

Screening report

Serbia

Chapter 15 – Energy

Date of screening meetings:

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Bilateral meeting: 11-12 June 2014

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 aid, 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 electricity and gas markets), nuclear energy and nuclear safety and radiation protection, as well as promoting renewable energy sources and energy efficiency. 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 equivalent to 90 days of average daily net imports or 61 days of average daily inland consumption, whichever of the two quantities is greater, and to report regularly to the Commission on oil production, imports, supply costs and fuel prices. A body for managing crisis situations needs to be set up.

For natural gas Member States and gas companies need to be prepared for supply disruption, through clear and effective emergency plans and incorporating fully the EU dimension of any significant disruption. Member States must ensure that in the event of a disruption of the single largest infrastructure, they are able to satisfy total gas demand during a day of exceptional high demand. Reverse flows are to be established in all cross border interconnections between EU countries. Member States must also define general, transparent and non-discriminatory policies on security of electricity supply, compatible with the requirements of a competitive single market for electricity.

EU rules aiming at completing the **internal energy market** are based on the EU rules on competition and state aids. Member States must ensure open and competitive markets for electricity and gas, adhering to the principles of transparency, non-discrimination, third-party access, cross-border transmission, security of supply and sustainability. Transmission and distribution system operators 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.

The promotion of **renewable energy** and **energy efficiency** is part of the Europe 2020 agenda. The EU target for renewable energy is to reach a share of 20% renewable energy in final energy consumption by 2020. Effective measures have to be in place to stay on the trajectory as defined in the National Renewable Energy Action Plans. By the same date a 20% reduction in Europe's annual primary energy consumption is to be achieved. The energy efficiency *acquis* requires measures to increase efficiency at all stages of the energy chain: generation, transformation, distribution and consumption. The measures focus in particular on the building and energy services sectors, where the potential for savings is greatest. Other measures include the introduction of smart meters and clearer product labelling. An enforcement body is required in particular for labelling and minimum efficiency standards.

Regarding the use of **nuclear energy**, Member States must establish a national legislative, regulatory and organisational framework for the nuclear safety of installations, including a competent and independent regulatory authority, as well as a framework for nuclear safeguards. Member States shall also be ultimately responsible for the management of spent fuel and radioactive waste, and need to develop an adequate framework for this. 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 EU *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. As regards **nuclear material supply**, the Euratom Supply Agency has exclusive rights to conclude contracts for the supply of nuclear materials. Undertakings also need to have relevant capacities for nuclear material accountancy and control (**nuclear safeguards**).

II. COUNTRY ALIGNMENT AND IMPLEMENTATION CAPACITY

This part summarises the information provided by Serbia and the discussion at the screening meeting. Serbia indicates that it can accept the *acquis* regarding energy and does not expect any difficulties in implementing it by accession.

Serbia stated that it is familiar with the main pieces of the EU energy *acquis*, which to a large extent has already been incorporated into the national legislative framework, as a result of Serbia's membership to the Energy Community.

Serbia gave no indication as to areas where it might request special attention during negotiations.

Finally, it should be noted that nuclear energy is neither produced nor used in Serbia.

II.a. Characteristics of Serbia's energy system

Serbia's energy strategy (until 2025, and with projections until 2030) was adopted in January 2014. It is based on Serbia's energy resources (and how to improve Serbia's energy mix using the current base of fossil fuels and renewables) as well as Serbia's obligations under the Treaty Establishing the Energy Community. Energy efficiency is considered as a new energy source. The strategy also takes into account security of supply and environmental aspects, its main priorities being development of energy market, security of supply and sustainable development.

In accordance with the 2011 Energy Law, the main strategy documents are: energy strategy, programme for the implementation of the energy strategy and energy balance. The strategy is accompanied by a programme (for the next 6 years), and every year an energy balance is published. Two EU projects funded under the Instrument for Pre-accession Assistance (IPA 2010 and IPA 2012) are intended to improve Serbia's energy statistics. These are collected by Serbia's Statistical Office, which is the institution responsible for implementing Regulation (EC) 1099/2008 of the European Parliament and of the Council of 22 October 2008 on energy statistics (and this Regulation's subsequent amending regulations).

Serbia's real and potential energy sources include fossil, conventional and unconventional fuels and renewable energy sources. Reserves of oil and gas are symbolic and make less than 1% of geological reserves, while the remaining 99% of energy reserves include various types of coals, with the highest share of lignite, over 95%, in the proved reserves. Renewable energy sources (RES), except hydro energy, are at an early phase of development. The estimated total renewable energy sources potential (which is technically available in Serbia) is 5.65 million tonnes of oil equivalent (toe) per year. From this potential, some 1.054 million toe of biomass and 909 000 toe of hydro energy are already in use. Biomass represents a significant energy potential of the Republic of Serbia, estimated at 3.405 million toe or 60% of total RES potential.

The Serbian energy system consists of the electrical power sector, heat sector, coal, oil and gas sector and renewable energy sector. Serbia's largest domestic energy source is coal, which is exploited in surface, underground and underwater mines. The open pit mine at Kolubara produced just under 30 million tonnes in 2012, that at Kostolac produced a further 7.9 million tonnes. 92% of this (low quality) coal is mainly used for electricity generation and heating, with the rest used by end users. The underwater mine at Kovin produced 137 000 tons in 2012. Serbia's reserves of brown-lignite coal and lignite should cover demand until the end of the century.

Domestic production of oil covers 53% of overall needs. 70% of total demand is refined in the Pancevo and Novi Sad refineries. There is also a retail network of 1 441 sales points. 25% of total gas demand is covered by the company NIS AD (Petroleum Industry of Serbia) from domestic production. The rest comes in imports from Russia, through Hungary. There is an underground storage capacity at Banatski Dvor with a capacity of 450 million m³.

Serbia's total installed capacity for electricity generation is 7 204 MW (in thermal, hydro and combined heat and power), for a gross production of 36 799 GWh. The share of thermal power (TPP) in electricity production was 71%, the share of hydropower (HPP) was 27% and the rest was in combined heat and power. There are 57 district heating plants for cities (with an installed capacity of 6 587 MW), and an additional 6 300 MW for industrial users. Domestic power production is almost enough to cover domestic demand.

Serbia's renewable energy production consists of biomass, hydro, and to a lesser extent geothermal energy, solar, wind and biogas. In 2012, renewables contributed to some 17% of primary energy, the largest proportion of which was biomass. Of the available potential, there is scope to develop biomass further, particularly agricultural biomass, but also hydro and wind offer possibilities to further growth.

In 2012, gross inland consumption was 14.631 Mtoe, down from a high of 16 (in 2011 and 2010). Production was also down in 2012, to just over 10.7 Mtoe. The rest is covered by imports. The net import dependence was 28.22%. In 2012, 68% of domestic production came from coal, 11% from oil. The final energy consumption was 8.927 Mtoe. In the final energy breakdown, 38% is consumed by households, 21% by transport, 28% by industry. Energy production accounts for 78% of greenhouse gases in 1990 (the baseline year).

The government has carried out some changes to the organisation of the sector: Mining and Energy are now under the remit of the Ministry of Mining and Energy, whereas environmental protection is under the remit of the Ministry of Agriculture and environmental protection.

Serbia has carried out a series of legal reforms by virtue of its membership of the Energy Community. It has therefore transposed most of the Second Internal Market Package (but not the Third). A new energy law (to transpose the Third Energy Package) is under preparation. In March 2013, the Law on Efficient Use of Energy was adopted, and it has been accompanied by secondary legislation. With an active energy efficiency policy, it is estimated that Serbia could save some 9% by 2020. Its strategy also looks at improving renewable production, but also strengthening transmission and distribution networks. Serbia plans to have 600 MW of wind production by 2030, therefore reducing energy imports.

A 1995 law of the Federal Republic of Yugoslavia, which bans the construction of nuclear power plants, nuclear fuel production facilities and facilities for processing of spent nuclear fuel for nuclear power plants, is still in effect. The ban does not apply to research and scientific activities. The only nuclear operator in Serbia is the Public Company Nuclear

Facilities of Serbia (PCNFS), established in 2009. The company operates the two research reactors (at Vinča), the radioactive waste storage facilities and the old uranium mine.

II.b. Hydrocarbons

Serbia stated that to implement the *acquis* regarding hydrocarbons¹, the 2011 Energy Law is complemented by the 2009 Law on Pipeline Transport of Gaseous and Liquid Hydrocarbons and the Distribution of Gaseous Hydrocarbons, the 2009 Law on Technical Requirements for Products and Conformity Assessment, and the 2011 Law on Mining and Geological Exploration. A number of rulebooks have been issued as a consequence of these laws. Other laws (Law on Trade, Law on Consumer Protection, Law on Excises, Law on VAT) have an indirect impact. The relevant institutions are the Ministry of Mining and Energy, the Energy Agency of the Republic of Serbia (AERS), and energy entities (NIS, JP Transnafta for pipelines; retailers, traders and storage entities).

Serbia asserted that Council Regulation (EC) n° 2964/95 and Council Decision 1999/280/EC are partially implemented into national legislation through the Energy Law and the Rulebook on Deadlines, Content and Manner Related to the Submission of Data on Purchase and Sale of Crude oil, Petroleum Products, Biofuels and Compressed Natural Gas (OJ RS No 22/13). Serbia considers that it will need to amend the Rulebook on Deadlines, Content and Manner Related to the Submission of Data on Purchase and Sale of Crude oil, Petroleum Products, Biofuels and Compressed Natural Gas to achieve full alignment with Council Regulation 2964/95 and Council Decision 1999/280/EC.

As regards **authorisations** (Directive 94/22 of 30 May 1994 on the conditions for granting and using authorisations for the prospection, exploration and production of hydrocarbons, and Directive 2013/30 of 12 June 2013 on safety of offshore oil and gas operations), the Serbian Constitution provides that natural resources are goods of general interest and can be used under the conditions and in the manner provided by the Public Property Law, which provides that the mineral resources, groundwater resources, geothermal and other geological resources and mineral reserves, are owned by the Republic of Serbia.

Serbia is engaged in the geological research activities of production and refining of oil and natural and liquefied gas. The Law on Mining and Geological Research states that research and exploitation of mineral and other geological resources is based on an approval by the Ministry of Mining and Energy (with a special regime for the Autonomous Province of Vojvodina) issued upon request of the commercial entity i.e. another legal entity and entrepreneur. After Serbia's accession to the EU, any approval for research into hydrocarbons will be issued to a commercial entity selected on the basis of a public tendering procedure, launched by the Ministry (or the competent authority of the autonomous province if the raw material is located in the territory of the autonomous province).

Serbia considers that it will require further legislation to bring its legal framework into full compliance with Directive 94/22/EC and Directive 2013/30/EU, especially in relation to the conditions for granting and using authorisations for prospection, exploration and production of hydrocarbons.

As regards **emergency oil stocks** (Council Directive 2009/119/EC of 14 September 2009 imposing an obligation on Member States to maintain minimum stocks of crude oil and/or petroleum products), the Law on Commodity Reserves was adopted in November 2013. This

¹ Council Regulation 2964/95 introducing registration for crude oil imports and deliveries in the Community, Council Decision 1999/280/EC regarding a Community procedure for information and consultation on crude oil supply costs and the consumer prices of petroleum products.

introduced the concept of establishment and management of the emergency oil stocks by a government body. The Ministry of Mining and Energy is the central stockholding entity in accordance with Directive 119/2009/EC. Under this concept, the establishment, management and financing of the emergency oil stocks shall be ensured by funds from the fee contained in the price of oil derivatives paid by the importers and producers of oil derivatives.

The Republican Directorate for Commodity reserves is responsible for public procurement of oil and oil products, storage, defining additional requirements for storage of emergency oil stocks by energy entities, public procurement of storage capacities, management of the acquisition, construction of new and reconstruction of existing storage capacities and reporting to the Ministry. The Government will adopt a programme of measures, which would, in case of a compromised security of the supply of energy and energy sources enable a quick, efficient and transparent release of stocks to the market of the Republic of Serbia.

Serbia currently has 180 000 m³ of storage capacity, but (according to calculations made by their administration based on 2013 data) approximately 500 000 m³ of storage capacity would be required. According to Serbia's obligations under the Energy Community, Serbia should reach full alignment with its stockholding obligations (90 days of average daily net imports or 61 days of average daily inland consumption, whichever of the two quantities is greater) by 31 December 2022 at the latest. However, the current level of oil stocks in Serbia, according to the methodology contained in Council Directive 2009/119, is negligible.

Serbia is not a member of the International Energy Agency.

II.c. Internal energy market

For both electricity and gas, the two responsible bodies are the Ministry of Mining and Energy (MME), as the policy-making body, and the Energy Agency of the Republic of Serbia (AERS).

The Energy Agency of the Republic of Serbia (AERS) was established in 2004 and became fully operational as of the end of 2005. Its competencies were extended in 2011 (according to the Second and, to a certain extent, to the Third package). AERS is legally distinct and functionally independent from other public and private bodies. Its decisions must be reasoned and justified, and can be subject to judicial review. These decisions are published in the official journal.

AERS has its own sources of financing, independent from state budget (such as use-of-system charges or license fees). There are currently 32 persons (excluding the 5 Council Members) employed at AERS. However, implementation of the Third package will require further personnel, estimated by Serbia at an additional 20 staff by 2017, as well as an upgrade of its IT system. Serbia admitted that it had a difficulty recruiting competent personnel as it is in competition with other market participants.

AERS Council Members are appointed for a fixed term of 5 years, renewable once. Terms of office are staggered. The Council Members may be relieved during their term only in specific cases defined by the Law. Core duties are setting network tariffs (and methodologies); unbundling, (specifying the manner, procedure and deadline for regulatory bookkeeping, monitoring accounting unbundling and approving compliance programmes). AERS also approves electricity market rules, transmission and distribution network codes, rules on capacity allocation. In relation to Public Service Obligations and consumer protection, AERS adopts rules on supplier switching, price and tariff methodologies for customers benefiting from the universal service.

For the **Internal Energy Market in electricity**², Serbia considers that its 2011 Energy Law and accompanying secondary legislation are largely harmonised with the provisions of the Directive No 2003/54/EC (i.e. the second energy package). However, Serbia also stated that the key provisions of the third package of the internal energy market in electricity are only partially transposed and implemented.

Serbia's TSO and also Organised Market Operator is EMS (JP Elektromreža Srbije) which is responsible for organising and administrating the balancing market and cross-border capacity allocation. Elektroprivreda Srbije (EPS) is a Public Enterprise responsible for electricity production, distribution and the public electricity supplier and temporary back-up supplier. EMS and EPS have been separated according to the ownership unbundling model. Serbia has not carried out a full functional unbundling of distribution system operators, including the adoption of compliance programmes.

Grid access rules are transposed into national legislation through the Energy Law. The Transmission grid code and Distribution grid code are acts approved by AERS, and are in line with ENTSO-E Guidelines.

Serbia has adopted feed-in tariffs for renewable energies. The public supplier acts as the buyer of renewable energy. This is remunerated through a renewables fee collected from final consumers. From the end of 2014, the TSO will also act as the issuing body for guarantees of origin for electricity produced from renewable sources.

From 1 January 2014, more than 4 000 medium and high voltage consumers (some 43% of total consumption) lost their automatic right to public supply and had the opportunity to find a supplier on the market. Two consumers in the transmission network and 300 consumers in the distribution network (approximately 100 MW of subscribed power) have switched supplier.

In terms of investments in new capacity, the Ministry of Mining and Energy adopted new licensing rules in April 2013 and the Rules prescribing conditions and procedure for Application and Issuing of energy permits in July 2013. Serbia stated that the authorisation and tendering procedures defined in the Energy Law are in line with the *acquis*: a public tender for new capacity is envisaged in cases where the energy permits issued and measures for energy efficiency are not sufficient to ensure security of supply.

A Decree on the protection of vulnerable customers entered into force on 1 April 2013. Vulnerable customers are entitled to the delivery of a certain amount of electricity and to all other rights in compliance with the law regulating social welfare.

The Third Internal Energy Market Package for electricity is partly implemented in Serbia. Serbia stated that it intends to adapt its primary legislation to achieve compliance with the Third Package by 1 January 2015 (the law was adopted at the very end of 2014).

² This covers the following EU texts:

- Directive 2009/72 concerning common rules for the internal market in electricity
- Regulation 2010/838 on laying down guidelines relating to the inter-transmission system operator compensation mechanism and a common regulatory approach to the transmission charging;
- Regulation 2009/714 on conditions on access to the network for cross-border exchanges in electricity
- Directive 2008/92 concerning a Community procedure to improve transparency of gas and electricity prices charged to industrial end-users
- Regulation 713/2009 establishing an Agency for the Cooperation of Energy Regulators
- Regulation 1227/2011 on wholesale energy market integrity and transparency.

For the **Internal Energy Market in Gas**, Serbia's market is limited. There is currently one entry point (through Hungary) and one exit point (to Bosnia and Herzegovina), although two additional ones are planned. Both are through Bulgaria. One is part of the South Stream project which Russia announced, in December 2014, was withdrawn. The length of Serbia's transmission network is 2 391 km. There are currently 260 000 customers (of which 244 300 households).

Serbian legislation covering gas is the 2011 Energy Law, the 2009 Law on Pipeline Transportation of Gaseous and Liquid Hydrocarbons and Distribution of Gaseous Hydrocarbons and the 2012 Law on Public Enterprises. As with the legislation on electricity, Serbia has transposed only the second internal energy market package in gas and has not begun transposing the Third package³.

Serbia has licensed a number of natural gas undertakings (2 Transmission System Operators, Storage System Operator, 34 Distribution System Operators, 24 suppliers, 33 public suppliers). Natural gas transmission, distribution, storing and public supply are activities of general interest. An entity holding a license for the supply activity (supplier) or for the public supply activity (public supplier) can engage in the supply of natural gas to final customers.

There are currently two Transmission System Operators: Srbijagas (a vertically integrated utility owned by the Government, with licenses for natural gas transmission (TSO), distribution (DSO) and supply) and Yugorosgaz Transport.

The right to choose a supplier in the market shall be granted to all customers of natural gas, including households, from 1 January 2015. The government has designated Srbijagas as the Supplier which supplies public suppliers of natural gas, upon their request and at the same prices. Serbian legislation also defines the vulnerable customer and their rights.

Serbia indicated that it intended to align its legislation with the Third package by the end of 2014 (and a new framework energy law was adopted at the very end of the year). Serbia has not begun unbundling Srbijagas according to the Second package, let alone the Third, and is currently in breach of its obligations under the Energy Community for failing to carry out this unbundling. Serbia is still in the process of adopting the concept for this unbundling; Serbia is unable to provide a timeframe to achieve compliance.

Serbia is a party to the South Stream project to build a new supply system to provide Central and South-Eastern Europe with Russian gas. Like all of the other South Stream parties, Serbia has signed an Inter-Governmental Agreement with Russia. Construction work has not commenced. In December 2014, Russian President Putin announced that the project was cancelled. The announcement of the cancellation has subsequently been reinforced and confirmed by both the Russian government and Gazprom. However, the Inter-Governmental Agreement between Serbia and Russia, like those of all other South Stream parties, has not been annulled.

³ This covers the following elements of the *acquis*:

- Directive 2009/73/EC of the European Parliament and of the Council concerning common rules for the internal market in natural gas
- Regulation (EC) 715/2009 of the European Parliament and Council Directive on conditions for access to the natural gas transmission networks
- Commission Decision 2010/685/UE amending Chapter 3 of Annex I to Regulation (EC) 715/2009 of the European Parliament and Council on conditions for access to the natural gas transmission networks
- Regulation (EU) 994/2010 concerning measures to safeguard security of natural gas

As regards Regulation 713/2009 (establishing an Agency for the Cooperation of Energy Regulators), Serbia considers that this is not relevant before accession or before implementation of the Third Energy Package.

As regards **energy prices**, Serbia stated that Directive 2008/92/EC concerning a Community procedure to improve the transparency of gas and electricity prices charged to industrial end-users is implemented by the Serbian Statistical Office (SORS), which is responsible for collecting, compiling and submitting bi-annual prices paid by industrial end-users of electricity and gas. The service is voluntarily extended to household end-users. For further information, see also Chapter 18 (statistics).

II.d. Security of supply

Serbia stated that Directive 2005/89/EC concerning measures to safeguard security of electricity supply and infrastructure investment and Regulation 994/2010/EU concerning measures to safeguard security of natural gas supply were transposed in the 2011 energy law (and associated secondary legislation). The Ministry publishes an annual report on security of electricity and natural gas supply. In the electricity sector, key roles are given to the transmission company (EMS) and the supply company (EPS). The government and Ministry have defined a Prevention Action Plan to apply in the case of a crisis.

Implementing decrees contain measures to be undertaken in cases of disruptions caused by outages and other unforeseen circumstances threatening the safe functioning of the energy system, in the case of unforeseen and necessary energy facilities maintenance works or system expansion works, as well as measures to be taken in cases of general energy shortage and measures for energy savings and rational energy consumption in a case of general shortage of electricity.

As regards **smart metering** (Commission Recommendation 2012/148 of 9 March 2012 on preparations for the roll-out of smart metering systems), Serbian legislation has not been harmonised with the provisions of the Commission Recommendation.

II.e. Renewable energy

Serbia considers that it has partially transposed Directive 2009/28/EU of 23 April 2009 on the promotion of the use of energy from renewable sources in the 2011 Energy Law (and subsequent amendments), Law on Efficient Use of Energy, Law on Planning and Construction as well as a number of pieces of implementing legislation. These include:

- Regulation on conditions and procedure for acquiring the status of privileged power producer,
- Regulation on incentive measures for privileged power producers,
- Rulebook on power purchase agreement and preliminary power purchase agreement on total amount of generated electricity,
- Rulebook on amendment of Regulation on power purchase agreement and preliminary power purchase agreement on total amount of generated electricity,
- the Regulation on the method of calculation and allocation of funds collected for purpose of incentive remunerations for privileged power producers,
- Regulation on the special amount for feed-in tariff in 2014,
- Regulation on conditions for issuing energy permits, application contents and manner of its issuance as well as the conditions for approval of energy facilities that do not require energy permits,
- Regulation on guarantee of origin of electricity produced from renewable energy sources,

- Regulation on technical and other requirements for liquid fuels with bio origin,
- Rulebook on Energy Efficiency in Buildings,
- Rulebook on Conditions, Content and Procedures of Issuing Energy Performance Certificate of Buildings,
- Rulebook on Conditions, Program and Procedure of Passing the Professional Exam in the Field of Spatial and Urban Planning, Project Design and Execution of Works.

There are five employees in the Ministry of Mining and Energy (in the Renewable Energy Sources department) and a further two in the Ministry of Construction, Transport and Infrastructure. In July 2013, Serbia adopted the National Renewable Energy Action Plan (NREAP). It has established a support scheme that entitles privileged producers to sell the total amount of electricity generated during the incentive period to the public supplier (at feed-in tariff), for an incentive period of 12 years.

As a contracting party of the Energy Community, Serbia has taken on the target of achieving 27% of its gross final energy consumption from renewable sources in 2020, starting from a level of 21.2% in 2009 (the base year for calculations). Serbia also has accepted the target of 10% for renewables in transport for 2020.

Administrative procedures are transposed into national legislation through the Law on Planning and Construction and the Energy Law (which provides right to carry out production of electricity and/or heat and biofuels production).

Serbia has indicated its intention to use flexible cooperation mechanisms through a joint project with Italy. Guarantees of origin are transposed into national legislation through the Energy Law and the Regulation on guarantee of origin of electricity produced from renewable energy sources. Other elements pertinent to the implementation of the 2009 Renewables Directive are contained in Serbia's grid access rules. The Transmission grid code & Distribution grid code are acts approved by AERS.

As regards biofuels and bioliquids, Serbia informed that it has transposed sustainability criteria through the Energy Law as well as the Regulation on technical and other requirements for liquid fuels with bio origin. However, further activities are foreseen, including a Regulation on a mandatory share of biofuels in the transport sector and measures for achieving that level; a Regulation on incentive measures for biofuels production, a Regulation on sustainability criteria for biofuels and Bylaws implementation and the creation of infrastructure necessary for biofuels market operation.

Serbia considers that it needs further efforts both to achieve the targets according to the planned timeframe and to implement biofuel statistic data collection, since the current level of fuels from biofuels in transport is zero.

II.f. Energy efficiency

Serbia declared that it has partially transposed Directive 2012/27/EU on energy efficiency in its 2013 Law on Efficient Use of Energy (as well as the 2011 Energy Law). The competent institution is the Department for Energy Efficiency within the Ministry for Energy.

The National Energy Efficiency Action Plan (NEEAP), adopted in October 2013, defines:

- Planned national energy saving targets in the Republic of Serbia for that period;

- Energy efficiency measures, activities, parties responsible for implementing these activities, deadlines and estimates of expected results of each of the measures intended to achieve the identified target;
- Financial, legal and other instruments envisaged for implementation of planned measures and activities for efficient energy use;
- An assessment of achieved level of implementation of the energy savings target from the previous Action Plan.

An Energy Management System (EMS) is mandatory for companies with their main activities in the production sector (industrial plants) or in the trade and service sector (if they consume more energy than a threshold which will be set by the Decree of the Government) as well as public buildings of State Government and Municipalities over 20 000 inhabitants. The EMS designated organisations must appoint the required number of Energy Managers, prepare a 3-year Energy Efficiency Programme and Annual Plan and achieve energy savings targets prescribed by the Government.

The law on Efficient Use of Energy also defines the conditions for carrying out energy audits on Minimum Energy Efficiency Requirements for new and reconstructed facilities (for generation, transmission/transport and distribution of power, heat and gas). It also regulates the obligation to offer devices for metering that provide data on the precise time of natural gas/electricity delivery to consumers if this is technically feasible and financially justifiable

Serbia has established a Budgetary Fund for Energy Efficiency, which provides support for applying technical measures to achieve energy efficiency in the energy production, transmission, distribution and consumption sectors, implementation of EMS for entities not designated for EMS by the Law, Promotion and implementation of energy audits, CHP/RES for own purposes, energy services development etc. The fund is financed from the State Budget as well as donations and loans.

According to the 2013-2015 NEEAP Serbia intends to achieve a 3.5% saving in final energy consumption (based on 2008 figures) during those three years. This is divided into some 23% by households, 17% public/commercial, 28% industry and 32% transport.

Serbia has identified as its main challenges in this area to achieve a target until 2020, a target for rehabilitating central government buildings, to introduce an energy efficiency obligation scheme and to apply smart metering.

As regards Directive 2010/31/EU on the **energy performance of buildings** (EPBD) Serbia considers that this is transposed into national legislation through the Law on Efficient energy use, the 2009 Law on Planning and Construction, and Rulebooks on Energy Efficiency of Buildings, and on the Conditions, Content and Manner of Issuing Energy Performance Certificate of Buildings. The competent authority is the Ministry of Construction, Transport and Infrastructure, but also the Engineering Chambers of Serbia, and the Department for Energy Efficiency in the Ministry of Mining and Energy.

The 2009 Law on Planning and Construction introduces the concept of energy performance of buildings and energy efficiency improvement, and requires that buildings be designed, constructed, used and maintained to a required energy performance. The 2011 Rulebook on Energy Efficiency of Buildings stipulates the energy performance of buildings and the method of calculating the thermal performance of buildings as well as the energy requirements for new and existing buildings. The law on efficient energy use covers the regular inspection of boilers (and other combustion chambers) and air conditioning systems.

Serbia has identified its challenges in this area as being the implementation of new concepts, norms, standards and targets according to EPBD; defining cost-optimal levels and comparative methodology for calculating cost-optimal levels of improving energy efficiency in buildings; improving the methodology for calculating energy efficiency in buildings; implementing the concept of passive buildings, as well as establishing independent bodies which can perform energy efficiency audits, controls and certificates.

Serbia stated that it has transposed Directive 2010/30 of 19 May 2010 on the indication by labelling and standard product information of the consumption of energy and other resources by energy-related products, in its 2013 Law on Efficient Use of Energy, and associated secondary legislation. In addition to that, Serbia has transposed, through the rulebooks, the delegated EU regulations 1060/2010 of 28 September 2010, 1062/2010 of 28 September 2010, 874/2012 of 12 July 2012, 626/2011 of 4 May 2011, 1059/2010 of 28 September 2010 and Directive 2002/40/EEC of 8 May 2002. The institutions responsible are the Ministry of Mining and Energy, but also the Ministry of Trade, Tourism and Telecommunications for inspections. The challenges are mainly in market surveillance (and the lack of accredited laboratories).

Serbia has not started work on transposing the following:

- Regulation (EC) n° 1222/2009 of the European Parliament and of the Council of 25 November 2009 on the labelling of tyres with respect to fuel efficiency and other essential parameters,
- Council Decision of 18 December 2006 concerning conclusion of the Agreement between the Government of the United States of America and the European Community on the coordination of energy-efficiency labelling programmes for office equipment,
- Regulation (EU) No 174/2013 of the European Parliament and of the Council of 5 February 2013 amending Regulation (EC) No 106/2008 on a Community energy-efficiency labelling programme for office equipment,
- Decision 2003/168/EC, Commission Decision of 11 March 2003 establishing the European Community Energy Star Board.

Serbia indicated that it will implement these texts by the time of accession, and that the legal basis for this will be contained in the upcoming amendment of the Law of Efficient Use of Energy.

On **Ecodesign** (Directive 2009/125/EU establishing a framework for the setting of ecodesign requirements for energy-related products), Serbia considers that the basis for its transposition is the 2013 Law on Efficient Use of Energy as well as the 2009 Law on technical requirements for products and conformity assessment and the 2009 Regulation on Conformity Assessment. Additional provisions of the Ecological Label are contained in the Law on environmental protection. However, the Ecodesign Directive has not yet been transposed.

Serbia has indicated that the main challenges to implement this directive are obtaining the mutual recognition of CE marking, the impact assessment on public procurement of goods under eco-design requirements, putting in place market surveillance (and training inspectors), product testing (the lack of an appropriate laboratory). Serbia indicated that it intends to transpose the Ecodesign Directive by the beginning of 2015.

II.g. International agreements

Serbia and the Energy Charter Secretariat signed a Joint Declaration in April 2009. Serbia currently has Observer status in the organisation. Serbia stated that it intends to become a full member of the Energy Charter Treaty by the time of accession.

II.h. Nuclear energy

A 1995 law of the Federal Republic of Yugoslavia (Law banning the construction of nuclear power plants) is still in effect. It bans the construction of nuclear power plants, nuclear fuel production facilities and facilities for processing spent nuclear fuel for nuclear power plants; this is also applied by the Serbian Criminal Code. The ban does not apply to research and scientific activities. Although Serbia has no nuclear power reactors or nuclear fuel cycle facilities, peaceful nuclear techniques have been used in the medical field, agriculture, industry and research and science (universities).

Serbia's Nuclear Safety regulator was established in 2009 under the Decision on establishment of the Serbian Radiation Protection and Nuclear Safety Agency (SRPNA). Other Ministries involved are the Ministry of Education, Science and Technological Development (MESTD), Ministry of Agriculture and Environmental Protection (MAER), and the Ministry of Health.

SRPNA currently has 25 Employees. However, according to a 2011 Decision of the Government, it should have 35 employees. This has not been implemented due to a lack of funds. Its financial resources come from the state budget, through the Ministry of Agriculture and Environmental protection. SRPNA has a five member Management Board. There are four inspectors in the field of ionising radiation (under the responsibility of the Ministry of Agriculture and Environmental Protection), but no inspectors in the field of nuclear safety (including nuclear safeguards), under the responsibility of the Ministry of Education, Science and Technological Development.

The only operator of nuclear facilities in Serbia is the Public Company Nuclear Facilities of Serbia (PCNFS) established by Law in June 2009. The company operates the two research reactors (at Vinča), the radioactive waste storage facilities, and the old uranium mine.

II.i. Euratom: the Community, the Treaty, Council Directive 2009/71/EURATOM of 25 June 2009 on the nuclear safety of nuclear installations & accession to international Conventions

Serbia stated that the relevant *acquis* in the area of Nuclear Safety and Radiation Protection, international agreements & accession to international conventions⁴ is partially transposed in Serbian law under the 2009 Law on Radiation Protection and Nuclear Safety, the 2014 Regulation on nuclear safety and security programme establishment, and the 2014 Regulation on security measures of nuclear facilities and nuclear materials (as well as

⁴ This covers the following elements of the *acquis*:

- Euratom Treaty and Council Directive 2009/71 establishing a Community framework for the nuclear safety of nuclear installations
- Convention on the Physical Protection of Nuclear Material (Council Decision of 9 June 1980 approving the conclusion by the Commission of this Convention);
- Convention on Nuclear Safety (Commission Decision 1999/819/Euratom of 16 November 1999 concerning the accession of Euratom to this Convention)
- Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management (Commission Decision 2005/10/Euratom of 14 June 2005).

subsequent implementing legislation and Rulebooks, such as the Rulebooks on performance of nuclear activities, and on radioactive waste management).

Serbia also stated that ratification of the Convention on Nuclear Safety (Commission Decision 1999/819/Euratom of 16 November 1999 concerning the accession of Euratom to this Convention) and the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management (Commission Decision 2005/10/Euratom of 14 June 2005) is foreseen in the future, although Serbia could not specify by when.

The Law on Radiation Protection and Nuclear Safety forbids certain activities, such as:

- Conducting activities with sources of ionizing radiation and nuclear materials without prior approval of SRPNA;
- Research and activities to develop, manufacture and use of nuclear weapons;
- The use of nuclear material for nuclear weapons or other explosive devices;
- Importing into the territory of the Republic of Serbia radioactive waste and spent nuclear fuel of foreign origin.

Serbia has not concluded bilateral agreements in the field of nuclear energy. However, Serbia has inherited (mostly by succession) being a party to numerous bilateral agreements with other countries, mainly in the area of the peaceful uses of nuclear energy or/and scientific-technical cooperation in that field (USA, Russian Federation, Romania, Czech Republic, Slovakia). It is preparing Agreements for the Early Exchange of Information in the Event of Radiological Emergency with Hungary, Bosnia and Herzegovina, and Croatia.

Serbia is party to the following conventions, treaties and agreements:

- Convention on Early Notification of a Nuclear Accident;
- Convention on Assistance in the Case of a Nuclear Accident or a Radiological Emergency;
- Convention on Physical Protection of Nuclear Material;
- Vienna Convention on Civil Liability for Nuclear Damages;
- The Treaty on the Non-Proliferation of Nuclear Weapons;
- Agreement between the Socialist Federal Republic of Yugoslavia (SFRY) and the International Atomic Energy Agency (IAEA) for the Application of Safeguards in connection with the Treaty on the Non- Proliferation of Nuclear Weapons.

Serbia has started the process for ratifying the Amendment to the Convention on the Physical Protection of Nuclear Material, and will begin the procedure for ratifying the Additional Protocol to the Agreement for the Application of Safeguards in connection with the Treaty on Proliferation of Nuclear Weapons.

Serbia stated that SRPNA does not have the administrative, technical and financial capacities necessary to harmonise activities/implementation of the EU *acquis*. In addition, certain decisions of SRPNA need to be approved by government rather than being immediately applicable. Also, SRPNA does not possess an independent inspection capacity, as several relevant functions are under the responsibility of Ministries.

Serbia stated that it has partially transposed Council Directive 2009/71/Euratom establishing a Community framework for the nuclear safety of nuclear installation into Serbian legislation through the Law on radiation protection and nuclear safety and three Rulebooks.

The only operator of nuclear facilities in Serbia is the Public Company Nuclear Facilities of Serbia (PCNFS) established by law in June 2009. The company operates the two research reactors, the radioactive waste storage facilities (previously under the jurisdiction of Vinča Institute of Nuclear Sciences) as well as the old uranium mine (previously under the jurisdiction of the Institute for Technology of Nuclear and Other Mineral Raw Materials). The Vinča Institute for the nuclear sciences was established in 1948 and the two research reactors were built in 1958. From December 2009 to December 2010, all spent nuclear fuel from the research reactor RA was repackaged and shipped off to the Russian Federation. Reactor RA was shut down in 1984, but the decommissioning plan was only drafted in 2009. The reactor is not licensed. Reactor RB is operational but not licensed.

There are three hangars for nuclear and radioactive waste storage. These were built in 1968, 1984 and 2010. All three are for low and intermediate level waste. Hangar H1, the oldest one, is closed and not licensed and needs to be decommissioned. H2 is also closed and not licensed. Only the third one is operational (since September 2012). However, Serbia still has no waste treatment facility, although an existing building is to be refurbished to this effect (under an IPA project).

The Uranium mine in Gabrovnica – Kalna (Eastern Serbia) was in operation from 1963 to 1966. The ore was of poor quality, containing very low uranium content, which required higher-cost mining and refining methods. The mine and plant is closed but the facility needs to be decommissioned.

As regards Council Directive 2009/71/Euratom, SRPNA is the competent authority for licensing, passing bylaws and implementing laws. SRPNA is also responsible for controlling that the conditions in the licenses, permits and decisions are fulfilled. This includes preparing an action plan for the case of an emergency and the license holder must ensure that the population living in the surroundings of the nuclear facility is adequately informed about the activities and course of actions in case of an emergency in the nuclear facility.

Responsibility for inspection is entrusted to the Ministry of Education, Science and Technology. However, at the moment, there is no appointed inspector for nuclear safety and radioactive waste management.

II.j. Radiation Protection

Radiation protection is covered by Chapter III of the Euratom Treaty (Health and Safety) and the following texts of the *acquis*:

- Council Directive 2013/59/Euratom of 5 December 2013 laying down basic safety standards for protection against the dangers arising from exposure to ionising radiation;
- Council Regulation 1493/93/Euratom of 8 June 1993 on shipments of radioactive substances between Member States;
- Council Decision 87/600/Euratom of 14 December 1987 on Community arrangements for the early exchange of information in the event of a radiological emergency (ECURIE system);
- Commission Regulation (EC) No 1609/2000 of 24 July 2000 establishing a list of products excluded from the application of Council Regulation (EEC) No 737/90 on the conditions governing imports of agricultural products originating in third countries following the accident at the Chernobyl nuclear power station;
- Commission Regulation (EC) No 1635/2006 of 6 November 2006 laying down detailed rules for the application of Council Regulation (EEC) No 737/90 on the conditions

- governing imports of agricultural products originating in third countries following the accident at the Chernobyl nuclear power-station;
- Council Regulation (EC) No 733/2008 of 15 July 2008 on the conditions governing imports of agricultural products originating in third countries following the accident at the Chernobyl nuclear power station;
 - Council Regulation (EC) No 1048/2009 of 23 October 2009 on the conditions governing imports of agricultural products originating in third countries following the accident at the Chernobyl nuclear power station;
 - Council Regulation (Euratom) No 3954/87 of 22 December 1987 laying down maximum permitted levels of radioactive contamination of foodstuffs and of feeding stuffs following a nuclear accident or any other case of radiological emergency;
 - Council Regulation (EEC) No 2219/89 of 18 July 1989 on the special conditions for exporting foodstuffs and feeding stuffs following a nuclear accident or any other case of radiological emergency;
 - Council Regulation (Euratom) 2218/89 of 18 July 1989 laying down maximum permitted levels of radioactive contamination of foodstuffs and of feeding stuffs following a nuclear accident or any other case of radiological emergency;
 - Commission Regulation (Euratom) No 944/89 of 12 April 1989 laying down maximum permitted levels of radioactive contamination in minor foodstuffs following a nuclear accident or any other case of radiological emergency;
 - Commission Regulation (Euratom) 770/90, of 29 March 1990, laying down maximum permitted levels of radioactive contamination of feeding stuffs following a nuclear accident or any other case of radiological emergency;
 - Directive 2013/51/Euratom laying down requirements for the protection of the health of general public with regard to radioactive substances in water intended for human consumption;
 - Commission Recommendation 2001/982/Euratom on the protection of the public against exposure to radon in drinking water supplies.

Serbia stated that these texts are transposed under the 2009 Law on radiation protection and nuclear safety and are implemented through 14 Rulebooks. As well as SRPNA, the Ministry of Agriculture and Environmental Protection and the Ministry of Education, Science and Technological Development are involved.

SRPNA authorises legal persons to perform radiation protection activities (as the Authorised Technical Organisation). There are currently 15 Authorised Technical Organisations for 7 radiation protection activities. SRPNA also carries out radioactivity monitoring, including systematic examination of the radioactivity levels in normal circumstances, on suspicion of an abnormal event, and in the event of a radiological emergency.

As regards the implementation of Council Directive 2013/59/Euratom (Basic Safety Standards) the concept of planned, existing and emergency exposure situations is not introduced into national legislation, and the terminology concerning emergency exposure situations is not fully harmonised. The definition of “disused source” does not exist in Serbian legislation, and the tools for optimisation are not fully aligned with the new concepts of the Directive (such as dose constraints for all exposed categories, reference levels, dose limits for the lens of the eye). Requirements for training of workers potentially exposed to orphan sources are not transposed in national legislation. Also not transposed are:

- Practices involving non-medical imaging exposure of humans;
- Practices involving consumer products;
- Practices involving NORM materials.

Furthermore, the exemption and clearance criteria regarding new elements of the Directive do not match existing criteria in national legislation. Provisions on outside workers are only partially transposed and the protection of members of the public are not transposed in all details stipulated in the Directive. The general responsibilities of Member States and competent authorities and other requirements for regulatory control are partially transposed. Finally, some of the provisions concerning orphan sources are not fully transposed and the financial security system for covering orphan sources is not established.

Serbia considers its legislation partially harmonised with Council Regulation 1493/93/Euratom. The terminology in Serbian legislation is not fully aligned, and the process of shipment includes more than two legal entities, the declaration form is a part of necessary documentation for issuing a unique permit, and the declaration form contains less information than required by Regulation 1493/93/Euratom.

Serbia is a party to the Convention on Early Notification of a Nuclear Accident since 2002. It provides ambient gamma dose rate and radiological monitoring data from national surveillance networks to the European Radiological Data Exchange Platform (EURDEP) since January 2011. Serbia indicated that it intends to request ECURIE (European Community Urgent Radiological Information Exchange) membership already as a candidate country.

As regards the Chernobyl foodstuffs regulations, Serbia stated that the permitted radioactivity levels of foodstuffs placed on the market are in accordance with dose criteria for population in national legislation. There are no other limits for contamination in foodstuffs, feeding stuffs or in imported products.

Serbia also stated that its legislation is aligned with the *acquis* regarding permitted levels of radioactive contamination of foodstuffs and feedstuffs following a nuclear accident (Council Regulations 3954/87, 944/89 and 770/90 but not with Regulations 2218/89 and 2219/89) in the Rulebook on limits of radionuclides content in drinking water, foodstuffs, feeding stuffs, medicines, general use products, construction materials and other goods that are put on market.

Serbia stated that it has not transposed into its legislation all the permitted limits in Directive 2013/51/Euratom laying down requirements for the protection of the health of general public with regard to radioactive substances in water intended for human consumption.

Serbia has a programme of systematic environmental radioactivity monitoring. This establishes the locations and number of measurements of indoor radon. Indoor radon measurements are performed once a year in homes, schools and kindergartens in seven cities. There is a Rulebook on limits of exposure to ionizing radiation and measurements for assessment of the exposure levels which establishes intervention levels for radon in workplaces to 1000 Bq/m³, and intervention levels for chronic exposure to radon in homes to 200 Bq/m³ for newly built buildings and 400 Bq/m³ for existing buildings.

Serbia indicated that it already foresees a number of activities to implement the radiation protection *acquis*, including transposing the new concepts and missing elements of the 2013 Basic Safety Standards Directive into national legislation, adopting the National Radiation Emergency Plan (NREP) and the Radiation Safety and Security Programme, and enhancing the capacity of Regulatory Body and regulatory infrastructure in the field.

II.k. Radioactive Waste & Spent Fuel Management

The main legal documents related to spent fuel and radioactive waste management in Serbia are the following:

- Law on Radiation Protection and Nuclear Safety adopted in 2009 (amended in 2012);
- Law prohibiting the construction of nuclear power plants (of 1989);
- Rulebook on performance of nuclear activities (of 2011);
- Rulebook on conditions for obtaining licence to perform nuclear activity (of 2011);
- Rulebook on radioactive waste management (of 2011);
- Rulebook on procedure of keeping records of nuclear materials (of 2011).

Serbia is preparing a national programme on implementation of the EU acquis with timeframes of revision/amendment and/or development of legislation. The programme was expected to be adopted in 2014.

Serbia stated that there are no long term provisions for spent fuel and radioactive waste management in its national legislation. Although there is no national policy on radioactive waste and spent fuel management, a national programme has been drafted (although the content does not correspond fully to the Directive 2011/70/EURATOM);

The Law on Radiation Protection and Nuclear Safety is planned to be changed to transpose fully Council Directive 2011/70/Euratom of 19 July 2011 establishing a Community Framework for the responsible and safe management of spent fuel and radioactive waste, especially regarding the policy and programme for radioactive waste and spent fuel management.

As regards Council Directive 2006/117/Euratom of 20 November 2006 on the supervision and control of shipments of radioactive waste and spent fuel, there is no legal basis for issuing a rulebook for shipment of radioactive waste and spent fuel, and the Directive is not transposed in Serbian legislation. The Law on Radiation Protection and Nuclear Safety needs to be changed. However, SRPNA issues permits for the import, export and transit of radioactive materials including radioactive waste and the Directorate of Transportation of Dangerous Goods issues permits for transport of class 7 of dangerous goods, according to Law on the Transport of Dangerous Goods.

There is no legal basis for implementing into national legislation Commission Recommendation 2006/851/Euratom of 24 October 2006 on the management of financial resources for the decommissioning of nuclear installations, spent fuel and radioactive waste. The Law on Radiation protection and Nuclear Safety will need to be changed.

II.l. Nuclear safeguards

As regards nuclear safeguards (EURATOM Treaty – Chapter VII), this covers the following:

- Council Regulation 302/2005/Euratom Commission Regulation (Euratom) No 302/2005 of 8 February 2005 on the application of Euratom safeguards;
- 2006/40/Euratom - Commission Recommendation of 15 December 2005 on guidelines for the application of Regulation No 302/2005 on the application of Euratom safeguards;
- 2009/120/Euratom - Commission Recommendation of 11 February 2009 on implementation of a nuclear material accountancy and control system by operators of nuclear installations;

- 78/164/Euratom - Agreement between the Kingdom of Belgium, the Kingdom of Denmark, the Federal Republic of Germany, Ireland, the Italian Republic, the Grand Duchy of Luxembourg, the Kingdom of the Netherlands, the European Atomic Energy Community and the International Atomic Energy Agency in implementation of Article III (1) and (4) of the Treaty on the non-proliferation of nuclear weapons;
- 1999/188/Euratom - Protocol Additional to the Agreement between the Republic of Austria, the Kingdom of Belgium, the Kingdom of Denmark, the Republic of Finland, the Federal Republic of Germany, the Hellenic Republic, Ireland, the Italian Republic, the Grand Duchy of Luxembourg, the Kingdom of the Netherlands, the Portuguese Republic, the Kingdom of Spain, the Kingdom of Sweden, the European Atomic Energy Community and the International Atomic Energy Agency in Implementation of Article iii, (1) and (4) of the Treaty on the Non-Proliferation of Nuclear Weapons.

Obligations related to international nuclear safeguards are transposed into Serbian legislation through the Treaty on the Non-Proliferation of Nuclear Weapons (2001), the Regulation on ratification of the IAEA statute (2001), and the Law on ratification of the Agreement between the Socialist Federal Republic of Yugoslavia and the IAEA for the Application of Safeguards in connection with the Treaty on the Non-Proliferation of Nuclear Weapons. Other elements are contained in the Law on radiation protection and nuclear safety (and associated rulebooks).

Serbia is also preparing a recommendation of SRPNA on implementation of a nuclear material accountancy and control system by operators.

Serbia stated that the provisions of the Commission Regulation 302/2005/Euratom are partially transposed into the Serbian legal system through the Rulebook on procedure of keeping records of nuclear materials (NM). Some of these provisions cannot be transferred or are not applicable, such as those related to Additional Protocol implementation and those referring to nuclear weapon states. Serbia stated that its framework legislation will need to be adjusted, particularly as regards these definitions.

Serbia stated that it was drafting a recommendation on implementation of NM accountancy and control system by the NM users (according to recommendations in 2009/120/Euratom).

Serbia stated that it had not prepared guidelines on the application of safeguards 2006/40/EURATOM, but that it intends to finalise this by the date of accession.

As regards the Additional Protocol to the Agreement for the Application of Safeguards in connection with the Treaty on Non-Proliferation of Nuclear Weapons, this was signed in July 2009. Preparation for its implementation (under the co-ordination of the SRPNA) is ongoing, as is its ratification (to be conducted by the Ministry of Education, Science and Technological Development).

Serbia is aware of its obligation to accede to 78/164/Euratom and to 199/188/Euratom after accession to the EU.

II.m. Supply of fuels

Serbia indicated that it does not intend to participate in the capital and Advisory Committee of the **Euratom Supply Agency**.

III. ASSESSMENT OF THE DEGREE OF ALIGNMENT AND IMPLEMENTING CAPACITY

As member of the Energy Community, Serbia has already attained a reasonable level of alignment with much of the *acquis* in this chapter and already implements it, albeit not the most recent texts. Serbia partially implements the second package of the Internal Energy Market, but not the third. Serbia is at a very early stage of implementation of the *acquis* on mandatory oil stocks. Serbia has attained a fairly high degree of alignment with the renewable and energy efficiency texts, although it will need further efforts to achieve its own targets in both areas. Serbia's alignment with the nuclear *acquis* is partial.

Given the level of alignment already achieved, Serbia should have few difficulties implementing most of the additional *acquis*. Serbia has only been able to indicate a general intention to do so, and in many instances the timetable is lacking. Much of Serbia's basic legislation will need to be amended, particularly the 2011 Energy Law. Whilst this is foreseen for the end of 2014, implementation of this legislation will require considerable additional work.

Whilst Serbia should have few problems in carrying out its legislative adaptation, the existing administrative capacity to implement the *acquis* needs to be further strengthened, particularly for the energy regulator (AERS) and the nuclear safety authority (SRPNA) to cover additional tasks.

In September 2013, the Prime Ministers of Serbia and Kosovo* signed an agreement entitled 'arrangements regarding energy', with a view to normalising energy relations between Kosovo and Serbia. As a consequence of these arrangements, both transmission companies signed an Inter-TSO Agreement (in September 2014). This agreement ended a long-standing dispute brought within the framework of the Energy Community. It was an important step in removing interference in Kosovo's energy sector and ended the long-standing dispute brought within the framework of the Energy Community, and in which Serbia was found in breach of its Energy Community obligations. Other aspects of the arrangements contained in the September 2013 agreement continue to be discussed in the framework of the Belgrade – Pristina Dialogue, and will be monitored under Chapter 35.

Serbia gave no indication as to areas where it might request **special attention during negotiations**. However, this will be necessary as regards Directive 2009/119/EC imposing an obligation on Member States to maintain minimum stocks of crude oil and/or petroleum products, an area in which Serbia's level of alignment and implementation is very preliminary, particularly as regards the timely build-up of oil stocks and storage capacity for these stocks.

Careful attention should also be paid to ensuring full unbundling of actors in the gas sector, reform of the Hydrocarbons Authorisation Directive, developing the means to implement the energy efficiency *acquis* and developing a programme to ensure alignment with the nuclear safety *acquis*. Despite the Russian announcement that the South Stream project is now cancelled, the project has not formally been annulled. This should be carefully monitored in case the project is resumed or the cancellation is reversed, to ensure that any Inter-Governmental Agreement (IGA) is in full conformity with the *acquis*.

III.a. Hydrocarbons

Serbia will need to amend the Rulebook on Deadlines, Content and Manner Related to the Submission of Data on Purchase and Sale of Crude oil, Petroleum Products, Biofuels and Compressed Natural Gas to achieve full alignment with Council Regulation (EC) n° 2964/95 (on registration of crude oil imports) and Council Decision 1999/280/EC (on crude oil supply

* This designation is without prejudice to positions on status, and is in line with UNSCR 1244 and the ICJ Opinion on the Kosovo declaration of independence.

costs and consumer prices). As regards the authorisations Directives (Directive 94/22/EC and Directive 2013/30/EU), Serbia will require further legislation to bring its legal framework into full compliance, especially in relation to the conditions for granting and using authorisations for prospection, exploration and production of hydrocarbons. Careful attention should be paid to these reforms and their proper implementation, given the dominant position of the incumbent oil and gas companies.

Serbia is at a very preliminary stage of alignment with Council Directive 2009/119/EC imposing an obligation on Member States to maintain minimum stocks of crude oil and/or petroleum products. Whilst the basic framework legislation is in place and Serbia has established a central stockholding entity, Serbia needs to develop concrete plans to implement the *acquis*, particularly as regards the requirements to hold oil stocks equivalent to 90 days of average daily net imports or 61 days of average daily inland consumption, whichever of the two quantities is greater. Serbia indicated that it intends to respect its obligations under the Energy Community to reach these levels by 2022. Given that the current level of stocks is negligible, this would require a considerable effort, particularly since Serbia's current storage capacity is also substantially insufficient.

The Government is yet to adopt a programme to implement the oil stocks *acquis*, which would include financing measures and a timetable both for building up storage capacity and the stocks themselves. In addition, the Government needs to adopt the program of measures to apply in the case of a supply shock.

III.b. Internal energy market

Serbia has achieved a fairly high level of legal alignment with most of the internal energy market *acquis* under the 'second package' (with the notable exceptions of unbundling of its vertically integrated gas utility and the Intergovernmental Agreement for the South Stream gas project) and has indicated its intention to revise its legislation to implement the 'third package' mainly through an important revision of the 2011 Energy Law (and resulting implementing legislation), due for adoption by the end of 2014. Whilst Serbia does not foresee substantial difficulties in aligning and implementing this legislation, there have been delays and a lack of political will to address gas questions so far.

Concerning administrative capacity, Serbia's regulatory authority has adequate capacities (and independence) to implement the 'second package' of the internal energy market. However, implementation of the third package will require further personnel, estimated by Serbia at an additional 20 staff by 2017, as well as an upgrade of its IT system. The financial health of the energy utilities will require special attention. In addition, the Third Package imposes additional competences to the regulatory authority. Under Directive 2009/72/EC, Serbia's regulatory authority would require powers to conduct investigations and impose penalties in cases of non-compliance with the Directive. The regulator must also be empowered to perform its role to certify TSOs. AERS currently does not have these powers. Serbia declared it intends to grant them in the amendment to the Energy Law.

To implement the internal market for **electricity**, having adapted its legislation to the third package, Serbia will need to proceed with further market opening, as well as to guarantee competitive safeguards to ensure that customers that wish to switch supplier can do so. In addition, the rights of new market entrants to supply those customers need to be ensured. Whilst attention should be devoted to these questions, Serbia should have few difficulties in meeting its obligations under the internal energy market for electricity, and has already created the necessary market players and structures.

Whilst Serbia has already formally unbundled its electricity utilities, both the TSO (EMS) and the incumbent vertically integrated company EPS into separate entities, they are both 100% state-owned and are both under the competence of the Ministry of Energy, Development and Environmental Protection. This would not be fully in line with the unbundling requirements in Directive 2009/72/EC and Serbia will need to ensure proper safeguards to apply the effective separation of the governance of both entities. Serbia has also not carried out a full functional unbundling of distribution system operators, including the adoption of compliance programmes.

To implement the internal market for **gas**, Serbia will also need to adapt its legislation to the provisions of the Third Energy Package, and it has indicated its intention to do so by the end of 2014. Similar competitive safeguards, particularly as regards the right to choose supplier, will need to be enforced.

Serbia has not begun unbundling Srbijagas, which currently holds licenses for transmission, distribution and supply. The delays are in breach of Serbia's obligations according to the Second Package before Serbia has begun to implement the Third, as well as Serbia's obligations under the Energy Community (which found against Serbia in an infringement procedure). Serbia is still in the process of preparing the concept for this unbundling, although at present the model proposed, of legal unbundling, is not fully compatible with the third package. Serbia is unable to provide a timeframe to achieve compliance.

The process of unbundling of Srbijagas will require careful supervision to ensure that it meets the criteria of the *acquis* and guarantees that the incumbents do not block the application of the internal market (in terms of new market entrants or distortion of competition).

Like all of the other South Stream parties, Serbia had signed an Inter-Governmental Agreement with Russia. The Commission had indicated to Serbia that these agreements contain a number of provisions that do not comply with the EU and Energy Community *acquis*.

- a. The right to use all capacities of the gas pipeline and underground storage will belong to Gazprom.
Under the Second Energy Package, capacity allocation and congestion management shall be non-discriminatory and transparent while capacity rights trading should be facilitated.
- b. The companies shall have the exclusive competence to establish the fees applicable for gas transportation via the gas pipeline as well as injection, storage and withdrawal of natural gas from/to the storage facility.
The Second Energy Package clearly specifies that setting of tariffs or methodologies is a responsibility of the national regulatory authorities (NRAs) and not the companies.
- c. The possibility of increasing the pipeline capacity is made subject to a possible increase of gas supply volumes from the Russian Federation.
Under the second energy package, the transmission system operator is obliged to meet "reasonable demands for the transport of gas". Identification of "reasonable demand" is not limited to existing capacity holders or shareholders but has to remain open to all market participants.

The Commission already warned Serbia of the elements of incompatibility between the *acquis* and the Intergovernmental Agreement signed with Russia, and therefore the EU gave a very strong recommendation that work on the South Stream project be suspended pending

alignment of the Inter-Governmental Agreements with the EU (and energy community) acquis as there is a risk that the resulting infrastructure could be incompatible with Serbia's obligations under the Internal Energy market.

Despite the Russian announcement that the project is now cancelled, the Inter-Governmental Agreement signed between Serbia and Russia has not been annulled. This should be carefully monitored: if the project resumes or the cancellation is reversed, any Inter-Governmental Agreement (IGA) would need to be in full conformity with the acquis, and work on constructing the project should not commence until the IGA is compatible with the provisions of the Internal Energy Market for gas. Should the parties agree to resume the South Stream project, the compatibility of the IGA would be raised during the accession negotiations.

Other elements of the Internal Market, such as co-operating with the Agency for Co-operation of Energy Regulators, are of limited relevance until accession. Serbia should have few difficulties applying these.

III.c. Security of supply

Serbia has already reached a high degree of alignment in this area. Serbia is currently implementing Directives 2005/89/EC concerning measures to safeguard security of electricity supply and infrastructure investment, as well as Regulation 994/2010/EU concerning measures to safeguard security of natural gas supply and has defined a Prevention Action Plan to apply in case of a crisis.

As regards smart metering (Commission Recommendation 2012/148 of 9 March 2012 on preparations for the roll-out of smart metering systems), Serbian legislation has not been harmonised with the provisions of the Commission Recommendation. Timely adherence to the provisions of the Recommendation 2012/148/EU would ensure that smart metering systems to be rolled-out will be technically and commercially interoperable, guarantee data privacy and security and enable the creation of novel energy services.

III.d. Renewable energy

Serbia has not yet complied with its obligation as a Contracting Party of the Energy Community to transpose Directive 2009/28/EU on the promotion of the use of energy from renewable sources, since a number of draft laws aiming at full transposition of the Directive are currently in the legislative process. According to the Directive's methodology, Serbia's national target for the share of energy from renewable sources in gross final consumption of energy in 2020 is 27%. Serbia has already adopted a National Renewable Energy Action Plan to meet this target.

Achieving the target of 27% would require a more effective support scheme to attract the investment required to increase Serbia's production capacity. Although legal measures have been adopted to create a framework for attracting investments to the sector (such as feed-in tariffs), other elements are still missing to make such projects financeable in practice (such as availability of an appropriate power purchase agreement). Consequently little additional renewable energy production capacity has been added and Serbia is lagging behind the trajectory towards the 27% target. Serbia will need to ensure that these measures are applied in practice in order to attract the necessary investments.

As regards biofuels and bioliquids, whilst Serbia has already transposed sustainability criteria, it will need to adopt a Regulation on a mandatory share of biofuels in the transport

sector and measures to achieve that level. Since the current level of fuels from biofuels in transport is zero, Serbia will require further efforts to meet the mandatory 10% target.

III.e. Energy efficiency

Serbia has not yet achieved full alignment with the Energy Efficiency *acquis*. In particular, Serbia needs to transpose the Energy Star texts and the 2009 Regulation on the labelling of tyres. It has indicated that it intends to align with these texts by the time of accession and should have few difficulties in doing so.

The bases for most of Serbia's alignment are the 2011 Energy Law and the 2013 Law on Efficient Use of Energy. Serbia has created the necessary structures to align with the energy efficiency *acquis* (such as the conditions in which Energy Management systems are mandatory, rules for Combined Heat and Power). Serbia has also established an energy efficiency fund and has adopted its National Energy Efficiency Action Plan (2013-2015).

The 2009 Law on Planning and Construction, consequent rulebooks, as well as the 2013 Law on Efficient Use of Energy, are the basis for alignment with the 2010 Energy Performance of Building Directive. This is being applied, setting standards for new construction but also for inspection and maintenance of heating and cooling systems. Serbia may need additional efforts to implement all of the elements of this Directive, in particular to establish independent bodies which can perform energy efficiency audits, controls and certificates.

The 2009 Law on technical requirements for products and conformity assessment and the 2009 Regulation on Conformity Assessment as well as the 2013 Law on Efficient Use of Energy, are the bases for alignment with the 2009 Ecodesign Directive. Serbia has not yet begun implementing this Directive.

The implementation of the energy efficiency *acquis* needs to be carefully supervised. Serbia has a realistic assessment of the challenges in implementing this important body of *acquis*. It will need to define a new energy efficiency target until 2020 and to work on measures to reach this target. Rehabilitating existing building stock is a particular difficulty, including defining cost-optimal levels. Serbia will also need to develop a capacity to perform energy efficiency audits, controls and certificates. Additional inspectorate capacity needs to be developed as well as market surveillance for the Ecodesign Directive. Serbia will also need to establish the appropriate laboratory.

III.f. International agreements

Serbia is currently an Observer in the Energy Charter. Serbia will need to sign and ratify the Energy Charter Treaty and related protocols and amendments and has indicated an intention to do so. It estimates that it could finalise its accession process to the Energy Charter Treaty by the time of accession.

III.g. Nuclear energy

The construction of nuclear power plants, nuclear fuel production facilities and facilities for processing of spent nuclear fuel for nuclear power plants is banned in Serbia. In the absence of any nuclear energy production or use, much of this section is of limited relevance.

Serbia has a nuclear safety regulator (SRPNA). Its personnel and financial capacity should be increased. In addition, Serbia should recruit nuclear safety inspectors (it currently has none).

III.h. Euratom: the Community, the Treaty, Council Directive 2009/71/EURATOM of 25 June 2009 on the nuclear safety of nuclear installations & accession to international Conventions

Serbia has already achieved a certain level of transposition of the relevant *acquis* through the 2009 Law on Radiation Protection and Nuclear Safety, the 2014 Regulation on nuclear safety and security programme establishment, and the 2014 Regulation on security measures of nuclear facilities and nuclear materials (and subsequent implementing legislation and Rulebooks, such as the Rulebook on performance of nuclear activities and the Rulebook on radioactive waste management). In addition, Serbia is already a member of a number of key conventions, treaties and agreements. It has signed the Amendment to the Convention on the Physical Protection of Nuclear Material and the Additional Protocol to the Agreement for the Application of Safeguards in connection with the Treaty on Proliferation of Nuclear Weapons, and is in the process of ratifying both.

Serbia should accede to the Convention on Nuclear Safety and the Joint Convention on the Safety of Spent Fuel Management and the Safety of Radioactive Waste Management. The peer-review meetings of Contracting Parties under these Conventions form a first class opportunity to build experience in their respective fields, adopt good practices and gain from the experience of other Contracting Parties.

The capacity of the nuclear safety regulator (SRPNA) needs to be strengthened to provide it with the necessary administrative, technical and financial means to implement the Euratom *acquis*. Its independence should also be strengthened by giving it the power of independent inspections and the capacity to propose regulations directly in areas of its competence. In addition nuclear safety / radioactive waste inspectors should be appointed. As regards the Euratom *acquis*, it should be noted that the obligations of Council Directive 2009/71/Euratom of 25 June 2009 have been reinforced by a substantial amendment arising from Council Directive 2014/87/Euratom of 8 July 2014.

Serbia should address the situation of the sites operated by the Public Company Nuclear Facilities of Serbia. Attention should be given to ensuring that all of Serbia's sites, including those that are no longer operational, are properly licensed and the conditions of those licenses are respected. Currently, the Serbian nuclear sites have not been licensed. This is a particularly awkward situation, which needs to be remedied, given that the national Law (already in force since 2009) provides for mandatory licensing. This is also the case for the nuclear/radioactive waste hangars. Those sites that are no longer operational need to be decommissioned.

III.i. Radiation Protection

Serbia has reached a high level of alignment with this block of the *acquis* through its 2009 Law on radiation protection and nuclear safety. Implementation is through 14 Rulebooks. Elements of the Radiation Protection *acquis* are already fully aligned, such as those governing permitted levels of radioactive contaminations of foodstuffs and feedstuffs following a nuclear accident.

However, some of these texts will need to be adapted to reach full alignment. By way of example, to implement Council Directive 2013/59/Euratom, the concepts of planned, existing and emergency exposure situations are not introduced into national legislation, and the terminology concerning emergency exposure situation is not fully harmonised. The definition of "disused source" does not exist in Serbian legislation, and the tools for optimisation are not fully aligned with new concepts of the Directive (such as dose

constraints for all exposed categories, reference levels, dose limits for the lens of the eye). Requirements for training of workers potentially exposed to orphan sources are not transposed in national legislation. The General responsibilities of Member States and competent authorities and other requirements for regulatory control are partially transposed. Finally, some of the provisions concerning orphan sources are not fully transposed and the financial security system for covering orphan sources is not established.

Recent texts such as the 2013 Directive 2013/51/Euratom laying down requirements for the protection of the health of general public with regard to radioactive substances in water intended for human consumption are not fully transposed.

Serbia already exchanges radiation monitoring data within the EURDEP system and has indicated that it will request ECURIE membership. Serbia has also already established its programme of systematic environmental radioactivity monitoring.

Serbia indicated that it already foresees covering those shortfalls in its Radiation protection legislation (including transposing into national legislation the new concepts and missing elements of the Basic Safety Standards Directive, adopting the National Radiation Emergency Plan (NREP) and the Radiation Safety and Security Programme, and enhancing the capacity of the regulatory body and regulatory infrastructure in the field) although currently it cannot indicate the timetable to do so. Given the experience already developed, Serbia should have few difficulties doing this.

III.j. Radioactive Waste & Spent Fuel Management

Serbia currently has no comprehensive provisions on spent fuel and radioactive waste management in its national legislation. The Law on Radiation Protection and Nuclear Safety will need to be changed to transpose Council Directive 2011/70/Euratom establishing a Community Framework for the responsible and safe management of spent fuel and radioactive waste, Council Directive 2006/117/Euratom on the supervision and control of shipments of radioactive waste and spent fuel, and Commission Recommendation 2006/851/Euratom on the management of financial resources for the decommissioning of nuclear installations, spent fuel and radioactive waste.

Serbia was not in a position to indicate when this could happen.

The regulatory independence is not complete and this affects the daily work of SRPNA and the regulatory oversight of nuclear and waste management facilities. There is also a deficiency of regulatory staff and to date there is no inspector for radioactive waste and spent fuel.

Although the new Law on Radiation Protection and Nuclear Safety is in force since 2009, the two research reactors RA and RB, and the storage facilities at Vinča are not licensed. The Uranium mining (including the only closed mine) is not being regulated. There is no national inventory for radioactive waste in the country, as the licensees keep records of radioactive waste they generate and/or manage.

Despite the fact that Serbia does not have any nuclear power, Serbia generates radioactive waste that needs to be safely managed in the long term. Serbia is aware of the need for transposition of the EU legislation in this field and is preparing a national programme for spent fuel and radioactive waste management. Serbia will also need to strengthen the regulatory framework to ensure that there is capacity to implement this area of the *acquis*.

III.k. Nuclear safeguards

Serbian legislation is already highly aligned (to the extent possible) with the *acquis* through the Treaty on the Non-Proliferation of Nuclear Weapons (2010), the Regulation on ratification of the IAEA statute (2001), and the Law on ratification of the Agreement between the Socialist Federal Republic of Yugoslavia and the IAEA for the Application of Safeguards in connection with the Treaty on the Non-Proliferation of Nuclear Weapons. Other elements are contained in the Law on radiation protection and nuclear safety (and associated rulebooks).

Serbia intends to transpose, as far as applicable, further elements of Commission Regulation 302/2005 (on Euratom Safeguards) through an amendment to its legislation, notably as regards a number of definitions. It is also drafting a recommendation on implementation of Nuclear Material accountancy and control system by the NM users. Serbia is aware of and accepts its obligation to accede to 78/164/Euratom and to 199/188/Euratom after accession to the EU. Serbia should have few difficulties achieving full alignment and implementation of this area of the *acquis*.

III.l. Supply of fuels

Serbia has indicated that it does not intend to participate in the capital and Advisory Committee of the **Euratom Supply Agency**.
