

The Law on Foreign Investments of 1994 (FIL) sets out the general framework for the establishment and the activities of foreign investors in Armenia. It also protects them against certain political risks, and includes provisions dealing with dispute settlement. Should international treaties of the Republic of Armenia establish rules that differ from the FIL, the former shall prevail.

The main elements of the FIL are the following:

- ***Definition and Forms of FDI***

Pursuant to Article 1 (2), “foreign investment” means any type of property, including financial resources and intellectual values, which is directly invested by a foreign investor in commercial and other activities implemented in the territory of the Republic of Armenia to gain profit (revenue) or to achieve any other beneficial result.

Article 3 recognizes the following forms of “foreign investment”:

- Foreign currency; other currency values, and the national currency of the Republic of Armenia;
- Movable and immovable property (structures, buildings, equipment, and other material values), and any property right related to that property;
- Stocks, bonds, and other securities as established by the legislation of the Republic of Armenia;
- Any right to claim money or performance of contractual obligations;
- Any valuable right to intellectual property;
- Any right, conferred by the legislation of the Republic of Armenia or by contract, to engage in economic activities, including the right to explore, extract, develop, or exploit natural resources;
- Paid services, and
- Any other type of investment not prohibited by legislation of the Republic of Armenia.

Pursuant to Article 4, foreign investors shall be entitled to implement investments through the following methods:

- Establishment of enterprises entirely owned by foreign investors, establishment of branches, divisions and representative offices owned by foreign legal entities, and the takeover of ownership of going concerns;
- Establishment of joint ventures with legal entities and unincorporated enterprises of the Republic of Armenia as well as citizens of the Republic of Armenia, or acquisition of shares in going concerns;

- Acquisition, within the limits defined by the legislation of the Republic of Armenia, of stocks, bonds, and other securities as established by the legislation of the Republic of Armenia;
- Attainment of the right to use land independently or with the participation of legal entities or unincorporated enterprises of the Republic of Armenia as well as citizens of the Republic of Armenia and procurement of concessions to use natural resources in the territory of the Republic of Armenia;
- Acquisition of other property rights; and
- Other methods not prohibited by the legislation of the Republic of Armenia, particularly the conclusion of contracts with legal entities or unincorporated enterprises of the Republic of Armenia.

- ***Investment Protection***

Pursuant to Article 6, foreign investors receive national treatment (i.e. they are treated no less favourably than domestic investors). There is one exception to this rule concerning the acquisition of real estate (see attachment). However, foreign companies established in Armenia as legal persons have the same status as national legal persons and may own land. In addition, foreigners may obtain a permission to use land under long-term lease contracts.

To encourage foreign investment in the most significant fields of social and economic development, additional privileges for such investments may be established in a manner provided by the legislation of the Republic of Armenia. Vice versa, the Armenian legislation may define those areas of the Republic of Armenia, wherein the activities of foreign investors and enterprises with foreign investment are limited or prohibited due to requirements of national security.

Article 7 contains a so-called “stabilisation clause”. Accordingly, in the event of amendments to the foreign investment legislation of the Republic of Armenia, the legislation that was effective at the moment of implementation of the investment shall apply, upon the request of a foreign investor, during a five-year period from the moment of investing.

Article 8 includes guarantees against nationalization and expropriation. Foreign investment in the Republic of Armenia shall not be subject to nationalization. Expropriation may be allowed only as an extreme means in case of an emergency declared in accordance with the legislation of the Republic of Armenia, and only upon the decision of a court and with full compensation. Investors must also be compensated for any damage or loss of profit resulting from illegal actions by state bodies or officials. Compensation shall be paid at current market prices or prices determined by independent auditors either in the currency invested, or in any other currency mutually agreed upon by the parties.

Article 9 provides for compensation for damages caused to foreign investors. They shall be entitled to compensation, through a court order, for those material and moral damages, including lost profits, caused as a result of illegal actions by Government bodies of the Republic of Armenia or their officials, as well as improper performance, by those bodies or their officials, of their obligations established by the legislation of Armenia towards a foreign investor or an enterprise with foreign participation. Compensation shall be paid promptly at current market prices or prices determined by independent auditors. This compensation shall be paid either in the currency invested, or in any other currency mutually agreed upon by the parties. For the period from the moment of origination of the right to compensation through the moment of its execution, an interest in the due amount of compensation shall be calculated at current rates for deposit accounts established on the loan market of the Republic of Armenia.

Article 10 deals with the foreign investor's profits (revenues) and other means. Such profit shall, after paying the taxes and other fees established by the legislation of the Republic of Armenia, remain under his/her disposal. Foreign investors shall be entitled to open current and other accounts in Armenian banks, as authorized by the legislation of the Republic of Armenia. Foreign investors shall also be entitled to use their legally obtained means to acquire foreign currency or commodities on the Armenian domestic market, in a manner established by the legislation of the Republic of Armenia.

According to Article 11, foreign investors and foreign employees shall be entitled to freely transfer their property, profits (revenues) and other means legally gained as a result of investments or as a payment for labour or as compensation under Article 9 of this Law. Foreign exchange is widely available, and the local currency - the dram - is freely convertible.

Article 15 stipulates that the import of goods for supplementing the charter capital of enterprises with foreign investments, and which are included in the list established by the Armenian Government, is exempted from custom duties. If such goods are sold within a period of 3 years after availing oneself of this privilege, the customs duty, including the collection of calculated penalties for a delay in payment, is due in accordance with the rules and procedures set by the customs legislation.

Pursuant to Article 16, enterprises with foreign investment shall be entitled to export their products, works and services and import products, works and services for their own needs without any license, with the exception of those cases defined by the Armenian legislation and by international treaties.

Pursuant to Article 18, privileges established by this Law shall apply to those enterprises with foreign investment where such investment is no less than thirty percent at the moment of establishment.

Article 21 deals with concession contracts. Any foreign investor shall be entitled to exploit renewable and non-renewable natural resources on the basis of concession contracts concluded by the foreign investor and the Government of the Republic of Armenia or authorized governmental body, in a manner established by the Armenian legislation on concessions. Concession contracts may contain exceptions from the legislation in force in the Republic of Armenia. In such cases, they shall be subject to approval by the Parliament of the Republic of Armenia.

Article 22 guarantees the exercise and protection of intellectual property rights of foreign investors in accordance with the legislation of the Republic of Armenia.

- ***Dispute Settlement***

According to Article 24 of the FIL, disputes arising between foreign investors and the Republic of Armenia in respect of foreign investment shall, in principle, be considered by the courts of the Republic of Armenia. However, since ratified international treaties are considered as superior to domestic legislation - with the exception of the country's Constitution - foreign investors from countries having a bilateral investment treaty ("BIT") with Armenia do have the right to resort to international dispute settlement mechanisms. Armenia likewise respects the recourse to international arbitration under the Energy Charter Treaty.

Since Armenia's accession as a full-time member to the WTO in February 2003, the opportunity to use foreign-based procedures for dispute settlement as provided for in bilateral

intergovernmental agreements for the protection and promotion of investments, has been automatically extended to all 146 WTO member countries.

Disputes related to foreign investment, to which the Republic of Armenia is not a party, shall be considered by the courts of the Republic of Armenia or by other bodies for economic dispute settlement, in accordance with the legislation. Such disputes shall be considered by a mediation court, should the parties have so agreed, unless otherwise established by international treaties or by the preliminary agreement (founding documents, economic contracts, and so on) of the parties.

f) Legislation on real estate

According to the Law on Real Estate of 1996, ownership of land is reserved to Armenian citizens and legal persons. Foreign natural persons cannot obtain ownership rights over land. Accordingly, Armenia has taken an exception to the principle of non-discrimination in the “Blue Book” (see Attachment). However, any lawfully established legal entity in Armenia enjoys the same status as national legal entities, and is therefore entitled to acquire ownership rights over land. Furthermore, according to Article 20 of the FIL, property may be leased to foreign investors and enterprises with foreign investment on the basis of lease contracts.

g) Competition legislation

A Law on the Protection of Economic Competition has been passed on 6 November 2000. In addition, the Energy Law and the Law on Enterprises and Entrepreneurial Activities include minimum provisions on anti-competitive behaviour in the energy sector.

h) Taxation

Tax legislation was reviewed between 1997 and 2000 when fundamental new laws on taxes were adopted, based predominantly on international standards. The relevant laws are the Law on Taxes of 14 April 1997, and the Law on Presumptive Payments (which substitutes profit and value added taxes).

The changes in tax legislation at the end of 2000 created two major groups of taxpayers: (1) fixed (presumptive) and simplified taxpayers, and (2) those taxpayers who prefer paying profit tax. Thus, the final choice is left to the taxpayer. The personal income tax varies between 10 to 20 % on monthly income, depending on the level of income. The standard VAT rate is 20 %. The company profit tax rate is likewise 20 %.

Taxpayers carrying on entrepreneurial activities may be subject to a simplified tax instead of income tax, profit tax and VAT, if their total net turnover of goods and services supplied during the previous year does not exceed 30 million Armenian drams (approximately USD 51,000), and provided that they meet certain other conditions. The rate of the simplified tax is implemented on the entire sales turnover at 4 to 7 %, irrespective of the actual amount of profit. Three to five % of the expenses are deductible for the simplified tax. Some types of activities (banks, insurance, investment, consulting, etc.) cannot be taxed by the simplified tax.

Corporate Tax

The Law on Corporate Tax became effective on 27 November 1997. “Taxable profit” is defined as the difference between the gross income and deductions allowed under the Law. The notion of “revenues” includes those from lease of inventory, share holdings and securities

(provided they were not previously taxed), transactions unrelated to the production of goods and grants by other enterprises and organisations. Production and sale costs are deducted from a taxable profit. Depreciation is allowed on capital assets. There is no loss carry-forward provision. Under the Law, the presumptive determination of profit is allowed in individual cases.

The corporate tax is levied at 20% of taxable profits.

Companies with foreign investment are subject to the same tax regime as Armenian companies. Specific privileges (exemptions) in corporate taxation apply to companies with foreign investment exceeding 500 million AMD (approx. 855,000 US\$) according to the following Table 12.

Table 12 Deductions from profit tax

Year of investment	Deduction from Profit tax for each year	
	100%	50%
1998	1999-2000	2001-2008 inclusive
1999	2000-2001	2002-2009 inclusive
2000	2001-2002	2003-2008 inclusive
2001	2002-2003	2004-2007 inclusive
2002	2003-2004	2005-2006 inclusive
2003	2004-2005	-
2004	2005-2006	-
2005	2006-2007	-
2006	2007-2008	-
2007	2008-2009	-

The following table lists revenues received by non-residents of RA and profit tax rates (in percent) that are used for withholding tax at source by the tax agents in compliance to Article 57 of the Law:

Table 13: Withholding Tax on Corporate Profit

Type of income	Profit tax (%)
Insurance compensation, reinsurance and freight income	5
Dividends, interest, leasing income, royalty, other income received from Armenian sources, etc.	10

Personal income tax

According to the Law on Income Tax of 30 December 1997, this tax applies to natural persons with a permanent residence in Armenia (who have lived in Armenia more than 183 days in a given year), and to those without permanent residence who have income in Armenia. Income from labour, royalties, business activities, leasing of property, share capital, securities/deposit payments, in-kind income, etc. is subject to taxation. For permanent residents, income received outside of Armenia is included in the total amount taxable in Armenia. The income tax levied in Armenia can be reduced by the size equal to the income tax paid in another country, therefore avoiding double taxation (where bilateral treaties are in force). Foreign individuals are subject to the same rates as Armenians.

Table 14: Income Tax

Monthly taxable income (AMD)	Tax rate (%)	Cumulative tax (AMD)
0 - 80,000	10	
More than 80,000	20	8,000 AMD plus 20% of the amount exceeding 80,000 AMD

Value added tax

Armenia introduced a value-added tax (VAT) on 1 January 1992. As of 1 July 1997, a new VAT law was implemented. VAT applies to all goods sold, services delivered and works performed. The general VAT rate is 20 %, which is equivalent to 16.67 % of the VAT-inclusive price. Domestic and foreign goods and services are treated equally.

Excise tax

The Excise Tax is assessed on the production or importation of specified products, and is payable on the proceeds of sale of products manufactured in Armenia, and on the declared value of products imported to Armenia.

The Law on Excise Tax was approved by the President on 24 June 1997 and amended on 24 September 1997. A new law came into force on August 1, 2000, thereby rendering the 1997 law null and void. Excise taxes are payable on both domestically produced and listed goods and imported ones. In the case of imports, the importing enterprises or individuals have to pay excise taxes. The excise rates are "*ad valorem*" and are quoted on the volume of the goods. The Law on Excise Tax has set specific tax rates for both domestic and imported products. No excise tax applies to goods in transit through the territory of Armenia.

Import duties

In December 1998, the Law on Customs Duties entered in force. Import duties are set between zero and ten percent *ad valorem* (on the volume of goods). Exemptions from import duties apply to internationally traded goods in transit and imports under intergovernmental agreements or those financed by the government. Quantitative restrictions apply to a few items that could pose health, environmental or security threats.

Export duties

Armenia does not levy any export duties.

Land tax

On 27 April 1994, the President of Armenia approved the Law on Land Tax. It applies to non-residential land. Residential property is covered under the Property Tax Law (see below). For non-agricultural land, the land tax rate is based on the land's cadastral value as follows: 1.0 % on land in urban areas, and 0.3 % on land outside urban areas used for purposes of industry, transportation, communications, defence, gas pipelines, and water supply, 1 % on idle land in forests, and 1 % on other idle land.

Property tax

The Law on Property Tax took effect on 1 July 1995. A new law was adopted on 27 December 1997, which was later amended on 26 December 2000. The tax is levied on the balance sheet value of property related to enterprises (except designated property of the government), residential houses and other buildings, automobiles and other vehicles, including caterpillar machines. The tax rates on enterprises range from 0.2-0.8 % of the average annual taxable property value. Individuals (including Armenians and non-Armenian residents) pay 0.2 % of the value of buildings above the specified minimum level, and a modest tax per horse power of engine power on machinery and transport equipment.

Pension and state social insurance funds

Contributions to the pension fund and state social insurance fund need to be made, on behalf of employees, by all enterprises, organizations, sole proprietors and other employers. Employers pay into the pension fund amounts equal to 34 % of their employees' gross salary. In addition, sole proprietors are expected to contribute 10 % of their business income to the pension fund. Employers pay into the state social insurance fund amounts equal to two % of their employees' gross wages and salaries. The social insurance fund covers payments during maternity leave and disability payments.

Table 15: Social Insurance Payments (paid by Employer)

Gross salary (AMD per month)	
0 - 20,000	5,000 AMD
20,000 – 100,000	15% of amount exceeding 20,000 AMD plus 5,000 AMD
100,000 upwards	5% of the amount exceeding 100,000 AMD plus 17,000 AMD

For more details on Armenian Laws see on: www.euplac.am

Avoidance of Double Taxation

See below (Section III).

i) Legislation regulating conditions for entry, stay and work of foreign natural persons

The Law on the Status of Foreign Citizens of 1994 and the Law on Foreign Investments of 1994 regulate conditions for entry, stay and work of foreign natural persons.

j) Foreign exchange and securities laws/regulations

The Law on Circulation of Securities of 1993 establishes basic conditions for the issue, acquisition and circulation of securities in the Armenian securities market. The national currency is fully convertible for current account transactions. Export surrender requirements

were eliminated by mid-1995. In 1997, Armenia accepted the conditions of Article VIII of the IMF Agreement.

k) Legislative framework for privatisation

Privatisation of state-owned property began in Armenia in 1991 with a broad land privatisation programme through which most of the Armenian agricultural land was privatised. Privatisation of state-owned enterprises was introduced in 1992 by the Law on Privatisation and De-nationalisation of State-Owned Enterprises and Unfinished Construction Projects, and got under way in 1994 with the voucher programme, through which approximately 5,000 large and small-scale enterprises changed ownership.

Law on Privatisation of State Property

The Law on Privatisation of State Property, as amended on 1 July 1999, deals with legal issues concerning privatisation of state property, including unfinished construction sites. This Law does, in general, not regulate issues connected with the privatisation of property belonging to local authorities, including unfinished construction sites. Land privatisation is implemented under the procedure defined by the Land Code of Armenia.

Pursuant to Article 3 (2), the objects of privatisation are:

- The stocks of state stock companies, the stocks belonging to the state in non-state companies and companies with state participation;
- The property of a company (enterprise) considered to be a share of the state and which is liquidated under the procedure defined by this Law without court decision;
- State property given by utilization right, including real estate;
- Non-dwelling territories belonging to the state which are not of common use in dwelling houses,
- Unfinished construction sites;
- Property rights belonging to the state and intangibles, including the right of subscription of newly issued stocks, right of utilization of underground and natural resources in cases defined by this Article;
- State enterprises or their amalgamation after having been restructured into state stock companies;
- In the dwellings belonging to the local authorities, including the non-dwelling territories transferred to the local authorities with the conceptual right which are not of common use are as follows:
 - are leased to legal and physical persons before 15 December 1997,
 - are given as "small" objects for leasing or permanent usage.

Pursuant to Article 4, the aims, preferences and restrictions of the current phase of privatisation are defined by the programmes of privatisation of state property of Armenia (see the following sub-section).

Article 5 lists the participants in privatisation. They include legal and natural persons, and also, in cases defined by this Law, the members of personnel of the company being privatised. Foreign persons have the same rights of participation in privatisation as natural and legal persons of Armenia.

Article 11 deals with the relationship between the privatised company and its personnel after privatisation. If more than 50 % of the stocks of the company are privatised, the Armenian Government may restrict the right of the new owners (owner) of the privatised company or

their (his) authorized bodies for a period of six months to change the minimum number of the employees, except in cases defined by legislation. The new owner can change the restriction imposed on the minimum number of employees with the consent of the members of the personnel.

Article 14 sets out the different forms of privatisation of state property. They include: Free subscription to stocks, auction, tender, direct sales, open or closed allotment of new stocks, issuance of bonds with the right of converting into stocks, sales of stocks in specialized markets, and transfer of the state right of utilization of state property.

The Armenian Government, under the procedure defined by this Law, decides upon the form of privatisation of state property. The choice may take into account the specifications of the branch, the position in internal and external markets, the financial condition of the enterprise, the advisability of privatisation of state property as operating company, and the need for investments. Articles 15-20 describe in more detail each of the forms of privatisation mentioned above.

Article 24 deals with the preparation of state property for privatisation. The preparatory activities may include:

- Restructuring of state enterprises into state stock companies;
- In case of privatisation of state shares of state stock companies:
 - Division, separation of the company, as well as association and amalgamation with other companies;
 - Implementation of financial and economic audit of companies;
 - Restructuring of the debt of companies;
 - Elaboration of a plan of activities of companies;
 - Preparatory activities for issuance of new stocks;
 - Implementation of measures with the aim of familiarizing the persons who declared their will to take part in the privatisation with the financial and economic activities of the company;
 - Publication of information on activities of the company;
 - Evaluation of the assets and liabilities of the company;
 - Price evaluation of stocks;
 - Review of licenses in case of licensed activities.

Article 25 deals with the price calculation of the property being privatised. The price calculation methods are: balance method, method of definition of current prices of cash flow, method of similar enterprises or market price of property, method of income (profit) multiplier, and other recognized methods. Pursuant to Article 29, the transfer of the right of ownership as a result of privatisation occurs on the basis of a written contract between the state authorized body and the purchaser under the procedure defined by the Government of Armenia. According to Article 31, the Republic of Armenia guarantees the rights of the participants in privatisation.

Programmes for the Privatisation of State Property

The privatisation of enterprises of strategic importance was deferred to 1998-2000. The Law on the Programme for the Privatisation of the State Property during the period 1998-2000, opened the way for large-scale privatisation, including big enterprises of the energy sector. At the initial stages of the privatisation programme, the established practice was that employees of the privatised companies had the first choice to buy shares with cash or vouchers. Selling

the remaining shares was usually done through auction. In the meantime, the government has terminated the voucher programme for privatisation. Further privatisation was carried out for cash. To ensure a successful privatisation process, the government established the Ministry for Privatisation, which in 2003 was transformed into Department for State Property Management at the Government of RA.

Details of the more recent privatisation strategy are included in the Law on the 2001-2003 Programme for State Property Privatisation of 27 July 2001.

Pursuant to Article 1, the objectives of this Programme (hereinafter referred to as the “Programme”) are as follows:

- Enhance the efficiency of commercial organizations through the privatisation of their state stake;
- Develop the methods of the state property privatisation, giving priority to those promoting investment in commercial organizations and providing for social guarantees;
- Provide for consistent and continuous privatisation policy and completion of the state property privatisation within the time this Programme is in force;
- Create the prerequisites for a stable economic growth through promoting competition;
- Increase the number of non-state commercial organizations in economy;
- Increase the state revenues through the funds received from the state property privatisation.

Article 3 establishes selection criteria for the state property subject to privatisation as follows:

- Complete privatisation of the companies and objects serving agriculture or relevant sectors;
- Complete privatisation of the companies producing consumer goods and having the greatest influence upon the consumer market of the Republic;
- Complete privatisation of “small” objects and unfinished construction sites with industrial or social profile;
- Undertake privatisation of the companies engaged in scientific-industrial and research activities.

According to Article 5, it is intended to offer the companies with state stake included in the lists of the Programme for Privatisation or Liquidation, in compliance with the State Property Privatisation Law, in the following proportions: In 2001: 40% of the total number of companies with state stake included in the Programme; in 2002: 30%, and in 2003: 30%.

Article 8 deals with measures of preparation for privatisation per sectors of the economy and companies with a separate state stake. To prepare the companies with state stake, “small” objects and unfinished construction sites involved in the privatisation process, a state governing body authorized by the Government of the Republic of Armenia carrying out privatisation may submit subprogrammes on privatisation of certain sectors of the economy for approval by the government. The authorized state governing body carrying out privatisation shall design a plan of the overall organizational-technical measures for preparation of the State Property for privatisation. It shall be implemented by a Government Resolution or the persons appointed by the above-mentioned body or the state and territorial administration bodies.

Pursuant to Article 10, the organizational measures for the programme implementation are as follows:

- Organizing campaigns to raise awareness among large sections of the public on the State Property Privatisation Law, the relevant Government resolutions, and other normative legal acts;
- Organizing methodological and practical training for the staff engaged in the privatisation process;
- Carrying out subscription to shares through the territorial subdivisions of the state governing bodies authorized by the Armenian Government executing privatisation;
- Floating new shares through the stock exchanges;
- Involving consulting companies and experts in privatisation and liquidation activities through the state governing bodies authorized by the Armenian Government carrying out privatisation.

l) Legislation regulating the publishing of laws

All laws of the Republic of Armenia are published in the official State Bulletin.

m) General measures for ensuring observance at sub-national levels

Regional and local authorities are obliged to ensure observance of all laws, secondary legislation, regulations, orders, decrees, judicial decisions and international agreements.

n) Legislation on intellectual property rights

The following laws exist in Armenia:

Table 16: Legislation on intellectual property in Armenia

Legislative act	Projected date of enactment	Coverage
1. The New <u>Law on Patents</u> (with the amendments due to the TRIPS requirements)	15.09.99 (Adopted by the President of the RA on <u>26.11.99</u>)	(Articles 27, 30, 31, 34 of the <i>TRIPS Agreement</i>)
2. The New <u>Law on Copyright and Related Rights</u> (with the amendments due to the TRIPS requirements)	15.10.99 (Adopted by the President of the RA on <u>12.01.2000</u>)	(Articles 12, 14 ^{ter} of the <i>Berne Convention</i> and Article 10 of the <i>TRIPS Agreement</i>)
3. Armenian <u>Law on Selection Achievements</u> (available in English)	15.11.99 (Adopted by the President of the RA on <u>22.12.99</u>)	(Article 27 of the <i>TRIPS Agreement</i> related to the protection of plant varieties)
4. The New <u>Law on Protection of Trade Names</u> (with the amendments due to the TRIPS requirements)	15.10.99 (Adopted by the President of the RA on <u>15.12.99</u>)	(Article 8 of the <i>Paris Convention</i>)
5. Amendments to <u>Civil Procedure Code</u>	01.11.99	(Articles 42, 46, 47, 50 of the <i>TRIPS Agreement</i>)
6. Amendments to <u>Civil Code</u>	20.02.2000	(Articles 17, 22, 30, 39 of

Legislative act	Projected date of enactment	Coverage
		the <i>TRIPS Agreement</i>)
7. Amendments to <u>Criminal Procedure Code</u>	01.11.99	(Articles 46, 47, 50, 61 of the <i>TRIPS Agreement</i>)
8. <u>Customs code</u>	01.11.99	(“Special Requirements related to Border Measures” provided by Section 4, Part III of the <i>TRIPS Agreement</i>)
9. <u>Criminal Code</u>	15.11.99	(Articles 10 ^{bis} , 10 ^{ter} of the Paris Convention and Articles 46, 47, 50, 61 of the <i>TRIPS Agreement</i>)
10. The New <u>Law on Trademarks, Service Marks and Appellations of Origin of the Goods</u> (with the amendments due to the TRIPS requirements)	15.10.99	(Articles 5(C), 6 ^{bis} , 6 ^{septies} , 10 of the <i>Paris Convention</i> and Articles 15, 16, 17, 19, 22, 23, 24, 46, 47 of the <i>TRIPS Agreement</i>)
11. Armenian <u>Law on Protection of Economic Competition</u> (including the regulation of unfair competition and protection of undisclosed information)	01.12.99 Enforced as of 6.11.2000	(Articles 10 ^{bis} , 10 ^{ter} of the <i>Paris Convention</i> and Article 39, 40 of the <i>TRIPS Agreement</i>)
12. The <u>Law on Protection of Topographies of Integrated Circuits</u>	Enforced as of 14.03.98	(Articles 35-38 of the <i>TRIPS Agreement</i>)

o) Energy-related Legislation

The laws that are specific to the energy sector of Armenia are the Energy Law, the Law on Foreign Investment, the Law on Licensing, the Law on the Public Services Regulatory Body. Furthermore, the following regulations introduced by the Public Services Regulatory Commission apply:

- Regulation for the setting and the revision of tariffs;
- Regulation on the procedures for licensing of activities in the energy sector of the Republic of Armenia;
- Rules for Amending Licenses; Rules for licensing of power and natural gas import and export activities in the energy sector of the Republic of Armenia.

The main provisions of the Energy Law are as follows:

- **General Provisions**

The main terms used in the Energy Law are:

According to Article 1, the Law shall regulate the relationships between the government bodies, legal entities of the energy sector operating under this Law, and consumers of electricity, thermal energy and natural gas in the Republic of Armenia. The Law does therefore not deal with the oil sector. Pursuant to Article 2, the objective of this Law is the

establishment of the government policies in the energy sector and the mechanisms for their implementation.

The Law uses the following main terms on licensing:

- **License:** a document issued by the commission to a legal entity in confirmation of its rights and liabilities regarding carrying out activities and providing services in the energy sector in compliance to the Energy Law of Armenia.
- **Licensee:** a legal entity that has been granted a license in compliance with the Law;
- **Licensed activity:** an activity that must be licensed in compliance with the Law;
- **Commission:** The Public Services Regulatory Commission of the Republic of Armenia;

- **Decision (Decree):** A legal act adopted by the Commission within the area of its competence in compliance with the Law.

- ***State Policies in the Energy Sector***

Article 5 sets out the basic principles of the state policies in the energy sector as follows:

- Enhancement of competition and efficient operation in the energy sector and creation of essential conditions for the development of a competitive environment;
- Regulation of the operations in the energy sector;
- Separation of the economic activity, government management, and regulation functions;
- Protection of the rights of the consumers and the economic entities in the energy sector, and the assurance of a balance of their interests;
- Efficient use of domestic energy resources and alternative sources of energy and implementation of economic and legal mechanisms for that purpose;
- Encouragement of investments in the energy sector;
- Ensuring transparency of the licensed operations in the energy sector;
- Ensuring safety in the energy sector;
- Enhancement of the energy independence of Armenia, including by diversifying domestic and imported energy sources;
- Ensuring the protection of the environment;
- Encouragement of scientific-technical progress and employment of new energy-efficient and energy-saving technologies, as well as encouragement of personnel training and re-training;
- Encouragement of the formation and development of energy markets;
- Separation of the generation, transmission (transportation), distribution, export, import, system operator functions and functions of service provision to the power market.

- ***Regulation in the Energy Sector***

According to Article 8, the regulation of the energy sector is part of the state policies, aimed at balancing the customers' and licensees' interests by defining and supervising the market rules for electricity, thermal energy and natural gas, the regulated tariffs, and the license conditions,

as well as the creation of equitable conditions for the licensees, and the formation and development of a competitive market.

Article 9 sets out the basic principles of regulation as follows:

- Regulation by an autonomous body, within the framework of authorities specified by the law;
- Transparency of the regulations for the public;
- Elimination of discrimination of customers or any licensee;
- Balance of interests between the consumers and entities engaged in operations in the energy sector;
- Collegiality of decision-making by the regulating body;
- Restriction of the scope of regulation consistent with the development of a competitive market.

Article 10 mentions the primary methods of regulation. They include (i) Licensing, establishment of license conditions and their supervision; (ii) for reporting purposes to the regulatory body: implementation of accounts and sub-accounts for the energy sector licensees in conformity with the National Chart of Accounts, and laws and legal acts related to accounting; (iii) Setting regulated tariffs; (iv) development of model contracts or mandatory terms for energy and/or natural gas supply (service provision) between licensees, as well as energy and/or natural gas supply (sale/purchase) to consumers, and the registration of contracts executed between Licensees; (v) defining the market rules and regulations; (vi) development of legal acts and oversight of their implementation by the regulatory body, within the framework of its authorities; (vii) development of service quality requirements; and (viii) study of the investment programmes presented by the licensees with the purpose of their (full or partial) inclusion in the tariff or rejection.

According to Article 11, the regulation of the Armenian energy sector is carried out by an Energy Regulatory Commission, which acts pursuant to the authority vested in it by this Law, and which is autonomous within its jurisdiction. The Commission is the legal successor of the Public Services Regulatory Commission of the Republic of Armenia. It has a key role due to its authority and its distinct and independent legal operations.

Articles 12-20 deal with the composition, tasks and work procedures of the Energy Regulatory Commission. Article 17 defines its responsibilities. The Commission shall:

- Set the regulated tariffs for electrical and thermal energy and natural gas, transmission (transportation), distribution in the energy sector, system operator, services provided in the energy market, as well as maximum tariffs for electricity and natural gas import.
- Issue licenses for operations in the energy sector.
- Oversee compliance with the license conditions and apply penalties provided by this Law.
- Approve, reject or set conditions for the purchase of licensees' shares (unless otherwise provided by Laws on privatisation of state property), as well as for the sale or other form of transfer of any asset essential to the provision of the services provided by licensed entities, in compliance with Article 27 of this Law.
- Establish rules of supply and use of electrical and thermal energy and natural gas.
- Approve the energy market rules in co-operation with the body authorized by the Government.

- Establish model forms or mandatory provisions for energy and natural gas supply and service contracts to be signed between energy sector licensees and, pursuant to the procedures established by the Commission, register such contracts as well as contracts for export and import of electric power and natural gas.
- Establish model electricity and natural gas supply contracts, or mandatory provisions thereof, between licensees and consumers and ensure their application.
- Conduct discussions regarding disagreements between licensees to review the inquiries and complaints from the consumers regarding supply of energy and natural gas, including disputable bills submitted to the consumers, and issue decisions and/or clarifications on discussed issues.
- In order to monitor the implementation of license conditions, and to check the accuracy of financial-economic reports and information provided by licensees, carry out or organize inspections of the licensee's installations and review the licensees' financial-economic operations, by requiring substantiating documents.
- In accordance with procedures established by the Commission, request from the licensees and license applicants all information and data necessary for the Commission for issuing a license, setting tariffs, settling disputes, or any other issues being addressed by the Commission.
- Set quality requirements for services provided to the consumers by the companies.
- Prescribe accounts and sub-accounts in conformity with the laws of Armenia, approved National Chart of Accounts and other legal acts of the Republic of Armenia for regulatory reporting.
- Review development-investment projects of licensees in order to make a decision as to whether the investments (fully or partially) will be included or rejected in the future tariffs.
- Ensure enforcement of and provide comments on the resolutions adopted by the Commission.

- ***Setting Regulated Tariffs and Payments for Services***

The Commission has the right to approve or reject the tariffs of a licensee. According to Article 21, the principles of setting regulated tariffs for electric and thermal energy and natural gas, as well as sizes of payments for rendered services are as follows:

- Compensation of justified operation and maintenance costs, as well as the depreciation allocations of the fixed assets and non-material assets essential for the conduct of the licensed operation in compliance with the license provisions;
- Allowing a reasonable profit;
- Inclusion of justified costs for loan services;
- Establishment of differentiated tariffs for customers, dependent on the consumption volume, requested capacity, season, time of use, connection terms, type of service;
- Inclusion of justified and essential insurance costs;
- Inclusion of justified costs related to compliance with environmental norms;
- Inclusion of mothballing and preservation costs of the installations, subject to mothballing in conformance with the Energy Development Programme of the Government;

- Assurance that the costs of the safe keeping of the utilized nuclear fuel are met and that the requisite allocations to the Nuclear Plant Decommissioning Fund are made;
- Inclusion of justified technical and commercial losses;
- Inclusion of other justified and necessary costs as provided by the legislation.

- ***Licensing of the Activities of Economic Entities in the Energy Sector***

The operation of the energy sector is based on the system of licenses. Licenses are the administrative acts issued by the Commission according to the Energy Law, which concretise and describe the obligations and rights of a licensee in order to exercise a particular activity in the energy sector. Licenses are not transferable.

According to Article 23, a license is required for the following activities: generation of electricity and thermal energy (including combined electric/thermal generation), transmission (transportation) and distribution of electricity, thermal energy and natural gas, implementation of system operator services in the electric energy and natural gas sectors, construction or reconstruction of new generating capacities in the electric and thermal energy sectors, as well as construction of transmission (transportation) and distribution networks in the electric/thermal energy or natural gas sectors, electricity and natural gas import and export activities, as well as power market services provision. Only a licensee holding adequate operational licenses in compliance with this Law may engage in electric and thermal power and natural gas sale/purchase (purchase with an intent to sell) activities, in accordance with the license conditions and market rules.

Articles 24-28 set out the conditions for granting an operational license. Pursuant to Article 28, the licensee has the following responsibilities:

- Comply with all conditions set forth in this Law, the legislation of the Republic of Armenia, other legal acts, the legal acts adopted by the Commission, and the conditions set forth in the license;
- Forward to the Commission for its approval a time schedule and a plan of activities ensuring the implementation of environmental and safety requirements;
- Implement the operation, technical service and repair of the equipment under its management, ensuring the safety and health of the staff and the citizens;
- Make sure the equipment used during the implementation of the licensed operation complies with the effective technical rules and conditions provided in a license;
- Make the buildings, constructions, structures, installations and lines included in the licensed operation accessible for the representatives of the Commission and other entities defined by Law;
- Pass on to the general public knowledge about the technical safety rules as well as about the license and contract-related rights and responsibilities of the parties stipulated by other norms;
- In conformance with the license provisions, conduct technical audits (including, e.g., on technical losses, specific fuel consumption, consumption of energy or natural gas consumption for the plant's own needs) and/or financial audits, with the involvement of independent experts;
- In established procedures, coordinate with the Commission the development of investment programmes, in order to obtain an opinion regarding the inclusion (partially or completely) of investments or their rejection in the future tariffs;

- Submit for the Commission's approval the calculation methodologies of inevitable technological losses, specific fuel consumption, energy or natural gas used for own needs and other constituent elements of the tariff;
- Perform other responsibilities provided by this Law.

The terms and conditions for granting licenses are as follows:

- The Commission sets the form and the list of documents that have to be submitted to the Commission for granting licenses for activities;
- A license for an activity is issued if the legal entity that has submitted an application is in possession (owns or has access under a contract) of the required equipment/facilities.
- The Commission sets the procedure and conditions for considering an application for a license and granting a license to an applicant.
- The Commission must consider an application for granting a license and adopt the relevant decision (decree) within the term set by the Commission; the term cannot exceed 60 days from the moment of submission by the applicant of all required documents;
- The Commission shall mail to the applicant a copy of the decision (decree) for granting or refusing the granting of a license within 10 days from the adoption of the decision (decree).

Article 30 deals with the modification of the operation license. The license provisions may be modified based on the initiative of the Commission, only with consent of the licensee, unless the intended amendments are required for due implementation of the Armenian laws.

Articles 32-39 deal with the content of each type of license and describe the respective rights of the license holders. The Law restricts the possibility of holding multiple licenses in order to avoid monopolistic or oligopolistic practices.

- ***Electrical and Thermal Power, and Natural Gas Provision Contracts***

According to Article 40, concluded contracts between licensees, as well as import and export contracts become effective from the moment of their registration with the Commission. Article 41 specifically deals with consumer contracts and the liability for breach of obligations. In particular, Article 41 (4) gives the supplier the right to refuse the energy (gas) supplies completely or partially if the consumer (i) has used the energy or natural gas under his authority by tampering with the metering device, which resulted in a decrease of the energy or natural gas consumption level registered by the metering device; or (ii) has consumed energy or natural gas without the contractually-required metering device or by means of bypassing it. Pursuant to Article 41 (5), the supplier shall also have the right to disconnect the supply of electricity, thermal energy or natural gas to a customer if the customer does not pay a bill within the period of time established by the Commission. Such disconnection from energy and/or natural gas supply shall follow a warning procedure set forth by the Commission.

- ***Enforcement***

Article 42 gives the Commission the power to impose sanctions in instances of non-compliance or inadequate compliance or violation of the requirements of this Law, the legal acts of the Commission, or the license provisions by the licensees. In particular, the Commission may impose the following sanctions: (i) a warning; (ii) reduction of the tariffs; (iii) suspension of the license; and (iv) revocation of the license.

The licensee shall have the right to express his opinion, voice his suggestions or disagreement regarding the imposed sanction at the Commission's session. In addition, according to Article 43, an appeal against legal acts issued by the Commission can be filed in Court. However, the amount of tariffs established by the Commission is not subject to appeal and cannot be changed by Court.

- ***Guarantees for Ensuring Energy Supplies to Consumers***

Articles 47-56 contain rules for securing energy supply to consumers. Pursuant to Article 47, a distribution licensee must supply energy and natural gas to every consumer in its service territory who has met the requirements of the Supply and Usage Rules approved by the Commission. According to Article 49, all licensees shall prepare operational programmes for dealing with situations requiring unavoidable restriction of electric and thermal energy and natural gas supply, based on the procedures established by the Commission. These programmes shall reflect conditions of priority for service to certain customers. The Armenian Government shall establish a list of such customers.

Article 53 deals with the right of access to electric transmission, natural gas transportation and (or) distribution networks. The access of generation and import licensees to the transmission (transportation) and distribution networks shall be conducted pursuant to the procedure established by the Market Rules. Transmission (transportation) and distribution licensees must transmit (transport) and distribute electric energy (natural gas) through their networks to other licensees or the customer based on the contracts and at the tariff established by the Commission, provided such transmission (transportation) and (or) distribution shall be in conformance with system reliability, safety and technical rules and procedures.

According to Article 55, disputes among the licensees shall be resolved by means of negotiations. Either party may apply to the Commission to resolve the issue at dispute within the Commission's authority. This does not limit the right of the parties to resolve the disputes in a Court.

- ***International Treaties***

Article 57 stipulates that in case the provisions set forth in international treaties of the Republic of Armenia are inconsistent with provisions prescribed in this Law, the former provisions shall prevail.

Part one of Article 59 (Transitional Clauses) deserves attention:

“1. From the moment of enactment of this Law in the electric power system:

(a)

(b) the exclusive right to sell electric power is extended to a person/entity that possesses a license for the distribution (of power) for a period of five years on the territory covered by the license;

(c) all electric power (capacity) produced within fifteen years at small hydropower plants and by using other renewable energy sources shall be purchased in compliance to the rules established on the market.”

The Public Services Regulatory Commission has issued the following Regulations concerning:

- Licenses: The Energy Law requires the Commission to issue licences for generation, import, export, transmission and distribution of electricity and heat, as well as for import, export, transmission and distribution of natural gas. Model licenses have been prepared for electricity generation, transmission and distribution, and for the transmission and distribution of gas. Licences issued to state-owned companies are likely to need modifications in the course of privatisation.
- Model Contracts: The Energy Law gives the Commission the responsibility to ‘register’ contracts concluded between licensees. The Commission has produced 13 model contracts, including contracts concluded between gas importers and transmission companies, contracts between gas transmission and distribution companies, and contracts for the purchase and sale of electricity for residential and non-residential consumers.
- Electricity Tariffs: The single most controversial activity of the Regulatory Commission has been the setting of electricity tariffs. The Commission has recognised that low tariffs (below costs) and poor collection rates are the biggest obstacles to the attraction of private investment (see next section).

The Commission has also adopted a number of regulations in pursuit of the establishment of an attractive investment climate for the development of new and renewable energy sources. The most important are:

- Decree No. 1 dated 13 January 2003 “On the adoption of a procedure for the set-up and revision of tariffs in the energy sector of the Republic of Armenia”, which allows the use of an accelerated depreciation method (up to 16.67% p.a.) for small hydropower plants constructed by using loan capital;
- Decree No 52H dated 2 September 2003 “On the introduction of a ceiling tariff for electricity produced by processing of biomass”, which sets the maximum value of tariff for power supplied by using the “hard city waste to gas to power” technology at 7 cents per kWh net of VAT and a maximum after-tax rate-of-return of 20% for the first 7 years of operation;
- Decree No 20H dated 9 February 2004 “On the setting of tariffs for power supplied by small hydropower plants”, which introduces a fixed tariff of 4.5 cents per kWh for small HPP operating on running natural water, valid until April 1st, 2016;
- Decree No. 21H dated 9 February 2004 “On the introduction of a tariff for power supplied by wind power stations”, which sets a fixed tariff of 7 cents net of VAT per kWh until April 1st, 2016.

2. Summary of laws/regulations relevant to making investment in the energy sector

Other legal instruments than those referred to in section 1 above having relevance for foreign investors include:

- Lithosphere Code (2002);
- Water Code (2002);
- Law on Patents (1993);
- Law on Insurance (1996);
- Law on Standardization (1999) as amended and supplemented (2004);
- Law on Metrology Unification (1997);
- Energy Regulatory Commission’s Resolution No 27 on Licensing Procedures for Activity in the Energy Sector (1998).

3. Summary of participation in international organisations and/or conventions

a. List of bilateral treaties (agreements) on the protection and promotion of foreign investments

The Government of Armenia has signed the following bilateral agreements on the protection and promotion of investments:

Table 17: Bilateral investment protection agreements of Armenia

Partner	Date of signature	Date of entry into force
Argentina	April 16, 1993	December 20, 1994
Austria	October 17, 2001	February 1, 2003
Belarus	May 26, 2001	February 10, 2002
Belgium/Luxembourg	June 7, 2001	December 19, 2003
Bulgaria	April 10, 1995	March 27, 1996
Canada	May 8, 1997	March 29, 1999
China	July 4, 1992	March 17, 1993
Cyprus	January 18, 1995	August 3., 1998
France	November 4, 1995	January 21, 1997
Georgia	June 4, 1996	January 18, 1999
Germany	December 21, 1995	August 4, 2000
Greece	May 25, 1993	April 28, 1995
India	May 23, 2003	
Iran	May 6, 1995	February 26, 1997
Israel	January 19, 2000	June 25, 2003
Italy	July 23, 1998	December 12, 2000
Kyrgyzstan	July 4, 1994	October 27, 1995
Lebanon	May 1, 1995	October 1, 1998
Qatar	April 22, 2002	
Romania	September 20, 1994	December 24, 1995
Russian Federation	September 15, 2001	
Switzerland	November 19, 1998	November 4, 2002
Tajikistan	April 22, 2002	November 18, 2002
Turkmenistan	March 19, 1996	Not ratified, contradicts RA Constitution
Ukraine	October 7, 1994	March 7, 1996
United Kingdom	May 27, 1993	July 11, 1996
United Arab Emirates	April 20, 2002	April 11, 2003
Uruguay	May 6, 2002	
United States	September 23, 1992	January 3, 1996
Egypt	January 9, 1995	Not ratified, text contradicts RA Constitution
Vietnam	February 1, 1993	

In addition, BITs with Finland and the Netherlands have been initialed, and BITs are under negotiation with Australia, Kazakhstan, the Republic of Korea (South Korea), Syria, Malaysia, Ireland, Sweden, Spain, Portugal, Bolivia, Hungary, Slovakia, Brazil, the Czech Republic, Japan, fYR of Macedonia, Morocco, Slovenia, and Jordan.

Armenia is also a signatory to the CIS Multilateral Convention on the Protection of Investor Rights.

b. List of bilateral treaties (agreements) on avoidance of double taxation

The following bilateral treaties of Armenia on the avoidance of double taxation are currently in force:

1. Bulgaria (ratified on 26 September 1995);
2. Romania (signed on 25 March 1996, ratified on 8 September 1996);
3. People's Republic of China (signed on 5 May 1996, ratified on 8 September 1996);
4. Iran (signed on 6 May 1995, ratified on 8 September 1996);
5. Russian Federation (signed on 28 December 1996, ratified on 28 December 1997);
6. Ukraine (signed on 14 May 1995, ratified on 8 October 1996);
7. Turkmenistan (signed on 5 June 1997, ratified on 17 March 1999);
8. Georgia (signed on 17 October 1997, ratified on 17 March 1999).

Treaties with Syria and France are signed, and the agreements with Moldova, Latvia, Lithuania, Estonia, Uzbekistan, Egypt and Lebanon have been initialled. First rounds of negotiations have taken place with Greece, Indonesia, Cyprus, the Netherlands, Belarus, Belgium and Kyrgyzstan.

The Armenian prototype of an Income Tax Treaty is the aggregate of the OECD and UN model tax treaties.

c. Free Trade Agreements

Armenia has concluded Free Trade Agreements with Georgia, Kyrgyzstan, Moldova, Russia, Tajikistan, Turkmenistan, and Ukraine. Under the terms of these agreements, tariff exemptions are extended to goods traded between Armenia and Belarus, Georgia, Kyrgyzstan, Moldova, Russia, Tajikistan, Turkmenistan and Ukraine. Excise taxes are charged at various rates on the import or production of some goods, including alcohol, tobacco and petrol.

In addition, there exist Most-Favoured-Nation Trade Agreements with Argentina, Bulgaria, Canada, China, Cyprus, EU, Iran, India, Hungary, Lebanon, Poland, Romania, Syria, Switzerland, the US and Vietnam.

Furthermore, Armenia has concluded a Partnership and Co-operation Agreement with the European Union that came into effect in July 1999. The Agreement aims to improve economic co-operation and trade within the region and with the European Union.

d. Membership of international organisations

Armenia is a member of the following organizations: APCTT, BSEC, BSBTDB, CCC, CIS, EEC, EBRD, Energy Charter, IFRCRCS, IFC, IMF, ISO, ITU, IPU, FAO, ECE, ESCAP, IAEA, IBRD, ICAO, IDA, IFAD, ILO, IOS, ICDO, ICAO, INTOSAI, IAPNTELSAT, INTERPOL, IOC, ITU, NACC, OIPO, OSCE, RAMSAR, UN, UNCTAD, UNESCO, UNIDO, MIGA, PCCNTBTO, UPU, WEC, WCO, WHO, WIPO, WMO, WOH, World Bank/IDA, WTO (World Tourism Organization), WTO and the Council of Europe. Armenia also has observer status at ADB, NAM, and participates in NATO PFP.

e. Important conventions to which a country is a party (concerning the energy sector and/or investment disputes or intellectual property rights)

Armenia has ratified the New York Convention on Recognition and Enforcement of Foreign Arbitral Awards and adopted the Law on "Arbitration Courts and Arbitral Proceedings".

Armenia is a member of the International Centre for the Settlement of Investment Disputes (ICSID). It gives additional confidence to foreign investors by providing for a quick, effective and qualified settlement of investment disputes.

Armenia has acceded to the following international environmental conventions:

- United Nations Framework Convention on Climate Change (entered into force on 21 March 1994) – Armenia has ratified;
- Kyoto Protocol (adopted in Kyoto and closed for signature on 15 March 1999) – ratified by Armenia;
- Convention on Long-range Transboundary Air Pollution (entered into force in 1983) – Armenia has ratified the Convention;
- Montreal Protocol on Substances that Deplete the Ozone Layer (entered into force on 1 January 1989) – ratified by Armenia;
- Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal (entered into force on 5 May 1992) – ratified by Armenia;
- Convention on Environmental Impact Assessment in a Transboundary Context (Espoo, 1991) – Armenia has ratified the Convention.

4. Exceptions to national treatment

There are no general restrictions applicable to foreign investors concerning the making of investments in the Republic of Armenia. However, Armenia has identified one non-conforming measure concerning the purchase of land by foreigners. Under the Law on Real Estate, only Armenian citizens and companies (including subsidiaries of foreign companies incorporated in Armenia) may own land. Non-incorporated branches of foreign companies may only lease land. Foreign natural persons, stateless natural persons and foreign legal persons not incorporated in Armenia do not enjoy the right of land ownership. The legal text of the exception is attached to the Report.

C. MARKET STRUCTURE AND PRIVATISATION BY SUB-SECTORS

1. Physical features

Overview

Armenia is almost completely dependent on imported energy. There are no producing oil or gas fields and no refineries in Armenia. There are also no coal mines. The only domestic sources of electricity are the hydropower plants and a single nuclear power plant. Fuel rods and other major inputs for the nuclear power plant are also imported.

An historical summary of Armenia's total primary energy production (TPEP) and consumption (TPEC) is shown in Table 18. Data suggests that Armenia imports on the average about two thirds of the energy it consumes. Should power produced from imported fuel rods at the NPP be also considered as imports, the share of imported energy in consumption would be even higher, exceeding 80 %.

Table 18: Armenia's TPEP and TPEC, 1992-2001 (in Quads)

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
TPEP	0.03	0.04	0.04	0.02	0.04	0.03	0.03	0.04	0.04	0.04
TPEC	0.21	0.15	0.11	0.09	0.11	0.09	0.09	0.10	0.10	0.10

Note: 1 Quad = 1 quadrillion Btu. Source: DOE/EIA

2. Oil

a) Exploration and production

Petroleum exploration and production legal framework

Armenia does not produce crude oil and has no refinery. However, the right conditions for oil and gas accumulations do exist in the country, and considerable effort has been devoted to creating the preconditions for private investment in exploration and production.

In the energy sector, the Code of Underground Resources, enacted by Parliament in 2002, has broad enabling principles that allow foreign investment to take place. The Code of Foreign Investment is also important to potential foreign investors. Both laws are fully consistent with the Armenian government's investment objectives.

Title to hydrocarbons in the ground in Armenia is vested in the Republic. The Ministry of Energy has established the closed joint-stock company "Geoenergy" as the focal point for relations with foreign investors in the petroleum sector. It provides access to the exploration databank established during the 1995 Tacis project.

There is no bar to foreign equity involvement in the upstream or downstream ends of the petroleum sector. Applications by interested companies for any exploration license area can be made at any time.

From early on, the Ministry of Energy of the Republic of Armenia embarked on a programme of legislative reform aimed at making Armenia an attractive place for foreign exploration

companies to invest. In 1992, the Ministry requested the assistance of the European Union's Tacis programme. It materialised in a 1-year European Union (Tacis) sponsored project (undertaken by Robertson Research of the UK and Partex of Portugal consortium and completed July 1995). This project resulted in a comprehensive four-volume report on the hydrocarbon potential, the establishment of an exploration databank, and the setting up of a production-sharing type licensing policy. As a result of these efforts, the business climate for foreign companies wishing to participate in petroleum exploration in Armenia was radically improved and negotiation processes streamlined.

All current agreements have to be approved by the government. The model petroleum agreement drafted under the EU-funded Tacis programme of 1994-95 serves as the basis for all negotiations with international oil companies. Some of the terms and conditions contained within this agreement are:

- Negotiable exploratory work programmes and financial commitments;
- Negotiable exploration periods and relinquishment terms;
- A Technical Advisory Committee comprising staff of the international oil company and the Ministry;
- Independent, international sole expert and arbitration resolution in disputes;
- The usual provisions as to appraisal and development of a discovery for both oil and gas;
- Any developed oil and gas can be freely exported;
- Negotiable levels of cost petroleum and profit petroleum splits;
- Standard international provisions for the protection of the environment and for adherence to standards of good oilfield practice;
- International oil company rights assignment;
- No foreign exchange controls;
- Standard international accounting provisions.

Six contract areas have been defined (Fig. 3), at least three of which are available for licensing. They are: Block 1 (AAEC; 5,450 sq km); Block 2 (AAEC; 7,250 sq km); Block 3 (3,325 sq km, presently under negotiations with Indusmin Energy Corp., Canada); Block 4 (open; 5,925 sq km); Block 5 (open: 4,250 sq km); Block 6 (open; 3,600 sq km).

The government and its advisers believe that the draft model production-sharing agreement is entirely consistent with good international practice. Government will entertain negotiations around other contractual arrangements, provided they are consistent with international practice and the government's objectives.⁵

The only contract entered into so far is with the American Armenian Exploration Company (AAEC). In 1997, AAEC signed a Production Sharing Agreement with the Ministry of Energy for an initial period of 5 years, covering Block 1 and Block 2. It was subsequently approved by the Government. The original agreement was extended in 2002 for a further two years. There are no seismic or well drilling work programme commitments associated with the license extension.⁶ Both blocks are presently under rights' transfer negotiations between AAEC and Indusmin Energy Corp., with seismic and wells drilling work programmes commitments.

⁵ Source: Tim Papworth, Andranik Aghabalyan: Armenia's Prospects, OGI, August 12, 2002, with updates.

⁶ Source: AAEC.

Upstream potential and prospects

Fig. 4 illustrates the location of petroleum basins in Armenia. Armenia lies within the Caucasian orogenic belt situated between the Black and Caspian seas. This orogenic belt was formed as a result of the closure of a number of Tethys Ocean tracts since as long ago as the Devonian. The remnants of some of these paleo-oceans are represented in Armenia by up to three narrow, discontinuous belts of ophiolites, which are Jurassic to Cretaceous in age. These ophiolite belts serve to divide the country into a series of NW-SE trending tectonic zones.

The southwestern zone is represented by three basins, the Oktemberyan, Artashat, and Surenavan. They lie along the course of the present day Araks River, which forms the border with Turkey. Their sedimentary section is Tertiary (mainly Oligocene-Eocene) in age and floored by ophiolites (Cretaceous or Jurassic in age) or Paleozoic sediments. The Oktemberyan basin, southwest of Armavir, is prospective for gas.

Figure 3: Petroleum exploration contract areas.



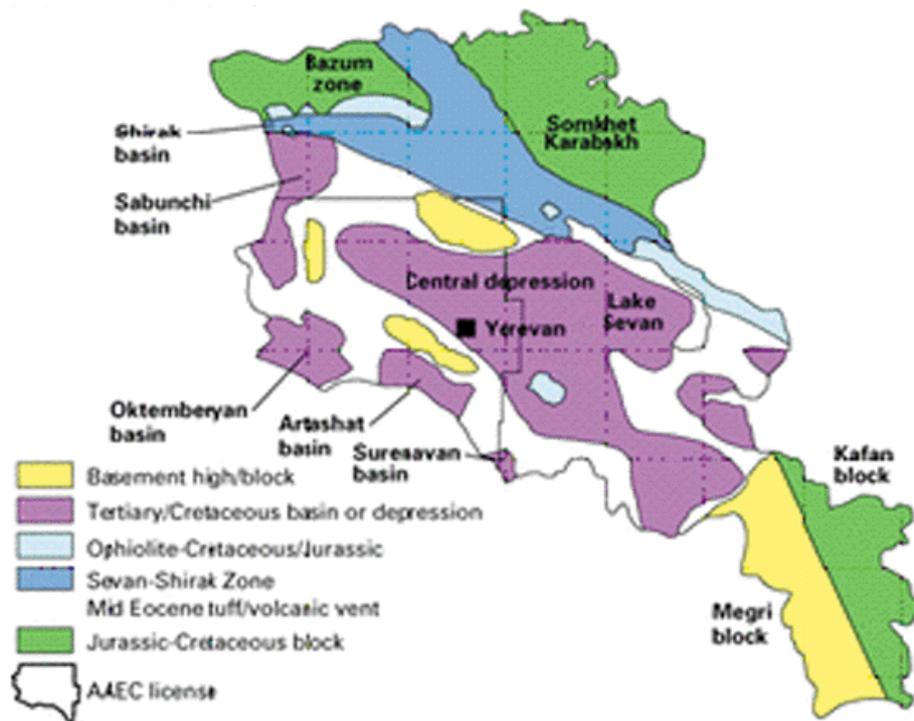
Source: OGJ.

To the northeast, the section rises onto a regional high composed of Paleozoic metasediments, before dipping again into a large sedimentary basin known as the Central Depression, which has oil potential. These sediments range in age from Permian to Quaternary. The structure of this basin is complex, with folding, wrench faulting, and possibly thrust faulting present. Near the northwest end of the Central Depression lies the Aragats volcano, dormant since Pliocene times.

Serious exploration for oil and gas began in 1947. Before gaining independence, there have been two phases (1947-74 and 1981-90). During the first phase, 55 deep wells and 115 structural/mapping wells were drilled. Shows of hydrocarbons were encountered in a number of them. In 1947-53, a systematic study of basin geology, combined with a gravity and surface magnetic survey, was conducted.

During the 60's additional gravity data were acquired in those areas identified as having exploration potential, including the Oktemberyan and Near Araks basins. Nearly 1,000 km of seismic data were acquired in the 1960s, but the low level of technology made the data of very limited exploration use. Well Oktemberyan-13E tested gas at a rate ranging up to 1.54 MMcfd, the flow continuing for six months; other wells nearby recorded lower rates. Oil and gas shows recorded in Shorakhpur-31E led to further drilling on that prospect at a later date. The USSR Ministry of Geology decided to terminate exploration activities in 1974. Soviet planners decided that exploration targets identified from this phase of exploration compared unfavourably with other areas in the USSR, which had lower exploration risk and were closer to existing production infrastructure.

Figure 4: Petroleum Basins in Armenia



Source: OGJ.

The most significant result of the second phase was the recovery of about 1 cu m of oil from a Lower Eocene/Paleocene reservoir in Shorakhpur-1P. This was the first oil recovery of any volume in Armenia. In addition, the Oktemberyan-1P well tested the equivalent of 850 Mcfd of gas (54% methane, the rest mainly nitrogen) for a short duration from fractures in an ophiolite at 4,350 m depth, which indicated the presence of a deep mature gas source rock. Most drilling and seismic activities stopped during 1990, coinciding with the collapse of the Soviet Union.

Many boreholes have been drilled in Armenia, mostly for research purposes and few with serious commercial intent. In the Ararat valley alone, over 200 wells have been drilled. The general motivation of Soviet-style exploration was for quantity (maximum number of meters drilled), often at the expense of quality. For instance, hundreds of kilometers of seismic data were acquired which completely lacked interpretable seismic reflections.

Because of severe technical difficulties in obtaining adequate seismic data over areas covered with basalt, usable seismic data were not obtained until the 1980s. Most boreholes predated the seismic, so that only those drilled in the 1980s could have been located on seismically defined structures. However, for these last wells it is clear that seismic data were only used in

a limited manner. Moreover, drilling rates for boreholes were very slow, averaging less than 16 ft/day. Many boreholes took 2, even 3 years to drill (the Shorakhpur-1P well took over 4 years). This meant reservoirs were left exposed for long periods, with unsuitable drilling muds being used that could have suppressed possible oil reservoir flow.

After independence, in order to determine Armenia's real hydrocarbon potential, the Armenian government requested the assistance of the US Trade and Development Agency (USTDA). A study was undertaken by consultants commissioned by the California Public Services Regulatory Commission during 1993-94. The work was based largely on a 2-week visit to Armenia during a winter of extreme hardship and used only a limited amount of material provided by several local experts. The experts estimated Armenia's total hydrocarbon potential to be nearly 6.4 billion bbl of oil in place and nearly 6.2 tcf in recoverable gas. However, a large portion of these volumes was assigned to parts of the Central Depression (the Hrazdan and Urartu areas), which are only lightly explored.

During 1993-95 a group of concerned Armenian Diaspora businessmen made a serious attempt to fund the drilling of two exploration wells in the Oktemberyan and Shorakhpur areas. This was known as the Armoil project. Unfortunately the project was never fully realized. However, modern seismic equipment was sent to Armenia as a result of this project, which was used later when seismic operations started during 1997.

The 1995 Tacis study concluded that average resource-in-place prospects of 70 million bbl of oil (estimated 14 million bbl recoverable) exist in the Garni-Shorakhpur area, east of Yerevan (part of the Central Depression) and 144 bcf gas resource-in-place prospects (estimated 110 bcf recoverable) in the Oktemberyan basin area. The study identified prospects and leads that totalled 1,775 tcf of gas in place and 422 million bbl of oil in place in the two main basins. However the estimated risk factors were high, the lowest risk recorded being 1 in 7 (14%). According to this study, only 16 wells in Armenia had been drilled on valid prospects. Of these, 13 penetrated the main objective, 3 did not, and 7 were inadequately evaluated. Of the other 6 wells, 4 were dry (Oktemberyan-13AE and 12E, Markara-5P, Garni-1P), while 2 were non-commercial gas wells (Oktemberyan-7P and 13E). The lack of exploration success in Armenia (so far) is primarily due to the failure to identify and drill valid structures, although other factors such as reservoir quality are also very important.

Following from the initial Tacis project, there was a second project assisting government efforts to find oil and gas investors. In due course, this resulted in the eventual signing in January 1997 of a production-sharing agreement (PSA) between the Ministry of Energy and the Armenian American Exploration Co. (AAEC) from San Diego, Calif. AAEC committed to a three-well programme and 60 km of seismic, all to be completed within 1 year, and a minimum expenditure of \$10 million. The programme itself, given the large size of the concession, was reasonable and fair but the time period for achieving it proved to be unrealistic. During July 1997 to March 1998 AAEC recorded 210 km of reflection seismic data using an Armenian seismic contractor, Atom Energy Seismic Projects. In August 1997 AAEC purchased a Skytop Brewster drilling rig in France and had it shipped via the Black Sea, arriving in October. AAEC set up its own camp, and drilling of the Azat-1 exploration well commenced in December. By July 1998 the well had reached 3,524 m, having encountered minor oil traces. By this time over \$20 million had been spent. Mainly for financial reasons, drilling ceased while technical studies continued. AAEC relinquished the northern part of the license (Block 1) in February 2002 and retained the southern Block 2 (7,250 sq km) until February 2004. The Ministry of Energy released AAEC from its remaining work obligations. AAEC is seeking new investment partners.

These recent studies suggest that the two oil prospects, Shorakhpur and Nubarashen, east of Yerevan, contain potential recoverable volumes of 20 million bbl each. Over 10 years the two fields could produce a combined 11,000 b/d of oil, exceeding the current daily consumption of petroleum products in Armenia. Other fields could exist, particularly northwards into the deep Aramus basin, which is believed to be the main oil generating source area.

The four gas prospects identified in South-western Armavir have sizes of 10 to 40 bcf of recoverable gas. Statistically these are "most likely" estimates; actual reserves could be much greater. At least another eight similar size (or larger) prospects are known but require more technical work⁷.

b. Oil products trade, distribution and retailing, oil storage, emergency planning

Legal framework

Imports of diesel and petrol are subject to a special law on presumptive payments, due from both legal entities and natural persons. Irrespective of results of economic activity of payers of presumptive payments and irrespective of customs value, the presumptive payment rate per ton has been set for diesel fuel at \$65 per ton (payable in either Drams or foreign currency) and for petrol at \$222 per ton. Value share of VAT in the total amount of presumptive payments was set at 68.7% for diesel fuel and 39.2% for petrol.

Retailing is competitive, with many private gas stations offering fuel, lubricants and services. Petroleum product prices were liberalized in 1993.

Market structure

Armenia does not have large oil refineries and all of the oil products are imported. Imports currently run at about 350,000 tons per year, mostly engine fuel (gasoline, Diesel, and jet, cf. Table 19). There are practically no exports of oil products. Stocks run at insignificant levels and are basically limited to operational buffer stock at distribution depots and retail outlets. Fuel oil (used mostly at power plants) is de-emphasized, since the intention is to use mazut only as an emergency ("strategic") back-up fuel stock at power stations.

Petroleum products are an important item in Armenia's imports. Petroleum products' share in total primary energy consumption in 2001 was 11.7%.

By far the greater part of oil products imports originates in Georgia at the Batumi refinery (over two-thirds of total). Shipments are mostly via a single-track railroad linking Armenia to Georgia. There are some 260 rail tank cars in operation in Armenia.

⁷ Source: Papworth *et al.*, *op. cit.*

Table 19: Imports of Petroleum Products, 1997-2003 (in thousand tons per year)

Refined Product	1997	1998	199	2000	2001	2002	2003
Motor Gasoline	291.8	276.51	258.2	181.5	187.3	177.7	191.7
Jet Fuel	54.6	51.5	30.8	37.2	39.7	51.2	25.9
Kerosene	10.0	7.4		2.0			
Diesel Fuel	89.0	78.2	87.0	70.3	87.3	85.5	109.5
Residual Fuel Oil (Mazut)	2.3	8.9	2.0				
Liquefied Petroleum Gases	5.8	6.7	12.1	15.3	13.8	24.8	25.4
Total	453.5	429.21	390.1	306.3	328.1	342.0	353.5

Source: RA Customs Service

Due to the dispute over Nagorny Karabakh with Azerbaijan, Armenian railroad trains are not allowed in Azerbaijan, either to destinations in that country or in transit to Russia. A second railroad transit route to Russia via Georgia is also blocked, since it crosses the region of Abkhazia, which is affected by a civil dispute with the Georgian government.

On the other hand, Turkey has closed its railroad border point with Armenia at Akyaka. The crossing at this junction involves the change of railcar bogeys from the Russian wide gage standard to the European gage standard.

Given the absence of access via Azerbaijan and Turkey, Georgian operators remain the only rail link of Armenia – for cargoes from the ports of Poti and Batumi. For the time being, the only other option to supply Armenia with oil products is by road from Iran. Traffic is handled exclusively by Iranian trucks. The road to Iran is mountainous. Combined, all these factors result in relatively small volumes of petroleum products entering Armenia from Iran⁸.

Oil products storage infrastructure in Armenia is generally adequate in capacity. At maximum nameplate charge, it can store up to 1.2 million tons of light products and 0.9 million tons of fuel oil, by far exceeding current annual consumption. However, most depots do not comply to modern standards to begin with, and many need repairs.

In 1999-2000, the government reorganized the petroleum products distribution sector, by splitting and subsequently corporatizing and privatizing the newly formed branches of the former government distribution monopoly. The largest branch (“Haynavatamterk”) was sold in 2000 in its entirety for 133.5 million dram (approx. \$250,000) through open subscription at a 25 % discount to the company's assessed value, a common privatization norm⁹.

The petroleum products import is handled mostly by a few major players. The following companies are active in wholesale trade in petroleum products:

1. MAX CONCERN Limited Liability Company
2. MIKA LIMITED Co.Ltd
3. ARAKS Co.Ltd
4. GAS AMA Limited Liability Company
5. AGRO-PETROL SERVICE Co.Ltd
6. MIKA ARMENIA TRADING Limited Liability Company
7. SERGEY GROUP Co.Ltd
8. OKTAN PLUS Limited Liability Company

⁸ Ibid.

⁹ Source: Ministry of State Property Management.

9. FLASH Co.Ltd
10. GARNI Co.Ltd
11. MERAAT IRANIAN INTERNATIONAL TRADE CO. CJSC, ARMENIAN REPRESENTATION
12. TIRE Co.Ltd
13. VYAK Co.Ltd
14. DIDI GROUP Co.Ltd
15. GOSH-GAS Limited Liability Company

The availability of natural gas and technologies that make possible its use in vehicle engines are two factors that have facilitated the conversion of many users of engine fuels from gasoline to natural gas. Of particular importance are bus and truck fleets consisting of older vehicles with carburetor-fitted engines, i.e. engines that are most likely to be especially polluting and use excessive amounts of fuel. The technology used is that of compressed natural gas (CNG) held in bottle-type containers located on the roof of the bus, behind the truck driver's cabin or under the chassis. Although not particularly advanced, this solution for the use of CNG in automotive applications fits the requirements of the local market reasonably well, since distances between cities in Armenia are not long and a battery of CNG bottles is generally sufficient to allow the daily vehicle runs without refueling.

The price advantage is the major driving factor for conversion from liquid fuel (gasoline) to CNG; the conversion also leads to savings in fuel cost, as well as to longer engine life due to the superior anti-knock and non-corrosive properties of CNG. A positive externality is the reduced environmental pollution. Due to these private and public benefits, the Government intends to maintain its current policy of promoting the use of CNG in vehicle engines by preserving the price advantage of CNG over gasoline, running awareness programmes about CNG technologies and adopting a Law on the Use of Alternative Engine Fuels.

To further improve imports and marketing of oil products, the Government of Armenia and the IMF agreed to implement in 2004 the following steps:

- Increasing presumptive taxes on diesel fuel by January 1, 2004;
- Make the presumptive tax on natural gas used by vehicles a function of sales, while increasing the minimum tax on each pump from 1 million drams per month to 1.5 million drams per month (expected yield: 0.4 billion drams);
- Assuring that the incentives to use natural gas are not eroded, by introducing a presumptive tax on petrol stations based on the number of gasoline pumps, as it is currently done for natural gas (expected yield: AMD 0.3 billion);
- Passing legislation to ensure that customs clearance of all petrol imports is undertaken at the point of entry in order to reduce smuggling;
- Networking all customs houses and passport-reading machines by a single system. Despite lack of progress in populating the valuation database with invoice values, assuring that the share of commercial imports whose approved customs value is determined by the transaction price will increase to at least 50 percent by mid-2004. As more imports are valued at transaction prices, a system of post-clearance audits is required. This programme will become operational by the end of this year. Beginning January 2004, a system is implemented whereby commercial importers and brokers

will be able to prepare their own customs declarations at the time of importation using the customs computer system¹⁰.

3. Coal

Coal (including bituminous and oil shale) is the only fossil fuel of which Armenia has known resources. Total in-place reserves are 200-250 million tons. There are six known coal fields, at Antaramut (in the north), Ijevan (northeast), Jajur (northwest), Jermanis (west central), Nor Arevik (south), and Shamut (north). In addition, there are also oil shale deposits at Jajur, Nor Arevik, Aramus (central), and Dilijan (north central).

However, there has never been much of a systematic evaluation to determine how much coal or oil shale can be mined economically. There seem to be exploitable deposits at Ijevan, in the northeast part of the country, and Jermanis, in the west central part of the country, and there are plans to open at least one state-owned mine¹¹. A map of Armenia's coal and oil shale deposits is shown in Figure 5.

To build a better understanding of the quality of the resources in economic terms and assess the feasibility of coal mining, the government of Armenia has requested foreign technical aid. A multi-year Coal Resources Assessment Programme funded by USAID was developed and implemented by the United States Geological Survey (USGS). As a part of the programme, a geochemical laboratory to determine the quality of coal has been set up and is currently operating in Armenia. The laboratory is furnished with up-to-date equipment designed to obtain the most precise data on heat combustion, humidity, volatility, the content of sulphur, and other major parameters of coal. A database on resources in Armenia has been created on the basis of numerous archive documents. This database is being continually processed and enlarged at the computer centre operating at the geochemical laboratory.¹²

Under the USAID-funded programme, the USGS conducted detailed fieldwork on six coalfields in Armenia and exploratory drilling in one of those six coalfields, the Antaramut-Kurtan-Dzoragukh coalfield. Several comprehensive reports on coal and oil shale fields have been released, including a pre-feasibility study of the Antaramut-Kurtan-Dzoragukh coalfield. The study indicates that there could be some 916,000 tons of recoverable reserves at the site (of which 714,000 tons surface and the remainder auger), exploitable over a period of up to 20-25 years (about 30-42,000 tons per year). Total capital requirements were estimated at about \$1.2 million of which \$0.9 million equipment and \$0.3 million working capital.

The estimated cost of coal at the minemouth was in the range of \$16.03 to \$20.43 per ton, with sale or market price for such coal suggested to range from \$20.04 to \$25.54 per ton at the coal sales yard. To match the \$8.81/Gcal price for natural gas fueling a proposed 50-MW (electricity generating) fluidized circulating bed plant, the coal, at 4,673 kcal/kg, could be sold for as high as \$40.67/ton on an energy-content basis. A comparison with home heating natural gas in Yerevan, at 0.9 cents/m³, indicates that the coal could be sold for as high as \$51.32/ton on an energy-content basis. The above energy comparisons are on an energy basis and do not include coal transportation or coal- and ash-handling costs¹³. The environmental impact of coal mining in the main forest areas of Armenia have also not been taken into consideration.

10 Republic of Armenia - Letter of Intent, Memorandum of Economic and Financial Policies, and Technical Memorandum of Understanding, IMF, October 30, 2003.

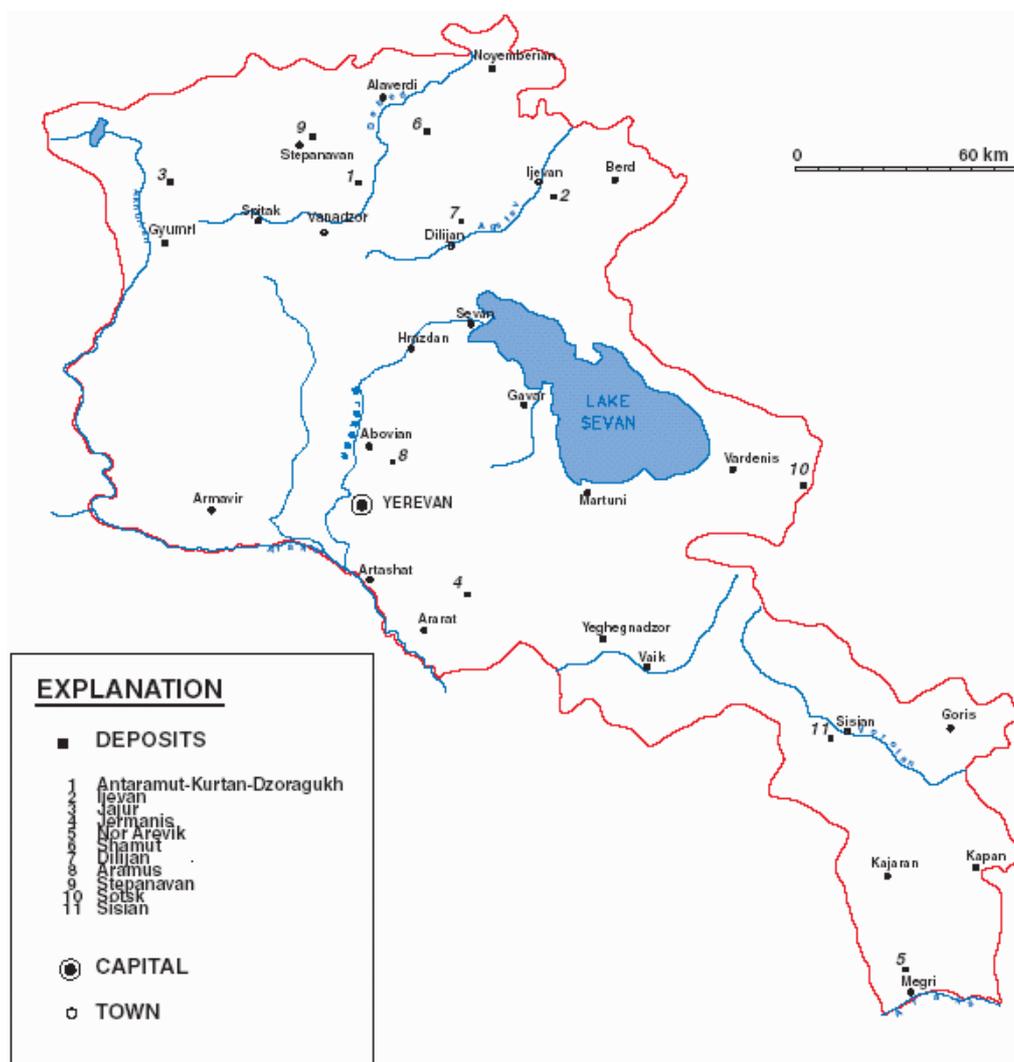
11 Source: US DOE Fossil Fuel International: An Energy Review of the Republic of Armenia.

12 Source: OHCA.

13 Source: U.S. Geological Survey Bulletin 2178.

Another attempt to begin coal production in Armenia was made earlier, at the height of the energy crisis in the early 90's. A special fast-track programme was designed aiming at opening a mine at the Djadjur deposit. The objective of the project, funded by USAID, was to improve fuel supply to households during the winter by producing up to 400 tons of coal per day (up to 50,000 tons per year). The mine was officially opened on 16 December 1995, as a fully functional surface coal mine with housing for the crew, electrical wiring in place, an on-site doctor and cook, and a dozen working trucks, bulldozers, and other heavy equipment. Apart from the direct benefit of fuel supply, the project assured the transfer of technology/know-how from Fluor Daniel to miners and geologists in Armenia, the identification of private fuel and equipment suppliers which will benefit the larger USGS effort, and a working model for future projects¹⁴. Despite these early hopes, however, the Djadjur coal mine never achieved its target output levels and at the moment is all but inoperative.

Figure 5: Locations of Armenia's Coal and Oil Shale Deposits



Source: U.S. Geological Survey

Currently, there is no coal production in Armenia of any significance. Armenia's coal consumption of about 5,000 tons per year of imported hard coal is mainly for home heating.

¹⁴ Source: USIA European Wireless File, January 20, 1995.

4. Natural Gas

a. Statutory framework

The natural gas sector in Armenia is considered to be a natural monopoly. It is regulated by the Public Services Regulatory Commission, an independent regulatory body, which acts pursuant to some government authority transferred to it and to the Law on the Public Services Regulatory Body. The Public Services Regulatory Commission issues and revokes Operating Licenses for import, transportation, export and distribution of natural gas. Operating Licenses may be granted only to legal entities.

Natural Gas Transportation Licensees have the right to transport natural gas throughout Armenia, to purchase natural gas from the generator (explorer) and/or importer and to sell natural gas to Distribution Licensees or directly to consumers, and to provide dispatch services. Holders of natural gas generation (exploration), import and distribution licenses must comply with the instructions issued by the Central Dispatch Service.

Natural Gas Distribution Licensees are granted the exclusive right, within a defined geographic area, to distribute (sell) natural gas to consumers and take delivery of (purchase) natural gas from the natural gas transportation network. Natural gas distribution licensees must comply with the instructions of the natural gas transportation Central Dispatch Service.

The Public Services Regulatory Commission registers existing energy supply contracts between Energy Sector Operation Licensees, develops and applies energy supply model contracts between Operation Licensees, as well as model contracts for natural gas supply to consumers, and conducts discussions for the settlement of disputes between economic entities within its jurisdiction.

Natural gas prices (tariffs) in Armenia are administered by the Public Services Regulatory Commission. It is specifically authorized to set tariffs for natural gas. Tariff setting principles for natural gas are identical to those for power and heat.

Tariffs are developed by the Operation Licensee and submitted to the Public Services Regulatory Commission for approval. The Public Services Regulatory Commission may either approve or disapprove any tariffs proposed by an Operation Licensee. The Public Services Regulatory Commission must rule about proposed tariff changes within 90 days after submission of the request by the Operation Licensee. New tariffs must be made public and become effective 30 days after public notice.

Operation Licensees must also submit to the Public Services Regulatory Commission information about their activities during the past year and anticipated activities for the current year.

The supply of natural gas may be discontinued or limited and appropriate supply schedules may apply in cases of natural calamity, military acts and major failure of gas supply equipment. The supply of electrical energy, thermal energy and natural gas to consumers may be discontinued or limited in case they fail to comply with their contractual obligations.

b. Imports and exports, alternatives and dependence, transportation and transit

Armenia does not have proved reserves and does not produce natural gas. All of the gas is imported and all imports at present come via Georgia from Russia. In power generation,

electricity generated from gas constituted in 2003 about 27% of total power consumption in the country. In dry years, its share may reach 40%.

Gas consumption peaked in 1989 at 6.5 billion cubic meters (bcm). Subsequently, it has stayed generally at under 2 bcm per year. Table 20 provides data on gas consumption in recent years.

Table 20 Natural Gas Consumption in Armenia, 1992-2001 (in billion cubic meters)

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Consumption	2.33	1.73	2.01	2.01	2.26	1.62	1.73	1.62	1.77	1.73	0.952	1.034

Source: ArmRusgasprom CSJC

ArmRusgasprom, the gas transmission and distribution utility in Armenia, is a closed joint-stock company which is 45% owned by Russia's Gazprom, 45% by the Ministry of Energy of RA and 10% are owned by Itera. This ownership structure has been in effect since July 2001. Prior to July 2001, the state-owned company Armgazprom, which disappeared when ArmRusgasprom was formed, handled gas transmission and distribution. ArmRusgasprom has a payroll of over 4,000 and reports sales in the range of 52 billion Drams (2003).

ZAO ArmRosgazprom is trying to stimulate gas use as an engine fuel in automobiles in Armenia and is at the moment operating nine (natural) gas filling stations. In addition, there are more than 35 other private gas filling stations in the country.

The sole importer of natural gas to Armenia is ArmRusgasprom; however, there are no legal or other bars for other companies to import gas in Armenia.

A change in Russian suppliers in 2003, from the Russian independent Itera to state-owned Gazprom, occurred in 2003. In the summer of 2003, Gazprom signed agreements with both Armenia and Georgia designating Gazprom as the countries' predominant natural gas supplier into the future. For Armenia, a 5-year agreement was signed on June 17, 2003.

At the moment, the entire gas transmission and distribution system of Armenia is owned and operated by ArmRusgasprom. The system includes main gas transmission lines, distribution lines, an underground gas storage, gas distribution (pressure reduction) stations, gas metering stations and equipment for corrosion control (cathode protection equipment).

Armenia was first connected to the gas network of the USSR in 1959 and since then about 2,000 km of transmission pipelines were built (cf. Table 21). The system is designed as a "dead end" one, i.e. there are no compressor station (CS) in Armenia¹⁵ and gas flow is supposed to be assured by upstream in Russia and Georgia, particularly CS Kvecheti (Georgia). There are also over 9,000 km of low-pressure (≤ 12 bar) gas distribution lines.

¹⁵ Except the compressor station at the Abovian underground gas storage, which serves injection into the storage only (see below).

Table 21: Natural Gas Transmission Pipe Stock

Pipe diameter, mm	Length, km
1,200	56.2
1,000	239.97
700	565.09
500	621.27
less 500	236.04
Total	1,718.57

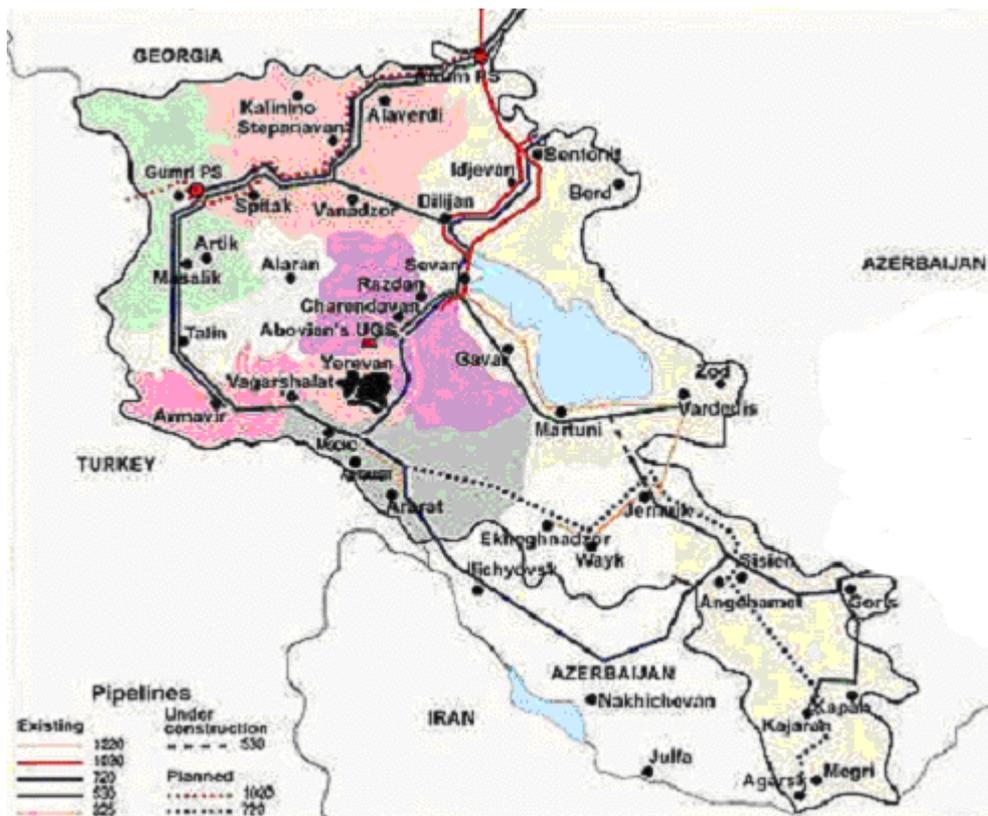
Source: INOGATE.

In a sense, the transmission system actually consists of two sub-systems:

- A “backbone” subsystem consisting of large diameter pipes ($\geq 1,000$ mm) between the Georgian border and Yerevan;
- A “secondary” subsystem, consisting of 500-700 mm branch lines (loop northwest of Yerevan) and a link downstream to Goris, where it branches three-ways.

Figure 6 illustrates the outlay of Armenia’s main gas pipelines.

Figure 6: Outlay of Armenia’s Main Gas Pipelines



Source: Itera, quoted in US DOE Fossil Fuel International : Energy Review of the Republic of Armenia.

The maximum design capacity for the Georgia-Armenia subsystem is 24.6 Mm³ (9 bcm/year). The theoretical maximum daily flow rate is determined by the volumetric throughput capacity of CS Kvecheti station (34.2 Mm³). The maximum design pressure is 55 bars, with maximum nominal operating pressure 49 bars. In fact, the system is operated at pressures well below these limits. Minimum required pressure at any end point in the system is 12 bars.

Considering the consumption of 34.2 Mm³ as the daily peak rate and re-calculating the annual flow rate on the basis of the seasonal loading profile yields an annual transport capacity of about 7.4 bcm/year. However, the current condition of the system only allows maximum daily flows of up to 10 Mm³ (3.7 bcm/year). This is still healthily beyond current demand and gas is delivered to Yerevan at 20 bar-g (much higher than 12 bar-g assumed as minimum delivery pressure)¹⁶.

In practice, the pressure in the transmission line system is set up at CS Mozdok (Russia), which due to abrupt fall in gas consumption in both Georgia and Armenia is only switched on occasionally when seasonal increase of gas consumption occurs (winter). The next compression stations (CS Chmi in Russia and CS Kvecheti in Georgia) have been out of operation for many years. For these reasons, the inlet pressure at the border of Armenia is at present limited to 15-25 bar instead of 55 bar design pressure, which sharply reduces the gas pipeline capacity¹⁷.

During the period of the USSR, the gas transmission infrastructure of the Caucasus (Armenia, Georgia and Azerbaijan) was operated as an integrated network. Gas was supplied mainly from Central Asia to Azerbaijan and then on to the pipelines of Georgia and Armenia. The situation changed drastically with the break-up of the USSR and the change in the geopolitical outlook in the Caucasus itself. At present the two gas pipelines connecting Azerbaijan with Armenia are shut down and the only route open for the import of gas into Armenia is from the Russian Federation via Georgia. Actual inter-system flows in 1989 (when gas consumption in Armenia peaked) and 2001 are listed in Table 22.

Table 22: Actual inter-system gas flows

No	Inter-system connections	1989		2001
		bln m ³	%	bln m ³
From Azerbaijan				
1	Krasni Most-Alaverdi, D 700 and D 500	0.9	15.0	
2	Kazakh-Yerevan, D 1000 and D 700	4.7	78.3	
3	Yerevan-Ilyichevsk, D 700			
4	Yevlach-Stepanakert-Goris, D 700	0.5*	6.7	
To Azerbaijan (Nachichevan)				
5	Goris-Nachichevan, D 700	0.1		
From Georgia				
6	Krasni Most-Sev Kar-Berd, D 1000			1.4
	Total	6.1*	100	1.4

* - Including 0.1 bcm in transit to Azerbaijan. Source: INOGATE, US DOE

The complete dependency of Armenia on very few suppliers of natural gas, who have also gained control over the operation of the national system and direct access to end consumers in the country, has prompted the government to look at alternatives. The poor technical condition of the only line that delivers gas to Armenia now is an additional incentive in this respect.

Taking into account the strategic importance of the diversification of the supply routes for gas into Armenia, over the recent years negotiations have been actively conducted with Iran for the construction of approximately 90-mile pipeline between the two countries.

¹⁶ Source: INOGATE Project 96.04.

¹⁷ Source: INOGATE.

The negotiations are proceeding successfully and the start-up of the pipeline's construction is expected already in 2004. The construction is to be done simultaneously, with each country working on its section of the line. The cost of Armenia's section of the pipeline is estimated at \$100 million.

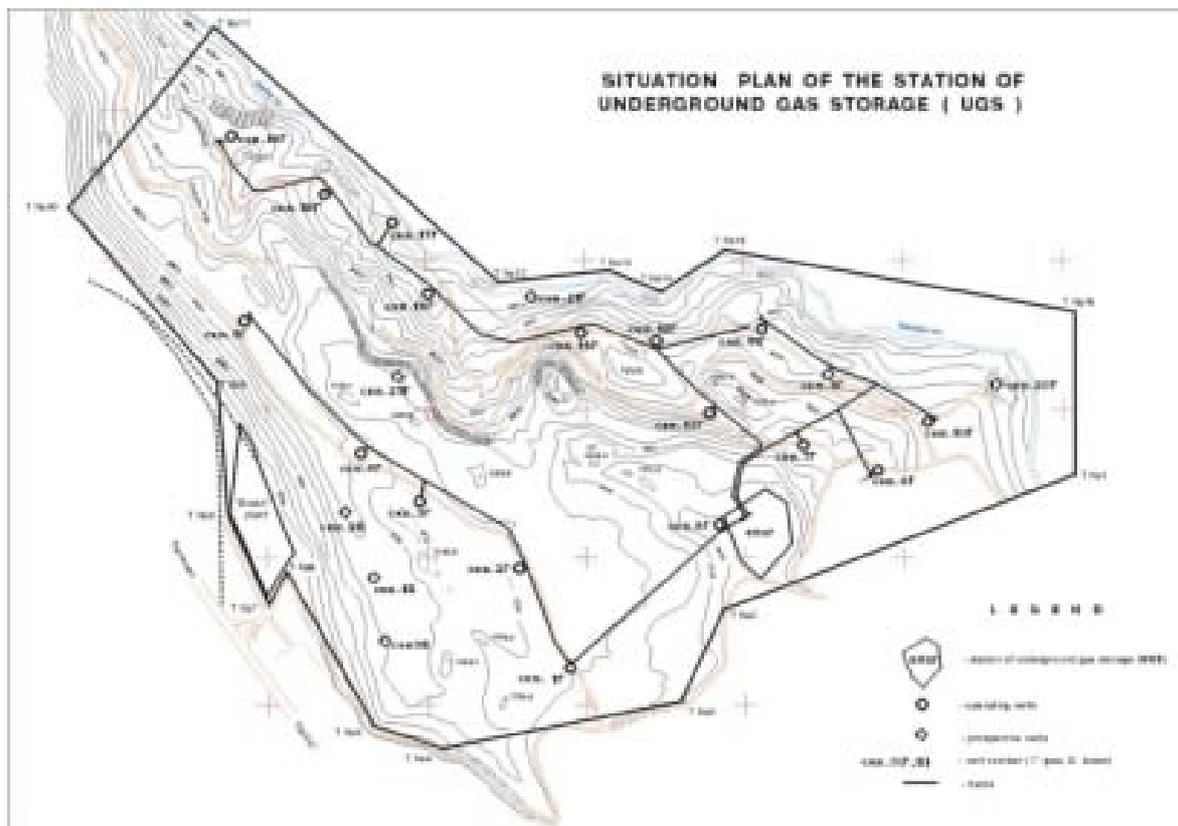
c. Storage

The Abovian Underground Gas Storage (UGS) facility is located fairly close to Yerevan and occupies a site of 140 hectares. The storage is salt cavern type with a design capacity of 190 million m³. It is used mainly for seasonal regulation of gas supply.

Construction began in 1962 and the facility was commissioned in 1968. In case of complete interruption of imports, the underground gas storage is capable of providing gas to major consumers for up to 1-3 months, depending on the season.

The gas is stored in caverns leached out in underground salt layers. A total of nineteen wells have been drilled. The compressor station has a maximum design injection pressure of 125 bars. Since 1985, maintenance has been poor due to shortage of funds. Further damage was caused by an earthquake in 1988. There have been failures at two wells (N6 and N9) and gas leakages, requiring a decrease in the operating pressure. The compressor station is past its design life. As a result of the above, the maximum capacity of the facility has been reduced from its nameplate capacity of 190 million m³ to about 80-100 million m³.

Figure 7: Abovian Underground Gas Storage Site Outlay



Source: INOGATE.

The main installations at the UGS are (cf. Fig. 7):

- Underground salt caverns;

- Loop manifold of wells (gas pipelines) and technological pipelines (water and brine pipelines);
- Metering and gas pressure reduction units;
- Compressor room;
- Power supply system;
- Office building;
- Auxiliary equipment.

The results of audits and studies done by ZAO ArmRosgazprom show that the funds needed for the reconstruction and the rehabilitation of the existing UGS facilities and capacity are \$27 million.

The programme for the development of the gas supply system of the Republic over the next 3-4 years foresees the complete restoration of gas supply to the population at 1989 levels and the hook-up to the system of those communities that do not yet have a connection to the gas supply system.

5. Electricity

In 1997-1998, the Government initiated reform in the electric power sector. As a result of the restructuring of the vertically integrated unitary power system of the RA, at present closed joint-stock companies have been established: power generators; high voltage power transmission network company; power distribution company; account settlement center and power system operator. Some contracting and financial accounting functions are for the time being still performed by ZAO Armenergo, which will be liquidated when direct power sales contracting between generators and distributors takes over.

Privatization of the sector's companies is proceeding at a lively pace. As of today, all maintenance and repair and construction entities have been privatized, and privatization of R&D units is about to be complete. Among large power companies, the Vanadzor TPP, the Sevan-Hrazdan HPP cascade, the Hrazdan TPP and the power distribution company have been privatized. There are no immediate plans to privatize the power transmission company, the settlement center, the grid operator and the Armenian NPP.

At the moment, the Ministry of Energy and the Public Services Regulatory Commission are developing Rules for the power market that incorporate direct contracting between generators and distribution companies, aiming at subsequent gradual increase of the degree of liberalization of the market.

a) Generation

Armenia depends on three types of power generation: thermal, hydro, and nuclear; the system also includes transmission and distribution grids. The Government of Armenia (GOA) has separated the power sector into three sub-sectors: generation, transmission, and distribution. Privatization was carried out first in the distribution sub-sector, transferring into private hands the activities of sale and retail trade in power, bringing a measure of order to collection and securing acceptable conditions for the subsequent privatization of generating capacity. Generation and distribution sectors are slated for privatisation first.

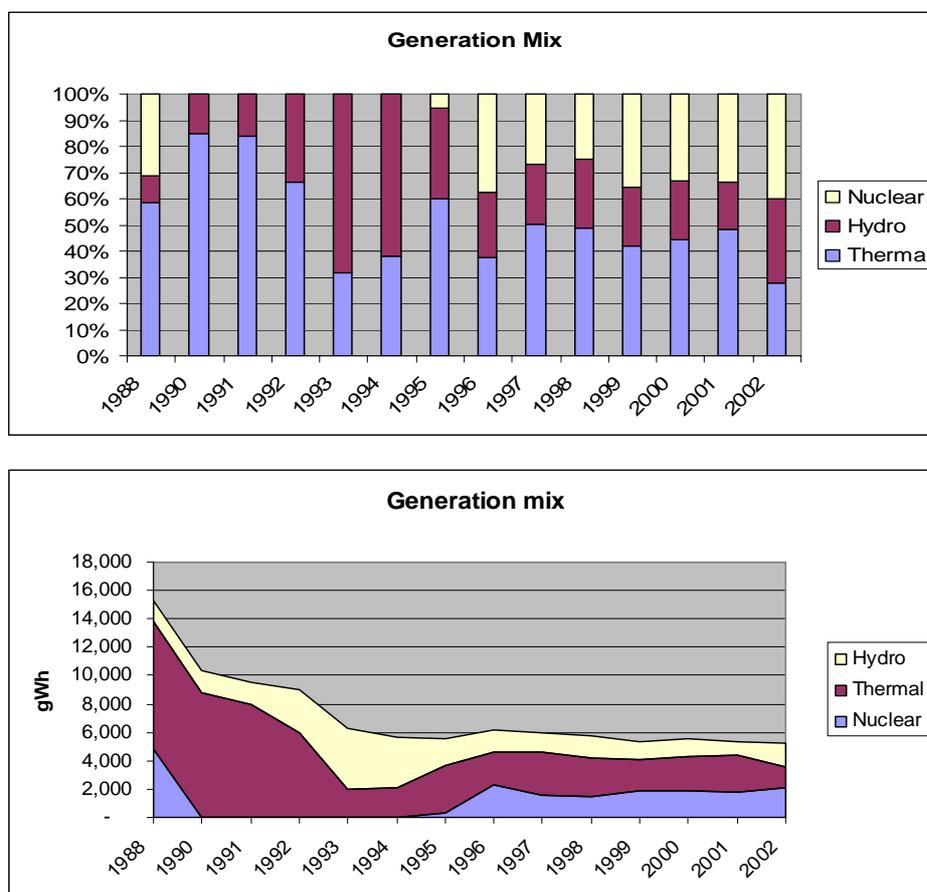
The installed capacity of thermal, hydro, and nuclear plants is detailed in Table 23.

Table 23: Breakdown of Power Stations by Installed Capacity

PLANTS	CAPACITY	DESCRIPTION
A. THERMAL Three plants, dual fired	1,756 MW	Fuel is imported natural gas and fuel oil (mazout). Fuel oil use is minimal since 1997. Plants are aging, inefficient and in need of rehabilitation.
A.1 Hrazdan	1,110 MW Section 1: 2x50 and 2x100; Section 2: 3x200 and 1x210	Dry cooling towers, generally condensing type turbines
A.2 Yerevan	550 MW Section 1: 5x50; Section 2: 2x150	Wet cooling towers, condensing and heating (stem extracting) type turbines.
A.3 Vanadzor	96 MW 2x12, 1x25, and 1x47 MW	Wet cooling towers, backpressure type turbines, common header type.
B. HYDRO	1,032 MW	Current state of plants varies, most need major investment.
B.1 Lake Sevan cascade	556 MW	Lake Sevan feeds plants along the Hrazdan river. Lake Sevan is severely depleted due to past overuse.
B.2 Vorotan River cascade	400 MW	There are three large plants totaling 400 MW.
B.3 Small HPP	76 MW	Dzora HPP (26 MW) and more than 20 small private HPPs.
C. NUCLEAR	408 MW	
Metzamor	408 MW	Only Unit 2 is operational. Unit 1 is not in use.
TOTAL	3,196 MW	

Source: US DoC ITA, with minor amendments.

Figure 8: Generation Mix Patterns



Source: World Bank [Julian Lampietti (ECSSD), Task Team Leader, et al.: Outcomes of Power Sector Reform in ECA: The Case of Armenia]

Unless investment in repairs, upgrades and new facilities are undertaken, installed capacity is expected to fall well before the year 2010. Available capacity is already well below nameplate at many hydro- and thermal plants. Figure 8 shows the shifting mix of power actually generated between 1992 and 2003. The shift from hydro to nuclear and thermal power since 1995 was spurred by the re-start of Unit 2 at the Armenian NPP. It was followed by reduction of generation at the Sevan-Hrazdan HPP cascade, caused by limitations on water use from the (Sevan) lake for the purpose of irrigation only, with quantity of water use regulated by special decrees of the Government.

Should Armenia’s dependency on imported fuel rods for the Metzamor NPP be taken into account, hydroelectric power is by far the most important domestic source of energy, providing 36.0% of electricity in 2003. Armenia's largest and longest river is the Araks, which flows southeastward from Turkey and forms part of Armenia's border with Turkey and Iran before entering Azerbaijan. The most important river for agriculture in Armenia, however, is the Hrazdan, which outlets from Lake Sevan and flows southwestward, through Yerevan, to merge with the Araks. A map of Armenia's rivers is shown in Figure 9.

Figure 9: Armenia's Rivers



Source: Food and Agriculture Organization of the United Nations, quoted in US DOE International Fossil Fuel Energy Overview of Armenia.

Table 24 lists hydropower plants in Armenia with installed capacity exceeding 10 MW. Almost all hydropower plants are located on just two rivers, the Hrazdan and the Vorotan.

Problems with obsolescence and poor maintenance have reduced available capacity at both cascades. At the moment, investment is underway at the cascades for the purpose of restoring their design capacity.

Lake Sevan is an alpine lake (1,900 meters above sea level). Many small rivers flow into the lake, but the only outlet is the Hrazdan. In the 1930s, a project was implemented to divert most of Lake Sevan's water into the Hrazdan for irrigation and to generate hydroelectric power. There are six hydroelectric plants on the Lake Sevan-Hrazdan River Cascade in west-central Armenia, including the Sevan plant which also acts as a water intake structure for the Hrazdan from Lake Sevan. These six power plants are known as the Sevan-Hrazdan Cascade and have a combined nominal generating capacity of more than 500 MW.

By the 1950s, when the hydroelectric cascade had been constructed, nearly one-third of the lake waters had been drained. In the 1960s, remedial action was undertaken, and a tunnel was constructed to divert water from the Arpa River (a tributary of the Araks) into the lake; the project was completed in 1980 and the lake's level stabilized at a low level. Another tunnel was completed in 2003, which feeds water into the lake from the Vorotan river.

The other major cascade of three hydroelectric power plants on the Vorotan River in southern Armenia is newer. It has a combined capacity of about 400 MW and an annual electricity production of more than 1 billion kWh. However, the completion of the Vorotan tunnel will result in a significant reduction. At present, the Vorotan Cascade power plants have the lowest cost of production per kilowatt-hour in Armenia.

Table 24: Existing Hydroelectric Generating Plants in Armenia (10 MWe and larger)

Generating Facility	Location		Rated Capacity (MWe)
	River	Marz	
Arghel	Hrazdan	Kotayk	224
Shamb	Vorotan	Syunik	170
Tatev	Vorotan	Syunik	156
Kanaker	Hrazdan	Yerevan	102
Atarbekyan	Hrazdan	Kotayk	82
Spandaryan	Vorotan	Syunik	76
Arzni	Hrazdan	Kotayk	71
Yerevan	Hrazdan	Yerevan	49
Sevan	Hrazdan	Gegharkunik	34
Dzora	Debet	Lori	26

Source: Utility Data Institute, quoted in US DOE International Fossil Fuel Energy Overview of Armenia.

Armenia is trying to regain some of the lost capacity by various major refurbishment projects. The Kanaker power plant had been derated from its nominal 102 MW capacity down to just 38 MW. A similar situation exists at Arghel, the largest hydroelectric power plant in the country, where the capacity had to be derated from 224 MW to 65 MW. In 1997, the German Government extended a loan of US \$13.89 million for the rehabilitation of the generators and electrical part of the Kanaker hydropower plant. Work was carried out and completed on turbines and generators with their associated auxiliaries, as well as gates and penstocks and also control and substation equipment.

A new hydroelectric plant construction programme has been proposed by the Armenian government that would build at least three large (i.e., at least 50 MW each) hydroelectric plants and more than 30 smaller ones for a combined capacity of about 300 MW. The largest of these planned hydroelectric power plants are described in Table 25. The cumulative cost could be at least \$500 million; the feasibility studies for the Meghri HPP (jointly with the

Iranian party) and the Lori-Berd HPP (by Fichtner under the TACIS programme) are about to be completed.

Table 25: Planned Hydroelectric Generating Plants in Armenia (≥10 MW)

Generating Facility	Location		Rated Capacity (MW)
	River	Marz	
Megri	Araks	Syunik	140
Shnokh	Debet	Lori	75
Lori-Berd	Dzoraget	Lori	60

Source: Ministry of Energy of RA.

The planned Megri hydroelectric facility is a joint project with Iran and would alone cost more than \$100 million and take perhaps five years to build. The government of Armenia promotes four main thrusts of investment in the hydropower sector:

- Rehabilitation of all existing hydroelectric stations;
- Utilization of new, economically feasible hydropotential of 275-300 MW;
- Construction of small and micro-hydroelectric power stations with a total power of 75 MW with the participation of private investment;
- Construction of pumped storage systems with comparatively low capital expenditures¹⁸.

At present there are only three thermal-electric power plants in Armenia, all of which have almost exceeded their planned operating life spans and are in need of refurbishment. The largest of these is the 1,100 MW Hrazdan power plant in Kotayk marz. The 96 MW Vanadzor power plant, in southern Lori marz, had a long inactive period before it was privatised by being sold to Zakneftgasstroy-Promethey. A summary of Armenia's thermal-electric power plants is shown in Table 26. Figure 10 illustrates fuel input to power plants.

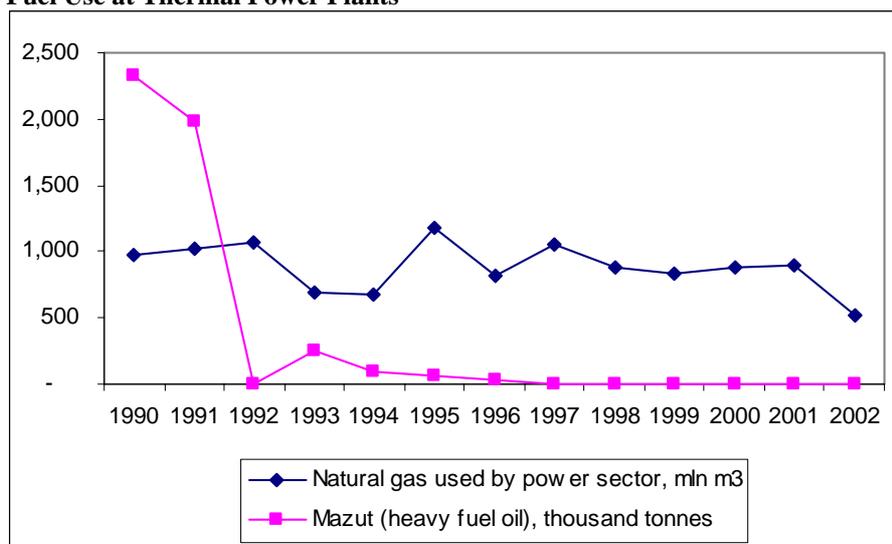
Table 26: Thermal Electric Generating Plants in Armenia

Generating Facility	Location (marz)	Technology	Fuel	Configuration	Capacity (MW)
Hrazdan	Kotayk	Boiler-steam turbine	Fuel Oil, Natural Gas	Section 1: 2x50 and 2x100; Section 2: 3x200 and 1x210 Dry cooling towers, generally condensing type turbines	1,100
Yerevan	Yerevan	Boiler-steam turbine	Natural Gas	Section 1: 5x50; Section 2: 2x150 Wet cooling towers, condensing and extraction type turbines.	550
Vanadzor	Lori	Boiler-steam turbine	Natural Gas	2x12, 1x25, and 1x47 MW Wet cooling towers, backpressure type turbines, common header type.	96

Source: Utility Data Institute, quoted in quoted in US DOE International Fossil Fuel Energy Overview of Armenia, with some additions and amendments.

¹⁸ Cf. US DoC ITA.

Figure 10: Fuel Use at Thermal Power Plants



Source: World Bank [Julian Lampietti (ECSSD), Task Team Leader, et al.: *Outcomes of Power Sector Reform in ECA: The Case of Armenia*]

Table 27 lists data on power balances in Armenia (generation, consumption, import and export). For the time being, consumption is still only about a third of historic peak levels, achieved in the late 80's. It is this low consumption that provides an opportunity for Armenia to be a net exporter of power now, mainly to Georgia. However, in the future the maintenance of a positive net trade power balance will be impossible without major investment in generation.

Table 27: Electricity Generation and Consumption in Armenia, 1992-2001 (in billion kwh)

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Net Generation	8.6	6.1	5.5	5.0	5.8	5.7	5.8	5.3	5.6	5.4	5.5	5.5
Hydroelectric	3.0	4.2	3.5	1.9	1.6	1.4	1.5	2.2	1.4	1.2	1.7	2.0
Nuclear	0.0	0.0	0.0	0.0	2.1	1.4	1.4	1.9	1.8	1.8	2.3	2.0
Thermal	5.6	1.9	2.0	3.1	2.2	2.9	2.9	2.2	2.4	2.4	1.5	1.5
Net Consumption	8.3	5.7	5.1	4.7	5.4	5.3	5.4	5.0	5.2	5.2	5.2	5.2
Imports	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.5	0.4	0.3	0.3	0.3
Exports	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.7	0.8	0.7	0.7	0.6

Source: DOE/EIA, quoted in US DOE International Fossil Fuel Energy Overview of Armenia, the Government of RA.

In thermal power generation, the priorities of the government's policies are:

- Operation of existing units until completion of their design life;
- Commissioning of a new 300 MW unit (unit 5) at the Hrazdan thermal power plant;
- Refurbishment of existing plants by introducing combined cycle technology;
- Development of geothermal sources with private investments.

The construction of Unit 5 at the Hrazdan TPP was partially funded by a \$57.4 million EBRD loan extended in 1993. The total project cost was estimated at \$83 million. With \$43 million spent, the project was yet far from completion by 2000, and another \$110 million were needed

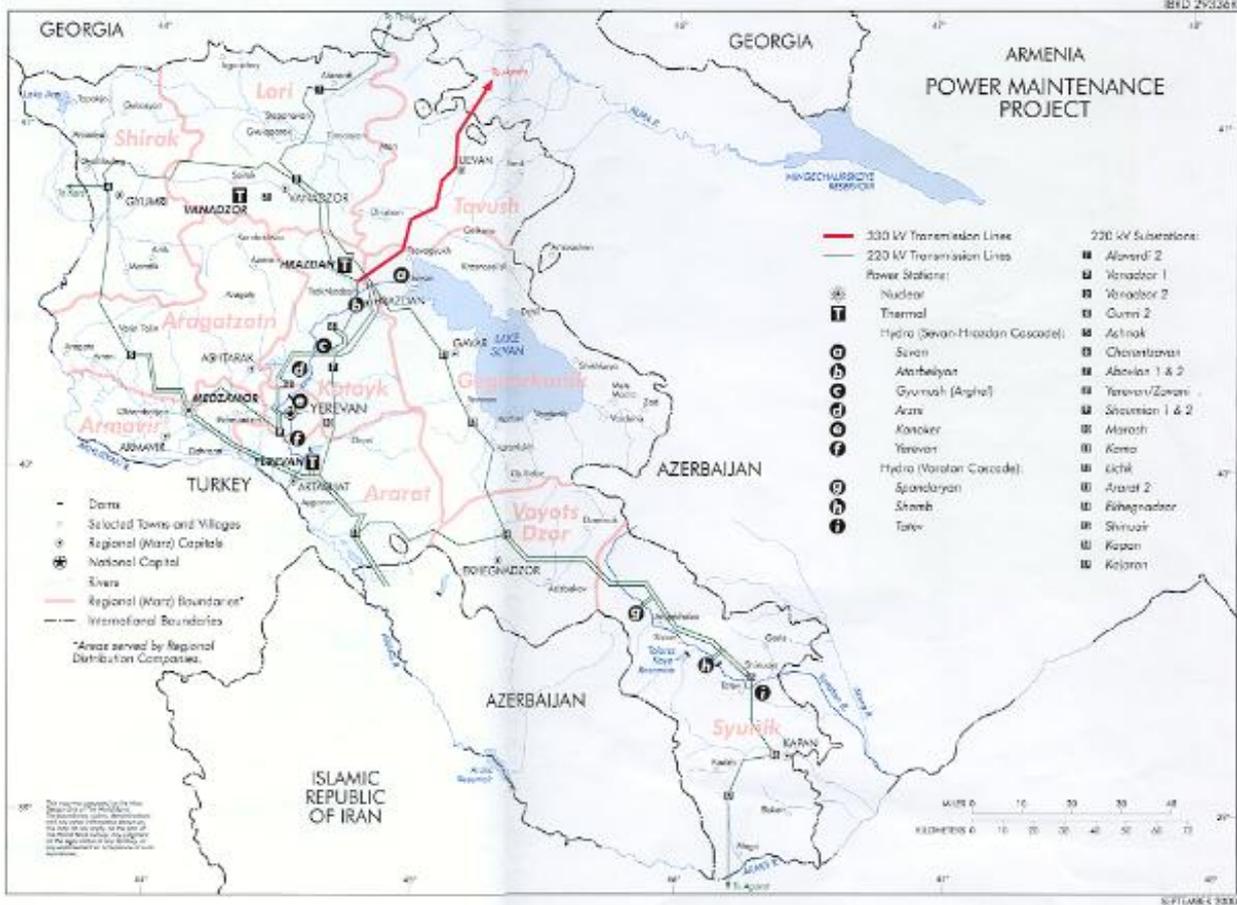
to complete it. At present, the short-run plan is to construct only one 208 MW gas-steam unit of thermal generation that would use natural gas as fuel, and it is to be located at the Yerevan TPP. The estimated cost of construction is \$165 million.

Nuclear generation is reviewed in the section on nuclear energy further in this Report.

b) Transmission and dispatching, export/import, regional network agreements

The electric transmission system of Armenia is operated by ZAO “High Voltage Grids”; the system consists of 14 220 kilovolt (kV) substations, 164 kilometers of 330 kilovolt (kV) lines, 1,320 kilometers of 220 kV lines, and 3,146 kilometers of 110 kV lines (most of the 100 kV lines have been transferred subsequently into the ownership of the distribution company). A map of Armenia's electric transmission grid is shown in Figure 12.

Figure 11: Armenia's Electricity Transmission Grid



Source: World Bank, quoted in US DOE International Fossil Fuel Energy Overview of Armenia.

Armenia is part of the Trans-Caucasian Power Pool. However, Armenia's equipment designated for the power pool is no longer functioning due to the trade blockage by Azerbaijan. There are also several transmission lines to neighbouring areas that are not currently being used because of political conflicts. These include:

- Azerbaijan – a 330 kV line;
- Turkey - 220 kV line;
- Azerbaijan (Nakhichevan) - a 220 kV line and two 110 kV lines;

Besides, there is a 220 kilovolt line and two 110 kV lines connecting Armenia to Georgia and a 220 kV line to Iran.

In July 2002, Armenia and Iran signed an agreement to cooperate on electric power transmission, including construction of a second Syunik-Center high-voltage power line; its construction is expected to be completed by the end of 2004. Construction of the Armenian section of the line between Agarak and Shinuair was completed in the end of 2003.

Armenia currently operates in a synchronized mode with Iran's power system on a balanced flows basis (zero balance), delivering and receiving power to and from Iran over existing power links - in summer Armenia exports electricity to Iran while in the winter it imports from Iran. Armenia also supplies some electricity to Georgia.

Work has begun on the rehabilitation of the 220 kV substations. With funds from loans extended by Germany's KfW, the substations at Vanadzor-2 and Kamo have been completely overhauled; in 2004, work is due to begin on the rehabilitation project at the Alavedi-2 substation. Partial rehabilitation work has started at (other) 8 substations, with loan funds extended by the World Bank. Upon the completion of these projects, Armenia will possess the most modern transmission grid equipment in the region.

At the end of 2001, an Automated Power Control and Accounting System (APCAS) was activated on the wholesale power market and transferred for operation to ZAO "Raschetny Centr" ("Settlement Center"), established especially for the purpose of operating the system. APCAS was implemented with the help of funding extended by USAID. With the help of APCAS, full control and accounting of power transmitted on the wholesale power market was achieved for the first time in the post-Soviet space, reducing de-facto accounted loss in transmission lines by more than 25%.

With credits extended by JBIC (Japan), work is due to begin on the phased implementation of a SCADA, to serve ZAO "Power System Operator". The first phase of work is aiming at the modernization and the enhancing of the communication system between various power system facilities.

c) Distribution and retail supply

Distribution has been consolidated into four large distribution enterprises formed as subsidiaries of ZAO "Armenian Power Grids": Yerevan, Shirak-Lori-Tavush, Aragatsotn-Armavir-Kotaik-Gegharkunik, and Ararat-Vayots-Dxor-Syunik. Armenia has privatised its distribution network, which is now owned by foreign investors, Midland Resources Holding Ltd. (U.K.).

In 2001, the EBRD agreed to invest equity alongside a strategic investor (acceptable to the Bank) for the privatisation of the power distribution companies. However, the eventual successful bidder (Midland Resources) was not considered acceptable to the Bank (as at the time it had no power distribution experience), leading to the cancellation of this project. The EBRD's 2003 assessment seems to indicate, however, that Midland Resources is currently managing the distribution business reasonably well and is now benefiting from technical assistance from USAID. Table 28 lists data on collection of amounts due for power consumption.

Table 28: Collection of amounts due for power consumption (distributor-consumer, % of amounts due collected)

	2001	2002	2003
Collection, % of amounts due	80.8	90.01	95.8

Source: Ministry of Energy of RA

In the Contract for the sale of shares, one of the conditions sets indices for overall loss of electricity, which should be met by ZAO "Power Grids of Armenia" in the next few years. In particular, in 2004 this indicator, as a sum of technical and commercial loss, should not exceed 17% and should be reduced in the future based on certain rates.

In compliance to agreements reached earlier with JBIC, it is expected to rehabilitate 33 110 kV substations by using soft loan funding, as well as procure and install 150,000 electronic power meters for low income groups of the population. These projects will also reduce loss in the distribution networks.

According to the Energy Law:

Supply (rendering of services) of electric power to a consumer is carried out in compliance to a supply contract, whereby the supplier is bound to supply power on terms and conditions and in a manner provided in the contract, the laws and other legal acts, and the consumer must accept take delivery and pay for it.

The power supply contracts set the terms and conditions for delivery (consumption) in compliance to the laws and other legal acts, and the regulations for supply and use.

Damage/loss incurred as a result of non-compliance to contract terms and conditions must be compensated by the party at fault in the manner set by the law. The compliance to the terms and conditions of the contract is only controlled by the parties thereto.

According to the rules set by the supply contract, the supplier may discontinue power supply completely or partially, in case the consumer:

- a) has used power under her/his/its control by willfully tapering with the measuring device in a manner that has impaired the quantity of measured energy;
- b) has used power without the measuring device described in the contract or by circumventing the measuring device.

The supplier may discontinue supplying electricity or heat or natural gas to a customer, if payments are not effected within the terms set by the Commission. Prior to discontinuing energy supply, the supplier must use all means of notification and warning set by the Commission.

A supplier would reinstate supply to a customer who has committed a violation upon receiving full compensation from the consumer or upon receiving from the consumer of guarantees for the compensation of the loss/damage, on terms that are satisfactory for the supplier.

In cases where a consumer has used energy without a contract (illegal consumption), the supplier must promptly stop the illegal consumption of energy and request compensation of loss/damage in the manner prescribed by the legislation of the Republic of Armenia.

d) Renewable energy sources

Biomass and waste

Biomass and waste have only marginal domestic importance as household fuel. However, the use of biomass to generate fuel gas is growing at a fast rate. Several such units have already been constructed and are now operational.

Wind

No wind power generators exist for the time being in Armenia; however, wind resources monitoring began as early as 1990. Evaluation work of wind resources intensified since 1999, when ArmNedWind and SolarEn started two monitoring projects.

The results of the most recent studies done by the National Renewable Energy Laboratory (NREL) of the U.S. indicate that more than 1,000 km² of Armenia's territory has good to excellent wind resource potential. Should a well-grounded assumption be accepted that it would be possible to derive 5 MW/km², the total wind resource potential would be estimated at 5,000 MW.

More detailed additional studies are needed to assess the wind resource potential by accounting for existing infrastructure and access to the wind generators' sites. However, as a rule-of-thumb, only about 20% of the sites would actually fit the criteria (1,000 MW total resource), should the possibility of using existing infrastructure and linking to existing power lines be also accounted for. At an average load factor of 25-30%, total electricity output at windpower stations may reach 900-1,300 million kWh per year.

At the moment, there are two active wind power projects in Armenia. A 50 MW windpower farm project is under development by SolarEn (U.S.) in the Zod region. Negotiations are underway, aiming at resolving financing issues. Design output would be about 120 million kWh per year.

The second project is for a 2.6 MW windpower station on the Pushkin Pass, where total resource is estimated at around 20 MW. The project is carried out with the technical and financial assistance of the Government of Iran. The commissioning is due in 2005. The station is expected to generate about 7 million kWh per year at a tariff of €7 per kWh without VAT.

It should be noted that all electricity (power) produced for 15 years (until the end of 2016) at windpower plants must be purchased in compliance to the rules set of the power market.

Geothermal

The Germachpur Geothermal Field is located within the Sunik volcanic highlands. The highlands are a typical case of recent volcanic activity, with graphic calderas, ash cones and lava flows on the slopes of the Sunik highlands, extending in a wide strip between the rivers of Vorotan, Terter and Akera.

Geology and geophysics studies have been completed in 1987-1990, resulting in a report (“Exploration Aiming at the Identification of Geothermal Sources in the Northwest Part of the Sisian Region”).

The studies in their entirety provided evidence of a geothermal anomaly and grounds for expecting the discovery of flowing heat media that make the construction of a geothermal power station a commercially feasible project. At the moment, an additional package of geophysical studies (gravimetric, MTZ, etc.) is carried out with the objective to define the spatial location of the aquifers expected to be encountered to a depth of up to 1,400 m, and to define the well sites.

6. Nuclear Energy Sector

a. Management Bodies

The Armenian Nuclear Regulatory Authority (ANRA) was established by Government decision No. 573 in November 1993. The ANRA’s duty was to issue licenses for the operation of nuclear power facilities and supervise nuclear safety issues. The ANRA was under a direct subordination to the Armenian Government and independent from the organizations responsible for the development and utilization of nuclear energy. During the process of its formation, the ANRA was assisted by such international organizations as the IAEA, NRC, TACIS.

By virtue of Government decision N70 (19.02.2000) ANRA was authorized to also assume regulating functions. According to its new Statute, the ANRA was to organize and perform State supervision and inspection on the utilization of nuclear energy, as well as regulatory activity in the sphere of nuclear energy.

On May 24th, 2001, according to Government decision N 452, ANRA was also empowered to assume the functions of State regulation on protection of ionization sources integrity and against the harmful impact of the irradiation from such sources.

The status of the ANRA was changed on 27 June 2002, according to Government decision N912, when it was incorporated into the Ministry of Environmental Protection. On 26 December 2002, a new Statute of ANRA was approved by Government decision N2183. ANRA was renamed, and now it is called the “Inspection for State Supervision on Nuclear and Radiation Safety of Utilization of Nuclear Energy under the Ministry of Ecology of RA”. According to the new Statute, ANRA is in charge of the following key duties: to perform State regulation within the field of nuclear energy utilization with the main objective - to secure the protection of the population, the personnel involved in the nuclear industry, and the environment against the dangerous radiation impact.

The Department of Atomic Energy at the Ministry of Energy of the republic of Armenia is responsible for the safe operation of the Armenian Nuclear Power Plant (ANPP); it acts in close co-operation with other responsible national bodies and international organizations.

Since 1996, the Nuclear Energy Safety Council at the President has been acting in Armenia. It was established pursuant to an agreement with the EBRD and charged with the general duty to report annually to the President on the *de-facto* nuclear safety status at the ANPP. The Council consists of internationally acknowledged specialists, well known in the world of nuclear energy. The members of the Council consider all relevant documents and organize hearings where appropriate specialists report before making their decisions.

On 1 March 1999, the President signed the Law on the Use of Nuclear Energy for Peaceful Purposes, adopted by the Armenian National Assembly on 1 February 1999. This law outlines the procedures for export, import and storage of nuclear and radioactive materials and radioactive waste. It requires licenses for organizations dealing with nuclear energy, forbids the import of radioactive waste, and prohibits the export of nuclear and radioactive materials, radioactive waste, nuclear equipment, and nuclear technology to countries that have not signed the appropriate international agreements. The law provides for radioactive waste disposal in special facilities, and might form the legal basis for a nuclear programme in the future.¹⁹

Armenia cooperates extensively with the international community in the nuclear energy sector, particularly in the prevention of WMD proliferation. Export control ultimately rests with the Prime Minister, who must personally sign export licenses for sensitive material and technology. Other agencies involved in the process are:

- Government Commission on Export Controls (est. 1993), which reviews export license applications and submits conclusions to the government;
- Government Commission on Arms Control and Disarmament (est. 1997), headed by a Deputy Foreign Minister and responsible for Armenian policies to international agreements and treaties regarding WMD.

Armenia adheres to the following international and bilateral agreements regarding nuclear power:

- Minsk Accord on CIS Export Control Coordination (26 June 1992);
- Nuclear Non-Proliferation Treaty (as a non-nuclear weapon state, 15 August 1993);
- Member, IAEA (27 September 1993);
- Safeguard Agreement with the IAEA (5 May 1994) and first country with an operating nuclear power plant to sign the 93+2 programme Additional Protocol to the Safeguard Agreement (applies provisionally pending entry in force);
- Nuclear Suppliers Group (observer).

b. Facilities

The major facilities related with the nuclear energy in Armenia are the ANPP in Mezamor, the Yerevan Institute of Physics and the Analitsark instruments plant. The Mezamor power plant has two units of VVER-440 type. Due to the specific seismic features of the ANPP location, basic design improvements were made of the V-230 project, not only in the construction part, but also in the reactor facility design as a whole; as a result, the project got its new serial number (V-270). The design life of each unit is 30 years.

The ANPP was commissioned in 1976, and initial criticality was achieved at Unit 1 on 22 December 1976, and at Unit 2 - on 5 January 1980.

In the aftermath of the 1988 earthquake, the Government of the former Soviet Union decided to shut down the ANPP. Unit 1 was shut down on 25 February 1989 and Unit 2 – on 18 March 1989.

In April 1993, the Government of Armenia decided to restart the ANPP. Unit 2 was considered to be the safer of the two. It was restarted on 5 November 1995.

¹⁹ Source: Center for Nonproliferation Studies at the Monterey Institute of International Studies.

Debts past date due for nuclear fuel delivered, but paid for, were a key issue in the agreement between the governments of Armenia and Russia that was reached in October 2003. As a result, an agreement between "INTER RAO EES" and the Ministry of Energy was signed. "INTER RAO EES" assumed the function of a financial manager of the ANPP. "INTER RAO EES" is obliged to supply fresh nuclear fuel to the power plant. In particular, Russian experts are now responsible for managing the cash flows of the power plant. The plant itself remained in the ownership of the Republic of Armenia.

Armenian and Russian experts believe that the reactor could be operated until 2016, taking into account the 6-year operations discontinuing interval in the ANPP operation. However, the EU has been insisting on the decommissioning of the plant, pointing out that because the reactor is of first generation design, it cannot meet modern EU nuclear safety standards. In the meantime, additional safety improvements are under implementation at the plant with technical and financial assistance from the US, EU and some European countries, as well as with loans from Russia, the Armenian budget and surcharges included in the electricity tariff. In particular, the US Department of Energy has allocated \$35 million, and the EU has provided €20 million.

The Armenian NPP produces 35-40% of Armenia's electric energy.

The Armenian Government has always had one and only position regarding the issue of decommissioning the Armenian NPP.

The plant may be decommissioned prior to the expiration of its design life in case the following conditions are met:

- the level of energy security of the country should not fall below its current level;
- electrical power produced at the NPP should be substituted by energy of equal value in terms of quantity and operational mode;
- decommissioning should not lead to impairing the social status of the population as a result of a sharp increase of electricity tariffs.

The Yerevan Institute of Physics has a 6 GeV electron synchrotron. The Institute claims a payroll of 1,400, but experiences severe financial difficulties and has all but ceased to function.

The Analitsark plant makes analytical and testing devices for nuclear power plants. Clients include the Leningrad (S.-Petersburg) NPP and the Severodvinsk complex serving the Russian navy, as well as facilities in the Baltic countries, China, Greece, Iran, Pakistan, Turkey and Yemen.

7. District heating

The information in this section is based on the findings of the report on the district heating strategy plan for the Republic of Armenia developed by Consulting Engineers and Planning (COWI) and Ramboll (Denmark) under a contract with the Thermosupply Programmes Project Implementation Unit of the Ministry of Finance and Economy of Armenia (2002), partially funded by the World Bank. The report contains important insights regarding the restructuring and commercialization of the district heating sector, as well as policy recommendations for its implementation.

In the late 80's, the district heating (DH) supply of Armenia consisted of 55 systems producing about 20 million Gcal per year. After years of blockade that made fuel supply difficult and caused neglect and disrepair, and damage caused by an earthquake, only 2-3 systems still remain in operation, supplying about 1 million Gcal per year. As of the moment, only about 10% of the population has access to DH, as compared to about 35% in 1988.

The current policy of the Government is to encourage rehabilitation (where viable) and the construction of new, modern systems. The reason is that a flexible DH system is on a par cost-wise with the cheapest alternative (heating up by wood and waste), but is more advantageous in terms of emissions and pollution; therefore DH is a real option even for the lowest-income families. Compared to electricity currently used for heating by many families, DH is about 4 times more efficient.

By virtue of an amendment to the Law on Energy, smaller systems with output of less than 5 Gcal/hour have already been deregulated and are outside the mandate of the Public Services Regulatory Commission, so that they could operate in competitive market environment on sound commercial principles. For such systems, no licensing is required and tariffs are not regulated. This policy has already led to the spontaneous construction of decentralized DH system units, typically operating on LPG or natural gas, with rated output of 15-100-200 kW that fits the requirements of several homes or apartments.

Where larger units are planned or slated for rehabilitation, the strategy is to encourage the establishment of condominiums. The number of such condominiums exceeds 600, including over 4,000 buildings with some 185,000 housing units. Admittedly, there are significant difficulties associated with the “revival” of DH in condominiums:

- Condominiums are limited in their ability to pay for collective actions;
- Members and entire condos refuse to pay due to low quality of service;
- Some housing units are empty or let;
- Lower income condo members are reluctant to participate.

There is also need to develop the contractual framework between condos and DH service providers, to regulate the terms of access for condos to the DH facilities for repairs and maintenance (including inside private house units), to streamline the billing system from condos to private users and the collection system, etc. The Government is looking at ways to resolve these issues and has established a Commission on DH Rehabilitation. Measures include the tendering-off of boiler rooms with rated capacity of up to 1 MW, the provision of soft credit, and the establishment of rules that encourage cogeneration, where feasible.

DH strategy carefully targets the geographic areas and the types of users where DH can be implemented with greatest ease. Despite the small size of the country, Armenia exhibits considerable disparity in terms of heating season length – in the north, it can be up to 4,800 degree-days, in Yerevan it is about 2,350 degree-days. The DH strategy that is under development now will try to achieve “survival” over the next two years, “stabilization” over the next 4-6 years and full-scale development over a 25-year time horizon.

For municipally-owned systems (most of the 55 DH systems built before 1988 fall in this category, the following policies may be best to follow:

- Development of new forms of contracts to be signed by entities (condos and others), including a minimum set of controlled parameters (e.g. feed water temperature) and sanctions in cases on non-payments (e.g. switch-off of supply).
- Partial pre-payment;

- 100% measurement of heat supply;
- Two-part tariff (at least 25% fixed part+ variable part);
- Flexibility in terms of “guaranteed” minimum heat supply, particularly during the period of “survival” (e.g., lower allowable temperature of feed water, shorter heating season, removal of heat radiators in some rooms, etc.).

For decentralized DH and individual heat supply, the construction of small units is encouraged, particularly using gas. Where gas is not available, advanced solid fuel combustion devices are encouraged.

The DH strategy takes into account the fact that many families cannot participate in DH systems without some kind of temporary support. The Government is looking at the phasing out of the indirect subsidies offered so far to DH users and introducing various direct assistance schemes, such as, for example, the “points” system that offers support to low income families. Such support could be used to cover the fixed part tariff. The estimated cost of such a programme would be about 7% of the total cost of the low income family support programme. Beyond that, regulation should continue for large systems only, with tariffs negotiated between suppliers and users in smaller systems.

Attachment

EXCEPTIONS OF ARMENIA IN THE “BLUE BOOK”

MEASURES

Constitution of the Republic of Armenia of July 1995.

Law on Real Estate Property of January 1996.

SECTOR

National Economy.

LEVEL OF GOVERNMENT

National.

DESCRIPTION

Foreign natural persons, stateless natural persons and foreign legal persons do not enjoy the right to own land on the territory of Armenia.

PHASE-OUT

No plans at present.

OTHER EXCEPTIONS

None.