

GENERAL RECOMMENDATIONS AND COMMENTS TO 2035 ENERGY STRATEGY CONCEPT

1. **Energy efficiency is a priority number one.** The document says that “*the highest priority in realisation of the state policy shall be given to the energy efficiency issues*” and provides for reduction of energy intensity of GDP from 0.33 in 2013 down to 0.17 toe/1000 USD of GDP in 2035, i.e. to almost a half of the present value. This is an ambitious and a crucially important goal, which we are supporting. Focus on efficient energy consumption in the energy sector and other sector of the national economy is a prerequisite for energy independence of the country.

2. **The document has to fully reflect the long-term goals of the Paris Agreement on climate change.** The goals which were taken in Paris regarding keeping the global temperature rise in the range 1.5°C-2.0°C imply the necessity of full decarbonisation of the world economy in the second half of the century and achievement of 100% of energy received from renewable sources in power generation sector by 2050. At the moment the Concept is not mentioning this fact.

In order to reach 100% of renewables in power generation by 2050 in Ukraine, the share of renewables in 2035 has to make at least 60%, while development of production and use of fossil fuels has to be limited according to long-term targets of emissions reduction.



Pic.1. Relative scenario of transition to 100% renewables in power generation sector of Ukraine by 2050

3. **Decentralisation has to be one of the priorities for sector’s development.** We agree with the proposed direction for development of the power generation sector (Section 4.1 of the Concept draft) directed toward enhancement of energy system’s flexibility, optimisation of the structure of power generating capacities taking into consideration increasing share of renewables, introduction of smart grids and support of bi-directional energy flows during construction of power distribution networks.

The Concept and the Energy Strategy have to take into consideration world trends of development of the sector: where renewables are gradually becoming “centres” of energy systems and the level of decentralisation of local and regional energy generation is growing in time. Meanwhile, the structure of energy markets is changing, demand-side management systems and smart grids are introduced, and the division between energy producer and energy consumer is disappearing.

Therefore, conditions for the new decentralised system have to be set up, taking into account that system's management system would consist of more institutions, including those on a local level. Hence, the Strategy has to envisage that all the local development plans include the issue of energy supply at their level (while considering requirements of the national grid). In this way, network management system will be gradually changing and all the mentioned alterations have to be among the priorities of public management.

Moreover, in order to assure an active development of power generation at private households level, it is necessary to look for additional incentive mechanisms, such extension of the green tariff or other ones which will replace it in the future.

- 4. Construction of new coal TPP units should not be included in the plans for sector's development.** The document envisages a *“relative stabilisation of the total installed capacity of coal-fired TPP at the current level”*, which in effect means the necessity to build new coal units while decommissioning the old ones whose designed life-span expired.

Coal power sector is the largest source of air pollution, which has a direct impact on population's health and is accompanied by the highest GHG emissions. According to the Paris Agreements goal, global economy has to be fully decarbonised already in the second half of the century. This implies gradual phase out of coal capacities, but not their stabilisation. Therefore, TPP units have to be replaced by renewable units.

It is important to take into consideration that the need for big-scale TPPs which operate on fossil fuels will be decreasing, also due to changes in standards of energy efficiency of buildings. The final goal of this changes should be transformation of the buildings from such that consume energy to energy producers.

In shorter term, in order to balance energy systems in the conditions of rapidly growing share of renewables and to ensure supply of heat energy for cities, priority shall be given to the use of natural gas fuel at CHPs (combined heat and power plants) as the least polluting fossil fuel. Last year also showed the possibility for Ukraine to diversify gas supply and reduction of its cost.

- 5. Construction of new nuclear power units should not be included in the plans of sector's development, and the units which reached the end of the designed lifespan have to be prepared to be safely decommissioned.** The document suggests that the share of power generation from NPPs in the total electricity production *“... will remain at 50%, and extension of lifespan of the operating units, as well as construction of new ones, is envisaged”*.

However, keeping this share of nuclear power generation is not justified. The first draft of the Energy Strategy Concept (of 11.12.2015) states that the maximally achievable level of diversification of nuclear fuel in 2035 makes 50%. This means that Ukrainian NPPs would be critically dependent on fuel supplies from Russia in the next two decades, which is crucial for the questions of energy independency and security.

Nuclear energy in the world is currently at a stage of stagnation, share of world power generation at NPPs is constantly declining¹, while the costs of construction, modernisation and

¹ <http://www.worldnuclearreport.org/IMG/pdf/201408msc-worldnuclearreport2014-lr-v4.pdf>

decommissioning are growing, especially considering security defects of NPPs (which were partially discovered due to Fukushima NPP accident), limitations in experience of decommissioning of the plants around the world and absence of safe geological disposal of nuclear waste.

- 6. The document has to include justification for the proposed energy balance.** On one hand, the Energy Strategy Concept states that “*at the moment there is no middle- or long-term forecasts for economic development of our country*”, which should be a basis for forecasting long-term development of the energy sector. On the other hand, the draft of the Concept is suggesting a precise scenario for development of the energy sector: stabilisation of TPP and NPP capacities at the existing level and share of renewables in 2035 at the level of 20%.

We do not see how this scenario corresponds to the international treaties and obligations of Ukraine, and how it would help to achieve energy independency and sustainable development of the energy sector. Therefore, we consider it to be necessary to justify the proposed scenario and provide clear references to official sources (Ukrainian and international), including a long-term “*forecast of social and economic development of Ukraine*” as it is mentioned in the text (Section 4.1).

- 7. Protection of environment, ensuring sustainable development and energy security have to be stated as priorities for development of the energy sector already today.** The document envisages that in only 10 years, in the period 2026-2035: “*... the main task [...] shall be further development of energy infrastructure, resting on the priorities of protection of environment and ensuring sustainable development, as well as completion of establishment of the energy security system*”.

In our opinion, the mentioned priorities have to be taken into consideration in shaping the national energy policy already today: for both development of infrastructure and the energy sector in general. Here the Strategy should be guided by the Energy Strategy of European Union until 2030, according to which all the member states have to envisage in their national plans corresponding measures for “*competitive, secure and sustainable energy*”². Energy security should also be viewed not from the perspective of diversification of supplies of imported fuel, but from the perspective of utilisation of own renewable energy sources.

Moreover, solving environmental problems, which have been caused by the conventional energy sector including the nuclear industry (nuclear waste storage, decommissioning of NPPs), are to be addressed already today.

- 8. Adaptation to climate change has to be included in the plans for development of the energy sector.** It is expected that consequences of climate change will become more prominent already in the coming decades and energy sector will have to adapt to them. Operation of power plants where water cooling is used (TPPs, NPPs) may be affected by heat waves, storms may become more frequent damaging power grids, and other consequences of critical weather conditions. These changes have to be reflected in updated rules for operation of energy objects, standards for their construction and taken into consideration when choosing types of energy sources to be utilised.

² <http://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:52014DC0015> (n.3.1)