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Item 5 of the provisional agenda

**National sustainable energy action
plans - from commitments to actions
(workshop)****Group of Experts on Renewable
Energy****Sixth session**

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Item 3 of the provisional agenda

**National sustainable energy action
plans- from commitments to actions
(workshop)****Workshop on the national sustainable energy action plans –
from commitments to actions****Background paper on Sustainable Energy for All in Eastern Europe,
the Caucasus and Central Asia****Note by the secretariat****I. Background information**

1. The United Nations Economic Commission for Europe (UNECE) is implementing the United Nations Development Account (UNDA) project “Sustainable Energy for All (SE4All) in Eastern Europe, the Caucasus and Central Asia”. The overall goal of the project is to assist countries of the region (Azerbaijan, Belarus, Georgia, Kazakhstan, and Kyrgyzstan) to strengthen capacities for the preparation of National Action Plans to achieve Sustainable Development Goals related to energy.

2. Under the project, a report has been prepared that provides an analysis of the national case studies in the five countries and gives the assessment of existing policies and practices in sustainable energy, focusing on existing regulatory and institutional frameworks and providing recommendations for policymakers that would assist them in reforming and adjusting policies aimed at fostering favourable climate for investments in energy efficiency.

3. The scope of the report includes the review of the energy sector of the project countries, analysis of existing best policy practices, including national programmes and strategies aimed at strengthening the sustainable energy development and analysis of gaps and challenges that governments face in implementing these policies. In addition, the report aimed at performing a comparative analysis of the five countries’ case studies on their progress towards achieving the objectives of Sustainable Energy for All (SEforALL) initiative of the UN Secretary-General and Sustainable Development Goal (SDG) 7 to ensure access to affordable, reliable, sustainable and modern energy for all.

II. Analysis of common barriers and progress

4. The analysis of national reports demonstrated that despite significant challenges that all reviewed countries were facing when undertaking reforms and restructuring their economies, they have all invested a lot in improving functioning of the energy sector, its transition to sustainable development, enhancing energy efficiency, wider use of renewable energy sources, and better energy access.

5. All reviewed countries develop energy policies and practices, which have many features in common. At the same time each country pursues its specific path considering a prevailing local context. In reforming their energy sectors countries pay particular attention to building and implementing enabling regulatory and institutional frameworks, issuing laws and regulations supported with secondary legislation and norms-setting mechanisms; designating authorities responsible for planning, implementing and monitoring energy policies; developing strategic programmes and documents; and promoting appropriate fiscal policies conducive to attracting foreign and domestic investments. They also consider objectives of SDGs when developing their national strategies and programmes for economic development. However, the emphasis on various policy types and maturity of energy efficiency policies and programmes vary from country to country.

6. Particular focus was put on the status of institutional/structural reforms; existing legislative and regulatory infrastructure and policies related to improving energy efficiency and wider use of renewable energy; status of investment climate to foster financing and application of modern energy efficiency and renewable energy technologies; energy intensity of the sector and some others. While certain similarities in problems and barriers that countries are facing on their way to meet the SDGs and the SEforALL objectives were noted, greater emphasis was put on the country-specific issues which require special attention by the governments in order to improve attractiveness of the market for investments to foster deployment of advanced energy efficiency and renewable energy technologies. In some countries, lack of relevant information and data on access to modern energy services, energy efficiency and renewable energy hindered accurate assessment.

7. Another common feature is that most of reviewed countries (with the exception of Georgia) have already put in place a solid set of energy sector legislation, but the lack of supporting by-laws, normative acts and other secondary legislation hinders its proper implementation. In addition, when revising the existing legislation, governments do not always introduce amendments in related legal acts, which creates confusion and sets barriers for efficient sector governance, particularly in the countries lacking a clear institutional structure and division of responsibilities between energy sector players.

8. Unlike in economies with extensive experience in energy efficiency policies implementation, in most of the reviewed countries energy efficiency governance related to coordination mechanisms regional and municipal levels is still at an initial stage of development. Most of the governments have yet to establish dedicated authorities responsible for the control and supervision of the energy efficiency policy implementation using coordination mechanisms. There are also cross-sectoral gaps in energy efficiency governance. While energy efficiency is an obvious target in the energy sectors, other important energy intensive branches like the buildings, industry, and transport sectors often lack the necessary government attention.

9. The five countries have made significant progress in promoting renewable energy and some of them have developed dedicated strategies and financial support mechanisms. However, none of them have reached a sufficient level of deployment of renewable energy technologies or made significant progress in achieving a SEforALL target to double the share of renewable energy in their energy mix by 2030. Similar to barriers in the energy efficiency policy implementation, the absence of secondary legislation and lack of dedicated institutions responsible for renewable energy promotion hinders their development, application and integration in the grid. The governments should elaborate their renewable energy development policies on a basis of a country-wide cost-benefit analysis considering all renewable sources of energy and available technologies with competitive advantages.

10. The reviewed countries have not developed an attractive market for significant foreign and domestic investments for deploying advanced energy efficiency and renewable energy technologies with all related benefits. The energy sector in the reviewed countries also requires immediate investments for the rehabilitation, upgrade and maintenance of the power sector assets, which are often outdated and have exhausted their operational life. One of the major obstacles in attracting investments are the tariff structures and subsidies, which keep energy tariffs below cost-recovery levels and therefore diminish investor's appetite for deployment of energy efficiency and renewable energy technologies.

11. On a more positive note, the governments in the reviewed countries have succeeded in developing and implementing national legislation conducive to liberalization of fiscal structures, streamlining lengthy licensing and permitting procedures. Most of the countries have been moving up the World Bank's rankings for "Ease of Doing Business" – in 2017 Kyrgyzstan was ranked 77; Azerbaijan – 57; Belarus – 38; Kazakhstan – 36; and Georgia has made outstanding improvements and was ranked 9 among the 190 countries of the report. This contributed to improving the investment attraction of the countries.

12. The analysis of case studies provided by the five countries has shown that in addition to the similarities in problems and barriers that countries are facing on a way to meet the SDGs and the SEforALL objectives, there are country-specific issues, which require special attention by the governments in order to improve attractiveness of the market for investments to foster deployment of advanced energy efficiency and renewable energy technologies

III. Country-specific challenges and achievements and related recommendations

13. Some countries in designing their energy policy pay particular attention to the supply side and set their development targets along production chains in various segments of the fuel and energy complex, without putting them into an overall framework of the country's commitments to achieving SDGs, in particular SDG7. For example, **Azerbaijan** has adopted strategic road maps for economic development of the energy sector and its subsectors, along with a package of special measures aimed at achieving those goals in accordance with the established deadlines over the next fifteen years. However, they have little interface with strategic development goals of Azerbaijan and therefore the current sector development policies should be reviewed and aligned with the main strategic development documents.

14. Azerbaijan has developed and enforced energy sector legislation which provides a general system for promoting efficient energy use and renewable energy sources. However, there is no dedicated energy efficiency strategy at the government level or effective regulatory structure for the implementation of energy efficiency investments.

15. Although the state privatization programme aims at wider implementation of market mechanisms in the fuel and energy complex, including privatization in the electricity and gas sectors by foreign investors, little progress has been achieved so far. The existing monopolies in the gas and electricity sectors limit competition and there are no official deadlines for electricity market opening. The current legislation does not provide for electricity sector unbundling at the accounting, functional or managerial levels – there is no legal basis for separation of transmission and distribution from the generation activities. The only exception was privatization of several small power plants and establishment of a regional electricity distribution company. The enforcement of the legislation currently in place remains challenging. For example, the principles of non-discriminatory access to network infrastructure are established by law. However, in practice this is not (and cannot be) implemented because of the current market structure. All entities of the natural gas sector are state-owned and there are no plans for the change in the near future. Consumers cannot buy natural gas directly from the producer (SOCAR) but have to do it from Azerigaz, which controls access to the grid and does not allow access by the third parties.

16. Based on the case study analysis it is suggested that the governmental authorities undertake a revision of the present *regulatory framework* with a view to updating it and consolidating the existing energy efficiency related laws into a single legislative act, which would serve as the basis for and is closely interrelated with the secondary legislation. The

existing institutional structure should also be revised and adjusted in accordance with the new consolidated energy efficiency law. The new *institutional structure* should include dedicated governmental bodies in charge of development, execution and control of energy efficiency policies and programmes implementation at the national, regional and municipal levels. The policies should also include or be tied to various *fiscal and tax benefits* which, together with setting up a dedicated energy efficiency fund, would increase the potential investors' interest. The policies and measures to be effective need to be closely *monitored and evaluated*. Given the significant level of Azerbaijan's energy intensity, national programmes and strategies promoting energy efficiency deployment should first of all focus on highly consuming and polluting sectors of economy (transport, industrial and residential). Capacity building and training activities along with dedicated educational programmes should be coordinated on both national and regional levels to achieve better results in fostering *public awareness* of the benefits of energy efficiency and renewable energy employment.

17. **Belarus** has put in place a solid system of institutional, legislative, and policy frameworks assisting the efficient governance and regulation of the fuel and energy complex. The main priority of energy policy and strategy in Belarus is providing a reliable and sustainable energy supply for the national economy, while reducing dependence on energy imports, energy intensity of economy and improving the financial stability of the sector. The government is looking at diversifying its energy mix, including more coal and renewables, but also nuclear power. It has to be noted that the development strategy is based and managed on the planned economy principles.

18. The Concept on Energy Security defines the long-term energy policy objectives, such as: diversification of energy supply sources; improving energy efficiency, reliability and management of the energy system; integration into the world energy system; development of international cooperation with the Eurasian Economic Union (EAEU) and the European Union (EU); creating a wholesale national electricity market; and developing the Law on Electric Power Industry. The government adopted the Programme for the electricity sector for 2016-2020 and other strategic policy documents, which contain specific indicators and targets. A Comprehensive Development Plan for the Electricity Industry until 2025 prescribes concrete activities and timeframes for their implementation, such as removal of cross-subsidies in electricity tariffs (by 2020); unbundling (by 2025) and creation of the wholesale and retail markets for electricity. The government also approved strategic goals in the area of energy efficiency and energy saving to ensure energy security and improve the living standards of the population and the competitiveness of the national economy.

19. To achieve these goals the government should foster the implementation of the *energy sector reform*, which would introduce selected market mechanisms to enhance the potential for investments in energy efficiency and renewable energy technologies. As part of the energy sector reform, the Council of Ministers is elaborating a set of laws, including adoption of an Electricity Market Law governing the ownership structure of the electricity and heat industry, role of the state in electricity and heat tariff setting and the basic principles of the wholesale electricity market.

20. Belarus, as a member of the EAEU and a potential observer to the Energy Community should adopt market-oriented principles and a regulatory framework based on international experience when developing electricity sector legislation (draft Electricity Market Law). For example, the current legislation allows foreign investors to build new power plants and guarantees connection to the state electricity networks as well as purchase of their output. However, the legislation does not provide requirements or specific rules for unbundling and separation of transmission from distribution and supply activities and does not contain specific requirements for an independent transmission system operator. The legislation does not have provisions for a non-discriminatory third-party access to transmission electricity networks or for customers to have a choice of supplier. The government should pursue the policy of *restructuring energy tariffs* to remove cross-subsidies and to achieve a level of prices that reflect the cost of production. A revised legislation should also encourage development of energy service companies (ESCOs) and other *market mechanisms* conducive to attracting investments in energy efficiency and renewable energy technologies.

21. The governance of a renewable energy sector is supported by the comprehensive Law on Renewable Energy Sources (2010), which regulates activities aimed at promotion and use of renewable energy and stimulation of development, manufacturing and deployment of efficient modern renewable energy technologies and equipment. *Inter alia*, the Law guarantees a non-discriminatory access to the grid; determines state support for renewable energy development through a dedicated mechanism of fiscal and tax policies, encouraging foreign investments in the sector. In order to improve the efficient implementation of the Law, a dedicated *National Renewable Energy Action Plan* (NREAP) along with secondary legislation should be developed, which would be consistent with prevailing international practice. The government should promote grid integration of renewable energy, ensure attractiveness of green tariffs to the grid operators/electricity distribution branches, and establish detailed, clear and transparent rules for the third-party access to electricity grids.

22. Energy security is one of the main objectives of the energy policy of **Georgia** since the country is highly dependent on imported fossil fuels. Although economic development is steadily improving, the environmental issues still remain challenging. Hence, improving energy efficiency and further increasing the use of renewable energy sources would contribute to a more sustainable development pattern, enhance its energy security, and improve environmental sustainability. Out of the five reviewed countries Georgia is the only one with a Contracting Party status to the Energy Community (EnC) and has also signed the Association Agreement with the EU. It therefore has a commitment to transpose and implement all EU *aquis* related to energy efficiency into its national legislation, including the EU third Energy Package. However, Georgia has not yet approved a Law on Energy Efficiency. The draft National Energy Efficiency Action Plan (NEEAP) is being finalized. Although Georgia has put in place several laws which relate to energy sector operation and governance, so far this is the only country in the region without any primary or secondary energy efficiency legislation. Hence, the current framework limits building of a new (or adjustment of existing) institutional structure with clear division of responsibilities and governance.

23. In view of the above, an important recommendation would be the *improvement of existing regulatory framework* by adoption and enforcement of the Energy Efficiency Law and appropriate secondary legislation. This would help the government to comply with EnC commitments, improve the institutional framework and further elaborate legal, financial and fiscal mechanisms enabling the increase of the EE investments in the Georgian economy.

24. Other recommendations to fill the gaps in implementation of sustainable energy practices could include: improved *institutional capacity building* and effective coordination for monitoring and enforcement of relevant regulations; establishment of a *Renewable Energy and Energy Efficiency Agency*; fiscal and financial *incentives* to encourage the use of energy-efficient appliances and technologies by households, commercial and industrial sectors; establishment of standards and norms and labelling schemes for appliances; promotion of *awareness raising* of energy efficiency measures among households to change consumer preferences and behaviour.

25. **Kazakhstan** elaborated energy sector development policies, which are aligned with general economic development goals set in strategic national programmes, for example “Strategy 2050”. These policies also aim to ensure balanced and sustainable development of the power industry to support economic growth, improve living standards and energy security in the country. The Senate of the Parliament of Kazakhstan, noting that the UN Sustainable Development Goals (SDGs) and targets fully coincide with priorities and tasks of Kazakhstan, has adopted a Statement calling for a facilitated integration of the SDGs in the national legislation.

26. The government has put in place a comprehensive system of legal, policy and institutional frameworks which undergo revision and adjustments as required. In most of the cases primary legislation is supported with secondary legislation, and their implementation and enforcement are performed through national strategies and development programmes. The sectoral and other development programmes include indicators and targets that allow assessing the country’s progress towards the achievement of set goals. The legislation related to power industry, energy efficiency, and renewable energy facilitate implementation of the best practices in specific development areas.

27. However, the fuel and energy complex of Kazakhstan has problems, including those that are directly related to sustainable development. Among others, the government listed shortage of generation capacity to cover the growing energy demand, high energy intensity of the economy, low level of energy efficiency and low environmental performance of technologies. Large investments are needed to upgrade the country's aging infrastructure. Reducing energy intensity is another key challenge. Electricity and heat tariffs are still too low to encourage private financial institutions to invest in modernization of the sector infrastructure, particularly in the heating segment which requires substantial resources for its rehabilitation.

28. In response to these challenges the government elaborated a set of legal and policy documents which set priorities and objectives for the period until 2030, including to: modernize existing and construct new facilities for electricity and heat generation and transmission and oil refining; further develop domestic energy and fuel markets through enhanced liberalization and competition; modernize industry and transport sectors, introduce modern technologies to improve energy efficiency and reduce negative impact on the environment; develop technologies and infrastructure for engaging the alternative energy sources: renewable and nuclear energy, associated gas processing, gas transportation, and coal-chemical industry. In support of these policy documents, the government formulated concrete goals and objectives for the period until 2030, ways and mechanisms to achieve them, and expected results for all branches of the fuel and energy complex (coal, oil, gas, nuclear industry, electric power), energy efficiency and energy saving

29. Based on these priorities and to ensure balanced and sustainable development of the power industry to support economic growth, improve the living standards and energy security in Kazakhstan, the recommendations could include: increase *energy efficiency* and reduce environmental impact of heat and electric power generation; *modernize* existing and construct new efficient energy facilities, while decommissioning outdated facilities; increase share of *renewable energy sources* in the energy mix and integrate them effectively into the national power system; *improve investment climate* to bring large-scale investments in industry; *remove cross-subsidies* in electricity and heat generation

30. **Kyrgyzstan** has been implementing the state policy aimed at the socio-economic development of the country including increasing the efficiency of the energy sector by developing appropriate regulatory framework, institutional infrastructure and implementation of relevant governmental programmes and action plans. A set of legal documents together with sector development strategies are a good basis but lack of political will and poor governance put on hold the process of further reforms. It was particularly true with regards to a failure in implementing tariff reform policy aimed at achieving full cost recovery through cost-effective tariffs and removal of cross-subsidies. The government should further elaborate its energy sector development concept by strengthening existing institutional arrangements, improving energy efficiency legislation and securing reliable and consistent sources of funding.

31. With regards to legislation, Kyrgyzstan faces problems similar to other reviewed countries, namely gaps in the secondary legislation required for implementation of primary laws. Some laws are not sufficiently specific in assigning authorities responsible for their implementation, which results in delays or suspension of the law enforcement. There are also cases (2012 Law on Energy Efficiency in Buildings) where despite the adoption of the secondary legislation, the provisions of the law have not been implemented or enforced because the responsibilities were not properly assigned to appropriate governmental bodies

32. There are a number of key challenges in the energy sector which relate to country's sustainable development and which are barriers on the way to attaining the SEforALL objectives. These include the outdated regulatory framework; inefficient heat and electricity tariffs structure; lack of investments for rehabilitation and upgrade of the aging assets; insufficient utilization of the country's significant hydropower potential

33. Recommendations to fill the gaps in implementation of sustainable energy practices could include: improvement of existing regulatory and institutional frameworks; designation of an *independent regulatory authority*; implementation of the *tariff reform* aimed at removing subsidies and setting cost-reflecting tariffs for enhanced financial stability of the sector; establishing a *dedicated governmental authority* responsible for the development and promotion of energy efficiency; enhancing the uptake of renewable energy through development of various incentive mechanisms
