

22 March 2007

# Screening report

# Turkey

## Chapter 15 – Energy

**Date of screening meetings:**

Explanatory meeting: 15-17 May 2006

Bilateral meeting: 14-15 June 2006

## I. CHAPTER CONTENT

The objectives of EU energy policy are competitiveness, security of supply and sustainability. The energy *acquis* consists of rules and policies notably regarding competition and state aids including in the coal sector, conditions for equal access to resources for prospection, exploration and production in the hydrocarbon sector, the internal energy market (opening up of the electricity and gas markets), the promotion of renewable energy sources and energy efficiency, nuclear energy and nuclear safety and radiation protection. As regards international agreements, the chapter contains the Energy Charter Treaty and related instruments.

As regards **security of supply**, the *acquis* requires Member States to hold oil stocks of specified categories of fuel equivalent to 90 days of average annual consumption, and to report regularly to the Commission on hydrocarbon production, imports and prices. A body for the management of crisis situations needs to be set up.

The completion of the **internal energy market** is based on the Community rules on competition and state aids. Member States must ensure gradual liberalisation of the markets for electricity and gas adhering to the principles of transparency, non-discrimination, third party access, cross-border transit, security of supply and sustainability. Accounts for transmission and distribution activities are to be unbundled. Universal electricity services must be guaranteed and vulnerable customers be granted adequate protection. An independent regulatory authority must be designated as responsible for the efficient functioning of the markets. An independent transmission system operator (TSO) is equally crucial for the functioning of the internal electricity and gas markets.

**State aids** to the coal industry can only be granted under specific conditions.

The promotion of **renewable energy** and **energy efficiency** includes requirements to transpose *acquis* on biofuels, electricity from renewable energy sources, high efficiency cogeneration based on useful heat demand, the improvement of energy efficiency of buildings, energy services and various other initiatives. Energy-using products must fulfil eco-design requirements and household appliances must carry energy labelling. An enforcement body is required in particular for labelling and minimum efficiency standards. To promote renewable energy and energy efficiency, Member States can participate in various actions under the Intelligent Energy Europe and other programmes.

As regards **nuclear energy**, the Euratom Supply Agency has exclusive rights to conclude contracts for the supply of nuclear materials, which must be notified (with exceptions). Undertakings also need to have relevant accountancy capacities. An independent nuclear safety authority should be established in line with EU best practices. Council resolutions of 1975 and 1992 support the development of a common nuclear safety culture, and the European Council has repeatedly emphasised the importance of a high level of **nuclear safety** in candidate countries. Member States must ensure the protection of workers and the population from the risks arising from ionising radiation, by complying with the Community *acquis* on **radiation protection**, covering authorisation and reporting of practices and operational protection of workers and population in normal circumstances, strict controls on radioactive sources, supervision of shipments and of radioactive waste, environmental monitoring, control of contamination of foodstuffs and an appropriate framework for emergency preparedness.

## II. COUNTRY ALIGNMENT AND IMPLEMENTATION CAPACITY

This part summarises the information provided by Turkey and the discussion at the screening meeting.

Turkey indicates that it can accept the *acquis* regarding energy. Turkey indicates that it does not expect any difficulties to implement the *acquis* by accession.

## **II.a. Security of supply**

Turkey's legal framework obliges the country to hold oil stocks of at least the amount equivalent to 90 days' net imports for the previous year's average daily consumption, calculated according to IEA methodology. This includes stocks held by refineries on behalf of the government as well as by eligible consumers, refineries, fuel and LPG distribution licensees as well as loaded tankers within territorial waters to be transferred to refineries and storages. There is however no regulation yet on listing oil stocks in categories of gasoline types, middle distillates and fuel oil as defined in the *acquis*.

A national oil stock commission has been established, responsible to the Council of Ministers. Turkey is considering a more effective structure for the management of stocks, such as a stockholding agency.

A national legal framework is in place for measures to mitigate the effects of difficulties in the supply of crude oil and petroleum products, also designating the Turkish Emergency Sharing Organisation and the Turkish Emergency Management Directorate as responsible authorities for crisis management.

Turkey has a legal framework governing the petroleum market including requirements for licensing, import and export, pricing and tariffs. Pricing takes place under free market conditions. Third-party access to transmission and storage facilities is guaranteed by law.

The Liquefied Petroleum Gas (LPG) market is regulated by the 2005 LPG Market Law and several by-laws. Distributor licence holders' market share is limited to 45%.

Turkey produced 1.7 mio tonnes of hard coal and 40.9 mio tonnes of lignite in 2004. It covers nearly its entire needs of hard coal by imports from various third countries. Turkey states that it will have no problem to report to the Commission on a semester basis on the imported coals' volumes, quality (content, calorific values) and average prices. A legal framework regulating the Turkish coal sector is in place.

## **II.b. Internal energy market**

Turkey's policy objectives are to establish a financially viable, stable, transparent, and competitive **electricity market** ensuring continuous, high-quality, low-cost and environmentally friendly supply of electricity. Turkey's legal framework for the electricity market covers generation, transmission, distribution, wholesale and retailing activities, import and export, rights and obligations of market actors, the establishment of a regulator, and the privatisation of generation and distribution assets. Turkey's legal framework is based on the Electricity Market Law of March 2001 and numerous pieces of secondary legislation covering all aspects of the relevant EU directives, such as the transmission system, balancing and settlement, grid issues, import and export, licensing, distribution, tariffs, eligible consumers, supplier of last resort, vulnerable customers, demand forecasts, accounting guidelines and Guarantee of Origin for renewable energy sources.

The Turkish electricity sector is currently in a situation of transition from a largely state-owned monopolistic sector to a liberalised market with privatised generation and distribution companies. Its current legal opening rate stands at 32% (eligibility threshold of an annual

consumption of 6 GWh)<sup>1</sup>. There are very few new market entrants in particular on the supply side, due to a lack of effective incentives. All prices remain regulated except for those of generation, bilateral contract market prices and balancing and settlement prices. Full opening of the electricity market is scheduled for the end of 2011.

The markets for electricity, gas, petroleum and LPG are supervised by the Energy Market Regulatory Authority (EMRA) which is set up as an independent, administratively and financially autonomous public institution financed mainly by fees and fines. It has a staff of 332, of which 166 deal with regulatory issues. Renewal of EMRA's board has taken place in accordance with the legal provisions. The mandate of four board members was renewed, while two additional board members were appointed.

A transmission system and market operator (TSO) is in place (Turkish Electricity Transmission Company TEIAS) and by law shall not engage in any activity other than transmission and market operating activities. The privatisation of the distribution company (TEDAS) and the generation company (EUAS) is due to start soon. The state-owned wholesale trading company (TETAS) is not allowed to sell to any new eligible consumers.

In order to prevent the building up of dominant positions, the market share of any private generation company and its affiliates is limited by the Electricity Market Law to 20% of total installed capacity in Turkey in the preceding year, and to 10% of the total electricity consumed in the market during the preceding year (including imports) regarding wholesale companies. The law also foresees that foreign real persons and legal entities engaged in market activities within the scope of privatisation activities cannot have shares which would give them controlling power on a sectoral basis in the electricity generation and distribution sectors.

Legal unbundling of distribution assets has not yet started, but accounts have been separated.

The minimum term for generation, transmission and distribution licenses is 10 years, the maximum 49 years.

The privatisation process in the electricity sector is guided by a March 2004 Strategy Paper on electricity sector reform and privatisation, implementation of which is behind schedule. The start of the privatisation process was said to be imminent in the summer of 2006<sup>2</sup>. The next step will be the privatisation of generation assets. A May 2006 amendment to the Electricity Market Law explicitly allows for cross-subsidisation and vertical integration, with the aim of facilitating the privatisation process of 20 distribution companies. Until the completion of the process, transitional power purchase agreements are signed between state-owned generation, distribution and wholesale companies<sup>3</sup>. The installation of necessary meters and tele-information systems for hourly measuring is underway.

High electricity losses (17.8%) are a major challenge. Technical and non-technical losses are expected to diminish after privatisation. To offset negative effects stemming from the transition to a cost-reflective pricing system, a temporary price equalisation mechanism has been introduced under which TETAS transfers cash from low cost regions to high cost regions. This will be applied until the end of 2010.

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<sup>1</sup> By February 2007, the threshold had been reduced to 3 GWh, corresponding to a market opening rate of 39%.

<sup>2</sup> The preparation of the tender documents was finalised over the autumn, but the actual tender was declared postponed in early 2007.

<sup>3</sup> Actual implementation of a cash-based balancing and financial settlement mechanism started in August 2006.

Treasury guarantees currently exist for BOT and BOO contracts for generation assets, but are ruled out for the future by recent legislation which does not allow state-owned companies anymore to invest in generation unless deemed necessary by the regulator on the basis of its generation capacity projection.

As regards access to the network for cross-border exchanges in electricity, an a-synchronous connection with Bulgaria exists. Preparations for the synchronous connection with the European electricity network and for joining the UCTE (Union for the Co-ordination of Transmission Energy) are underway. A 400kV line linking Turkey to Greece is expected to be commissioned in 2008.

Turkey's policy objectives for the **gas sector** are to establish a financially sound, stable, transparent, and competitive market under independent regulation, ensuring a reliable and environmentally friendly supply of gas of good quality. The legal framework regulating the gas sector is fairly developed. It is based on the Law on the Natural Gas Market of May 2001 and several by-laws covering most aspects of the relevant EU directives, such as the transmission and network operation, distribution, wholesale trading, eligible consumers, third-party access, export, storage, licensing, tariffs, consumer service obligations, security of supply and emergency measures. Provisions on third-party access (trading of capacity rights, congestion management and interruptible customers) are only covered in the network code, but not in the Gas Market Law, and are not implemented in line with the *acquis*. Turkey prioritises its domestic security of supply, but also intends to develop bulk transmission activities. Exploration and production are regulated under the Petroleum Law.

The transition to an open and effectively competitive market has incurred delays. Tariffs are determined by the regulator as price ceilings calculated on the basis of a cost evaluation. The national gas incumbent BOTAS continues to hold an effective monopoly on import, export and wholesale trading. The legal market opening stands at 80% (eligibility threshold: annual consumption of 1 mio m<sup>3</sup>/year). The Natural Gas Market Law stipulates unbundling of the state-owned company BOTAS into separate companies for transmission, storage, and trade to take place between 2009 and 2011. Although initially scheduled for November 2003, account unbundling has not yet been achieved.

The gas market law limits the market share of any importer or wholesaler to 20% of the domestic market. Accordingly, BOTAS is required to conduct tenders to transfer its existing natural gas purchase and sales contracts to other entities until its imports are brought down to 20% of annual consumption. This threshold is to be attained by 2009, and BOTAS is required by law to conduct tenders for contract release for at least 10% each year. The process for transfer of contracts was initiated in 2004. In September 2005 tenders were launched for volume release of 16bcm/year<sup>4</sup>.

In accordance with the gas market law EMRA has conducted tenders for city gas distribution. Tenders for about 50 distribution regions have been completed with 28 regions having started to use natural gas<sup>5</sup>.

The law requires an amount corresponding to 10% of annual imports of natural gas to be stored on national territory. Imports are limited: annual natural gas amounts procured by any import company shall not exceed 20% of the national gas consumption forecast determined by EMRA. Turkey's legislation is aimed at preventing the establishment of dominant market positions. Only production companies located in Turkey may sell more than 20% of the

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<sup>4</sup> Bids were made for 4 bcm/year. By February 2007, the tender was completed. Four companies are currently negotiating new sale-and-purchase agreements with the seller.

<sup>5</sup> Situation as of end 2006.

national gas consumption forecast. As described above, importers and wholesalers are limited to a maximum of 20%. Distribution companies must not purchase more than 50% of natural gas from any one legal entity within one year but are at the same time obliged to prove that they purchased their gas from the cheapest source.

As regards international agreements relevant for energy trade, market access and cross-border transit, Turkey ratified the Energy Charter Treaty (ECT) in 1998 and is actively contributing to its functioning, but has not yet ratified the ECT Trade Amendment. Turkey has incorporated ECT dispute settlement mechanisms into relevant intergovernmental agreements.

### **II.c. State aids**

An "Agreement between the European Coal and Steel Community and the Republic of Turkey on trade in products covered by the Treaty establishing the European Coal and Steel Community" was concluded in 1996. Under this agreement the Community rules for State aid to the coal sector are to be applied in Turkey to coal products which are covered by the ECSC Treaty and which originate in the Community or Turkey, in so far as these aids may affect trade between the Community and Turkey.

Concerning hard-coal, direct financial "injections" are granted by the Government each year to support investment and operational costs at the state-owned hard coal enterprise TTK (€227 mio in 2005). TTK also receives so-called "duty-losses" (€1.2 mio in 2005) which means that the Government covers for TTK's obligatory coal deliveries to low-income households. The state-owned lignite producer TKI also receives such "duty losses" for the same purpose (€137 mio in 2005).

In order to alleviate social hardships caused by the gradual closure of state-held mining activities in the Zonguldak coal basin and to facilitate the shift of employment to other private sector activities, the Government grants certain exemptions (customs, duties, VAT) and credit allocations for SMEs and investments on an *ad hoc* basis. Social security incentives, energy support and free-of-charge land allocation are also possible under the Law on Encouragement of Investments and Employment<sup>6</sup>.

### **II.d. Renewable energy**

Turkey has established a basic legal framework for the promotion of renewable energy sources (RES) in May 2005 with the adoption of the Law on Utilization of Renewable Energy Resources for the Purpose of Generating Electricity, the By-law on Principles and Procedures for Granting Guarantee of Origin of October 2005, and several by-laws to the Electricity Market Law of 2001. Definitions of biofuels are contained in the Petroleum Market Law and a by-law, whereas a pending amendment to this law would allow for a maximum share of 2% of biofuels in diesel fuels and also set licensing requirements.

Turkey states that the share of renewables in electricity generation in Turkey was around 31% in 2004 and 25% as of 2005, and renewable energy production at 12.3% of total primary energy supply in 2004. Turkish RES-generated electricity production is largely dominated by hydropower which is dependent on hydrological conditions, and to a much lesser extent biomass. The contribution from wind energy is increasing.

Turkish legislation does not contain a target for the share of electricity from renewable energy sources in total energy consumption, nor for biofuels. Turkey stated that given its forecast rise

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<sup>6</sup> In October 2006, legislation was published which renders ineligible for investment encouragement measures any investment project concerning the production of products listed in the annex of the ECSC Free Trade Agreement.

in electricity demand, keeping a stable RES share in itself constituted an "ambitious target" implying a significant increase in renewable electricity production in absolute terms.

The main support mechanism is a purchase obligation on electricity suppliers which must buy RES-generated electricity equivalent to at least 8% of their previous year's sales. The regulator EMRA provides Guarantee of Origin certificates. The price for certified RES electricity is the average wholesale electricity price of the previous year. The Council of Ministers may increase this price by up to 20%, but has so far never made use of this mechanism. The Government also grants a 50% reduction on the fees for land use permission, and exemptions from regular licence fees. Further tax exemptions are under consideration. Turkey is aiming to develop its biofuel crop production. In order to favour underdeveloped RES such as wind and geothermal energy, Turkey applies a definition of renewable energy sources within the scope of the Law on Utilization of RES, which excludes hydroelectric generation plants with a reservoir area of 15km<sup>2</sup> or more.

Turkey is making efforts to diminish uncertainties in the market for RES, and to reduce economic and bureaucratic obstacles to their development. Despite a significant number of licenses granted, only a small share of planned RES investments are actually being realised; the rate however is increasing. High yield expectations among investors pose a financial challenge.

As regards administrative capacity, the Ministry of Energy and Natural Resources is responsible for policy making, with its General Directorate of Energy Affairs dealing specifically with renewable energy and its General Directorate for Electrical Power Resources Survey and Development Agency (EIE) being responsible for the promotion and research of renewable energy sources. EMRA is the competent authority for regulating the market and for licensing.

## **II.e. Energy efficiency**

Turkey has some legislation on energy efficiency in industrial plants, but has not yet adopted a framework law for the promotion of energy efficiency, a preliminary draft of which has been under preparation for several years<sup>7</sup>. This has hampered smooth progress in several ways, including the reorganisation and strengthening of administrative structures. Nevertheless, the legal framework for several sub-sectors of the energy efficiency *acquis* is partly in place.

Combined heat and power (CHP) generation had reached a total installed capacity of 3600 MW by 2004, corresponding to 9.8% of total installed capacity. These plants are mainly auto-producers i.e. they sell surplus electricity originally generated for their own production processes. Some relevant provisions for cogeneration are included in several Turkish energy market laws, but there is no framework law specific to CHP and compliant with the requirements of the *acquis*. Turkey states it may eventually decide to adopt a separate framework law on CHP which would however take time. Whereas the draft energy efficiency law would introduce financial support schemes for high-efficiency CHP, incentives for cogeneration and micro cogeneration are currently limited to certain exemptions in minor regulations. The current eligibility threshold of 70% efficiency for the exemption from frequency control and balancing and settlement requirements is under revision with a view to bringing it into line with the relevant directive. In accordance with the Electricity Market Law, electricity generated by autoproducers (most Turkish cogeneration facilities are in fact autoproducers) could be sold to eligible customers, but there is a limit of 30% to this. CHP is

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<sup>7</sup> The Energy Efficiency Law was adopted by the Parliament on 22 February 2007, but has yet to be approved by the President and published before it can enter into force.

currently limited to the industrial sector, but Turkey indicates it might consider introducing it to the building sector in the future. Access to the grid is largely provided, and the quality of statistics is currently being improved. Turkey's national potential for high-efficiency cogeneration is the object of an ongoing study. The current average overall efficiency of cogeneration units in Turkey is below 70%, which is low in terms of the high efficiency goals of the CHP directive.

As concerns buildings, Turkey has no framework for a holistic approach as demanded by the directive on the energy performance of buildings. Heating-related aspects of energy efficiency of buildings are regulated by the by-law on heat insulation in buildings of 2000, from whose scope existing buildings and villages are however exempted, and which do not cover cooling, lighting, renewable energy sources, passive systems, orientation of buildings, energy performance certificates, regular inspections of boilers and air-conditioning systems, and the qualification and training of inspection personnel. Nor is there an established monitoring mechanism to reflect the results of application since 2000. Whereas the directive foresees an additional period of three years for Member States to apply fully the provisions on energy performance certificates and inspections of boilers and air-conditioning systems, Turkey might need more time than that for full implementation, considering its current levels. Turkey is currently not associated with the energy performance of buildings Concerted Action, an EU financed platform for Member States to exchange experience in the implementation of the energy performance of buildings directive.

Regarding the Directive on End-Use Efficiency and Energy Services, the draft Energy Efficiency Law encompasses provisions on administrative structuring, financial instruments and incentives, awareness raising and the establishment of a market for energy efficiency services.

As regards labelling, most EU directives have been transposed and are being implemented. A draft by-law on air-conditioning is pending<sup>8</sup>. Some amendments to the directive on refrigerators and freezers concerning the introduction of the new categories A+ and A++ are not yet transposed.

Transposition of the Eco-Design Framework Directive of 2005 has not yet commenced in Turkey. The directives on minimum energy efficiency requirements of hot-water boilers, refrigerators and freezers, and fluorescent lighting are transposed, as are Harmonised European Standards. As regards conformity assessments, market surveillance is being carried out on almost all industrial products by the Ministry of Industry and Trade, which also imposes fines and sanctions.

Turkey states that it may consider future participation in the Intelligent Energy Europe programme, while it is already conducting some similar activities on the national level. Turkey does not participate in the "Energy Star" programme, the voluntary labelling programme for office equipment run jointly by the EC and the US. Turkey states that there is no national legislation or voluntary scheme regarding the energy efficiency of office equipment in Turkey. There is however a circular from the Prime Minister of 1997, obliging public procurement officers to choose low-energy consumption products marked "Energy Star".

As regards administrative capacity, Turkey plans to replace the Energy Conservation Coordination Board (ECCB). The preliminary draft law on energy efficiency foresees an energy efficiency coordination board that would bring together ministries, government bodies,

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<sup>8</sup> The draft was adopted in December 2006.

municipalities and chambers. The DG Electrical Power Resources Survey and Development Administration (EIE) is responsible for energy efficiency in industrial plants, and the Ministry of Industry and Trade is responsible for the transposition and implementation of the *acquis* on labelling and eco-design. The ministry has no testing laboratories to verify the accuracy of labelling information.

## **II.f. Nuclear energy**

Turkey has at present no nuclear power plants, but has recently announced its intention to pursue plans to build one or more such plants in the near future. There are two research reactors and a fuel pilot plant; however, no new fuel purchases are currently considered necessary. Although Turkey has uranium and thorium reserves, their exploitation is not deemed economically viable; earlier pilot mining projects have been decommissioned.

The Turkish Atomic Energy Authority (TAEK) is the regulatory authority in charge of nuclear issues, reporting directly to the Prime Minister. TAEK is financed from the state budget. With 754 employees, the authority is dealing with nuclear fuels, radiation protection and management of sealed radioactive sources, radioactive waste, emergency preparedness, illicit trafficking of nuclear materials and non-proliferation as well as the management of a training centre. Nuclear research installations and the promotion of nuclear energy are also among the responsibilities of the authority. Its responsibilities are set down in the TAEK Law, by-laws on accounting for and control of nuclear materials (under revision), on physical protection of special nuclear materials, on transport, on export control, a communiqué on import control, and a regulation on the issuing of licences. The legal framework for mining of nuclear materials consists of the general Mining Law and the Law on Boron Minerals, Trona and Asphaltit Mines and Exploitation of Nuclear Energy Raw Materials.

Regarding safeguards, Turkey has ratified the Treaty on the Non-Proliferation of Nuclear Weapons and has a safeguards agreement with the IAEA including an additional protocol which is in force.

Turkey is a member of the international Convention on Nuclear Safety and several other international agreements, but has not signed the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management due to concerns related to transboundary movements (art. 27).

## **II.g. Nuclear safety and radiation protection**

An elaborate legal framework covering most of the nuclear safety and radiation protection issues under the *acquis* is in place in Turkey, while a number of further studies are underway with a view to closing remaining gaps with the *acquis*, namely on outside workers, health workers, shipments, medical exposure, and orphan sources. The by-law on emergency preparedness is under revision with a view to achieving full compliance.

The Turkish Atomic Energy Authority (TAEK) is the regulatory body responsible for the safe use of ionizing radiation sources, radiation protection, management of radioactive waste and transport and storage of radioactive material. An environmental monitoring system is in place comprising 67 monitoring stations. Emergency plans are in place, including an *ad hoc* crisis management centre to be established at the prime ministry in an emergency. The ECURIE agreement on Exchange of information in the event of radiological emergency has been signed, but is not yet ratified. Confirmation of signatures has not yet been received by the Commission.

There is an insufficient number of approved medical practitioners (or equivalent) and of specialised medical health services. Specialised radiation protection units, distinct from production and operation units, are not in place. Turkey recognises a need to revise inspection procedures for the use of radiation in medical applications which currently are not very effective. Training of staff is done upon request, not on the basis of a systematic training programme.

### **III. ASSESSMENT OF THE DEGREE OF ALIGNMENT AND IMPLEMENTING CAPACITY**

Overall, Turkey has attained a satisfactory level of alignment in this chapter, and should be able to pursue further alignment in a timely manner provided the necessary determination is brought to bear. Particular attention needs to be given to the adoption and entry into force of the outstanding energy efficiency framework law and further alignment with the energy efficiency *acquis*. Turkey would benefit from early participation in the related Community programmes. State aids to the coal industry need to be brought into line with the *acquis*. The opening of the electricity and gas markets should be prepared and enacted in line with Turkey's strategy paper. Administrative capacity needs to be strengthened in all sub-sectors to ensure effective implementation.

The Commission will present an impact assessment regarding specific aspects of this chapter together with the Draft Common Position, so as to be taken into account for negotiations on this chapter.

#### **III.a. Security of supply**

Turkey has achieved a considerable level of alignment with the *acquis* on security of supply – oil stocks and hydrocarbons. However, its methodology for accounting of stocks of crude oil and petroleum products needs to be brought into line with EU methodology. The authorities will need to demonstrate the capacity to fulfil all reporting requirements to the Commission by accession. This will require further preparations. Furthermore, measures may still be needed to align Turkish legislation with Directive 94/22 on the conditions for granting and using authorisations for the prospection, exploration and production of hydrocarbons.

#### **III.b. Internal energy market**

Turkey has achieved a considerable level of legal alignment as regards the internal energy market for electricity and gas. The necessary legal framework is largely in place. However, real and full liberalisation as foreseen by 2011 still requires considerable efforts. Turkey will need to abrogate the May 2006 amendment to the Electricity Market Law which explicitly allows for cross-subsidisation and vertical integration. The market share limitations for generation and wholesale companies in the electricity sector and the limitations for foreign private ownership are not compatible with the *acquis* on mergers and acquisitions, and could hamper the future development of the Turkish electricity market. Turkey should increase efforts to reduce distribution losses.

As regards cross-border exchanges of electricity, preparations for the synchronous connection with the European electricity network and for UCTE membership should continue. Non-discriminatory access in the allocation and use of interconnection capacity will be required.

In the **gas sector**, Turkey needs to pursue the restructuring of the state-company BOTAS and the implementation of the gas release programme. Conditions for third-party access need to be guaranteed in legislation and fully implemented. The role of the regulator in this matter is to be developed. Turkey will need to adopt provisions on interruptible service obligations in line with the *acquis*.

The current requirement according to which export licences can only be granted once domestic supply is satisfied is not compatible with the *acquis*. The market share limitations in the gas sector (20%) are not compatible with the *acquis* on mergers and acquisitions, and could hamper the future development of the Turkish gas market.

The independence of the Energy Market Regulatory Authority EMRA should be strengthened, in particular in view of any conflicts of interests arising from BOTAS' continuing state ownership. EMRA's capacities should continue to be strengthened in step with progressive market liberalisation which will require more staff dealing with regulatory issues. Training programmes for EMRA staff should continue.

As concerns international agreements, Turkey has achieved a considerable level of alignment with regard to the Energy Charter Treaty (ECT), and should now also ratify the ECT Trade Amendment. Turkey should adopt and implement an appropriate legal framework to facilitate the transit of energy materials and products.

### **III.c. State aids**

As regards coal of higher calorific value, Turkey in particular needs to apply Council Regulation 1407/2002/EC. This regulation will however expire on 31 December 2010. Should it be replaced by a successor regulation, Turkey would need to take measures to ensure alignment on that basis. Judging by the currently applicable framework, the support measures granted by Turkey to its coal production could be compatible with the *acquis*, which allows for state aids directed at the reduction of activity, the accessing of coal reserves, and the coverage of exceptional costs.

As regards most of the lignite produced in Turkey not meeting the reference standards of Council Regulation 1407/2002, Turkey will have to apply the horizontal Community rules on State aids. These are dealt with in the Accession Conference under chapter 8 – Competition.

### **III.d. Renewable energy**

As regards renewable energy sources (RES), Turkey needs to set itself an ambitious target for the increase in the share of electricity from renewable energy sources in total electricity consumption, as required by the *acquis*, and generally consider creating clearer and more effective incentives for the promotion of RES whose potential is currently underused in Turkey. As regards biofuels, the *acquis* sets a reference value of 5.75% by 2010 for Member States to base national targets on, which Turkey should also do as soon as possible.

To be in line with Directive 2001/77/EC, all hydroelectric generation capacity in Turkey must be considered as renewable, irrespective of size, although it may be legitimate not to grant particular incentives to bigger plants that are already economically viable under market conditions.

### **III.e. Energy efficiency**

Turkey needs to adopt and implement a framework law on energy efficiency<sup>9</sup>. The law should cover all aspects of the Energy End-Use Efficiency and Energy Services Directive, including a 1% cum annual savings target, an energy efficiency fund or funding mechanisms, energy audits and a national action plan.

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<sup>9</sup> An Energy Efficiency Law was adopted by the Parliament on 22 February 2007, but has yet to be approved by the President and published before it can enter into force.

Alignment on cogeneration (CHP) might in future be taken forward through the draft energy efficiency law, but a separate legal document on CHP is very probably required. In this context Turkey will also need to identify administrative and other barriers to CHP and take measures to eliminate these, promote high efficiency CHP, introduce Guarantees of Origin for CHP and finalise the study of its national high-efficiency CHP potential. Micro and small-scale cogeneration plants will also need further attention. The rather low efficiency of current cogeneration units is a matter of concern, as the CHP directive requires support schemes and Guarantees of Origin to be based on high efficiency criteria. Though the installed capacity of CHP might seem satisfactory there are indications that much of it is not effectively generating electricity, due to distortions in the market and administrative barriers.

Turkey is aligned with the directive on the energy performance of buildings to the extent that its relevant by-law covers heat insulation aspects. It should now prepare a new draft based on a holistic system approach covering all aspects of the directive.

Turkey is largely aligned with the directives on the labelling of energy products. Amendments to the directive on freezers need to be transposed.

Whereas Turkey is aligned with the older implementing directives on minimum energy efficiency requirements, it should now prepare transposition of the framework directive for eco-design too. Conformity assessments and market surveillance need to be carried out for all remaining products.

Turkey is encouraged to participate in the Intelligent Energy Europe programme and the Energy Star programme, and would undoubtedly benefit from them. Upon accession Turkey will be obliged to participate in these programmes or their successors.

It is crucial for Turkey to make progress on demand reduction, in particular considering the energy efficiency potential of the country with its size and growing population.

As regards administrative capacity, the necessary responsibilities have been designated to the Ministry of Industry and Trade and other bodies. Turkey will need to build up laboratory capacities to verify the accuracy of labelling information.

### **III.f. Nuclear energy**

The administrative structures and legislative framework for the implementation of the *acquis* on nuclear energy are largely in place in Turkey. When signing the Euratom Treaty, Turkey will need to assign the relevant tasks to a designated body, and prepare the national contribution to the Euratom Supply Agency. Also, Turkish industry will need to have the capacity to fulfil Euratom obligations (submission of supply contracts, notification of transformation contracts, etc.).

The regulatory authority TAEK must be exclusively entrusted with the implementation of the legislative and regulatory framework governing the safety of installations; such functions have to be clearly and effectively separated from activities of promotion or utilisation of nuclear energy, the latter being allocated to other bodies or organisations, as required by the Convention on Nuclear Safety.

Moreover, TAEK's resources and capacities will need to be strengthened, in particular if Turkey pursues its intention to construct nuclear power generation plants.

### **III.g. Nuclear safety, safeguards and radiation protection**

Turkey has reached a considerable degree of legislative alignment as regards nuclear safety and radiation protection, and will need to ensure full implementation. With a view to completing alignment, the country needs to adopt amendments on work activities involving natural radioactivity, outside workers, health monitoring of workers, information and training of workers, shipments of radioactive waste and substances, medical exposures, controls on high activity and orphan sources and information of the population in case of radiological emergency. Turkey needs to ratify the ECURIE agreement and finalise its arrangements for providing data from its national dose rate monitoring network to the European Radiological Data Exchange Platform (EURDEP) system on a regular basis.

Turkey should revise its inspection procedures for the use of radiation in medical applications which currently are not sufficiently effective. Turkey will also need to provide for the recognition of approved medical practitioners and for the existence of specialised radiation protection services. Ongoing training for staff dealing with nuclear safety and radiation protection issues including doctors and health professionals should be put on a more systematic basis.

Turkey will need to accede to the Joint Convention for the safe management of spent fuel and the safe management of radioactive waste, to which Euratom became a contracting party in January 2006.

Turkey needs to establish and implement a strategy for the safe management of radioactive waste. The safety of current storage sites needs to be upgraded.

Turkey will need to set up specific funds to cover the expenditure necessary for the eventual decommissioning of the country's research reactors and fuel pilot plant. This should be done in line with the Commission's recommendation on the management of financial resources for the decommissioning of nuclear installations, spent fuel and radioactive waste. In particular, a segregated fund with appropriate control on prudent use should be the preferred option for all nuclear installations. Financial resources should be used only for the purpose for which they have been established and managed, with due consideration given to transparency.

Regarding Safeguards, Turkey will need to take the administrative steps necessary for compliance with the Safeguards foreseen in Title II, Chapter VII of the Euratom Treaty and in Regulation 302/2005 with immediate effect upon accession. Turkey should also start to prepare the national procedures for accession to INFCIRC/193 and its Additional Protocol and the simultaneous suspension of the Safeguards agreements with the IAEA, to take place shortly after accession.