In-Depth Review of the Energy Efficiency Policy of ALBANIA

ENERGY CHARTER SECRETARIAT
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INTRODUCTION

Albania has ratified the Energy Charter Treaty (ECT) and the Protocol on Energy Efficiency and Related Environmental Aspects (PEEREA) in 1997. By ratifying PEEREA, countries commit themselves to formulate and implement policies for improving energy efficiency and reducing the negative environmental effects of the energy cycle (Art.5). The aim of PEEREA is that contracting parties shall co-operate and, as appropriate, assist each other in developing and implementing energy efficiency policies, laws and regulations (Art.3). In fulfilling its commitments under PEEREA, Albania has presented a Regular Review of its energy efficiency policies in 2007. The current in-depth energy efficiency review is the first for the country.

The country review process is a core activity engaged in monitoring and facilitating the implementation of PEEREA. The in-depth energy efficiency reviews, implemented under PEEREA, have proven to be an important tool in assessing the progress of member countries in fulfilling their commitments under the protocol. They also provide peer guidance to governments in developing and implementing energy efficiency policies.

It has been agreed among member states that to effectively monitor the progress made by participating countries in implementing the PEEREA obligations, the in-depth reviews should be carried out after completion of a Regular Review and should be updated at least every five years. The Energy Charter Main Principle, for the indicative schedule of reviews (2010–2012), adopted in 2009, is to avoid overlap with other ongoing review processes in order to focus on countries that stay outside of the attention of other international organisations (International Energy Agency (IEA), Asia-Pacific Economic Cooperation (APEC) etc). The Energy Charter Secretariat is continuing its efforts to ensure an overall balance in the review process between reviews of the Organisation for Economic Co-operation and Development (OECD) and non-OECD countries.

The in-depth review of the energy efficiency policy of Albania was carried out by a team, consisting of officials from three countries that are Parties to the Protocol: Mr. Jean-Christophe Füeg from the Swiss Federal Office for Energy, Ms. Francesca Margiota from the Italian National Agency for new technologies, energy and sustainable economic development and Mr. Kolyo Kolev from the Bulgarian Energy Efficiency Agency. The team also included Ms. Bilyana Chobanova from the Energy Charter Secretariat and was supported by Mr. David Taylor, consultant to the Secretariat. The team visited Tirana between 26 and 30 September 2011 and discussed a range of issues with government agencies and other stakeholders (listed in Annex 4).

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EXECUTIVE SUMMARY

Background

The Republic of Albania is a small country of 3.15 million people situated in south-eastern Europe, in the western part of the Balkan Peninsula. The climate of Albania is typically Mediterranean, consisting of mild winters with abundant precipitation and hot, dry summers. Precipitation is a key factor for national electricity production as Albania produces most of its electricity from hydropower plants. It is also very important for agriculture in which over half the workforce is employed.

Remittances from abroad are an important source of income (11%) and contribute towards the economic development of the country. As the banking system has matured and economic conditions have improved, some migrants have returned and invested their savings in property and other businesses. Progress and development are decisive in the flourishing and expanding energy sectors of the country.

The recent history of Albania is of rapid reform associated with the transition to democracy and a market economy. This has brought a wave of urbanisation, mass emigration at times of crisis and, to the credit of Albania and the international community, sustained progress on a broad front. The country has set its sights on EU membership, and conditions are imposed to ensure that the Albanian economy is sufficiently strong to compete and survive in the single market.

In 1992, the authorities embarked on a programme to establish a modern banking system. This was given a further impetus as a response to the pyramid scheme crisis. The reforms proved effective and led to an increase in formal private sector credit and a rise in the number of private banks. With full privatisation and the introduction of international private banks, the banking sector has continued to thrive in recent years.

Continuing progress is ensured through the introduction of improved fiscal discipline, effective resource allocation and in the management of public expenditure with incentives for development of natural resources, as well as a reform process to create a business friendly environment to assist in inward investment.

The Albanian Government has embarked on an impressive set of initiatives and reforms to both improve governance and focus on certain scarce resources as their important priorities. The government's integrated planning system (IPS) and the establishment of administrative 'one stop shops' exemplify successful top-down and bottom-up approaches with a strong customer or service orientation.

Energy Policy

Energy security is a critical concern in Albania which relies on hydropower for about 90% of its electricity production. Variability in annual precipitation already affects Albania's energy production; furthermore, climate change models suggest that precipitation variability and volumes may increase.

Energy policy as laid out in the Energy Strategy of Albania 2003 Updated strategy is reported to be under preparation and expected to be approved in late 2012.

The Ministry of Economy, Trade and Energy (METE) has overall policy responsibility for the energy sector in Albania. METE is responsible for the development and reform of the necessary legislative framework and for draft-enabling legislation. It scrutinises the operation of the publicly owned energy utilities and the privatisation process, as well as of statutory bodies in the energy sector.

A series of policy driven investments in electricity transmission and generation infrastructure combined with institutional and market reforms, at a time of relatively abundant annual rainfall, have secured a dramatic improvement in the reliability of electricity supply in Albania. Power rationing was eliminated in 2009 and 2010. Published metrics of electricity supply evidence of the progress in the reform efforts of government, the energy regulator and the other participants in the electricity system.

Energy regulatory reforms in Albania were initiated at an early stage of the transition period with the adoption of laws for upstream oil (1993 and 1994), electricity (Electric Power and Regulation of Power Sector, 1995) and oil products (1999). These laws, aimed at establishing a market-based legal framework, mostly focused on the electricity sector. The Albanian Government has undertaken a series of important reforms in the power sector aimed at the liberalisation and development of the Albanian electricity market. The process of restructuring the Albanian Power Corporation (KESH), which involved the transformation of KESH from a vertically integrated company into an unbundled one with three independent entities, has been completed. In March 2009 the Albanian Government and CEZ Group signed a contract for the sale of 76% of the shares of the Distribution System Operator (DSO), followed by the establishment of the electricity distribution company, CEZ Shpërndarje in 2010.

Notwithstanding plans for further development of the hydro resource, interconnection with Kosovo and reductions in technical losses, additional efforts are required to mitigate the remaining risks to the sustainability of electricity supply. Some of these risks are commercial and relate to the ongoing, if much reduced, incidence of electricity, illegal connections and non-payment of bills.

The residential sector accounts for the bulk of electricity use in Albania. Electricity is metered and sold on a two-part tariff. More than 80% of all customers in the country belong to the consumption block (usage of 300 KWh/month).

Energy Efficiency Policy

The Albanian authorities have explicitly acknowledged that energy efficiency and renewable energy deployment have the potential to bring benefits to consumers, reduce emissions and make an immediate contribution to security of supply. Energy security, sustainable development and international obligations are identified as the main drivers of energy efficiency policies with competitiveness, employment, comfort and climate change providing further impetus. As contracting party to the Energy Community Treaty, Albania has made binding commitments to implement the relevant EU Acquis on energy, environment, RES and competition and to promotion of investments, statistics, social policy, and so forth.

Albania has prepared a National Energy Efficiency Action Plan (NEEAP), which has an overall national indicative savings target of 9% to be achieved and measured in 2018. This plan was approved by the Albanian Government in September 2011. In order to support the implementation of the NEEAP, a budget needs to be made available.

The preparation of a new draft law on energy efficiency is virtually complete. It sets the objectives and principles of the national energy efficiency policy and introduces requirements for minimum energy performance and certificates for buildings, energy efficiency audits of buildings and industry; standards and labels for energy using household appliances. The draft law contains provisions on the establishment of a government agency to develop, implement and monitor the energy efficiency policies and programmes, including the implementation of the NEEAP. A National Energy Efficiency and Renewable Energy Fund should be established according to the draft law to provide loans or financial guarantees for the implementation of energy efficiency and renewable projects.

The creation of the Albanian National Agency for Natural Resources (AKBN) as an executive agency within the METE and within it the Directorates of "Hydropower and Renewable Energy" and "Hydrocarbon and Mining", has committed state resources to developing renewable energy. AKBN has prepared an updated Energy Strategy (still in draft version). In addition to advising the government and METE, AKBN has a mandate to promote renewable energy and energy efficiency to government and in the marketplace.

Renewable Energy

The Albanian Government has supported the development of a draft law on renewable energy and, in conjunction with the Energy Efficiency Law, it provides for the adoption of a (Renewable) Energy Action Plan designed to meet EU requirements. The law is expected to be adopted by Parliament in autumn 2012.

The use of renewable energy is a well-established asset for power generation and heating in Albania. The installed hydropower plant is, when fully functioning, sufficient to meet current peak demand. Woody biomass, for the most part fuel-wood, has always been an important energy resource in rural areas. However, this has led to episodes of deforestation in the past. The government has taken practical steps, including the establishment of a one-stop shop for permitting hydro developments and it has encouraged resource assessment studies, pilot actions and promotional activities relating to the assessment and realisation of wind, solar and biomass potential.

International and local interest in wind power development resulted in a flood of applications for licences; the sum total of which issued to date approximates to the currently installed generation capacity. Authorities are in the process of confronting the issues involved, with a view to putting in place a more orderly and appropriate wind resource development roadmap. While the contribution of solar thermal is recognised and its potential to replace electricity for water heating realised, practical progress on its deployment rests, for the time being, on the efforts and success of a United Nations Development Programme (UNDP) project which is part financed by the German bank KfW. The potential of biomass and a strategy for its further development is the subject of an ongoing project, supported by the government.

Overall Assessment

In line with its priorities as set out in the PEEREA Regular Review of 2007, the Albanian Government has followed through on the reform of the electricity market. The state-owned electricity monopoly, the Albanian Power Corporation (KESH), has been restructured and unbundled. Parliament has legislated for the establishment of the Transmission System Operator (TSO) and the privatisation of electricity distribution with the involvement of the Czech-owned CEZ Shpërndarje. The conditions of the CEZ licence should, with appropriate oversight and enforcement, ensure the delivery of key policy goals on individual metering, bill payment and collection rates.

The Albanian Government's planning and budgeting system has been revised to improve the co-ordination and linkage of the central resource allocation process – a prime concern of line ministries. At all levels there is a clear appreciation of what has to be done and at what pace. Thus, the Energy Strategy of Albania should support and adjust to the government's overall National Development Strategy 2007–2012. Given that the responsibilities of economic, energy and trade development fall within the remit of the METE, governmental planning and budgeting is ideally positioned to balance priorities in everyone's interests.

While the recent success of energy policy in delivering a more reliable electricity supply is to be commended, there are concerns that over-reliance on hydropower and imports to compensate for year-to-year variations in precipitation and hydropower production may result in higher and possibly unsustainable bills for imported power. This will be an issue until regional electricity market integration in the Balkans materialises and Kosovo's coal-based baseload can fully complement Albanian's peak load hydropower.

The review team believes that a strong energy efficiency drive could achieve a degree of control in rapidly fluctuating circumstances and pay significant dividends. The prospect of re-introducing natural gas in Albania remains uncertain. It hinges on the materialisation of the Trans-Adriatic Pipeline (TAP), which aims at bringing Azeri gas to Italy via Albania, with a possible northward branch to Croatia. The Energy Efficiency Action Plan target of 9% is laudable; however, in the particular circumstances of Albania an accelerated target with strong promotional underpinning and action to match could yield benefits in every direction.

Although the government did not create the Energy Efficiency Fund as envisaged in the 2005 law, it has taken measures to ensure that some funds are available. For example, the banking system now takes an appropriate interest in the promotion of energy efficiency and in credit lines to support energy efficiency investments, which have been established by Credins Bank and ProCredit Bank. The government has also been active in co-ordinating the activities of donors and the Donor Co-ordination Unit has, in exemplary fashion, placed much of the information on donor-financed activity in the public domain.

Energy Laws exist in draft form and with the relevant provisions of the Acquis Communautaire. By these measures of progress the Albanian Government is meeting the targets and goals it set for itself.

On the other hand, much remains to be done to successfully implement energy policy priorities

identified by the Albanian authorities. These measures include solar panel deployment, bill collection, elimination of illegal electricity connections, awareness raising and incentives for energy efficiency identified in the Regular Review. Without doubt, there are real resource constraints; the imperative is to maximise the effectiveness of policy measures.

As many other governments have discovered, the establishment of an agency with a mandate to promote energy efficiency can provide the requisite focus, demonstrate seriousness of intent and, with the right approach, put sufficient resources in place to focus market attention on the benefits of energy efficiency. Where consumer behaviour is concerned, it is well recognised that independent trusted sources of information and advice are central to market and other reform efforts.

Given this broad assessment, and recognition of the substantial progress achieved to date, the following recommendations are made.

Recommendations

General Recommendations

- The Albanian Government should continue to develop energy policies according to the needs of the Albanian people, international commitments, and the priorities of the Strategy for National Development. This endeavour may provide a robust policy foundation for energy efficiency and renewable energy policies and measures.

- The government has paid much attention to the issue of security of supply. However, given the vulnerability of Albanian hydropower, uncertain long-term energy cost development and availability of supply alternatives, the government should enhance its strategic planning for physical capacities, financial and budgetary implications, and communicate its findings to the public.

- The Albanian Government should continue to act with firm resolve to secure the stability and reliability of the electricity system. The achievement of a reliable and financially sustainable electricity supply within a short space of time is a sine qua non for continued economic development and requires resolute and sustained action on a number of fronts.

- The Albanian Government should ensure that the goals of loss reduction and full bill collection are achieved, as expressed in the conditions governing the licensed operator of the electricity distribution system. Although this is primarily a duty of the regulator, the government has the responsibility to see that its policy and governance requirements are fully met.

- The government should be aware of the impact of the slow pace of reform and of the implementation of the requirements of the Acquis Communautaire. Faster progress in implementing its priority requirements will facilitate much needed investment and influence market forces towards sustainable energy goals.

- Building on its strategic planning approach and success in transparency and co-ordination

of donor funding, the government should continue to reform and improve the co-ordination and implementation of energy policy across all Government Departments.

- This review has enumerated several draft pieces of legislation and associated draft plans, as well as criticism from several quarters on the pace of policy implementation. Against that background, the Albanian Government should demonstrate its commitment to follow through on energy policy with effective implementation.

- The government should ensure that it and all public bodies lead by example in the matter of ensuring that appropriate arrangements are in place to facilitate prompt payment for services such as electricity. This, and similar actions, will facilitate enforcement and compliance with energy relevant regulation.

- The Albanian Government should adopt and implement National Energy Efficiency and Renewable Energy Action Plans with an initial allocation of resources to support priority actions; at the same time, it should provide for the regular assessment of progress and review, with a view to plan adjustment in the light of its achievements.

Institutional Framework

- The Albanian Government should accelerate the pace of reform, including empowerment of the regulatory authorities to ensure compliance with energy efficiency and renewable energy goals in the marketplace.

- The Albanian Government should support the development of an institution charged with the promotion of energy efficiency and renewable energy in providing sufficient expanse in a centre that could both draw and disburse funds from multiple sources, including national, EU and international donor funds. With careful attention to the governance requirements such an institution could make a valuable contribution to the formulation of evidenced-based measures and regulations.

Energy Market and Pricing

- The Albanian Government should continue reform of the electricity market to achieve full-cost reflective pricing, at the earliest opportunity. This reform is consistent with social policy, in accordance with the requirements of the Acquis.

- The government should consider reviewing the electricity tariff system to better reflect payment capacity and the consumption patterns of end consumers, as well as fines for non-payment.

- The Albanian Government should continue to prioritise security of energy supply with proper recourse to levies and the impact on prices. A key factor is the effect of low electricity prices on the prospect for development of other fuel sources, such as natural gas, biomass, and solar radiation; all these resources could, as they are intended to, contribute to security of supply, while meeting environmental objectives.

Energy Efficiency Funding

- The Albanian Government should complete the legislative process both to enable and to

secure energy efficiency funding that should be available on enactment. Funded programmes should be targeted, based on evidence and in line with established priorities.

Specific Energy Efficiency Programmes and Measures

- The Albanian Government should address market failures through provision of appropriate and targeted-information-awareness programmes such as labelling schemes.

- The Albanian Government should ensure that building standards are operable and enforced. The government should strengthen the capacity and authority of the building inspection system.

- The government should continue to act to remove any legislative barriers to community or group action that might improve the energy performance or energy service provision in multi-apartment building renovation and heating projects.

- The government should regulate the electricity market using products – by introducing minimum energy performance standards and banning/differentiating custom duties for low efficiency products.

- The government should systematically undertake energy audits of all large public buildings and implement the findings to realise the cost savings, thereby providing an example to others.

- The government should introduce a vehicle registration tax, weighted in favour of fuel efficient cars and vehicles.

Renewable Energy Sources and CHP

- The Albanian Government should continue to improve the framework conditions and investment climate for renewable energy development with the aim of promoting development, while ensuring best value for the electricity consumer.

- The Albanian Government should ensure that the further development of the hydro resource is enabled by adequate investment in infrastructure. Essentials are interconnection with neighbouring countries, suitable trading arrangements and provision for adequate power to cover periods of low hydro production.

- The development of the wind resource needs to be carefully considered in the light of comparative cost, grid access and dispatch.

- The Albanian Government is already committed to the deployment of solar panels for water heating in place of the existing, high and excessive use of electricity. However, the rate of deployment should be accelerated to maximise impact. Electricity prices and incentives for end-users are important factors.

- The Albanian Government should develop the country's substantial biomass potential. A twin-track approach is recommended for:
    - Improving the efficiency of existing uses, e.g. in heating applications

  - Piloting programmes to develop new uses, such as high efficiency CHP.

- Where the level of organic waste justifies the operation of landfills in Albania, the Albanian Government should explore landfill gas exploitation schemes, including Clean Development Mechanism (CDM) projects. The potential of the cement manufacturing industry to handle selected waste should be further evaluated.

Data Collection and Monitoring

- The Albanian Government should contribute to the transparency of energy markets by making suitable arrangements for the collection, codification and publication of energy supply and consumption data.

- The Albanian Government should ensure that the approach to data collection and monitoring begins with the need to (i) support the process of policy making, (ii) inform market actors, and (iii) meet international reporting obligations.

- Recognising that quantitative measures and statistics are essential policy guidance tools, the Albanian Government should ensure that statistics are made available in a predictable and timely fashion with appropriate caveats where necessary.

BACKGROUND

Brief Country Overview

The Republic of Albania is situated in south-eastern Europe, in the western part of the Balkan Peninsula with a sandy shore to the Adriatic Sea. To the south it presents a rocky shore to the Ionian Sea. Albania has a land area of 28,745 km^2. About 77% of the country is mountainous and the average altitude of 708 m is double that of the European average. To the north-west Albania borders Montenegro, Kosovo to the north-east, to the east with Macedonia, south and south-east with Greece. It is administratively divided into 12 prefectures, 36 districts, 315 communes and 2,900 villages. There are about 3.1 million inhabitants in Albania, with 600,000 living in the capital city, Tirana.

Figure 1: Map of Albania

Source: http://mapsof.net/map/albania-shading-relif-map

The climate of Albania is typically Mediterranean, consisting of mild winters with abundant precipitation and hot, dry summers. Along the coastal lowlands, the annual mean temperature is 12–14°C. Annual mean maximum air temperature varies from 11.3°C in the mountainous zones to 21.8°C in the low and coastal zones, while annual mean minimum air temperature

varies from – 0.1°C to 14.6°C. Average rainfall is about 1,485 mm per annum. However, this is unevenly distributed, with the south-east receiving less. The heaviest rainfall is in the Albanian Alps (up to 2,800–3,000 mm/year). About 70% of rainfall is from October to March, peaking in November, and the driest months are July and August.

Precipitation is a key factor for national electricity production because Albania produces most of its electricity from hydropower plants. It is also very important for agriculture – the employer of over half the workforce.

On a national scale, the structure of land use in Albania has remained almost the same for the last decade. In 2002 land use structure was reported to be: 24% of total land area for agriculture, 36% for forests, 15% for pastures and 25% for other uses. The amount of land used for agriculture has remained approximately constant over the period from 1990 to 2005 (700,000 ha); at present, approximately 60% of this area (400,000 ha) is cultivated, with the remaining being left idle due to its location at 300 m above sea level and its rocky conditions which make it unsuitable, both for irrigation and pasture.

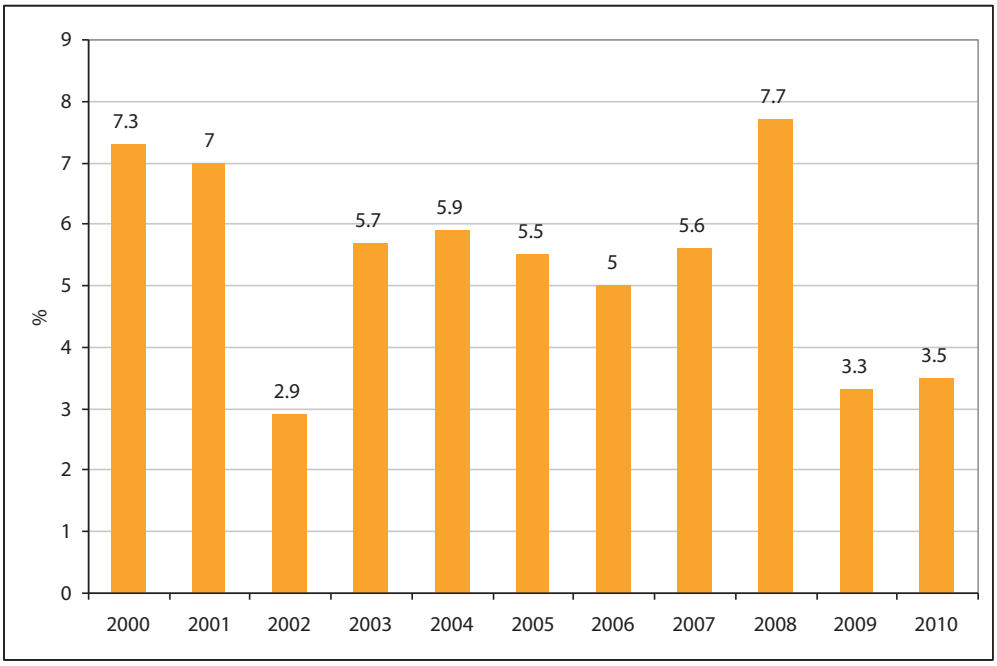
Albania is a constitutional republic with a democratically elected parliament. The president is the Head of State and has general powers as Commander-in-Chief of the army and Chair of the National Security Council. He is also the head of the High Council of Justice. Legislative power is concentrated in the Albanian Parliament, called Assembly (Kuvendi). The executive branch of government is maintained by the Council of Ministers, headed by the prime minister, who exercises every state function that is not specifically delegated to other organs of state or to local government. Apart from being the highest executive body, the Council also adopts and promulgates certain acts delegated by legislation – decrees, ordinances, regulations, resolutions and instructions. The Council is also entitled to initiate the adoption of laws by drafting, deliberating and forwarding bills to parliament.

With the move to democracy, Albania has experienced large-scale political, institutional and socio-economic changes. From a deeply isolated country of constitutionally denied freedoms and rights as well as imposed atheism, it has been transformed to embrace political pluralism where the freedoms and rights of individuals and minorities are respected and guaranteed.

Economic Background

In the past decade, the economy of Albanian enjoyed an average annual rate of around 6% growth. Albania's economy withstood rather well the impact of the global financial crisis and reached upper–middle-income status in 2010. After the slowdown in the second half of 2009 and the beginning of 2010, evidenced by the weakening of exports and of domestic demand, the economy bounced back to positive growth rates of above 3% from the second quarter of 2010, mainly as a result of strong export recovery. The recovery period experienced during 2010 appears to have moderated in the first half of 2011, possibly reflecting concerns about contested local elections and the situation in neighbouring Greece.

Figure 2: Real GDP growth rates



Source: World bank (2010 estimate)

The transition from a centralised to a market-based economy got underway in 1992. The first years of the transition saw a dramatic fall in output, a ballooning budget deficit and triple digit inflation. In 1993, with the support of the international community, the country embarked on a programme for economic stabilisation which included fiscal consolidation, tight monetary targets and structural reforms.

Progress towards macroeconomic stability was interrupted in 1997 by the collapse of the pyramid schemes that had a major adverse impact on the economy and gave rise to civil disorder. The collapse of the schemes resulted in mass emigration, and emigrant workers' remittances have become an important feature of the Albanian economy.

In the aftermath of the pyramid scheme crisis, a new stabilisation programme was launched. This programme led to a notable improvement in economic performance in 1998 and in subsequent years, underpinned by gradual fiscal consolidation and a tight monetary policy. By 2000, inflation had dropped to single-digit levels. Macroeconomic stability has been broadly maintained since 2000 and steps have been taken to integrate Albania with the international economic system.

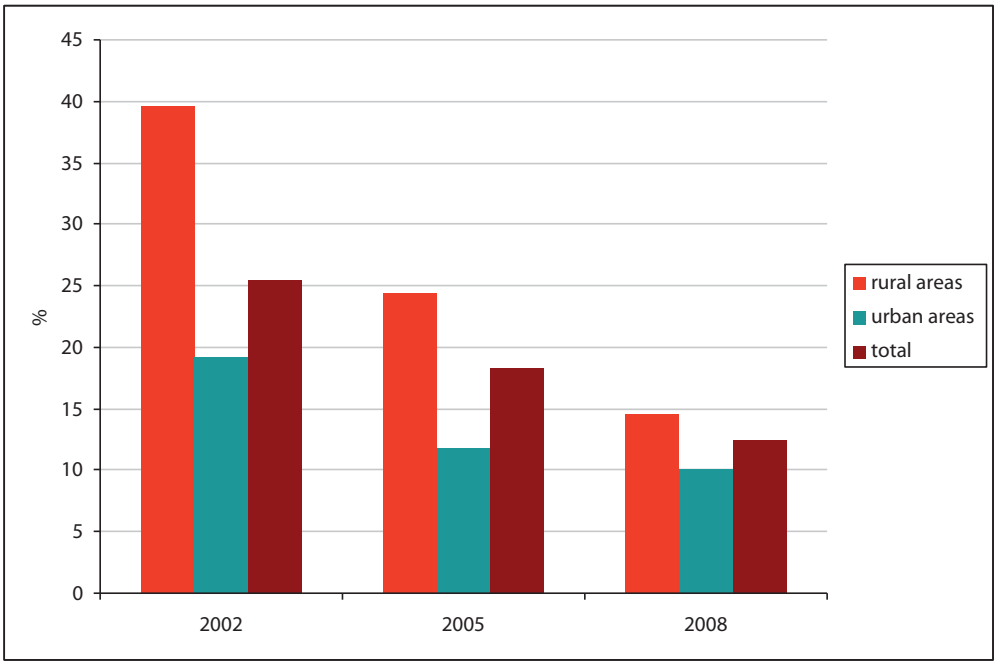
Table 1: Albanian macroeconomic figures

	2008	2009	2010	2011
Population, mln	2.90	2.88	2.86	2.83
Inflation rate, %	3.4	2.3	3.6	3.5
Deflator of GDP, %	4.7	2.3	3.5	3.1
Exchange rate (average) Lek /USD	83.9	95.0	103.9	100.9
Exchange rate (average) Lek / Euro	122.8	131.6	137.7	140.5
Real increase of GDP, %	7.5	3.3	3.9	3.0
GDP, bln Lek	1,089	1,151	1,238	1,315
GDP, bln Euro	8.9	8.7	9.0	9.4
GDP/capita, USD	4,473	4,209	4,172	4,601
GDP/capita, Euro	3,057	3,038	3,149	3,304
Unemployment rate, %	12.7	13.8	13.5	12.9

Source: Albanian Ministry of Finance

Albania's strong economic performance over the last 10 years was accompanied by positive changes in employment and a strong reduction in poverty rates. Between 2002 and 2008, the unemployment rate decreased from approximately 17% to 12.8%, and the poverty headcount rate decreased from 25.4% to 12.4%, equivalent to 200,000 people lifted out of poverty during this period. The reduction in poverty has been particularly dramatic in rural areas, where the poverty headcount fell from 39.6% in 2002 to 14.6% in 2008.

Figure 3: Trends in absolute poverty



Source: World Bank

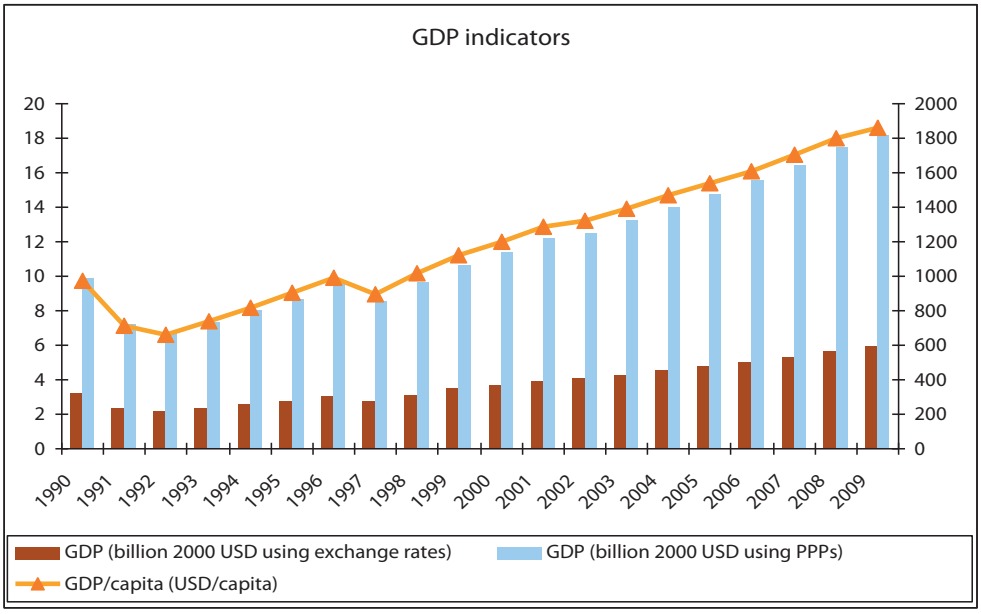
In 1992, the authorities embarked on a programme to establish a modern banking system. This was given a further impetus as a response to the pyramid scheme crisis. A new banking law was passed, further strengthening the independence of the Bank of Albania. Steps were also taken to improve banking supervision and introduce prudential regulations. A privatisation strategy was also launched and the debut of new private banks encouraged. The reforms proved effective and led to an increase in formal private sector credit and a rise in the number of private banks. With full privatisation and the entry of international private banks, the banking sector has continued to develop.

Since 1997 the economy of Albania has exhibited steady growth in Gross Domestic Product (GDP) and in GDP per capita. Continuing progress is ensured through improved fiscal discipline, effective resource allocation, as well as in the management of public expenditure incentives for development of natural resources, and a reform process to create a business friendly environment to facilitate inward investment.

With a work force of 48% and GDP 17%, the agricultural sector continues to be one of the most important sectors of the Albanian economy. Although agriculture's overall contribution is decreasing due to new and emerging sectors (commerce and services), agricultural activity is of economic importance. Maximising revenue from crop production, livestock, agro-industries, and the fishery and forestry sectors is regarded as crucial for the economic and social development of the country.

GDP reached almost $6 billion in 2009. Expressed in purchasing power parity, GDP in 2009 was $18 billion. Income disparities between Tirana, the capital, and the less-developed mountain areas are large, but declining. Over 80% of GDP is accounted for by private entrepreneurship. Per capita income, according to the Bank of Albania, was $ 4,070 in 2009 which is 20 times that of 1992.

Figure 4: GDP indicators



Source: IEA statistics, electronic database, 2011

Energy Supply and Demand

Energy balance

Because Albania relies on hydropower for about 90% of its electricity production, energy security is a critical consideration for the country. While renewable energy resources like hydropower play a fundamental role in moving the world towards a low-carbon economy, these are vulnerable to changing climatic conditions. Annual precipitation variability already affects Albania's energy production to a considerable extent and climate change may bring further challenges.

About 90% of domestic electricity generation is produced by the three dams located in River Drin Cascade. However, Albania has been stretched to meet energy demand and maintains energy supply because of the fluctuations in the country's rainfall. In 2007, a drought in the Drin's watershed led to severe electricity shortages and blackouts, affecting businesses and citizens alike.

Oil production is limited (0.6 Mt in 2009), which halved between 1990 and 1992, and then fell by an average of 7% a year between 1992 and 2001. It is now stable. Armo owns the two refineries located in Ballshi and Fier, which have refining capacities of 17, 800 bbl/d and 8,500 bbl/d, respectively. Because of technical problems, they operate at just 30% of their nominal capacity. Because of the low production of oil, the country is unable to meet the demand and is obliged to import nearly 70% of its needs, whereas 15 years ago it was nearly self-sufficient.

Table 2: Energy Balance 2009, ktoe

	Coal	Natural gas	Oil and oil products	Firewood	Electricity	Solar	Heat	Total
Production	3.20	8.20	576.63	213.00	449.82	6.65	5.60	1,263.07
Imports	50.00	-	1,086.65	-	162.13	-	-	1298.73
Stock changes	-	54.03	-	-	-	-		54.03
Exports	-	362.00	-	41.83				403.83
Total primary energy supply	53.15	8.20	1,247.25	213.00	570.12	6.65	5.60	2,103.93
Energy industry own use	-	7.20	25.63	-	0.43	-	-	33.29
Transformation losses	-		13.10	-	2.05	-	-	15.15
Distribution losses	-	-	-	-	105.49	-	-	105.49
Total final consumption	53.15	0.90	1,208.52	213.00	462.15	6.65	2.30	1946.70
Industry	50.00	-	149.90	2.10	71.31	-	2.30	275.61
Transport		-	754.44	-	-	-	-	754.44
Residential	0.90	-	73.00	187.42	224.00	2.00		487.32
Commercial and public services	2.30		48.35	14.18	93.72	4.65		163.20
Agriculture/forestry	-	-	80.00	6.30	8.21			94.51
Fishing	-	-	25.00	-	-	-	-	25.00
Non-specified (other)	-	-	0	-	65.12	-	-	65.12
Non-energy use			76.10					76.10

Source: AKBN

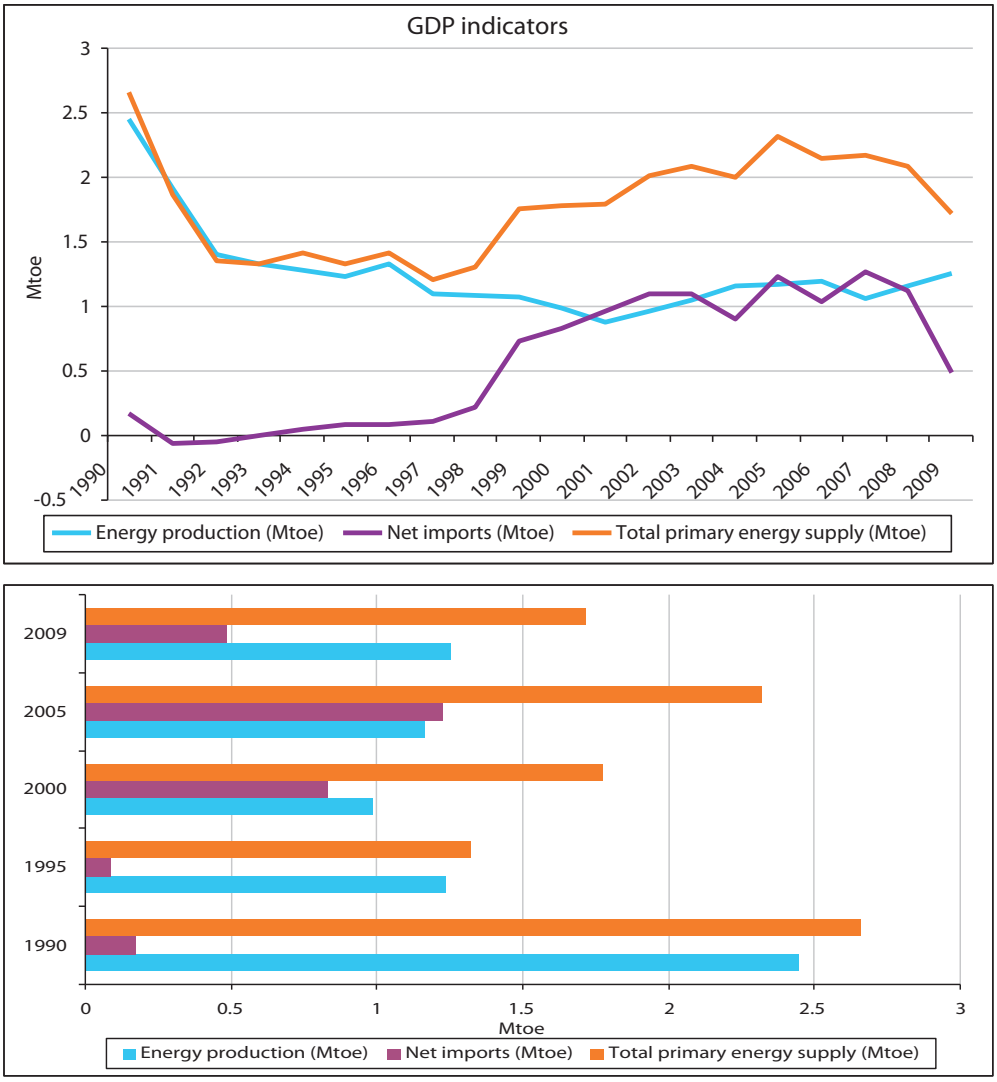
Albania does not have very many business activities in the gas sector. Domestic gas fields are depleted and annual gas production has decreased from 1 bcm in 1992 to 0.01 bcm today. Gas which was previously used in the industry sector (not in household sector) is currently limited to process use in refining oil and hydrocarbon production (on-site facilities). One of the priorities

set by the Albanian Government is the development of the natural gas sector by the materialisation of TAP which aims at bringing Azeri gas to Italy via Albania.

Coinciding with the resumption of growth in the economy in 1997, Figure 5 shows how, after five years of weak demand, energy supply grew over the 11-year period from 1997 to 2008. Dependence on imported energy grew from a very modest 12% in 1997 to about 50% in 2008.

The sharp contraction in 2009 was a direct result of the weakening of demand that followed on the global financial crisis of 2008. Domestic demand abated substantially as did GDP growth, and there was a marked decline in energy imports.

Figure 5: Energy production and net import



Source: IEA statistics, electronic database, 2011

Energy supply and final consumption trends

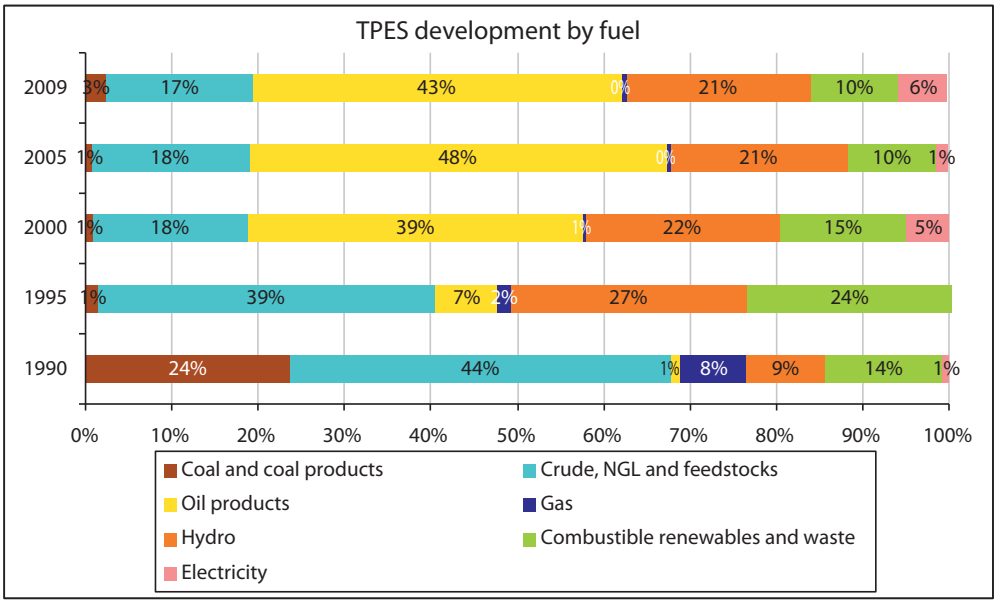
In 2009, Albania's Total Primary Energy Supply (TPES) reached 1.7 Mtoe. In the 1990s, and throughout the last decade, Albania's TPES structure changed dramatically. From 1992, coal and to a lesser extent gas, made only a marginal contribution to TPES; at one time, these minerals had accounted for energy consumption levels of over 600 ktoe and 800 ktoe, respectively per annum. The key objectives of Albanian energy policy are expansion of TPES in line with (and to underpin) economic growth and the development of indigenous resources.

Table 3: Structure of TPES

TPES	1995		2000		2005		2009	
Coal	19	1%	17	1%	18	1%	53.15	3%
Crude oil	517	39%	314	18%	418	18%	355	17%
Oil products	95	7%	686	39%	1,100	48%	901.3	43%
Gas	23	2%	9	1%	10	0%	8.2	0%
Hydro	362	27%	395	22%	469	21%	450	21%
Solar/wind/other	0	0%	1	0%	2	0%	3	0%
Biomass	316	24%	258	15%	230	10%	213	10%
Electricity	-6		86	5%	32	1%	120.29	6%
Total	1,324		1,766		2,279		2,104	

Source: IEA statistics, electronic database, 2011 and AKBN

Figure 6: TPES structure



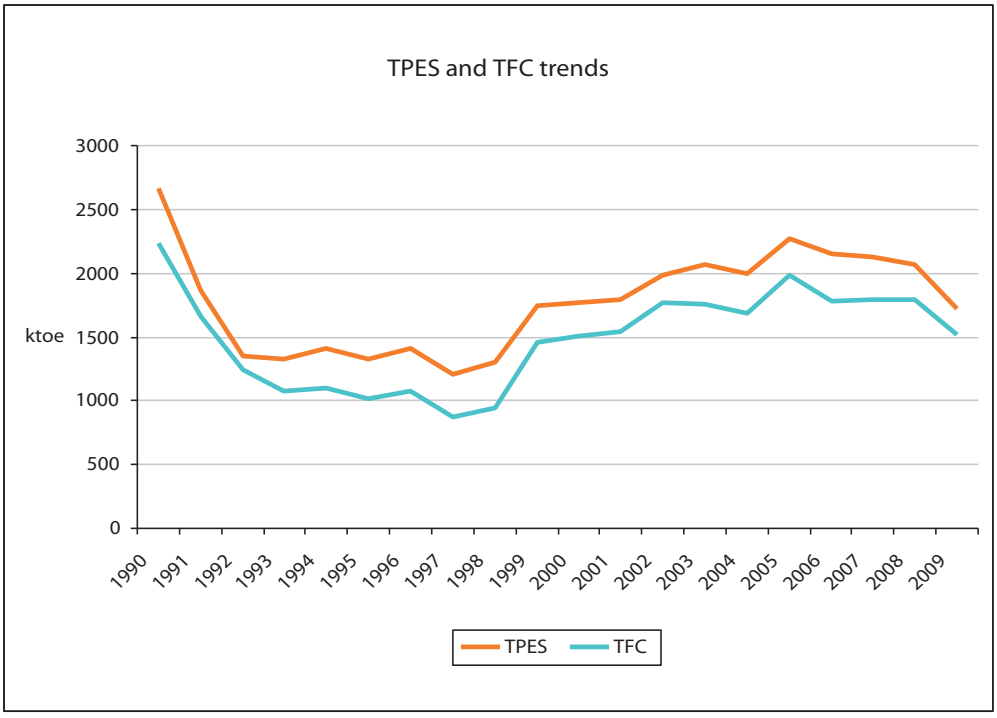
Source: IEA statistics, electronic database, 2011 and AKBN

The precipitous decline in TPES and Total Final Consumption (TFC) over the period 1990–1992 directly reflects the crisis in the economy at that time; its bottoming out marks the commencement of an extended period of more gradual structural change and the beginning of the adjustment to the new social, economic and policy drivers.

Both indicators continued to fall, although at a much reduced rate from 1993 to 1997, before growth resumed in 1998. TPES and TFC peaked in 2005, though at levels well below those of 1990, notwithstanding the strong growth in output over the period.

Growth of about 20% since 1999 compares with an increase of almost 70% in GDP to 2009.

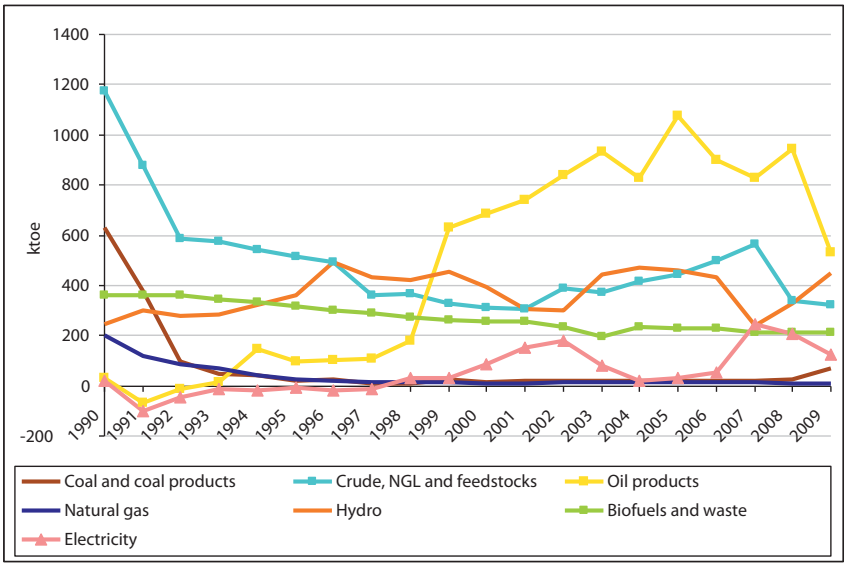
Figure 7: TPES/TFC 1990–2009



Source: IEA statistics, electronic database, 2011

The importance of hydropower as a renewable resource is evident over the whole period; the striking below-trend performance between 2006 and 2008 was economically damaging. The response to this crucial experience was to drive forwards with reforms in order to achieve a robust energy and climate policy

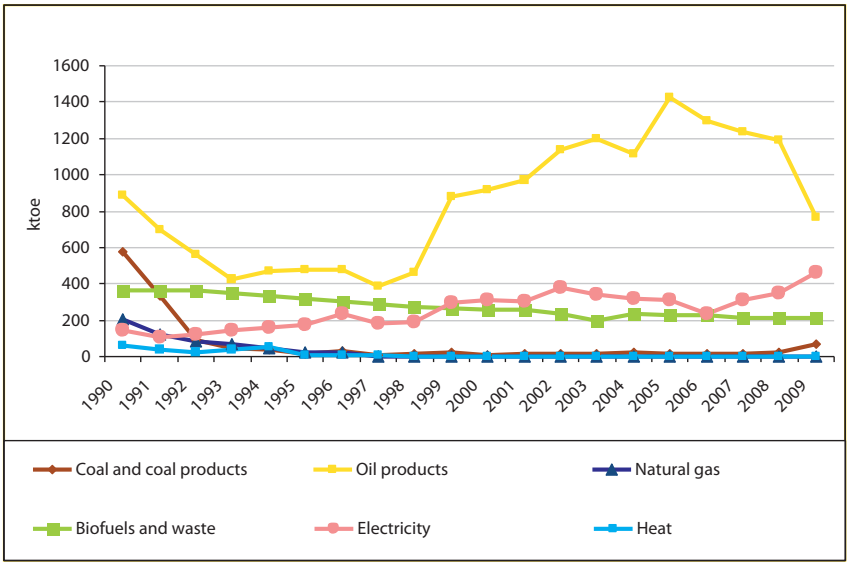
Figure 8: TPES development by energy source



Source: IEA statistics, electronic database, 2011

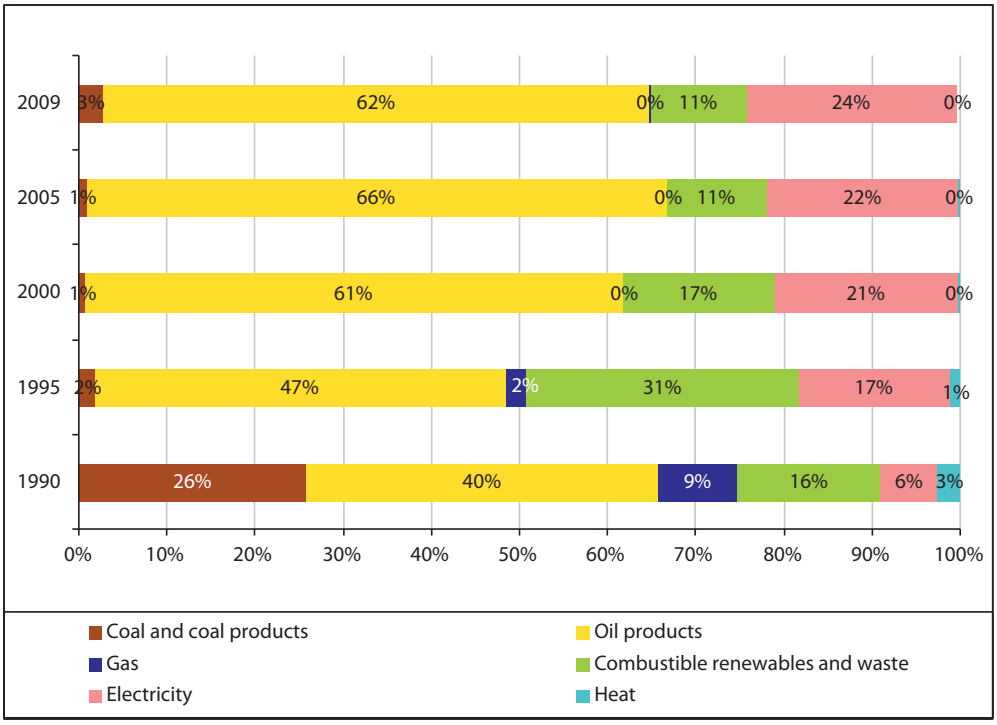
The development of TFC by energy source shows how oil accounted for most of the increased consumption since 1997. The sharpest changes were the decreases in the contribution of coal in the early 1990s, gas from 1990 to 1995 and the collapse of heat supply in the early 1990s. In 2009 the TFC reached 1,948 ktoe, with electricity and oil accounting for more than 80% of it.

Figure 9: TFC development by energy source



Source: IEA statistics, electronic database, 2011

Figure 10: TFC development by energy source



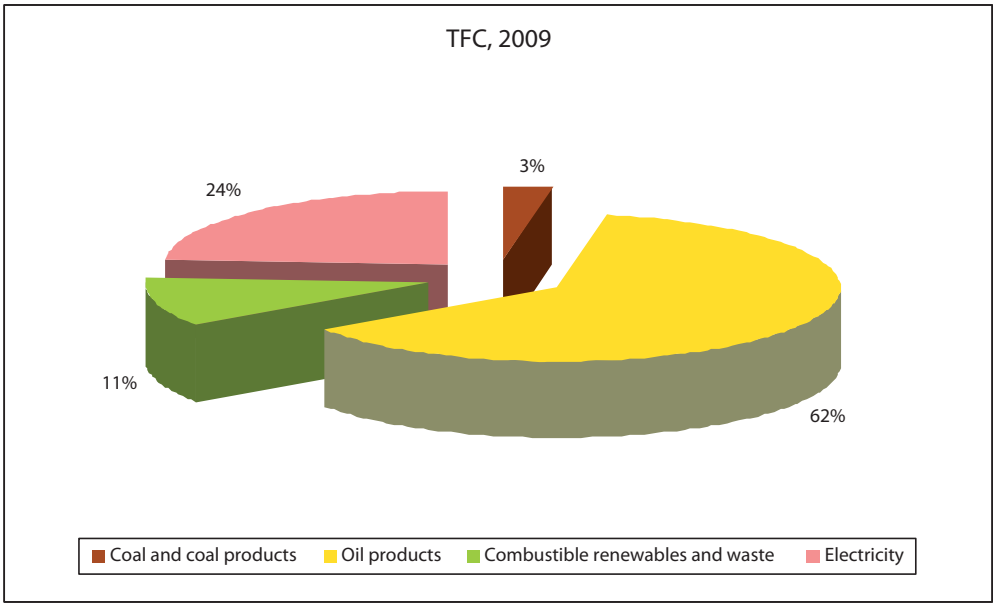
Source: IEA statistics, electronic database, 2011and AKBN

Table 4: Structure of TFC, ktoe

	1990		1995		2000		2005		2009	
Coal and coal products	579	26%	18	2%	11	1%	18	1%	53.15	3%
Oil products	890	40%	475	47%	917	61%	1,353	66%	1,208.52	62%
Gas	203	9%	23	2%	1	0%	0	0%	1	0%
Solar/wind/other	0	0%	0	0%	1	0%	2.3	0%	6.7	0%
Combustible renewables and waste	363	16%	316	31%	258	17%	230	11%	213	11%
Electricity	145	6%	174	17%	312	21%	446.9	22%	462.15	24%
Heat	59	3%	11	1%	2	0%	3	0%	0	0%
Total	2,238		1,017		1,501		2,050.2		1,946.7	

Source: IEA statistics, electronic database, 2011and AKBN

Figure 11: TFC, 2009



Source: IEA statistics, electronic database, 2011and AKBN

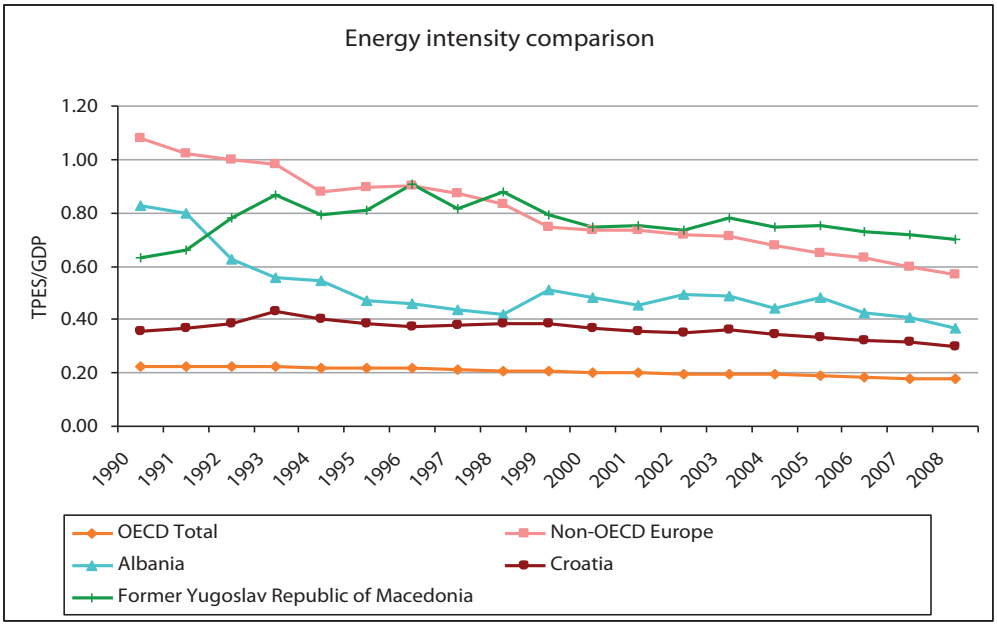
The central supply challenge of Albanian energy policy is to enable the sustainable expansion of energy supply to meet the emerging and future pattern of final energy consumption. The achievement of an affordable expansion of all forms of energy supply, including natural gas could, in current circumstances, be very demanding. Because of these challenges and the additional tensions arising from capital and affordability constraints, the room for manoeuvre could be greatly improved by an effective resource and energy management strategy.

Energy intensity

Albania's relative performance as the indicator of energy intensity GDP is benchmarked with reference countries and OECD economic groupings (Figure 12). As in Albania, the trend line for the energy intensity of GDP is shrinking since 1993 in most evaluating comparators, most notably in non-OECD Europe. Albania's metric of TPES/GDP is half of the Former Yugoslav Republic of Macedonia, and about two-thirds that of non-OECD Europe. It is, however, twice the OECD average and this underlines the need for continuing improvement against commercial rivals.

The energy intensity indicator reflects the combined effect of several trends; firstly, a changing structure of production and economic output in Albania's case, driven by a move from primary production to products higher in the value chain; secondly, an expansion in the lower energy intensive service sector; thirdly, efficient energy production and its application to the economy.

Figure 12: Energy intensity comparison



Source: IEA statistics, electronic database, 2011

Electricity supply and distribution

(KESH is the public producer of electricity in Albania and it acquires almost its entire production from Hydropower Plants (HPP). The total installed capacity for HPP is 1,433 MW and for Thermal Power Plants (TPP) 98 MW.

Table 5: Electricity generating power plants

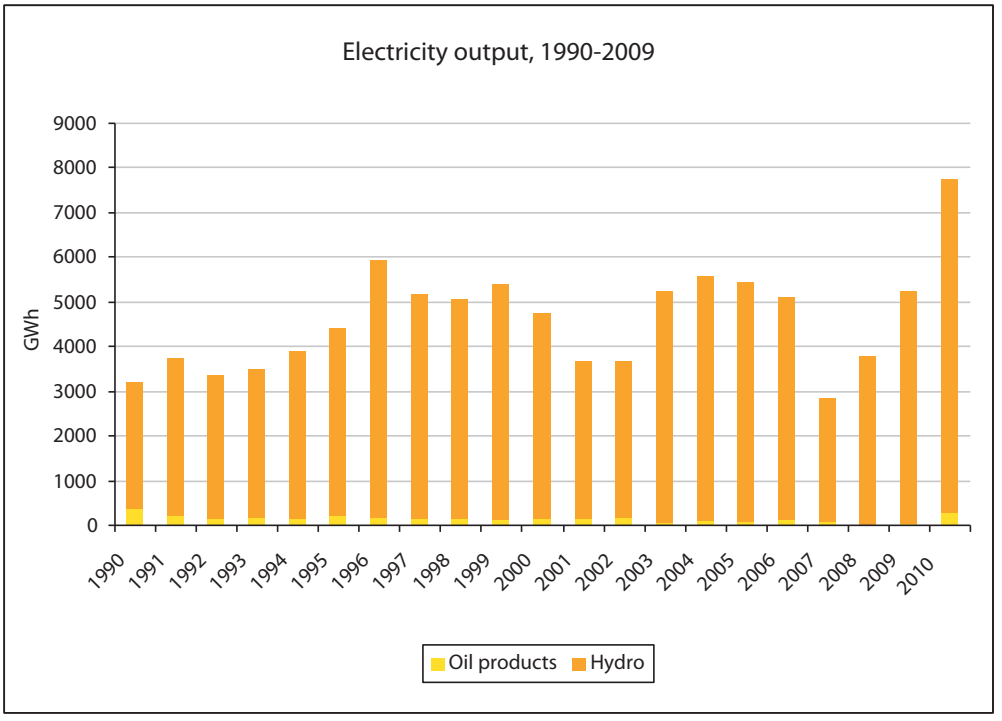
Generation plant	Installed	Year of	Rehabilitation
Fierza HPP	500	1978	2003–2007
Koman HPP	600	1985	-
Vau i Dijes HPP	250	1971	2003–2007
Ulez HPP	25	1958	2002–2003
Shkopet HPP	24	1963	2002–2005
Bistrica 1 HPP	22	1965	2002–2010
Bistrica 2 HPP	5	1966	2002–2010
LanabregasHPP	5	1951	-
Vlora TPP	98		

Source: 2010 Annual report, ERE

Electricity output variation is largely accounted for by year-on-year changes in hydropower output, but the output of the oil-fired thermal stations has also fluctuated greatly.

This characteristic is evident in Figure 12: electricity output for (1990–2009) where shortfalls were experienced in 2007 and 2008, and performance in 2009 and in subsequent years has been much improved. In 2010 the total production of electricity by public generation was 7,555 GWh, while the total production taking into account the production by the private sector of 159 GWh reached 7,743 GWh. From a hydrological point of view, 2010 is considered a remarkable wet year – and this has positively influenced the domestic production of electricity by reaching a record in generation for all times in Albania. Although 2010 was a very favourable hydro year, increased electricity production was also a result of better management of water resources.

*Figure 13: Electricity output, 1990–2010 (*ERE annual report 2010)*



Source: IEA statistics, electronic database, 2011

Table 6: Net generation by HPP

	2010	2009	%Increase in 2010
Drini Cascade	7,022	4,682	50%
Fierza HPP	2,667	1,556	71%
Koman HPP	2,845	2,042	39%
Vau I Dijes HPP	1,510	1,084	30%
Mat Cascade	282	225	25%
Ulez HPP	156	125	26%
Shkopet HPP	125	100	24%
Bistrica Cascade	175	170	2%
Bistrica 1 HPP	139	135	3%
Bistrica 1 HPP	55	35	1%
Lanabregas HPP	41	34	19%

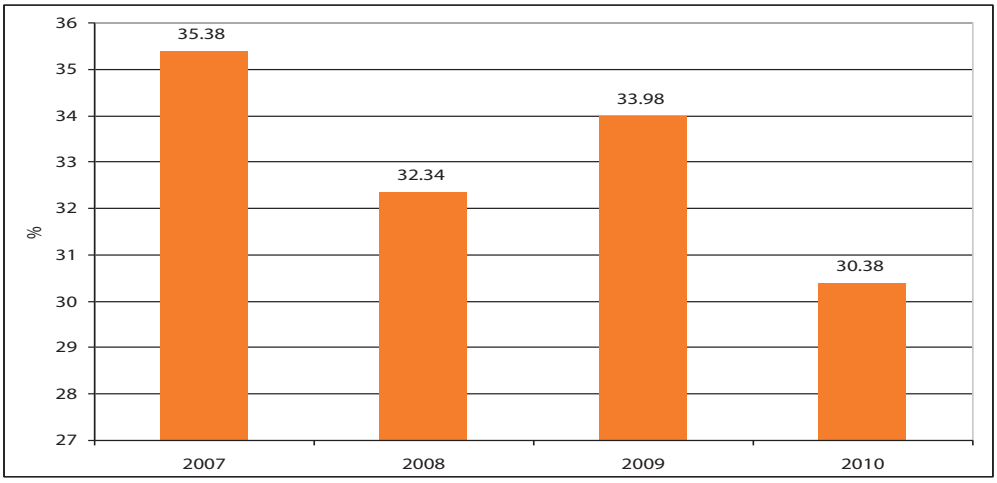
Source: 2010 Annual report, ERE

As from September 2010, the distribution of electricity has been done by CEZ Shpërndarje when they purchased 76% of the shares of the Distribution System Operator. Based on the agreed regulatory framework, CEZ is required to:

- Reduce total losses to 15% by 2014
- Increase the collection rate to 91% by 2014
- Improve operational efficiency and the quality of electricity supply.

Historically, the level of technical and non-technical electricity losses in distribution has been very high. The total losses in distribution in 2010 were at the level of 30.4 % and the level of electricity bill collections is reported to be 77.2 %.

Figure 14: Losses in electricity distribution

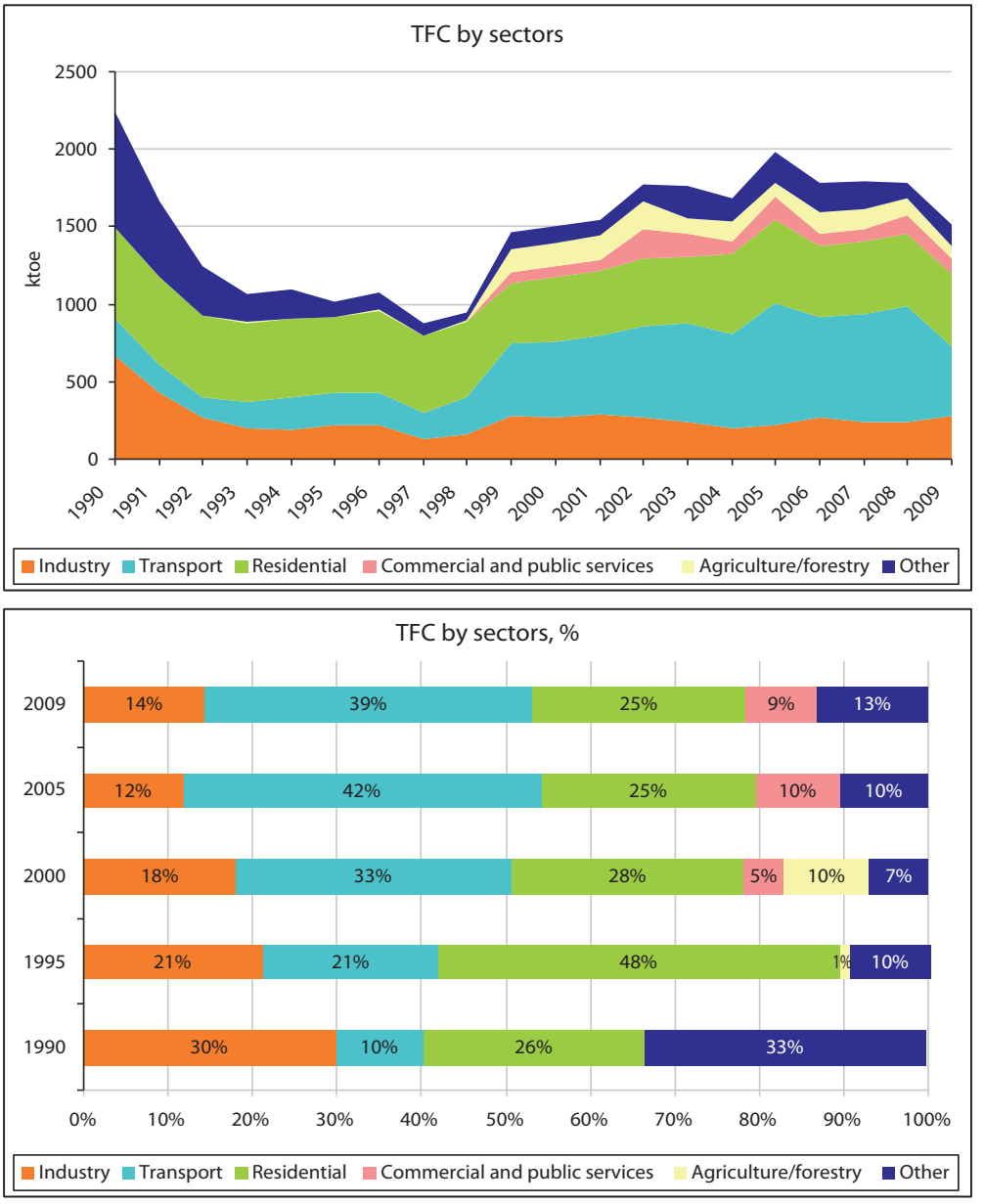


Source: ERE annual report 2010

Energy Consumption Trends by Sectors

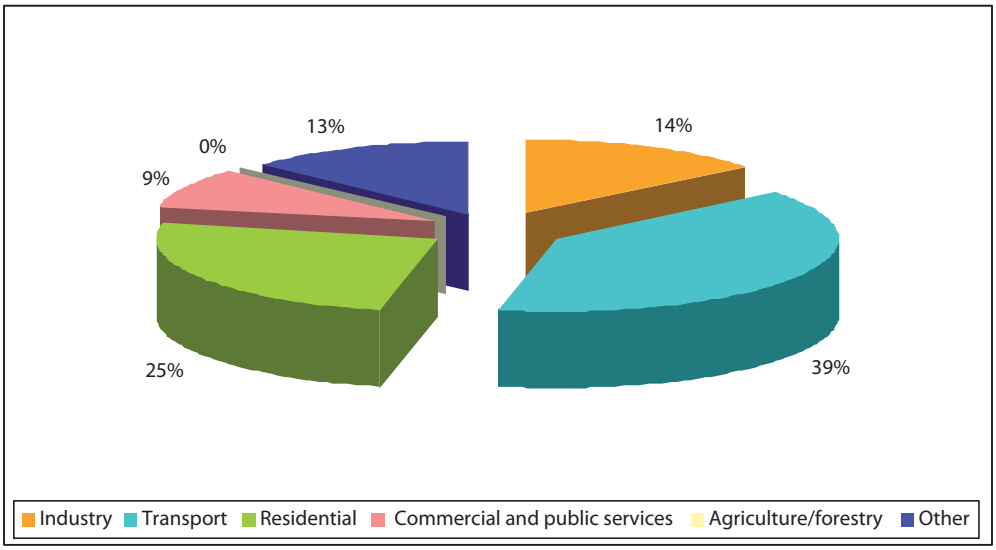
The energy consumption trend for sectors as shown in Figure 15 illustrates the collapse of industry from 1990 and the sustained rise in transport since 1998. In 2009, the TFC accounted for 1,938 ktoe; residential sector and transport were the biggest consumers (25% and 39% of TFC), respectively; followed by the industry sector (14%) and 9% in commercial sector.

Figure 15: TFC by sectors to 2009



Source: IEA statistics, electronic database, 2011and AKBN

Figure 16: TFC by sectors in 2009

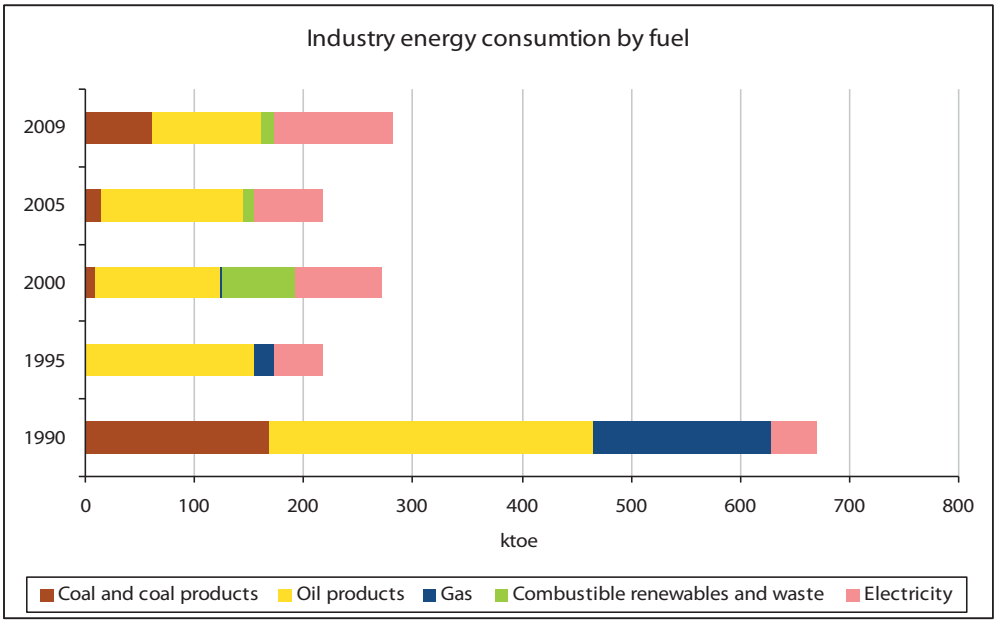


Source: IEA statistics, electronic database, 2011and AKBN

Industry

Oil and electricity usage account for the vast bulk of energy in industry today. The sharp decline in coal and gas consumption between 1990 and 1995 is illustrated in Figure 17.

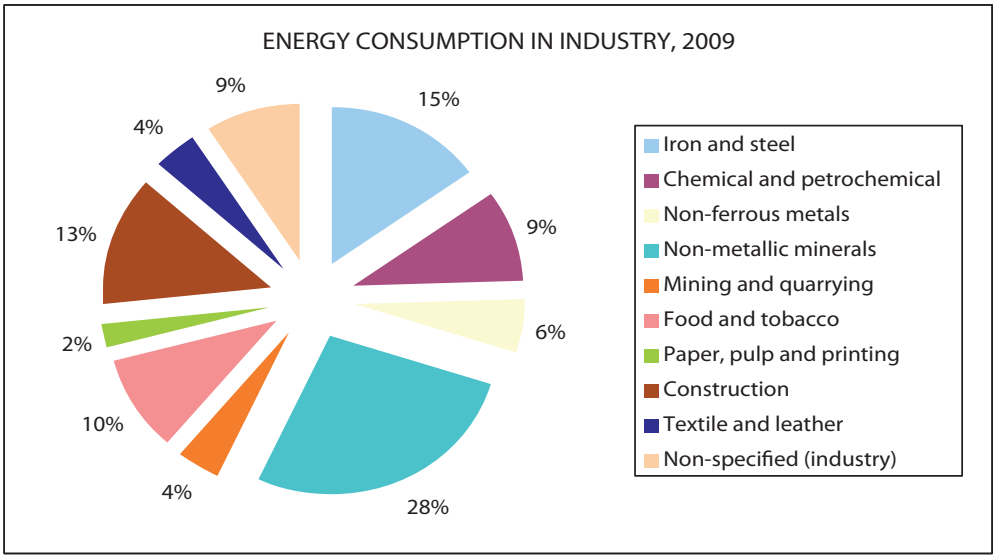
Figure 17: Industry energy consumption by fuel



Source: IEA statistics, electronic database, 2011

Industrial energy consumption was dominated by two sectors: non-metallic minerals, and iron and steel which together accounted for 43% of energy consumed in industry. Construction and chemicals accounted for a further 22%.

Figure 18: Energy consumption in industry 2009



Source: IEA statistics, electronic database, 2011

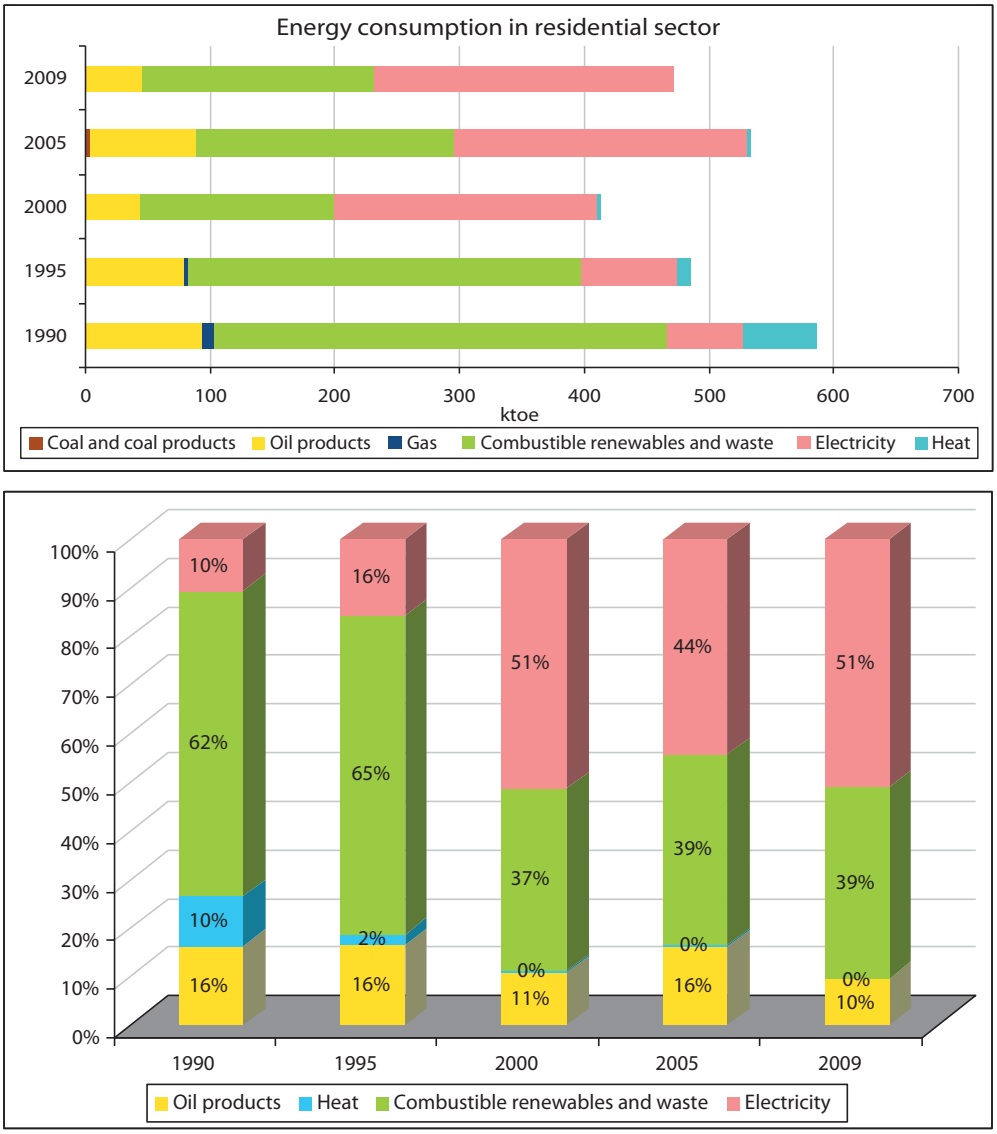
Residential and service sectors

The slump that district heating companies experienced and the low electricity prices and the generally low incomes for households have, in the absence of competitive alternatives such as gas, caused consumers to increase their use of electricity to meet space-heating needs. The performance of the power system, exacerbated by annual fluctuations in precipitation, has put pressure on the availability of hydropower and ultimately confidence in the electricity system.

Space and water heating account for the bulk of energy consumption in the residential sector: more than half is used for space heating and around 86% of the energy used for water heating is covered by electricity. In addition to the overloading caused to the networks, such high levels of electricity consumption are a cost burden for customers. Thus, the availability and access to safe, efficient and affordable heating and cooking alternatives are of primary importance for households. Locally sourced and relatively cheap fuel-wood is widely used for space heating in rural areas. This is, for the most part, used inefficiently and the larger volumes required have caused concerns about unregulated harvesting and the sustainability of the biomass resource. The use of biomass in urban areas has higher requirements for logistical and regulatory support. Liquefied Petroleum Gas (LPG), which has witnessed a rise in consumption recently, is more flexible and covers a broad scope of use. The Energy Strategy has identified a significant growth potential for LPG. However, its price is relatively high and supply is irregular as traded volumes and infrastructure are still small. Oil products, such as light fuel oil, provide another option for individual house or building boilers and individual stoves.

Approximately 96% of the residential building stock is privately owned (mass privatisation of flats took place in 1993–1994) and around 40% of the total building stock consists of multi-family apartment buildings. The housing construction sector began to develop in the early 1990s; by 2005 the construction industry was producing 60% of the entire GDP by private commercial ventures. A law on condominium management was approved in 2009. It is expected that this law will enforce some rules for the management of common areas in buildings, including registration of non-registered apartments and that it will facilitate the implementation of energy efficiency measures in existing buildings.

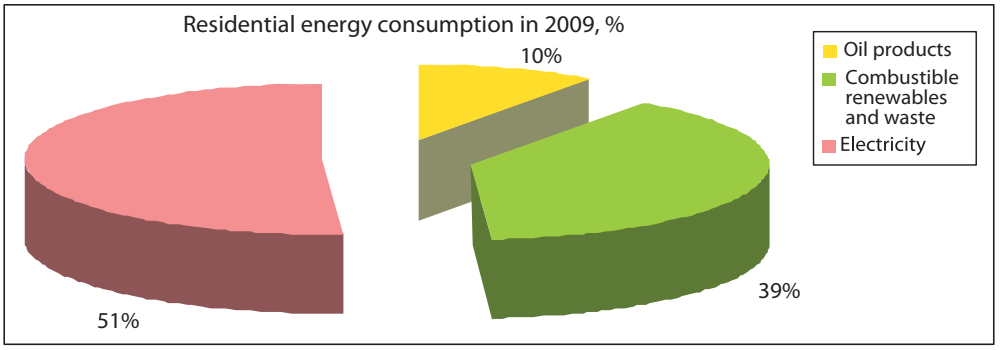
Figure 19: Energy consumption in residential sector



Source: IEA statistics, electronic database, 2011

The district heating systems built in the 1960s in some of the main cities of Albania were abandoned in the early 1990s owing largely to the lack of maintenance and high operational costs. Coal-fired CHP plants that provided heat to oil refineries and industries were also decommissioned. As a substitute, public buildings were equipped with heat-only boilers (at low efficiency), and these continue operating despite their high maintenance and fuel costs.

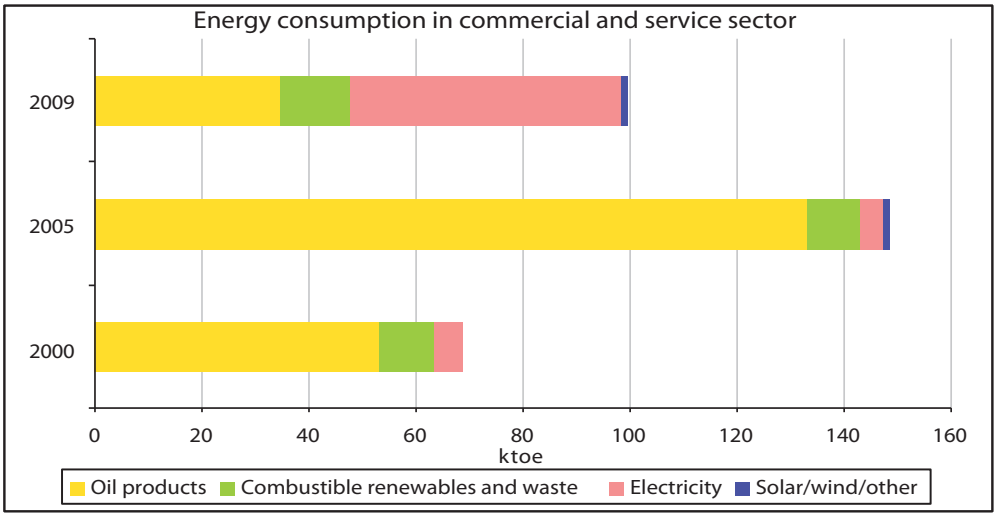
Figure 20: Residential energy consumption in 2009 (%)



Source: IEA statistics, electronic database, 2011

The energy mix of the commercial and services sector changed dramatically over the period 2000–2009. The trends are the growth of electricity, sensitivity to oil and the increasing contribution of renewable energy.

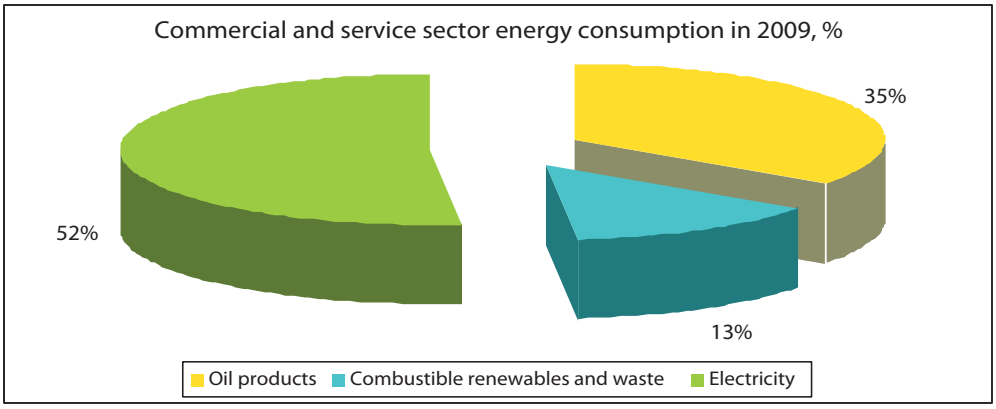
Figure 21: Energy consumption in commercial and service sector



Source: IEA statistics, electronic database, 2011

Energy consumption in the commercial sector reflects a balanced mix of oil, electricity and combustible renewable resources, in meeting a sector's energy needs. Based on use, the scope for energy efficiency is greatest in electricity end-use and, in maximising effectiveness, emphasis should be on energy efficiency programmes and related measures.

Figure 22: Commercial and service sector energy consumption in 2009

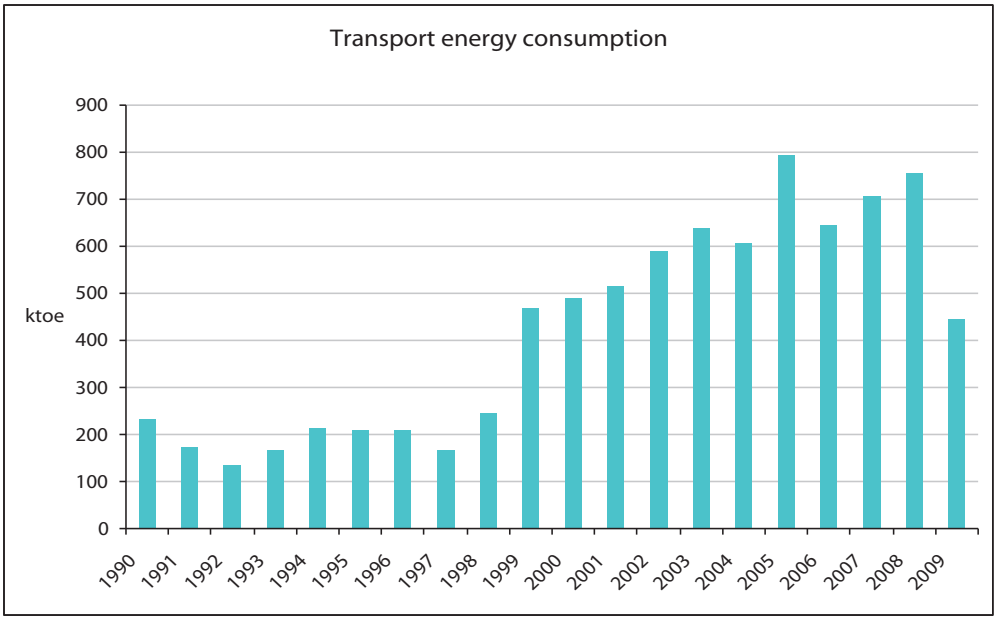


Source: IEA statistics, electronic database, 2011

Transport

As illustrated in Figure 23, following a period of little or no growth to 1998, the consumption of energy in transport grew to three times its pre-1998 level.

Figure 23: Transport energy consumption



Source: IEA statistics, electronic database, 2011

Growth in the last 10 years has been steady and broadly followed growth in GDP only to decline sharply in 2009. Unusually, in comparison with other economies, the elasticity of transport energy demand is higher as demonstrated by the drop in 2009 consumption. Price and affordability are the most likely drivers, but the adjustment underlines the fragility of demand.

ENERGY POLICY

Strategy and Legal Framework

Albanian energy policy is formally and comprehensively set out in the National Strategy of Energy and Plan of Action, June 2003 as updated April 2005 and most recently in 2009. The Energy Strategy is one key element of Albania's National Strategy for Socio-Economic Development (NSSED).

The National Strategy of Energy prepares for and attempts to optimise the changes needed to:

- Increase security of supply
- Develop resources to meet demand
- Achieve sustainable economic development in the future.

According to the Albanian authorities:

> Meeting the target of sustainable development for the energy sector needs the definition of all objectives and the necessary fiscal steps through a well-defined strategy as well as respective investments. The Energy Strategy is necessary to meet obligations in the framework of the Regional Electricity Market in South-East European countries, and other international obligations regarding environmental protection as well as the harmonisation and converging of the energy sector development according to EU Directives for the association of Albania in the European family.

The strategy for the development of the energy sector addresses technical, financial, economic, legal, organisational, institutional and environmental aspects, as well as training of specialists to prepare the necessary framework for an effective integration of the Albanian energy system into regional and European entities. The strategy deals with a number of issues, and answers many strategic questions, such as:

- What national interests should be protected and how?
- How to deliver those national interests across the energy supply sub-sectors?
- How to increase competition; establish a consumer-oriented market, respecting government responsibilities for a reliable energy system, and security of supply?
- What are the necessary conditions to be met in a defined timetable to harmonise both the Albanian and the EU power systems?

According to the strategy, Albania will be integrated into the EU energy market, inter alia, by meeting requirements of the ECT and Directive 96/92/EC on Electricity. Guidelines drawn from analysis in other countries include:

- Future energy systems should be more decentralised
- More attention should be focused on energy efficiency
- Technologies selected to meet the demands should be based on minimal cost-planning principles, supply reliability and environmental protection
- Renewable energy resources (solar, wind, biomass and especially small HPP) should be persuaded to achieve the maximal use of indigenous resources, based on least cost planning and environmental protection principles.

Goal and objectives of the National Energy Strategy

The scope of the National Energy Strategy is to develop an effective energy sector that:

- Guarantees the security of the energy supply in general and electricity in particular
- Promotes an efficient and economic use of energy, with minimal environmental impacts in order to support the sustainable development of the economy as a whole.

The primary objective of the National Energy Strategy is the restructuring of the energy sector based on market economy principles and on developing a modern energy policy.

The specific objectives of the National Energy Strategy are to:

- Increase security and reliability of the energy supply in general and electricity in particular, at national and regional level;
- Establish an efficient energy sector from financial and technical aspects;
- Establish an effective institutional and regulatory framework and a restructuring of energy companies;
- Increase energy efficiency in generation/production and final use of energy sources, aiming at minimal environmental pollution;
- Optimise the supply system with energy sources based on least cost planning principles with minimal environmental pollution;
- Considerably increase investments in the energy sector through capital enhancement by International Financial Institutions as well as private capital; and
- Establish an electricity market according to EU requirements for the electricity sector reforms (Directive 96/92/EC EU) and Albania's obligations under the Athens Memorandum (November 15, 2002) and to support the energy sector integration into the South-east Europe Regional Electricity Market and the interconnection with UCTE network.

Plan of action

The National Energy Strategy was updated in 2005, mainly in respect of its Plan of Action, and again in 2009 and now exists in the form of a draft for approval. Associated with that Plan of Action is a programme of measures which form part of the National Energy Efficiency Action Plan – also in draft form – and which is outlined in Chapter 6 'Energy Efficiency'.

In addition to signing the ECT in December 1994 – a move that represented the legal basis for co-operation between the signatory countries in the energy field, and in furtherance of its ambition to accede to the EU – Albania signed the Treaty establishing the Energy Community on October 25, 2005 in Athens. After its ratification by Parliament, on April 3, 2006, Albania became a Contracting Party of the Energy Community.

Laws enacted

The most relevant laws enacted to date are: Law on Competition (1995), Environmental Protection Law (1992), Mining Law (1995), Petroleum Law (1993), Foreign Investment Law (1993), Concessions Law (1995), Restructuring Power Sector (May 2003), Promotion Energy Efficiency and Renewable Energy Sources (April 2005), the Purchase and Sale of Urban Land Law (1995).

Law no. 7746, July 28, 1993: On hydrocarbons (Exploration and Production) provides additional

security for foreign investors in the exploration and production activities of hydrocarbons. The law proclaims the sovereignty of the State over hydrocarbon reserves, which remain state property.

In 1994, Parliament approved law no. 7811: On the Fiscal System of Hydrocarbons Sector. This law created greater security for private investors, as contractors operating in the exploration and production activities of hydrocarbons were exempted from Albanian taxes and other fiscal duties, and henceforth would only be subject to a tax on profits.

Law no. 8450, February 24, 1999: On Processing, Transportation and Trading of Oil, Gas and their By-products established the necessary legal bases for regulation of the sector. It also envisaged the full liberalisation of export–import activities and the wholesale or retail prices of oil by-products, other than specific market emergencies when the Council of Ministers may impose temporary restrictions for wholesale and retail prices.

Decree no. 171, April 19, 2002: Power Sector Policy Statement is the basic policy document for the reform of this sector. The document is designed towards the development of an electricity market that provides for the reliable, safe, and adequate supply of electricity at reasonable prices in an economically and environmentally sound manner, in accordance with accepted commercial and market principles and the rule of law.

Law no. 7962, July 13, 1995: On Electrical Power and law no. 7970, July 20, 1995: On Regulation of Power Sector provided for the enhancement and promotion of economic effectiveness, as well as service quality in generation, transmission and distribution of electricity.

Law: On Electrical Power was passed by Parliament on May 13, 2003. The purpose of this law was to enhance economic effectiveness and quality of service in the generation, transmission and distribution of electricity, ensuring at all times that these recommendations are in the public interest.

The law stipulates that electricity tariffs should be determined in a transparent and non-discriminatory reasonable manner in accordance with recognised ratemaking principles. It regulates the conditions of activity in the sector of electrical power, as well as the rights and duties of the physical and juridical persons and of the state administration.

It strengthens the role and responsibilities of the Albanian Energy Regulator (ERE) in the formulation of competition, taking into consideration the protection of consumers' interest, cost minimisation in providing electric power services and environmental considerations. The law was amended in June 2008 to improve the regulation of the electricity sector. A new law on the power sector, based on the EU Third Legislative Package, was under preparation in 2011.

The new law on concessions, law no. 9663, December 18, 2006 has an energy section and defines the legal basis for private sector participation in public services and infrastructure. Again, this is further developed in the Chapter 'Renewable Energy'.

Law no. 9946, June 30, 2008: On Natural Gas Sector extends the powers and functions of ERE to include the regulation of the gas sector in Albania.

Energy Sector Reform

Energy regulatory reforms in Albania were initiated at an early stage of the transition period with the adoption of laws for upstream oil (1993 and 1994), electricity (Electric Power and Regulation of Power Sector, 1995) and oil products (1999). These laws, aimed at establishing a market-based legal framework, focused mostly on the electricity sector. The ERE has ensured the responsibility to enforce this new regulatory framework.

Electricity market

The Albanian Government has undertaken a series of important reforms in the power sector aimed at the liberalisation and development of the Albanian electricity market. Supporting measures for security of supply include:

- Projects to increase electricity generation and interconnection capacity;
- Establishing a competitive electricity market consistent with EU requirements, including KESH restructuring, and the new market model, which was adopted in March 2008;
- Setting up and enforcing an effective and transparent legal and regulatory framework, law no. 9072, May 22, 2003: On Power Sector;
- Secondary legislation to implement privatisation and attract strategic investors; and the process of privatisation of Distribution System Operator has been finalised; and
- European Community Regulation (EC) no. 1228/2003, June 26, 2003: On conditions for access to the network for cross-border exchanges in electricity.

The restructuring of the Albanian Power Corporation, which involved the transformation of KESH from a vertically integrated company into an unbundled one with three independent entities, has been completed according to the following schedule:

- The unbundling of TSO started in 2004 and the financial unbundling was performed as of June 30, 2006.
- The unbundling of the Distribution System Operator (DSO) started in December 2006 when the Albanian Government – Councils of Ministers – passed Decision No. 862 in 2006 on the establishment of the distribution company; DSO is a joint stock company which was privatised in March 2009 and eventually bought by CEZ.

The responsibility for the operation of the electricity transmission system is vested in (OST) Operatori i Sistemit te Transmetimit SH. A., established and operating as a joint stock company subsidiary of KESH.

In March 2009 the Albanian Government and CEZ Group signed a contract for the sale of 76% of the shares of the OSSH. The transaction was fully completed in June 2009 and rebranding as CEZ Shpërndarje followed in September 2010.

CEZ Shpërndarje operates under two licences: (i) DSO licence for 30 years with exclusive right to serve all of Albania; and (ii) a Retail Public Supply (RPS) licence for 30 years with exclusive right(s) to supply electricity to tariff customers. The DSO licence is relevant for network operations and for consumers' connections. The RPS licence provides for the purchase of electricity destined for final tariff customers from the Wholesale Public Supplier (WPS). Billing and collections come under the RPS licence as well.

Based on the agreed regulatory framework, CEZ Shpërndarje is required to:

- Reduce total losses to 15% by 2014
- Increase the collection to 91% by 2014
- Improve operational efficiency (improve the quality of electricity supply).

Further improvements will be agreed in 2014 on completion of a review which was provided for at the inception of the current arrangements and targets.

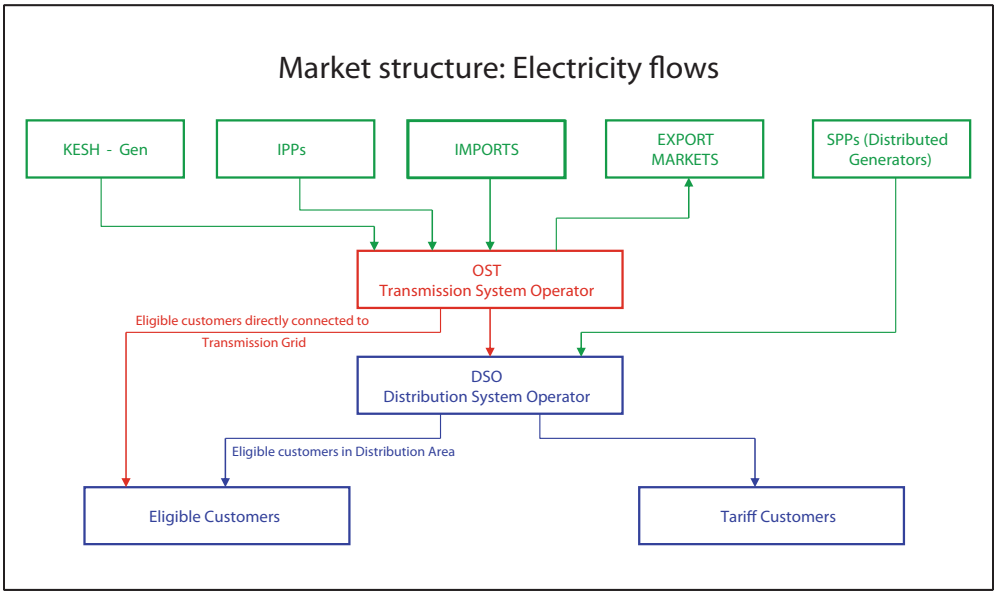
A New Market Model (AMM) was adopted in March 2008 and technical rules were prepared by the regulator, with the assistance of the Donor Community. The AMM was developed to explore further Albanian Government policies for reforming the power sector, especially for privatisation of the distribution sector of electricity. It stipulates that:

- KESH owns all large generation assets
- KESH generation will provide ancillary services to the TSO and offer its remaining electricity to the WPS at a regulated tariff.

The AMM distinguishes between a WPS, which is part of KESH, and a Retail Public Supplier, which is part of the Distribution Company.

- The WPS is to be responsible for security of supply to all tariff customers. It will sell its electricity to the Retail Public Supplier at a price regulated by ERE.
- The Distribution Company owns and operates the distribution system, and is mandated to buy electricity to cover its technical and non-technical distribution losses from the market.
- If there is excess generation available, KESH may sell it to export markets.

Figure 24: Structure of the electricity market



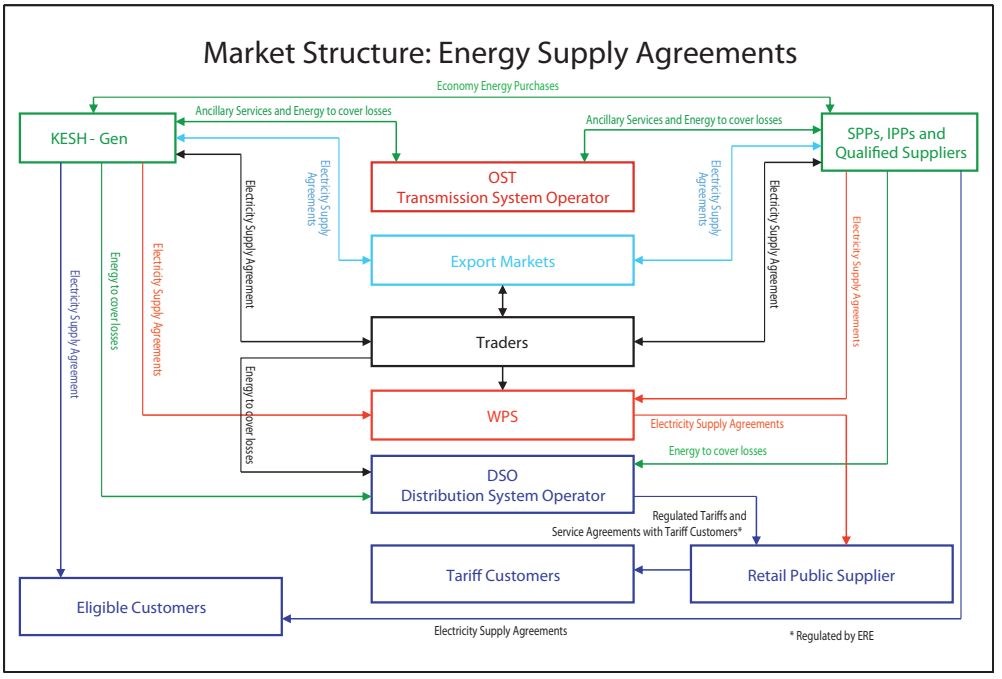
Source: 2010 Annual report, ERE

The AMM considers Renewable Energy Sources as Small Power Plant or Independent Power Plants, allowing their existence on the market and access to the grid. They may also sell directly to eligible customers if they obtain licences to be qualified suppliers.

The AMM is a bilateral market with defined roles and responsibilities according to law and the various codes and regulatory statements promulgated by ERE. Figure 24 describes the electricity market structure in terms of electricity flow and ancillary service provision.

The energy supply agreements are concluded according to the following structure:

Figure 25: Structure of the electricity market – supply agreements



Source: 2010 Annual report, ERE

Oil

As oil imports now cover at least 75% of supply, from 1991 the domestic oil refinery and oil product importers have been free to set wholesale and retail prices, which largely follow international markets. The government gradually introduced a comprehensive tax system, notably the introduction of an excise tax and VAT. Three entities, each under the supervision of the public company Albanian Petroleum Corporation (APC), are active in the oil and gas market. These are as follows:

- Albpetrol is in charge of oil exploration.
- Armo, which is in charge of the refining and distribution of oil products, supplies about one-fourth of the gas oil delivered in Albania and almost 50% of oil products in the country.

- Servcom deals with the drilling and the development of the fields in Albania.

Since 2006, 103 companies, of which there are 36 wholesalers of fuels and energy resources, have been involved in the wholesale trading of oil by-products.

Coal

Supply and use of coal has declined from approximately 644.5 ktoe of the supply with primary energy sources in 1990 to 23.9 ktoe in 2008. Coal use has declined for reasons mainly to do with quality (lignite type with low calorific value, high-sulphur, and high-ash) and cost (old extraction technology, thin seams at 200 m depth).

In 2008 coal mines were at their minimal capacities, producing around 12,000 tons compared to 2 million tons produced in the 1990s – this production came mainly from Memaliaj mine and three other small mines in Korca.

Market Actors

Recent reforms have led to the unbundling of electricity generation, transmission and distribution operations with the attendant restructuring of KESH, the creation of OST and a separate DSO.

Transmission system operator

The responsibility for the operation of the electricity transmission system is vested in TSO - Operatori i Sistemit te Transmetimit SH. A., established and operating as a joint-stock company subsidiary of KESH. The unbundling of TSO started in 2004 and the financial unbundling was performed as of June 30, 2006.

Distribution system operator

In March 2009 the Albanian Government and CEZ Group signed a contract for the sale of 76% of the shares of the OSSH. The transaction was fully completed in June 2009 and rebranding as CEZ Shpërndarje followed in September 2010.

The privatised OSSH operates under two licences: (i) a DSO licence for 30 years with exclusive right to serve all of Albania; and (ii) RPS licence for 30 years with exclusive right to supply electricity to tariff customers. The DSO licence applies to network operations and to consumers' connections. The RPS licence provides for the purchase of electricity destined for final tariff customers from WPS. Billing and collections come under the RPS licence.

Based on the agreed regulatory framework, the privatised OSSH is required to:

- Reduce total losses from 32% in 2009 to 15% by 2014
- Increase the collection rate from 86% in 2009 to 91% by 2014
- Improve operational efficiency (improve the quality of electricity supply).

Further improvements will be agreed in 2014, on completion of a review provided for at the inception of the current arrangements and targets.

Albanian Power Corporation

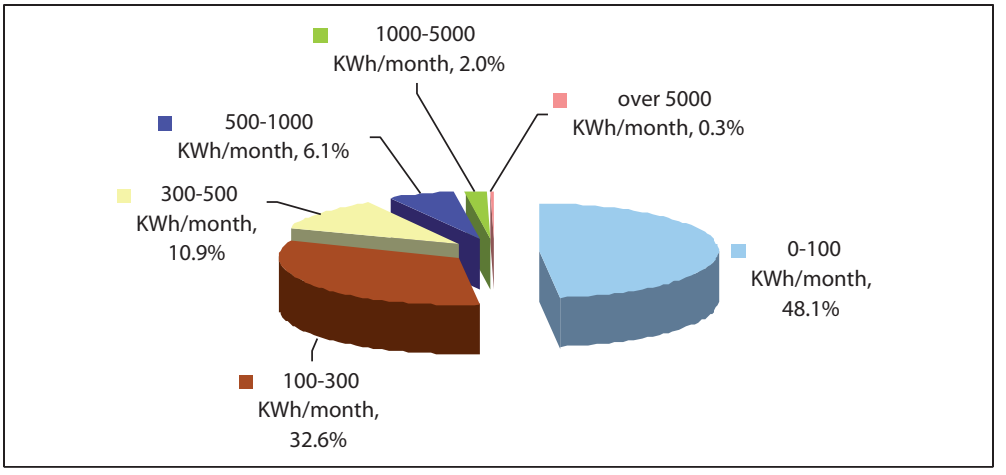
The restructuring of KESH, which involved the transformation of KESH from a vertically integrated company into an unbundled set of three independent entities, has been completed. KESH's operations are defined in relation to its roles: (i) in generation (it owns and operates the bulk of the hydro resource and one 97 MW CCGT plant at Vlore), and (ii) as WPS, KESH has powers to export excess hydro generation and to import as much to meet WPS needs.

Energy Pricing Policy

Low voltage customers

Two-block tariff is applied to householders – 7 lek /kWh for the first 300 kWh and 13.5 lek/KWh for each KWh above the threshold. With the exception of bakeries and wheat production enterprises that pay a lower rate (7.6 lek/KWh), low voltage customers in industry, commercial and service, agriculture and public sectors are paying between 10.5 and 14 lek/kWh, with agriculture enjoying the lowest tariff and the public sector paying the highest. According to the ERE annual report, in 2010 more than 80% of all customers in the country are part of the consumption block (up to 300 kWh/month), and they are considered as vulnerable customers.

Figure 26: Structure of electricity consumers according to monthly consumption



Source: ERE annual report 2010

Medium voltage customers

Customers supplied at 6 to 20 kV pay a tariff lower than the equivalent low voltage, but at rates as maintained at the lower levels for bakeries and agriculture. At 35 kV and above all economic sectors face the same tariff of 8.5–8 lek/kWh.

High voltage supply

Where industrial customers are supplied at 110 kV and above and where qualifying assets are provided, they are charged 6.2 lek/kWh.

1. Euro=139 Albanian Lek as of Dec 2011 - http://www.xe.com/ucc/convert/?Amount=1&From=ALL&To=EUR

According to the Electric Power Law, ERE is the authority to set tariffs and prices in the electricity sector. ERE approves the prices to final customers for the year ahead. Prices range from 6.2 lek/kWh for high voltage customers to 14 lek/kWh for low voltage supply customers.

Table 7: Retail prices for final consumers (approved for 2011)

Level of voltage	Category of customers	Year 2010		
		Price (lek/kWh)	Peak energy price (lek/kWh)	Reactive energy price (lek/kWAr)
High voltage	HV clients with self-owned assets			
	Industry	6.20	9.00	0.93
	Commerce andservices			
	Agriculture			
	Other			
	Clients supplied in N/S 110 kV			
	Industry	8.00		1.20
	Commerce andservices	8.00	9.64	1.20
	Agriculture	8.00		1.20
	Other	8.00		1.20
Medium voltage	Clients supplied in 35 kV			
	Industry	8.50		1.28
	Commerce andservices	8.50	10.00	1.28
	Agriculture	8.50		1.28
	Other	8.50		1.28
	Clients supplied in 20/10/6 kV			
		9.10	12.50	1.37
		10.00	1.51	1.50
		7.10	2.51	1.7I
		8.70	3I.51	1.31
		9.70	4.51	1.46
		11.50	12.50	1.73
Low Voltage	Clients supplied in low voltage			
	Industry	10.50		
	Commerce andservices	12.20		
	Agriculture	7.60		
	Other	10.50		
	Industry	12.00		
	Budgetary	14.00		
	Families			
	First block up to 300 kWh	7.70		
	Second block up to 300 kWh	13.50		
	Fixed tariff for "zero" consumption	200		
	Tariff for energy consumption in shared facilities (stairs, water pump, elevator, etc. (lek/kWh)	8.00		
	Total average	9.53		

Source: ERE annual report 2010

Thus, there is a high level of transparency about electricity prices with elements of cross-subsidy in low electricity consuming households, bakeries and wheat production enterprises and to a lesser extent in agriculture.

The DSO, CEZ Shpërndarje has proposed to the ERE to increase the tariff for every kWh consumed above the 300 kWh/month threshold to 14.2 lek /kWh for residential customers.

INSTITUTIONS

Ministry of Economy, Trade and Energy

The Ministry has overall policy responsibility for the energy sector in Albania. METE is responsible for the development and reform of the necessary legislative framework and for draft-enabling legislation. It supervises the operation of the publicly owned energy utilities and the privatisation process, as well as of statutory bodies in the energy sector.

Its mission includes the promotion of sustainable economic development through:

- Preparation and periodic revision of the National Energy Strategy;
- Providing demand forecasts for different energy sources;
- Promotion of EE and RES including SHPPs;
- Approving the National Energy Efficiency Action Plan and the National Renewable Energy Sources Action Plan (assuring the sustainability of the sector and its entities); and
- Promotion of private investments, domestic or foreign ones in the energy sector (creating an attractive environmental climate for these investments).

The Ministry of Economy, Trade and Energy has specialised sections that deal with electricity and hydrocarbons and has final responsibility for the realisation of the energy Acquis in Albania.

Albanian Energy Regulator

The Albanian Energy Regulator (ERE) is a statutory body, independent of industrial interests and government institutions. ERE was established in 1995 with functions and powers according to law no. 9072, May 22, 2003: On Power Sector as Amended and law no. 9946, June 30, 2008: On Natural Gas Sector.

The mission of Albanian Energy Regulator is to:

- Guarantee and develop an energy market based on objectivity, transparency and non-discrimination based on free competition principles;
- Ensure continuity and security of electricity supply to final customers;
- Protect the customers' interest through transparent and cost-reflective tariffs; and
- Protect the environment and personal safety by exercising authority in licensing and monitoring of subjects that operate in the energy sector.

ERE has five Commissioners who serve for five-year terms; they have a right to reappointment for one additional term. The Chairman is also the executive administrator of ERE. In addition to the Commissioners, ERE employs 32 technical and non-technical staff members.

Department of Strategy and Donor Co-ordination

In December 2005, the Council of Ministers of Albania formally established the Department of Strategy and Donor Co-ordination (DSDC) as an integral part of its organisational structure. DSDC lies at the heart of the government's modernisation reforms.

The department was established with the primary aim of ensuring that the then fragmented strategic planning and budgeting processes of the government would be coherently and effectively managed, and that the external assistance was targeted towards national priorities.

The main key feature of these reforms became the linkage between the medium- to long-term national strategic priorities, and the budgeting and resources allocation process, ensuring that external assistance is targeted towards government priorities.

DSDC also prepares and facilitates the proceedings of the Strategic Planning and Government Modernisation Committees in line with the annual IPS calendar. The department works with the Ministry of European Integration for ensuring that European Integration priorities are an integral part of all government processes.

National Agency of Natural Resources

AKBN is under the aegis of the METE. Today, in addition to its natural resource development functions, AKBN is an advisory body on energy issues for the government. It is also responsible for developing the country's National Energy Strategy and policy in the field of renewable energy use and energy conservation.

The AKBN renewable energy department has been assigned the responsibility to:

- Prepare the National Energy Strategy and Action Plan and evaluate progress in its implementation;
- Develop scenarios and carry out analyses in energy fields (including energy efficiency) to inform and guide the sustainable development of the energy sector;
- Collect and analyse the data dealing with the production, supply and consumption of energy in the economy, creating a database according to IEA and EUROSTAT standards. Prepare annual energy balance of the country according to IEA and EUROSTAT formats;
- Evaluate the potential for and undertake the promotion of EE and RES, including SHPPs; proposing appropriate environment norms related to exploitation of energy sources; and
- Support METE within its technical competence, e.g. draft legal acts in the energy sector.

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AKBN, in the role of the Project Executive Agency, plays an active role in implementing the Financial Agreement between the Albanian and German Government (final signed December 2007) for the integrated measurements of energy efficiency in public buildings. It has reported that 'the composition and drafting of the secondary legal framework, is actually in process and that the National Agency of Natural Resources is working intensively to update the final directives of the European Union for energy efficiency'.

ENERGY EFFICIENCY POLICY

Overview of Energy Efficiency Policies

The Albanian authorities have explicitly recognised that energy efficiency and renewable energy deployment have the potential to bring benefits to consumers, reduce emissions and make an immediate contribution to security of supply. These background considerations are reflected in the 2007 PEEREA Regular Review. Thus, energy security, sustainable development and international obligations are identified as the main drivers of energy efficiency policies; competitiveness, employment, comfort and climate change provide further impetus.

As contracting party to the Energy Community Treaty, Albania has made binding commitments in line with Art. 35 of the Treaty – following Ministerial Council Decisions of December 2009 and September 2010 – to implement the relevant EU Acquis, on energy, environment, RES and competition and to promote investments, statistics, social policy, etc.

National energy efficiency Action Plan

Albania has prepared a NEEAP; an overall national indicative savings target of 9% is to be achieved and measured in 2018, and an intermediate national indicative savings target of 1.5% is to be achieved in 2012. The Albanian Government approved the plan in September 2011.
The NEEAP provides for five measures in each of the residential, services, and industry sectors as well as eight measures in transport, and three in agriculture.

Residential sector:

Energy policy for the residential sector aims to increase awareness on energy use and energy savings, and addresses regulations for new building construction and refurbishment of houses and includes the following measures:

- Thermal insulation of existing residential building stock and minimum requirements of thermal quality (for newly constructed buildings);
- Introduction of central and district heating schemes;
- Penetration of solar heater systems, for meeting domestic hot water energy demand;
- Labelling of electrical appliances and minimum energy performance requirements of energy-using products; and
- Higher penetration efficiency of electric light bulbs.

Service and public sectors:

The most important measures included in NEEAP to be implemented in the service and public sectors are as follows:

- A strong penetration of heating oil for space heating and hot water energy demand;
- An improvement of and rigorous application of the Energy Building Code for new buildings in this sector;
- Introduction of small-scale CHP plants (diesel) and central heating schemes for large and small consumers (hospitals, schools, hotels, etc);
- Energy audits in public and private buildings of the Service Sector (hospitals, schools, hotels, etc) and big commercial and hotelier centres; compulsory inspections of heating, ventilation and Air-Conditioning (AC) systems; and
- Energy performance contracting to ensure high quality of refurbishment and co-finance energy-saving measures.

Industry sector

The main recommendations (following specific measures) to reduce the energy consumption in the industry sector are as follows:

- Management improvement;
- Maintenance and modernisation of technologies;
- Introduction of concepts such as 'cleaner technologies', 'symbiosis of some industries';
- Technological improvements, minimum energy performance standards electrical motors and drivers, AC systems, ventilation, air-compressed systems; and
- Promotion of small-scale CHP for industrial use.

Transport sector

With the objective of reducing the energy consumption according to targets defined, the following main measures are foreseen:

- Adoption of the EU-wide energy-labelling system for new cars in classes A–G according to CO_2 emissions. Obligation for car importers and/or car dealers to present the energy label for customers;
- Boost in the share of public transport;
- Improvement of railway infrastructure (to use more train transport);
- Introduction of a levy on CO_2 emissions of cars (to be paid when registering the car);
- Energy efficient driving behaviour.

Horizontal measures: These include raising awareness about certain issues and training, energy performance contracting and other innovative financing schemes; metering and billing provisions, and involvement of energy market actors in delivering energy efficiency.

A number of promising financing tools have been identified across the NEEAPs. These include innovative schemes, such as revolving funds in Albania and are provided for in the draft Energy Law.

A budget line to support the implementation of the NEEAP measures remains to be fully articulated. Supporting administration is also another requirement that is common to many measures with implications for budget and resource needs.

In total, for all sectors analysed the amount of value from public funds to be invested for energy efficiency measures is estimated as €6,687,000.

Energy Efficiency Legislation

On April 27, 2005 the Albanian Parliament passed an Energy Efficiency Law that established the legal framework for the promotion and improvement of the efficient use of energy. Although the law required a certain amount of secondary legislation to be adopted for its enforcement, no such legislation was developed and adopted.

Law no. 8937, September 12, 2002: On Heat Conservation in Buildings established the legal basis for rules and regulations for heat conservation in all buildings. All buildings constructed after the law was enforced had to conform to a volumetric coefficient of thermal losses and

had to make provisions for central or district heating. In January 2003 an Energy Building Code, establishing the minimum mandatory heat conservation norms for all new constructions, was adopted. Law and building code enforcement has remained poor.

A new law is under development with the support of Italian consultants. By the time the review team visited Tirana in September 2011, it was expected that the law might be finalised by the end of 2011 and submitted to the Council of Ministers for approval in 2012.

The draft law transposes the EU energy efficiency legislation set by EC directives 2006/32; 2009/125; 2010/30 and 2010/31. It sets the objectives and principles of the national energy efficiency policy and introduces requirements with regard to minimum energy performance and certificates for buildings, energy efficiency audits of buildings and industry; and standards and labels for energy using household appliances. The draft law contains provisions for the establishment of a government agency to develop, implement and monitor the energy efficiency policies and programmes, including the NEEAP. A national Energy Efficiency Fund should be established according to the draft law to provide drafts, loans or financial guarantees for the implementation of energy efficiency projects.

Law no. 10113, April 9, 2009: Indication by Labelling and Standard Product Information of the Consumption of Energy and Other Resources by Household Appliances (Official Journal No. 53, page 2493, publication date April 9, 2009) transposes the requirements of directive 92/75/EEC. In accordance with the provisions of this law, the details regarding the labelling of the household electric appliances shall be stipulated by a regulation approved by the Minister responsible for energy, but no secondary legislation has been developed.

Energy Efficiency Institutions

There is no formally mandated agency in the country delegated to develop and implement the national and sectoral energy efficiency policies and programmes. Different ministries and some other organisations are involved in a number of activities, but very often the activities between different stakeholders are not co-ordinated and no information is available for what has already been initiated or implemented in certain areas.

METE is the government body, responsible for energy efficiency and renewable energy, in addition to its major responsibilities for the energy sector. There is no department/unit that is specifically mandated with energy efficiency developmental policies and implementation responsibilities; furthermore, no full-time staff members have been dedicated to work on energy efficiency.

AKBN, in addition to its natural resource development functions, is an advisory body on energy issues for the government and is responsible for developing the country's National Energy Strategy and policy in the field of renewable energy use and energy efficiency. Energy efficiency activities are, however, implemented under the Renewable Energy Department of the agency and no clear allocation of the budget resources has been done.

EU-Albania Energy Efficiency Centre (EEC Al-EU) was established in June 1995. The EEC is a

non-governmental/non-profit making organisation, promoting the efficient use of energy in industry, service and household sectors. It also provides technical and other expertise. EEC Al-EU has been involved in the implementation of a number of projects in the energy efficiency field.

Energy Efficiency Projects and Financing

Government financing

Notwithstanding a long-held desire on the part of the government to provide for the financing of energy efficiency, no government budget line is available for future allocation of funds for implementing the energy efficiency measures included in NEEAP.

However, jointly financed ongoing or completed pilot schemes have provided lessons and sound evidence for policy action. Lessons learned in the residential buildings sector include:

- The need for legislation and supporting action to facilitate the development of legal entities for condominium organisation and energy management investment.
- The importance of standards and their use in establishing the costs of intervention and of the banks in providing finance.

One pilot found that while the benefits of a holistic approach are clear, securing them requires a strategically co-ordinated set of actions towards realistic targets with legal, financial and institutional support underpinned by training, awareness and education. Thus, a careful ordering of achievable policy priorities is indicated.

Donor financing: Norwegian–Albanian co-operation

In 2008, the Norwegian Government supported the project, Energy Auditing of Albanian Buildings - Capacity Building, Methods and Tools. The project was implemented by the Norwegian company, Energy Saving International (ENSI), the National Agency of Natural Resources, the Albanian-EU EEC and the Polytechnic University of Tirana. The objective of the project was to improve and increase the local capacities and skills on energy auditing of buildings, and thus contribute to improved energy efficiency in Albania. As a result of the implementation of the project, energy auditors for buildings have been trained and Albanian versions of the ENSI software and tools for energy audits have been developed.

In 2009 and 2010 the Norwegian Ministry of Foreign Affairs further supported a project, Municipal Energy Efficiency Planning (MEEP) in Albania. The MEEP programme implemented by ENSI is composed of two elements – 'Introduction of principles of MEEP' and 'Capacity building to municipal staff members'. The MEEP programme aimed to increase the awareness of energy efficiency possibilities in the municipal sector, as well as to raise the knowledge and skills on how to prepare MEEP.

European fund for south-east Europe (EFSE) and ProCredit Bank

With the collaboration of ProCredit Bank Albania and the European Fund for Southeast Europe (EFSE), a Framework Agreement was announced on July 2009. The aim was to grant individual loans totalling €5 million, with €2 million for Energy Efficiency Housing Loans and €3 million for rural loans.

ProCredit Bank was committed to develop energy efficiency loans to promote financing of energy-saving technologies. The energy efficiency loan may help businesses and families to reduce their energy costs. At the time of signing, a representative of the bank asserted that it was a long-term partner in Albania, demonstrating an active commitment to reach Small- and Medium-Sized companies (SMEs), and was therefore, playing a crucial role in supporting a vibrant and entrepreneurial SME sector in Albania. 'We are confident that the loan will enable and promote energy efficiency as well as private entrepreneurship in Albania for the benefit of the whole economy.' The rural loan was said to be tailored to the small-scale agricultural clients in rural areas; this action was in line with EFSE's goal to promote rural lending. Furthermore, 'with the Energy Efficiency Housing Loan, ProCredit Albania is able to put one of the most up-to-date products on the Albanian market. We are very proud to be part of this process.' This latest loan is a continuation of EFSE's commitment to support economic development in Albania.

KfW bank promotion of energy efficiency and renewable energy

This energy sector programme of about €9m supports energy efficiency measures in public buildings (e.g. kindergarten). A further component of the programme promotes investments in Small Hydropower Plants (SHPP), financed by the local banking sector. By offering a credit guarantee, local partner banks are encouraged to provide long-term commercial financing for rehabilitation and construction of SHPPs. The programme is complemented with several consultancy services to support investors and banks both in technical aspects and in supporting the government in creating suitable economic and legal framework conditions.

A regional project 'Financing investments on energy efficiency and renewable energy for climate change mitigation', covering 12 countries, including Albania is ongoing. A broad analysis of policy reforms was needed to promote energy efficiency and renewable energy investments and reduce fuel poverty in the 12 participating countries, and was held at the inception phase; currently, the financing and identification of energy efficiency and renewable energy projects are in progress.

RENEWABLE ENERGY POLICY

Overview of Renewable Energy Policies and Legislation

The Ministry of Energy, in co-operation with the Ministry of Environment, Forest and Water Resources, Ministry of Public Works, Transport and Telecommunication and Ministry of Agriculture and Food, is developing a National Renewable Energy Action Plan.

The National Renewable Energy Action Plan will set out the national targets for the share of energy from renewable sources consumed in electricity, transport and heating, and cooling in 2020. It will take into account the effects of other policy measures relating to energy efficiency on final consumption of energy, the respective estimated trajectories for the share of energy from renewable sources in electricity, transport and heating, and cooling. Additionally, adequate measures will to be taken to achieve the national overall target, including co-operation of authorities and institutions in association with local and regional authorities. The Council of Ministers is authorised to introduce measures to ensure that the share of energy from renewable sources equals or exceeds the target set in the National Renewable Energy Action Plan.

A draft law on Renewable Energy Sources is under development that will establish the legislative framework for the promotion of energy from renewable sources. The main purposes of this law are to:

- Promote a greater contribution of renewable sources of energy to the production of electricity in the domestic energy market;
- Promote measures to attain the national indicative targets established by the Albanian Government;
- Increase diversification of the energy resources and security of supply;
- Reduce greenhouse gas emissions and protect the environment in compliance with the country's international commitments under the United Nations Framework Convention on Climate Change (UNFCCC), Kyoto Protocol and other relevant international treaties or agreements; and
- Encourage and promote clean technologies for utilisation of renewable energy sources.

The draft law sets some mandatory national targets for the overall share of energy from renewable sources in the gross final consumption of energy; it also lays down some rules relating to the guarantees of origin, streamlining licensing and permitting procedures for obtaining, connection and gaining access to the electricity grid of power plants using renewable sources. It provides for the preparation and promulgation of a National Renewable Energy Action Plan: The Council of Ministers shall, within six months from the date this law becoming effective, adopt promoting mechanisms for the construction of plants using renewable energy sources, as well as setting the size of the incentives for the construction of these plants. The Council of Ministers, in co-operation with the ERE, will approve the methodology for calculation of feed-in tariffs for RE electricity connected to the distribution system.

The legislation that sets the groundwork for the independent regulator also provides for placing quota obligations on electricity suppliers to meet a specified proportion of their supply from renewable energy sources. Electricity power producers from non-renewable energy sources with an installed capacity higher than 50 MW are obligated to produce and/or inject into the

power system electricity no less than 3% of their total annual production of the previous year, from production plants that use renewable energy sources, certified by the ERE with Green Certificate and commissioned after November 2, 2000.

The Council of Ministers shall, within 12 months from the date the draft law becomes effective, adopt a decree establishing a renewable energy fund. The fund will finance projects and studies for identification of the renewable energy potentials in the country; it will also support and incentivise the use of renewable energy sources.

The above obligation may be fulfilled by buying the same amount of electricity from other producers of renewable energy sources. If that is the case, the obligation is considered fulfilled when the ERE or alike bodies in other countries, which import electricity, have a mutual recognition process for the renewable energy sources.

The strong seasonality of the hydro resource and the annual variation in precipitation, however, raise wider issues of interconnection, as well as the capacity to export in times of plenty and import at times of scarcity. Current policy is to add more conventional plants, while investing in export/import facilities and simultaneously move to expand the hydro resource.

Barriers have also to be addressed to enable private sector activity and investment in Albania. Aimed at stimulating the use of this kind of energy, the concession draft law is in the final stage. This draft law, prepared with the assistance of DECON Industries (German company), shall facilitate the procedures for the licences and permissions for small hydropower plants. The most important points of this draft are: long-term contracts for buying electricity produced by SHPPs; compensation for suppliers where constraining off the system is required by the system operator for security reasons; and setting tariffs for purchasing electricity from SHPPs.

Overview of Renewable Energy Potential

Albania is rich in several renewable energy resources of which hydro and biomass are the most developed to date: the former for electricity generation and the latter for home heating and cooking mainly in rural areas.

Hydropower

The annual combined water flow capacity of Albania's rivers is about 40 billion cubic metres which, if fully exploited, could produce 16 to 18 TWh of electricity. So far, the country has realised one-third of this potential. The Drin, Albania's longest river measuring 280 km, has a water flow of 320 cubic metres per second. This river powers three of Albania's largest hydropower plants. The Drin has the potential to power another large hydropower plant, and several different plants are being discussed by interested parties. Significant potential for HPP developments also exist at Devoll River and Vjosa River.

Since the liberalisation of the market in 2007, foreign and domestic investors have signed concession contracts to construct 24 new small- and medium-sized hydropower plants on Albanian rivers. Currently, there are 83 SHPP in Albania (owned by KESH) ranging from 0.05 to 10 MW for energy generation. Many of the SHPPs are in poor condition or are effectively

inoperable because of outdated technology, lack of spare parts and poor maintenance. In recent years, production of electricity from SHPPs has been reduced.

Biomass

Biomass, which consists of the main resources (forest residues, urban waste, agricultural residues, and animal waste energy), could be important in Albania's future. In 2009, Albania used 212 ktoe of energy produced by biomass, which was about 14% of the TFC. The energy potential of urban wastes from the main Albanian cities was calculated as approximately 1,460 GWh/annum for the year 2010.

Solar

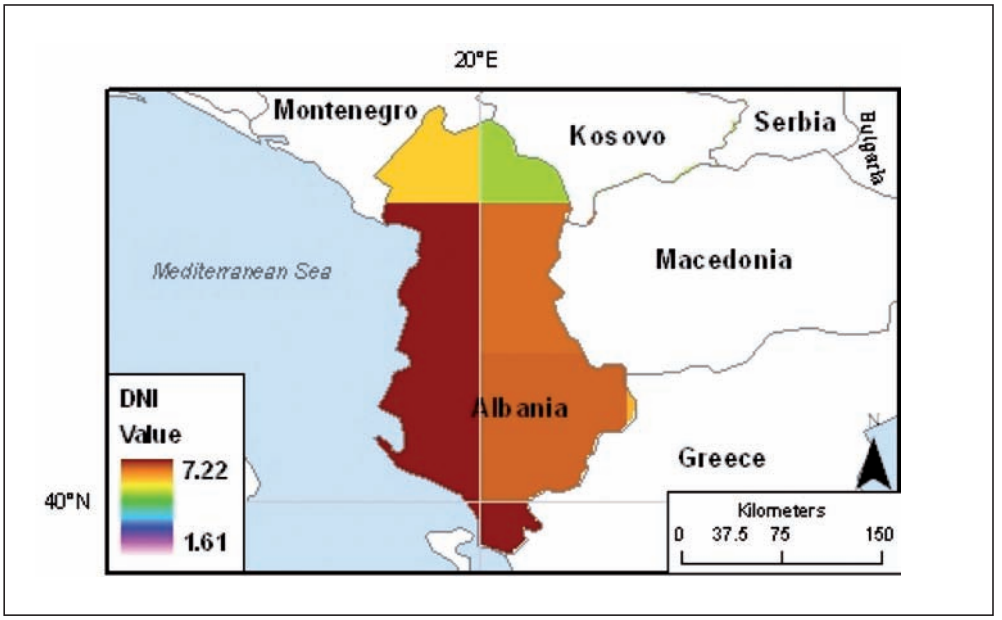
Albania's Mediterranean climate – hot dry summers and mild rainy winters – ensures ideal conditions for economic sanitary hot water production by solar panels. Table 8 lists the average annual solar radiation hours of different cities in Albania.

Table 8: Albanian solar radiation hours by city

City	Solar radiation hours
Sarande	2731
Vlore	2246
Tirane	2560
Peshkopi	2246
Kukes	2046

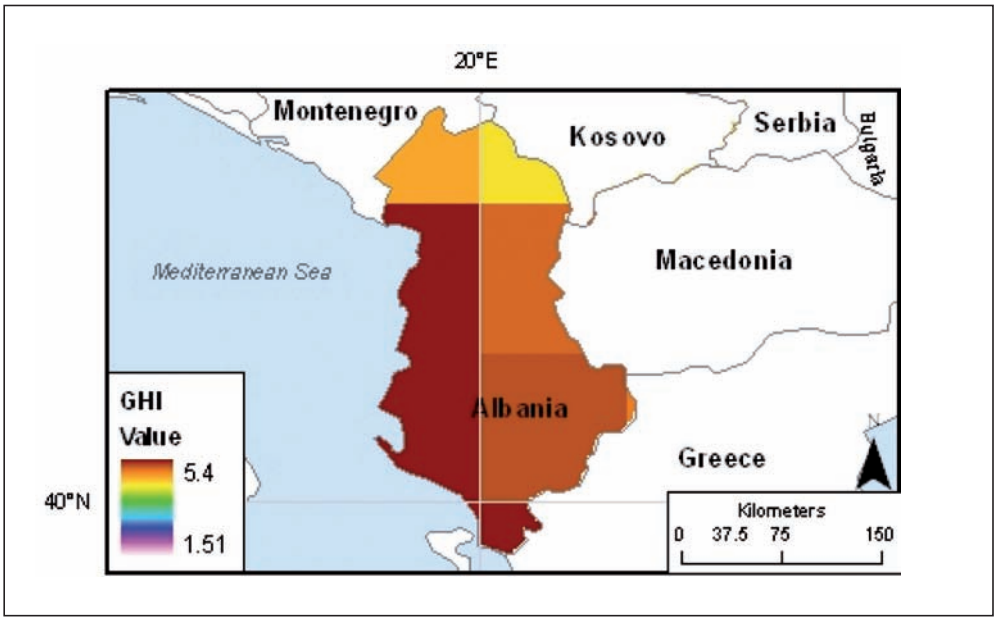
The biggest solar potential exists in the western part of the country, with a Direct Normal Irradiation (DNI) value of 7.22 kWh/m^2/day and a Global Horizontal Irradiation (GHI) value of 5.4 kWh/m^2/day. Figures 27 and 28 display the DNI and GHI values for Albania, reflecting the view that there is great solar potential throughout the country and particularly in the coastal region.

Figure 27: Direct normal irradiation values for Albania



(Source: NASA)

Figure 28: Global horizontal irradiation values for Albania

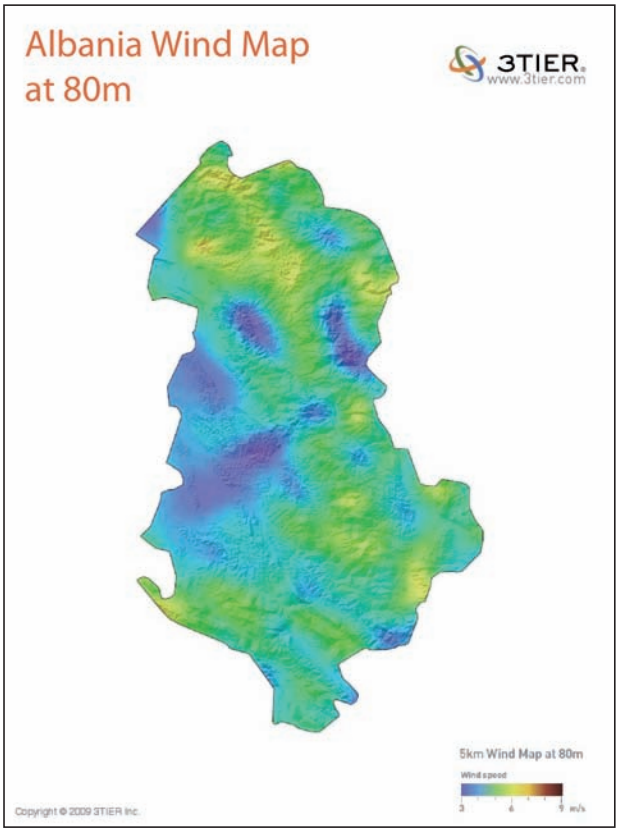


(Source: NASA)

Wind

There are no operational wind energy power plants in Albania, but the country does have developable wind potential. The most promising sites are along the Adriatic coast, as well as the hills and ridges running in a north to south direction along the coast.

Figure 29: Albania wind map at 80m



ERE has issued licences to several companies to develop this resource. The cumulative nominal capacity of the licences issued to date is equivalent to 75% of peak demand; this is widely regarded as an unrealistic estimate and raises questions as to the motivations of the promoters. Additionally, there is potential for small wind power facilities in remote areas, where there is a high cost of delivering fuel for electricity and heat supply.

Renewable Energy Projects

According to the National Energy Strategy, Albania's National Communication to UNFCCC, and the Technology Needs Assessment, over 70% of domestic hot water needs of the household and service sector in Albania are supplied by electric boilers. This is an important issue for the electricity system as the energy demand for hot water in the residential sector of Albania is projected to grow from 600 GWh in 2000 to 875 GWh in 2015. Solar water heating has the

potential to save between 30% and 50% of the electricity used for domestic hot water. For the service industry and hotel sector, the bigger the hot water consumption the more feasible is the substitution of electric boilers with solar water heaters. Properly sized, a solar water heater may cover up to 70% of the annual demand for hot water.

The authorities can understand the benefits in substituting solar energy for biomass in domestic hot water provision. This is explicitly recognised in the Second National Communication to the UNFCCC. However, other issues include affordability and cost-effectiveness for the consumers involved.

As of 2006 around 9,000 m^2 of solar panels were installed in Albania, mainly in the services and household sectors. The largest solar thermal heating system currently operating in Albania consists of three sets of solar panels totalling 48 m^2 at the EEC Albania-EU.

The challenges to wider penetration of Solar Water Heating (SWH) are:

- Enabling legal and regulatory framework to promote the sustainability of the SWH market;
- Enhancing awareness and capacity of the targeted end-users and building professionals to consider and integrate SWH systems into different types of buildings;
- Increasing demand for SWH systems by the availability of attractive end-user financing mechanisms;
- Developing and implementing a certification and quality control scheme applicable for Albanian conditions; and
- Enhancing capacity of the supply chain to offer products and services promoting sustainable SWH market.

Recently, the Albanian Government, with the support of UNDP, through the Global Environment Facility and UNEP has implemented a water heating market transformation project. This project aims to facilitate the installation of 75,000 m^2 of the newly installed collector area (installed for the first time) for the duration of the project, and for an annual sale of 20,000 m^2 reached by the end of the project and with expected continuing growth to reach the set target of 520,000 m^2 of totally installed SWH capacity by 2020.

The project also aims to accelerate a sustainable market development of solar water heating in Albania with good quality products and services. Under the 'business as usual' conjecture, 184,000 m^2 of new solar thermal panels can be installed in Albania by 2020; while for the alternative scenario, new solar thermal installations of 520,000 m^2 are expected by 2020. The greenhouse gas emissions reduction resulting from this premise has been estimated as 146,000 tCO_2 per year for 2020 or the cumulative amount of over 800,000 tCO_2 by 2020.

On July 26, 2011, in order to promote the technology of solar water heating in Albania, the Ministry of Economy, Trade and Energy with the support of UNDP Climate Change Programme launched a public awareness campaign called, Solar Energy: Clean and Renewable – Solar Water Heating: Environmental Friendly and Saving Technology. The campaign aims to increase awareness and understanding among local communities of the coastal area about the feasibility of SWH as a technology contributing to energy saving and climate change mitigation.

During the launch event, a 'portable solar shower' was used for demonstration purposes. With the support of Albania solar manufacturers, a trailer was equipped with two types of solar panel and one accumulator. The solar panels, exposed to the sun during the day, were connected to public showers in the beach and demonstrated how hot water could be provided together with information on the associated benefits of such systems, especially during the summer.

Projects in preparation

Energetic Park of Lezha is a Project (private fund) proposed by Marseglia Group and consists of:

- The construction of a wind park, with an installed capacity 234 MW with a plan for annual electricity production of 750 GWh.
- The construction of a biomass power plant (palm oil) with installed capacity of 140 MW, using biomass fuels. The electricity production from the plant is planned to be around 1,1 TWh.

The wind park in Vlora district (private fund) is a project proposed by Moncada Group. The park will have an installed capacity of about 500 MW and an annual electricity generation of 1 TWh. The investment foreseen is €750 million. It will be accompanied by the construction of an interconnection line from Vlore Port (Albania) to Brindisi (south Italy).

ENVIRONMENTAL POLICY RELATED TO ENERGY

General Trends and Objectives

According to Albania's Second National Communication (SNC) to the UNFCCC: 'In the face of formidable social and economic challenges, Albania has begun to develop a framework of law, a policy and plan (Environmental Strategy and National Environmental Action Plan) for addressing the environmental problems that have arisen during last decade.'

One of the priorities of the Environmental Strategy and National Environmental Action Plan is the establishment of the legal framework for environmental policy and its implementation. This is reported to have had the serious commitment of the government and the Assembly of the Albanian Republic as evidenced by major legal documents such as the constitution and the amendments of the Environmental Protection Law (no. 8934, September 5, 2002) that were developed in the period (1998 to 2008).

The Environmental Protection Law addresses the full spectrum of environmental policy issues: It requires the publication of the State of the Environment Report, the first of which was published in 1992, and eight reports in all have been published to 2008.

Waste

The Albanian economy is undergoing a rapid transition and associated growth; the accompanying urbanisation and resulting need for waste management have become major challenges for cities. The production of inert and solid urban waste averages at about 550 kg per capita per annum for urban areas and 170 kg per capita per annum for rural areas.

Waste collection is a responsibility of local governments. It is carried out only in urban areas. As a result, in rural areas some resort to dumping waste by the roadside and open-air burning. Solid waste from households, public administration, the construction sector and other production and services is collected mostly without separation and in accordance with the SNC household hazardous waste regulations included in the common waste stream. Very little recycling of waste is undertaken. The main method of disposal is landfill. There are no properly engineered landfill sites in the country.

Urban waste for 2007 was about 722,731 t, with Tirana producing the greatest volume at 228,190 t. Biodegradable materials comprise between 40 and 60% waste, depending on the region. While there are significant financial, market and administrative barriers to the introduction of capital intensive waste treatment technologies, compliance with other EU Directives will require that early consideration and planning is given to the provision of facilities that recognise good practice and the affordable evolution of waste management and treatment facilities.

Water

Albania's urban water supply system has from time to time experienced problems such as infiltration from parallel sewer lines, resulting in cross contamination of the water supply. Monitoring is conducted for 15 physical and chemical parameters.

The first National Water Strategy was formulated in 1996; a law for water resources was adopted in the same year, establishing a number of regulatory instruments, including effluent charges, drinking-water fees and non-compliance fees. Only drinking-water charges are in place today, and these are held at very low levels.

The system of water provision in Albania is fragile and the water providers are mentioned loosely and indirectly in many instances of late or non-payment of electricity bills. Thus, the provision, funding, monitoring and sustainability of basic public services are continuing priorities for the Albanian Government and its local authorities.

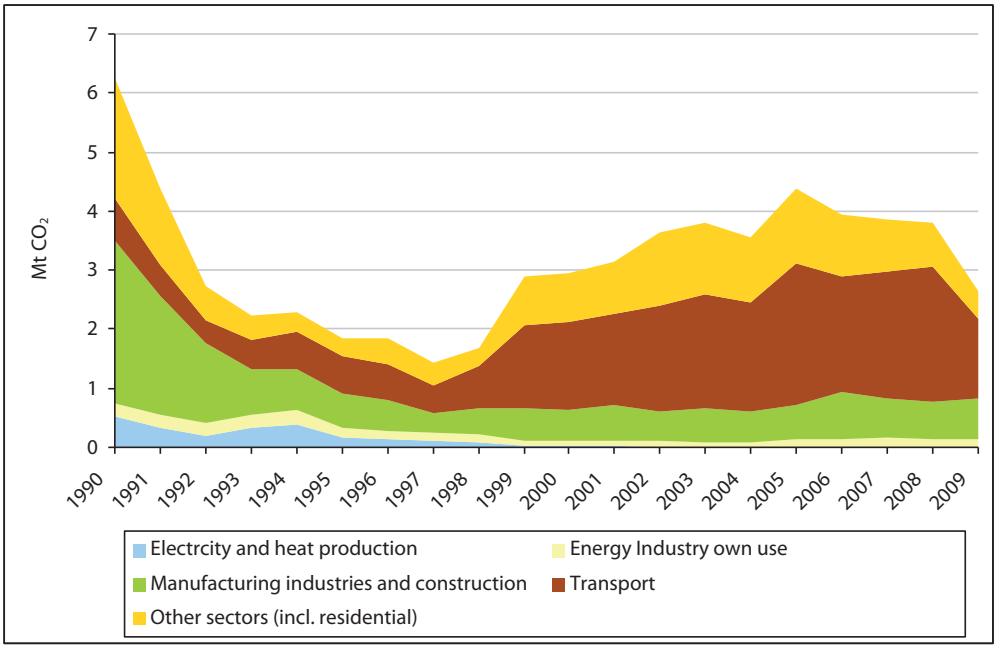
Air

The main source of air pollution in urban areas is transport. Concentrations of pollutants are more problematic in Tirana and Elbasan, where the main pollutants are two to five times higher than the permitted level. Other sources include oil extraction and refining, domestic heating, cement production and unregulated garbage burning. Industry also contributes to local pollution.

Most vehicles in Albania are relatively old, and their number is increasing. Emissions from vehicles, especially particulates and road dust caused by non-asphalted roads and ongoing construction contribute to local air pollution causing, in some cases, breathing problems, particularly among very young and old people.

Climate Change

Figure 30: CO_2 emissions trends in Albania



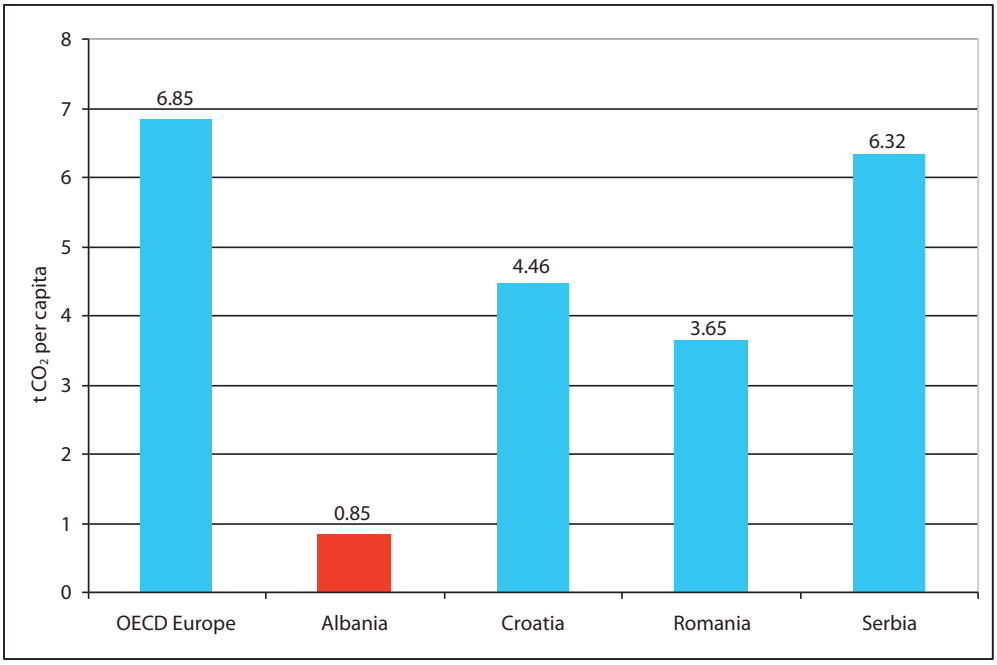
Source: IEA statistics, electronic version, 2011

In 2009, Albanian net CO_2 emissions were 2.7 Mt CO_2, with transport sector the largest source comprising 50% total emissions. The second largest source is industry – 26%, followed by the residential and service sector with 17%.

From about 0.85 tCO_2 emission per capita in 2009, Albania's emissions are one-fifth of both Croatia and Romania and well below the EU average for the following reasons:

- Electricity production is based almost entirely on hydropower.
- Energy services in the residential sector, such as space heating, domestic hot water, and cooking are based mostly on electricity (the residential sector consumes 67% of total electricity).

Figure 31: CO_2 emission per capita



Source: IEA statistics, electronic version, 2011

UNDP has been working closely with the Ministry of Environment, Forests and Water Administration (MoEFWA) and other key stakeholders to improve the quality and scope of climate change projects and proposals. Consequently, the very first project that addresses adaptation to current and future climate change and that impacts on Albania has been initiated. In June 2008, the project funded by the Global Environmental Facility (GEF), namely Identification and Implementation of Adaptation Response Measures in the Drini-Mati River Deltas was launched. The overall development goal of this project is to assist Albania in establishing a mechanism for planning strategies to cope with the consequences of climate change and ensure that these schemes are developed and implemented. The projects considered for financing were based on vulnerability assessment criteria and the findings of Albania's Technology Needs Assessment.

In preparation for the Second National Communication, a team of specialists has prepared a study, based on the current greenhouse gasses (GHG) Inventory and used better input data than under the First national Communication. The proposed measures were assessed using a multi-criterion methodology similar to that used in Albania's Technology Needs Assessment

and were discussed at various expert meetings and many of these were included in the National Energy Strategy.

Efforts to raise awareness on climate change have contributed positively to the climate change mainstreaming process. Despite increasing public awareness of environmental issues in general, awareness of climate change issues remains low, and even where policy makers are concerned there are deficiencies in understanding of climate change and related issues.

The Ministry of Economy, Trade and Energy of the Republic of Albania has received, in the framework of a Cooperation Agreement on "Sustainable development and greenhouse gases emissions reduction" a grant from the Italian Ministry for the Environment, Land and Sea. The total amount of the grant 5 Ml Euro and the development of CDM projects on energy efficiency and RES will be supported with it.

Institutions

The main responsible institution for climate change issues is the Ministry of Environment, Forests and Water Administration (MoEFWA), established in 2005: A successor of the Ministry of Environment, which was established for the first time in 2001.

MoEFWA's mission is to advance policies, strategies and Action Plans for the protection and administration of the environment, forests, waters and fisheries in line with sustainable development to improve the quality of life and enable the country to join the European Union. This mission is to be brought in expectantly by initiating and co-ordinating activities for long-term developments and wellbeing, and by protecting nature and raising public awareness. The MoEFWA's main tasks include:

- Implementing relevant national water, forestry and other environmental policies;
- Defining priority environmental and forestry investments;
- Designing national research programmes in the environmental field; and
- Co-ordinating environmental protection-related activities of other ministries and local authorities.

The climate change unit of the Ministry acts as UNFCCC national focal point and as Designated National Authority for CDM projects.

The Institute of Water, Energy and Environment is the main research institution that is regularly conducting basic and applied scientific studies in relation to climate change. Its main activities are assessing and reporting on Albania's vulnerability and adaptation to climate change (SNC).

OVERALL ASSESSMENT OF PROGRESS

Energy policy

Albanian energy policy is set out in the National Strategy of Energy and Plan of Action, which is one key element of Albania's NSSED. The Albanian Strategy provides for, and attempts to optimise, the changes necessary to increase security of supply, develop resources to meet demand and achieve sustainable economic development in the future. The Energy Strategy is necessary to meet obligations in the framework of the Regional Electricity Market in south-east European countries, and other international obligations regarding environmental protection as well as the harmonisation and converging of the energy sector development according to EU Directives for the association of Albania in the European family.

The Albanian Government has followed through on the reform of the electricity market. The state-owned electricity monopoly, KESH, has been restructured and unbundled. Parliament has legislated for the establishment of the Transmission System Operator and the privatisation of electricity distribution with the involvement of the Czech-owned CEZ Shpërndarje. The conditions of the CEZ licence should, with appropriate oversight and enforcement, ensure the delivery of key policy goals on individual metering, bill payment and collection rates. Despite these provisions and the evident progress, the large sums of money outstanding between the main players in the electricity system were giving rise to tensions which, among other effects, were impeding further investment at the time of the review which, in turn, might have had serious implications for all concerned.

The Albanian Government's planning and budgeting system has been revised to improve the co-ordination and linkage of the central resource allocation process with the priorities of line ministries. At all levels there is a clear appreciation of what has to be done and at what pace. Thus, the Energy Strategy of Albania should support and align with the government's overall National Development Strategy (2007–2012). Given that the responsibilities of economic, energy and trade development fall within the remit of the METE, it is ideally positioned to balance priorities in the interests of all concerned.

While the recent success of energy policy in delivering a more reliable electricity supply is to be commended, there are concerns that over-reliance on hydropower and imports to compensate for year-to-year variations in precipitation and hydropower production may result in higher and possibly unsustainable bills for imported power. Given that exposure is real and that a robust strategy is needed, options need to be carefully assessed against likely future scenarios. Thus, the robustness of current strategy may benefit from ongoing public and industry consultation, especially if augmented by independent insight and analysis for which a number of international bodies such as the World Bank and USAID have and are likely to continue to support.

Energy efficiency policy and legislation

The review team believes that a strong energy efficiency drive could achieve a degree of control in rapidly fluctuating circumstances and pay significant dividends. On the other hand, certain contingencies such as the prospects for natural gas are used up. The Energy Efficiency Action Plan target of 9% is laudable; however, in the particular circumstances of Albania an accelerated target with strong promotional underpinning and action to match could yield benefits all round. New Energy Efficiency and Renewable Energy Laws exist in draft form and each has an

associated Action Plan in compliance with the relevant provisions of the Acquis Communautaire. By these measures of progress the Albanian Government is meeting the targets and goals it has set for itself.

On the other hand, much remains to be done to successfully implement energy policy priorities identified by the Albanian authorities; these priorities include solar panel deployment, bill collection, illegal electricity connection elimination, awareness raising and incentives for energy efficiency, identified in the Regular Review. There are, without doubt, real resource constraints and the imperative is to maximise the effectiveness of policy measures.

In the absence of strong support for the required measures it may be difficult to provide effective criteria. For example, while new building standards exist in draft form, research on Tirana suggests that the level of substantive compliance with the building regulations is low (about 8% according to one source). This situation and the unfavourable awareness about the outcome for consumers underline the need for action by the authorities in order to realise legislative intent.

Recent work on the definition of building standards, appropriate to the three climate zones in Albania, provides further evidence of a rational and confident building approach. Implementation should ensure that private capital could, in response to regulation, lead to an energy efficiency improvement in those parts of the building sector where energy efficiency regulations apply.

It is known that there are many unregistered blocks of buildings in Tirana and this places constraints on both borrowers and lenders; the situation requires early resolution to facilitate investment flows, supported by collateral property options or mortgages.

The practical difficulties in demonstrating compliance with loss reduction, increased bill collection and other performance issues that have arisen in the wake of the privatisation of the DSO are testing the resolves of CEZ and ERE. Large sums of money are outstanding to both KESH and CEZ; furthermore, the conditions precedent, which banks and others have placed on further loans to CEZ, have increased the stakes for all parties. Tensions were high in the autumn of 2011. And public awareness, if not fully sympathetic of the issues, was growing. Further World Bank support for specific projects is conditional on the resolution of these and other disputes involving non-payments for electricity services, as referred to above.

Financing Energy Efficiency

Several pieces of draft and final legislation have been provided for an energy efficiency fund or other form of support, but the actual line of credit or grant from the Albanian exchequer has not in most cases been put in place. The effect of the global recession was to further dampen expectations in this regard.

The banking system now takes an appropriate interest in the promotion of energy efficiency, and credit lines to support energy efficiency investments have been established by Credins Bank and ProCredit Bank. The government has also been active in co-ordinating the activities of donors; the Donor Co-ordination Unit has, in exemplary fashion, placed much of the information on donor-financed activity in the public domain.

The continuing global crisis has impacted on growth and the budget, and the ability of the government to introduce new lines of expenditure within the agreed macroeconomic and budgetary framework.

Institutional Arrangements

The Albanian Government has undertaken important and far-reaching steps to reform energy markets and the electricity market in particular. Provisions for unbundling, completion and regulation have been accompanied by the creation of the necessary institutional infrastructure to support and inform the market.

Where appropriate those institutions and licence holders have been either empowered or required to act in the wider public interest by creating the conditions to ensure best use of resources. The founding of the Natural Resources Agency under the aegis of the Ministry of Economy, Trade and Energy ensures that the Ministry has the support of long-range forecasts and scenario analysis in formulating its energy policy.

As many other governments have discovered, the establishment of an agency with a mandate to promote energy efficiency can provide the requisite focus, demonstrate seriousness of intent and, with the right approach, put sufficient resources in place to focus market attention on the benefits of energy efficiency. It is well recognised that independent trusted sources of information and advice are central to market and other reform efforts involving consumer behaviour.

Prices

The two-part electricity tariff currently in place has the benefit of reducing costs for the least well off sections of Albanian society that, according to CEZ, have a better record of payment than customers who use more than 300 kW (particularly public entities) and pay the higher tariff. Illegal connections and high technical and non-technical losses are undermining the viability of the electricity market.

Informed consistent regulation is required to address the multiple issues that arise for system security and investment needs to be met in a way that will support the development of the economy, while meeting the societal need for an affordable electricity supply.
Practical progress towards energy policy goals is crucially dependent on the degree of progression towards removal of cross subsidies and the full cost recovery of energy and of electricity in particular. Public and statutory bodies have an exemplary role to play in relation to prompt payment for services received.

Renewable Energy

The Albanian authorities have facilitated a series of renewable energy resource assessments. They have also undertaken policy-guided scenario analyses that are important first steps in the preparations for wider exploitation of renewable energy sources. There is further development potential for solar, biomass and hydro resources.

The high dependence of the electricity system on a variable hydro resource is a well-recognised weak point in the supply of security; nevertheless, there is an ongoing need to grow the

renewable contribution in line with electricity demand growth and mutually beneficial strengthened co-operation and trading with neighbouring countries.

The capacity of a strong solar hot water deployment programme to displace electricity for sanitary water heating in residential and other buildings has been recognised as an opportunity to contribute to system security, while meeting renewable energy targets. This programme and other development goals are heavily influenced and, to date, impeded by the low price of electricity, its convenience and the minimal amount of end-user capital entailed in accessing it compared with RE.

The low level of electricity prices in Albania also militates against investment of private capital in resource development. As has been the experience elsewhere, some form of assured long-term return is essential for the commercial development of the renewable resource.

Albania has already altered some decisions of the Acquis in its legislation on promoting the use of bio fuels and other renewable fuels in transport. The country has also taken measures to support development of electricity from renewable sources, particularly in the hydropower sector. Albania's regulatory framework needs further development to meet the requirements of the Renewable Energy Directive in all sectors. Implementation of the legal framework will require particular attention.

Energy and Environment

One of the priorities of the Environmental Strategy and National Environmental Action Plan is the establishment of the legal framework for the application of environmental policies. This is reported to have had the serious commitment of the government and the assembly of the Albanian Republic as evidenced by major legal documents such as the constitution and the amendments of the Environmental Protection Law (no. 8934, September 5, 2002) that were developed in the period 1998–2008.

Overall, much useful work has been undertaken by the administration with the very valuable guidance and support of the UNDP. Albania's first and second communications to the UNFCCC demonstrate a growth in appreciation of the cross-cutting nature of policies for an effective climate change response and a readiness to put the building blocks in place.

Immediate impacts depend on the implementation of the Action Plan of the Energy Strategy of Albania.

RECOMMENDATIONS

General Recommendations

- The Albanian Government should continue to develop energy policies according to the needs of the Albanian people, international commitments, and the priorities of the Strategy for National Development. This endeavour may provide a robust policy foundation for energy efficiency and renewable energy policies and measures.

- The government has paid much attention to the issue of security of supply. However, given the vulnerability of Albanian hydropower, uncertain long-term energy cost development and availability of supply alternatives, the government should enhance its strategic planning for physical capacities, financial and budgetary implications, and communicate its findings to the public.

- The Albanian Government should continue to act with firm resolve to secure the stability and reliability of the electricity system. The achievement of a reliable and financially sustainable electricity supply within a short space of time is a sine qua non for continued economic development and requires resolute and sustained action on a number of fronts.

- The Albanian Government should ensure that the goals of loss reduction and full bill collection are achieved, as expressed in the conditions governing the licensed operator of the electricity distribution system. Although this is primarily a duty of the regulator, the government has the responsibility to see that its policy and governance requirements are fully met.

- The government should be aware of the impact of the slow pace of reform and of the implementation of the requirements of the Acquis Communautaire. Faster progress in implementing its priority requirements will facilitate much needed investment and influence market forces towards sustainable energy goals.

- Building on its strategic planning approach and success in transparency and co-ordination of donor funding, the government should continue to reform and improve the co-ordination and implementation of energy policy across all Government Departments.

- This review has enumerated several draft pieces of legislation and associated draft plans, as well as criticism from several quarters on the pace of policy implementation. Against that background, the Albanian Government should demonstrate its commitment to follow through on energy policy with effective implementation.

- The government should ensure that it and all public bodies lead by example in the matter of ensuring that appropriate arrangements are in place to facilitate prompt payment for services such as electricity. This, and similar actions, will facilitate enforcement and compliance with energy relevant regulation.

- The Albanian Government should adopt and implement National Energy Efficiency and Renewable Energy Action Plans with an initial allocation of resources to support priority actions; at the same time, it should provide for the regular assessment of progress and review, with a view to plan adjustment in the light of its achievements.

Institutional Framework

- The Albanian Government should accelerate the pace of reform, including empowerment of the regulatory authorities to ensure compliance with energy efficiency and renewable energy goals in the marketplace.

- The Albanian Government should support the development of an institution charged with the promotion of energy efficiency and renewable energy in providing sufficient expanse in a centre that could both draw and disburse funds from multiple sources, including national, EU and international donor funds. With careful attention to the governance requirements such an institution could make a valuable contribution to the formulation of evidenced-based measures and regulations.

Energy Market and Pricing

- The Albanian Government should continue reform of the electricity market to achieve full-cost reflective pricing, at the earliest opportunity. This reform is consistent with social policy, in accordance with the requirements of the Acquis.

- The government should consider reviewing the electricity tariff system to better reflect payment capacity and the consumption patterns of end consumers, as well as fines for non-payment.

- The Albanian Government should continue to prioritise security of energy supply with proper recourse to levies and the impact on prices. A key factor is the effect of low electricity prices on the prospect for development of other fuel sources, such as natural gas, biomass, and solar radiation; all these resources could, as they are intended to, contribute to security of supply, while meeting environmental objectives.

Energy Efficiency Funding

- The Albanian Government should complete the legislative process both to enable and to secure energy efficiency funding that should be available on enactment. Funded programmes should be targeted, based on evidence and in line with established priorities.

Specific Energy Efficiency Programmes and Measures

- The Albanian Government should address market failures through provision of appropriate and targeted-information-awareness programmes such as labelling schemes.

- The Albanian Government should ensure that building standards are operable and enforced. The government should strengthen the capacity and authority of the building inspection system.

- The government should continue to act to remove any legislative barriers to community or group action that might improve the energy performance or energy service provision in multi-apartment building renovation and heating projects.

- The government should regulate the electricity market using products – by introducing minimum energy performance standards and banning/differentiating custom duties for low efficiency products.

- The government should systematically undertake energy audits of all large public buildings and implement the findings to realise the cost savings, thereby providing an example to others.

- The government should introduce a vehicle registration tax, weighted in favour of fuel efficient cars and vehicles.

Renewable Energy Sources and CHP

- The Albanian Government should continue to improve the framework conditions and investment climate for renewable energy development with the aim of promoting development, while ensuring best value for the electricity consumer.

- The Albanian Government should ensure that the further development of the hydro resource is enabled by adequate investment in infrastructure. Essentials are interconnection with neighbouring countries, suitable trading arrangements and provision for adequate power to cover periods of low hydro production.

- The development of the wind resource needs to be carefully considered in the light of comparative cost, grid access and dispatch.

- The Albanian Government is already committed to the deployment of solar panels for water heating in place of the existing, high and excessive use of electricity. However, the rate of deployment should be accelerated to maximise impact. Electricity prices and incentives for end-users are important factors.

- The Albanian Government should develop the country's substantial biomass potential. A twin-track approach is recommended for:
    - Improving the efficiency of existing uses, e.g. in heating applications
    - Piloting programmes to develop new uses, such as high efficiency CHP.

- Where the level of organic waste justifies the operation of landfills in Albania, the Albanian Government should explore landfill gas exploitation schemes, including CDM projects. The potential of the cement manufacturing industry to handle selected waste should be further evaluated.

Data Collection and Monitoring

- The Albanian Government should contribute to the transparency of energy markets by making suitable arrangements for the collection, codification and publication of energy supply and consumption data.

- The Albanian Government should ensure that the approach to data collection and monitoring begins with the need to (i) support the process of policy making, (ii) inform market actors, and (iii) meet international reporting obligations.

- Recognising that quantitative measures and statistics are essential policy guidance tools, the Albanian Government should ensure that statistics are made available in a predictable and timely fashion with appropriate caveats where necessary.

ANNEX 1: GENERAL ECONOMICS AND ENERGY DATA[2]

2. IEA statistics, Electronic version, 2011 and AKBN

Table 9: Energy balance

Indicator	1990	1995	2001	2002	2003	2004	2005	2006	2007	2008	2009
Energy production	2,449	1,236	883	959	1,015	1,178	1,148	1,237	1,079	1,159	1,263
Net imports	171	88	959	1,098	1,164	1,149	1,175	935	1,164	1,278	1,298
TPES	2,662	1,324	1,795	2,012	2,058	2,258	2,278	2,166	2,130	2,118	2,103
TFC	2,238	1,017	1,546	1,770	1,802	2,130	2,050	1,826	1,808	1,883	1,946

ktoe

Table 10: Total primary energy supply structure

Products	1990	1995	2001	2002	2003	2004	2005	2006	2007	2008	2009
Coal and coal products	630	19	20	21	19	21	18	18	18	23	53.15
Crude, NGL and feed-stocks	1,173	517	308	389	371	469	417.57	446	457.9	338	355
Petroleum products	30	95	739	841	956	1,011	1,100	932	916	992	901
Natural gas	203	23	7	12	12	9.2	10	10	16	8	8
Nuclear	0	0	0	0	0	0	0	0	0	0	0
Hydro	245	362	306	302	421	472	469	475	258	327	450
Geothermal	0	0	0	0	0	0	0	0	0	0	0
Solar/wind/other	0	0	1	1	2	1.9	2	2.3	6	6.5	3
Combustible renewable & waste	363	316	256	237	198	233	230	230	215	215	213
Electricity	18	-6	151	181	79	41	32	53	243	209	120
Total primary energy supply	2,662	1,324	1,787	1,985	2,058	2,258	2,279	2,167	2,130	2,119	2,104

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Table 11: Total final energy consumption structure

Products	1990	1995	2001	2002	2003	2004	2005	2006	2007	2008	2009
Coal and coal products	579	18	12	18	18	21	18	18	18	23	53
Petroleum products	890	475	972	1,134	1,207	1,366	1,353	1,281	1,256	1,229	1,208
Natural gas	203	23	1	0	0	0	0	0	2	0	1
Combustible renewables & waste	363	316	256	237	198	233	230	230	215	215	213
Electricity	145	174	302	377	377	457	446.9	295	313	410	462
Heat	59	11	2	3	3	3	3	3	3	3	0
Total final consumption	2,238	1,017	1,546	1,770	1,803	2,081	2,051	1,827	1,807	1,880	1,938

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Table 12: Basic energy related indicators

Indicators	1990	1995	2001	2002	2003	2004	2005	2006	2007	2008	2009
Population (million)	3.289	3.134	3.069	3.076	3.087	3.099	3.111	3.122	3.132	3.143	3.155
GDP (billion 2000 US$)	3.216	2.826	3.945	4.059	4.290	4.544	4.794	5.033	5.335	5.655	5.879
GDP (billion 2000 US$ PPP)	9.933	8.729	12.183	12.536	13.251	14.033	14.804	15.545	16.477	17.466	18.156
Primary energy intensity (TPES/GDP) (toe per 1,000 US$)	0.830	0.470	0.460	0.500	0.490	0.440	0.480	0.430	0.410	0.370	0.290
Primary energy intensity(TPES/GDP PPP) (toe per thousand 2000 US$ PPP)	0.270	0.150	0.150	0.160	0.160	0.140	0.160	0.140	0.130	0.120	0.090
TPES/Population (toe per capita)	0.810	0.420	0.580	0.650	0.680	0.650	0.750	0.690	0.690	0.660	0.540
Electricity consum/GDP (kWh/ 2000 US$)	0.53	0.73	0.92	1.12	0.96	0.83	0.79	0.61	0.7	0.76	0.95
Electricity consum/population (kWh per capita)	522	656	1,177	1,480	1,336	1,224	1,221	976	1,186	1,373	1,768
Energy related CO_2 emissions[3] (Mt)	6.25	1.86	3.14	3.65	3.79	3.56	4.39	3.94	3.87	3.8	2.65

Table 13: Electricity generation

Products	1990	1995	2001	2002	2003	2004	2005	2006	2007	2008	2009
Coal and coal products	0	0	0	0	0	0	0	0	0	0	0
Petroleum products	350	210	137	174	61	93	70	93	72	0	32
Natural gas	0	0	0	0	0	0	0	0	0	0	0
Nuclear	0	0	0	0	0	0	0	0	0	0	0
Hydro	2,848	4,204	3,555	3,204	4,974	5,476	5,409	5,516	2,933	3,770	5,201
Solar/wind/other	0	0	0	0	0	0	0	0	0	0	0
Combustible renewables and waste	0	0	0	0	0	0	0	0	0	0	0
Total electricity generation	3,198	4,414	3,692	3,686	5,230	5,559	5,443	5,094	2,860	3,797	5,263

GWh

3. CO_2 emissions from fuel combustion

Table 14: Heat production

Products	1990	1995	2001	2002	2003	2004	2005	2006	2007	2008	2009
Coal and coal products	0.00	0.00	2.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Petroleum products	59.16	10.89	0.00	3.01	3.01	3.01	3.01	3.01	3.01	3.30	0.00
Natural gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Nuclear	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hydro	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Solar/wind/other	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Combustible renewables and waste	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total heat production	59.16	10.89	2.60	3.01	3.01	3.01	3.01	3.01	3.01	3.30	0.00

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ANNEX 2: SELECTED END-USE DATA TABLES

Table 15: Total final energy consumption by sector

Sectors	1990	1995	2001	2002	2003	2004	2005	2006	2007	2008	2009
Residential	587	389	371	496	380	556	521	455	423	455	487
Industry	670	314	305	260	236	249	243	320	261	235	276
Commercial and public services	0	219	181	152	233	188	206	145	102	155	166
Transport	232	355	596	596	705	837	871	709	746	811	754
Other	482	210	46	260	237	183	127	145	182	163	178
Non-energy use	267	10	45	4	11	68	84	52	93	61	76
Total	2,238	1,498	1,545	1,769	1,803	2,081	2,051	1,827	1,807	1,880	1,938

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Table 16: Final energy consumption of the residential sector

Energy products	1990	1995	2001	2002	2003	2004	2005	2006	2007	2008	2009
Coal and coal products	0	5.2	0.0	0.0	0.0	7.0	4.0	4.0	0.0	0.0	0.9
Electricity	61	131.3	206.8	206.8	203.0	240.0	235.0	170.0	178.0	200.0	224.0
Natural gas	9	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Heat	59	0.0	1.0	1.0	1.0	1.0	1.0	1.0	2.0	2.0	2.0
Petroleum products	94	53.2	48.1	52.8	80.0	101.0	74.0	73.3	53.0	63.0	73.0
Combustible renewables and waste	363	198.7	115.2	235.5	96.0	207.0	207.0	207.0	190.0	190.0	187.4
Total residential sector	587	389.0	371.1	496.0	380.0	556.0	521.0	455.3	423.0	455.0	487.3

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Table 17: Final energy consumption of the service sector

Energy products	1990	1995	2001	2002	2003	2004	2005	2006	2007	2008	2009
Electricity	0	86.8	47.0	47.0	97.0	144.0	140.1	63.0	37.0	80.0	93.7
Heat	0	3.4	2.2	2.2	0.9	0.0	0.3	1.3	4.3	4.5	4.7
Oil products	0	57.2	91.0	91.0	81.0	32.0	52.2	68.0	40.0	47.6	48.4
Natural gas	0	1.5	0.0	0.9		0.0	0.0	0.0	2.0	0.0	0.0
Coal and coal products	0	4.0	2.7	2.7	3.0	0.0	0.0	0.0	6.3	11.0	2.3
Combustible renewables & waste	0	66.2	38.4	8.5	51.0	12.0	13.0	13.0	12.0	12.0	17.2
Total services sector	0	219.2	181.3	152.3	232.9	188.0	205.6	145.3	101.6	155.1	166.2

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Table 18: Final energy consumption of the industry sector

Energy products	1990	1995	2001	2002	2003	2004	2005	2006	2007	2008	2009
Coal and coal products	169	42.1	9.5	9.5	15.0	14.0	14.0	14.0	11.7	12.0	50.0
Petroleum products	296	114.4	153.6	167.3	129.2	162.6	156.9	234.1	184.1	140.7	149.8
Natural gas	164	0.9	0.9	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Combustible renewables and waste	0	114.8	66.6	9.0	32.0	9.0	10.0	10.0	8.8	8.8	2.1
Electricity	41	42.3	74.6	74.6	60.0	63.0	62.0	62.0	56.2	73.2	71.3
Heat	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0
Total industry sector	670	314.5	305.2	260.5	236.2	248.6	242.9	320.1	260.8	234.7	275.2

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Table 19: Energy consumption of the industry sector by subsector

Subsectors	1990	1995	2001	2002	2003	2004	2005	2006	2007	2008	2009
Iron and steel	12.93	34.6	46.1	39.1	38.3	41.1	34.7	30.5	30.0	29.2	25.6
Chemical and petrochemical	0	25.8	24.0	27.4	18.3	21.7	23.3	37.3	38.6	35.6	23.4
Non-metallic minerals	0	80.7	61.9	40.3	29.4	56.4	51.1	87.9	60.8	43.4	86.7
Non-ferrous metals	0	14.1	18.2	15.2	13.9	7.8	7.5	7.5	6.4	6.7	5.4
Food and tobacco	0	84.6	74.4	60.6	39.2	35.4	40.7	37.2	35.0	41.9	28.9
Mining and quarrying	0	21.8	19.4	9.9	18.3	20.9	22.2	22.2	27.1	14.5	13.9
Machinery	0	0	0	0	0	0	0	0	0	0	0
Construction	0	5.9	10.6	6.4	11.1	16.6	13.5	8.5	9.8	11.4	6.8
Textile and leather	0	23.5	22.0	37.2	27.7	15.8	15.3	20.2	20.0	19.1	11.9
Paper, pulp and printing	0	10.7	12.3	11.3	24.2	11.8	12.6	11.6	10.4	10.0	8.5
Non-specified/other	657.11	13.0	16.4	13.5	15.7	20.5	21.7	57.7	22.2	22.9	64.4

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ANNEX 3: ENERGY PRICES IN ALBANIA

The following table shows the ERE-approved tariffs for electricity for 2011.

Retail prices to tariff customers approved by ERE for 1 January - 31 December 2011

Voltage level	Customer categories	Year 2011		
		Price (leke/kWh)	Energy Price at peak (leke/kWh)	Reactive Energy Price (leke/kVAr)
HIGH VOLTAGE	Customers supplied at HV with assets owned by them			
	Industry	6.20	6.51	0.93
	Trade & services			
	Agriculture			
	Others			
	Customers supplied at Distribution S/stations 110 kV			
	Industry	8.00	8.40	1.20
	Trade & services	8.00	8.40	1.20
	Agriculture	8.00	8.40	1.20
	Others	8.00	8.40	1.20
MEDIUM VOLTAGE	Customers supplied at 35 kV			
	Industry	8.50	8.93	1.28
	Trade & services	8.50	8.93	1.28
	Agriculture	8.50	8.93	1.28
	Others	8.50	8.93	1.28
	Customers supplied at 20/10/6 kV			
	Industry	9.10	9.56	1.37
	Trade & services	10.00	10.50	1.50
	Bakeries, wheat production	7.10	7.46	1.07
	Agriculture	8.70	9.14	1.31
	Others	9.70	10.19	1.46
	Budgetory	11.50	12.08	1.73
LOW VOLTAGE	Customers supplied at LV			
	Industry	10.50		
	Trade & services	12.20		
	Bakeries, wheat production	7.60		
	Agriculture	10.50		
	Others	12.00		
	Budgetory	14.00		
	Households			
	First block up to 300 kWh	7.70		
	Second block over 300 kWh	13.50		
	Fixed tariff for customers with zero monthy consp. (lek/month)	200		
	Tariff for electricity consumption in common spaces (stairs, pumps, lifts etc.) (leke/kWh)	8.00		
	Total average	9.53		

ANNEX 4: ORGANISATIONS CONTACTED DURING THE MISSION IN TIRANA

Ministry of Economy, Trade and Energy (METE)

Ministry of Environment, Forests and Water Administration (MoEFWA)

Council of Ministers

National Agency for Energy and Natural Resources (AKBN)

Albanian Energy Regulator (ERE)

Transmission System Operator (OST)

Distribution system operator (OSSH) - CEZ Shpërndarje

Albanian Power Corporation (KESH)

Energy Efficiency Centre Albania-EU (EEC Al-EU)

ProCredit Bank, World Bank, KfW

Federal Republic of Germany Development Agency GiZ

United Nations Development Programme (UNDP)

United States Agency for International Development (USAID)

ANNEX 5: INFORMATION SOURCES

- AKBN's Activity, National Agency of Natural Resources, Tirana, 2011
- Albania, PERREA Regular Review 2001, Energy Charter, Brussels, 2008
- Annual Report of Albanian Energy Regulator (ERE) 2010, Tirana, 2011
- Annual Report 2010 of the Albanian Power Corporation (KESH), Tirana
- Assessment of the NEEAP of Albania, Energy Community (EnC), Vienna, 2010
- Commission Opinion on Albania's application, COM (2010) 680. CEC, Brussels, 2010
- Ease of Doing Business in Albania, World Bank, Washington, 2011
- European Bank for Reconstruction and Development (EBRD) Renewable Energy Initiative, Country Profile, EBRD, London, 2011
- Energy Community of South-Eastern Europe (ECSEE), Albania Implementation Status, World Bank, Washington, 2011
- Energy Community (EnC) – Striving for EE, Kogainiceanu, V., Vienna, 2011
- Energy Efficiency in Public Buildings, KfW, www, 2010
- Energy in the Western Balkans: The Path to Reform and Reconstruction: IEA, Paris
- Experience and Lessons Learned from EE Projects, USAID Europe, Istanbul, 2010
- First and Second National Communication to the UNFCC, Tirana, 2002 & 2009
- First Report of the Task Force, EnC, Vienna, 2008
- Implementation by Albania of Aquis Communautaire on RE, Dervishi, D., Tirana
- Implementation of the Acquis under the EnC – Energy Community Secretariat, Vienna (2010)
- Key Findings of the Opinion on Albania, Press release, EU, Brussels, 2011
- Manual of Achievements 2009–2011, CEZ Shpërndarje, Tirana, 2011
- Monitoring of 1st NEEAP Implementation Albania, Sacari, A., Vienna, 16 June 2011
- Microfinance and Small Business - project no 29786 , IFC, 2011
- National Strategy of Energy, METE, Tirana, 2003, updated 2005 & 2009
- Partnership Program Snapshot - Albania, World Bank, Tirana, 2011
- Regional Analysis of Policy Reforms, UNECE, Geneva UN
- Renewable Energies in Albania, AKBN, Tirana
- Sector Review Energy Albania, Austrian Energy Agency, Vienna, 2006
- Status of EE in the Western Balkans, World Bank, Washington, 2010
- The Energy in Albania, Series of Newsletters, EEC, Tirana, 2005–2010
- Tirana Times, Weekly in English, Volume 8, Numbers 37 & 38, Tirana, 2011
- United States Agency for International Development (USAID's) Enterprise Energy Efficiency Program & Regulatory and Energy Assistance Project (REAP)
- United Nations Economic Commission for Europe (UNECE) and project websites: *http://unece.org/energy/se/pdfs/eneff/eneff_pub/EE21_FEEI_RegAnl_Final_Report.pdf*
- In addition, the following government and regulatory authority websites were consulted and drawn on for the finalisation of the report:
  - Albanian Energy Regulator (ERE)
  - Department of Strategy and Donor Co-ordination (DSDC)
  - Ministry of Economy Trade and Energy (METE)
  - Ministry of Environment, Forestry and Water Administration (MoEFWa)
  - National Agency of Natural Resources. *www.akbn.gov.al*

ANNEX 6: LIST OF ABBREVIATIONS

Abbreviation	Full name
AKBN	Albanian National Agency for Natural Resources
AMM	New Market Model
APC	Albanian Petroleum Corporation
APEC	Asia-Pacific Economic Cooperation
CDM	Clean Development Mechanism of the Kyoto Protocol
CEZ Shpërndarje	Albanian Distribution System Operator and Retail Public Supply Company
CHP	Combined Heat and Power
DNI	Direct Normal Irradiation
DSDC	Department of Strategy and Donor Co-ordination
DSO	Distribution System Operator
ECT	Energy Charter Treaty
EFSE	European Fund for Southeast Europe
EEC Al-EU	EU-Albania Energy Efficiency Centre
ENSI	Energy Saving International
GDP	Gross Domestic Product
GEF	Global Environment Facility
GHG	Greenhouse gas
GHI	Global Horizontal Irradiation
HPP	Hydropower Plants
IEA	International Energy Agency
KESH	Albanian Power Corporation
NSSED	Albanian National Strategy for Socio-economic Development
METE	The Ministry of Economy, Trade and Energy
MEEP	Municipal Energy Efficiency Planning
MoEFWA	Ministry of Environment, Forests and Water Administration
NEEAP	National Energy Efficiency Action Plan
NPA	National Petroleum Agency
OECD	Organisation for Economic Co-operation and Development
PEEREA	Protocol on Energy Efficiency and Related Environmental Aspects
RPS	Retail Public Supplier
SHPP	Small Hydropower Plant
SME	Small- and Medium-Sized Company
SNC	Albanian Second National Communication
SWH	Solar Water Heater
TAP	Trans-Adriatic pipeline
TFC	Total Final Consumption
TPES	Total Primary Energy Supply
TPP	Thermal Power Plant
TSO	Transmission System Operator
UNDP	United Nations Development Programme
UNFCCC	United Nations Convention on Climate Change
WPS	Wholesale Public Supplier

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