

## Meeting Report

### 4<sup>th</sup> Energy Panel

17 and 18 October 2019, Vilnius, Lithuania

#### Summary:

The fourth meeting of the Energy Panel under the new Eastern Partnership (EaP) multilateral architecture took place in Vilnius, Lithuania on 17 and 18 October 2019. The meeting gathered participants from the six partner countries (Armenia, Azerbaijan, Belarus, Georgia, Moldova and Ukraine), from Member States and other European entities as well as the IEA and IRENA.

The main thematic focused on the opportunities and challenges of the integration of renewable energy into the energy systems and contributed to the work programme of Eastern Partnership Platform 3 for the period 2018-2019 and to deliverable 15 under the “20 deliverables for 2020”.

The second day, the panel meeting was complemented by a visit to the company “Global BOD Group” which is conducting activities in the area of solar energy.

All background documents and PowerPoint presentations given during the meeting are available on the following web-page: <https://ec.europa.eu/energy/en/meetings-eastern-partnership>.

#### 1. **Introduction and work in progress** (Deliverables 14 and 15)

**Ms Anne-Charlotte Bournoville**, Head of Unit for International Relations in DG Energy, European Commission, chaired the meeting. The chair introduced into the thematic subject referring to the increasing use of renewable energy worldwide with a total renewable energy generation capacity of 2,351 GW at the end of 2018 (source: IRENA). She reported on the progress of EU Member States in achieving their national binding targets of 20% renewables in the overall energy mix by 2020. In 2019, 17 out of 28 Member States have achieved this target and collectively the EU reached 17.5%. Its new legal framework covers the period 2021 to 2030 and sets a regional EU target of at least 32%. Different measures are being put in place to support this energy transition and to respond to the political vision of a European Green Deal of the incoming European Commission which aims at making Europe the world's first climate-neutral continent. According to IRENA statistics of end 2018, the EU and the 6 Eastern Partner countries together had a global share of 20.4% renewable capacity (479.89 GW). The chair encouraged participants to use the momentum and further foster renewable energy cooperation in the context of the Eastern Partnership.

**Mr Rytis Kėvelaitis**, Vice-Minister for Energy of Lithuania reported on the long and inclusive consultation process of setting up the national strategy in Lithuania to integrate renewables into the energy system. Eventually it led to the national consensus to significantly increase the renewables' share by 15% between 2020 and 2030. The country has already surpassed its 2020 target (26% instead of 23%) and will be the first EU Member State to make use of the statistical transfer to other EU Member States. The strategy is built on energy security, environmental protection, competitiveness and innovation. The different elements of the strategy do encompass an increasing number of prosumers and installation of smart metering, decreasing costs bringing renewables to

the market, phasing out of subsidies as well as innovation and digitalisation going hand-in-hand. Mr Kėvelaitis gave an overview of the ambitious national targets by 2050 in the areas of electricity generation, heating and transport, the latter one being the one with the lowest progress so far. Electricity will be traded via auctions (large scale), prosumers (small scale) and offshore wind. For the sake of ensuring energy security, Lithuania aims at being synchronised with the continental Europe electricity network by 2025. In the long term, Lithuania aims at becoming an exporter of energy technologies.

**Mr Michael Rupp** from DG Neighbourhood and Enlargement Negotiations at the European Commission, and **the chair** gave an update on the overall achievements under the Eastern Partnership and more specifically on the progress made related to the energy deliverables 14 & 15 under the "20 deliverables by 2020". Positive examples are that around 100,000 families could reduce their energy bills and that over 420 municipalities are now taking part in the Covenant of Mayors. Regarding energy interconnectivity, the chair updated on the Southern Gas Corridor and its expansion (on track), the gas interconnection Ungheni-Chisinau (needs a push mainly on Romanian side) and the back-to-back electricity interconnection between Georgia and Armenia (the project continues and negotiations with the KfW have restarted). Finally, the Commission shared its view on the exercise conducted with the aim to identify key energy infrastructure projects of Eastern Partnership interest. The analysis of the five proposed projects has shown that none of them proved to be viable for either technical or political reasons. The Commission therefore suggested that the exercise should not be continued in its current form, as there seems no need for such project at this moment in time. However, in case a concrete project would be proposed to the Commission in the future, it could still be assessed against the agreed methodology. Instead, further efforts would be undertaken towards general capacity-building for project development and the implementation and development of bilateral projects in this area. Participants did not object to this conclusion.

Attention was then given to the future cooperation priorities under the Eastern Partnership. Marking the 10<sup>th</sup> anniversary of the Eastern Partnership, Heads of State have given us the political mandate to prepare for the era post-2020. **Ms Audrone Perkauskiene** from the European External Action Service highlighted last year's positive achievements in trade, people-to-people, the European School in Tbilisi, visa and in the energy field. She reminded also that due to new challenges in geopolitics the Eastern Partnership should focus more on youth, security, digitalization, green economy but also on the rule of law, justice sector and public administration reforms. It needs to be based on common values. Reflections on the future should take into account continuity, new ideas but also identify so-called negative priorities. Ms Perkauskiene presented the [ongoing inclusive structured and public consultation process](#), which until the end of October 2019 collects contributions from all stakeholders on the future priorities and the functioning of the Eastern Partnership.

The subsequent short **discussion** focused on the different ownership as regards the 10 years energy and transport network development plans, missing secondary legislation in the renewables sector, as well as the success of the first Eastern Partnership energy award at the occasion of the 10 years' ceremony and its potential continuation.

## 2. Renewable energy

**Ms Eva Hoos** from DG Energy at the European Commission introduced the European policy in promoting renewable energy in heating and cooling which accounts for 50% of EU's final energy consumption. Nowadays, 75% of the energy used for heating and cooling still stems from fossil fuels, notably from natural gas. In the EU, buildings and industry still use energy inefficiently due

to weak insulation, old and inefficient appliances and heating systems. The EU needs to radically transform its energy system focusing on buildings, transport, industry and agriculture. A number of challenging measures for achieving a climate neutral EU are considered feasible from a technological, economic, environmental and social perspective. By 2050, 60% of all energy produced should come from renewable energy sources and 80% in the electricity sector. Ms Hoos underlined that the use of renewable energy must go hand-in hand with energy efficiency, notably in the buildings sector. The new Renewable Energy Directive (2018/2001/EU) addresses the untapped potential of heating and cooling, including district systems. It promotes decentralisation of the energy system also by empowering prosumers and it reinforces the EU bioenergy sustainability and energy efficiency criteria for large-scale power generation from biomass.

The following presentations showed best practices and experiences lived in Lithuania in the areas of biomass, wind energy and cogeneration/waste energy.

**Mr Vaidotas Jonutis**, Head of the Trade Division at Baltpool informed about the experience in trading with biomass as an important commodity and fuel supply for district heating in Lithuania. An important challenge back in 2012 was the inability of the biomass market to regulate itself because purchases of all different fuels had to follow the same rules. The consumer therefore had to pay for high fuel prices. The biomass market suffered from non-transparent purchase practices, high barriers for new providers, high competition and market concentration. As a solution, a biomass exchange scheme was created which made the market functioning within a few years only. All exchange participants are now coordinated on a central biomass business organising platform, managed by Baltpool. The liquid biomass exchange ensures market transparency, efficiency and competitiveness. Within 4-5 years, biomass prices decreased by up to 40% compared to 2012 and price differences between municipalities were lowered to a minimum. Over 5 years, prices for heating for consumers decreased by 25% and greenhouse gas emissions stemming from district heating decreased by 60%.

**Mr Remigijus Lapinskas**, President of the World Bioenergy Association explained the increasing role of bioenergy for district heating in Lithuania in more detail. He underlined that the policy towards more use of bioenergy in the heating sector (heating consumes globally +/- 50% of all energy) is driven by the global energy transformation process and the commitments made under the Paris Agreement. In Lithuania, during the last 10 years, the use of biomass and waste in district heating grew from 17.7% in 2008 to 70% in 2018. Depending on the biomass share in the fuel mix, this led to a decrease in prices for heating between 25% and 40% and a significant reduction of CO<sub>2</sub> by 70%. In comparison to imported natural gas, this alternative and locally produced fuel allowed for savings of around € 200 M a year. The vision for the future is to create a regional trading area around the Baltic Sea notably based on sustainably produced wood chips. In September 2019, Lithuania has launched a global initiative on “Transition to sustainable heating” at the 74<sup>th</sup> UN General Assembly with the view to share its experience and success story with other countries. Among the Eastern Partners, Ukraine and Georgia are already supporting the initiative.

**Mr Nerijus Rasburskis**, Head of Heat and Power Solutions Department at the Ignitis Group presented the group’s current activities in the renewables’ sector and its strategy for the future. Ignitis Group is an international energy company active in the Baltic region and Poland. Its activities focus on power and heat production and supply, power and natural gas trading and distribution, power system maintenance and development as well as development of smart energy solutions. Mr Rasburskis informed about the status quo of wind energy generation in Lithuania, which is limited due to geographic preconditions. Currently, wind energy has a share of 10-11% in

renewable energy. One measure to increase this share is to build windfarms in neighbouring countries and transport the generated electricity via the grid to Lithuania. Another one is to exploit the huge potential of offshore wind for which preparatory works will be carried out by 2022. Ignitis group also promotes combined heat and power (CHP) and waste to energy solutions. Cogeneration is by far more efficient and generates much less losses than conventional electricity and heat production. It is therefore an important element to significantly reduce energy dependency. The cities of Kaunas and Vilnius are currently constructing waste power plants that would generate together 575 GWh/year electricity and 1740 GWh/year heat production and create 500 direct and indirect jobs. One expects that the price for heat production would decrease by 20%, the CO<sub>2</sub> emissions by up to 500 000 t/year and primary energy savings will be between 40% and 46%. In the future, Ignitis Group will expand to Central and Eastern Europe and focus on wind, biomass, utility scale photovoltaic and community solar solutions.

The **discussion** focused on the following aspects: the role of the prosumers in Lithuania in densely populated cities versus remote rural areas; the importance of smart grids and digitalisation; district heating networks; the sustainability of biomass and its transport; the market potential in the Baltics as well as prices for wind energy; the long-term planning of such strategies, necessary relevant legislation reforms and investment possibilities; and competition between renewables and conventional energy sources.

During the 2<sup>nd</sup> part of the thematic session, **representatives of the Eastern Partners** informed about their strategies, opportunities and challenges in the area of renewable energy development in their respective countries. While the geographic preconditions and the potential sources of renewable energy vary among the countries, discussions disclosed some common challenges such as strategic planning and missing secondary legislation on renewable energy; integration into a smart grid and linked questions of digitalisation; the compensation for fluctuations; the issues around the transport sector; facilitating investment and awareness raising among the citizens.

**Mrs Viktorya Keshishyan**, Head of the Renewable Energy Division at the Ministry of Territorial Administration and Infrastructure of Armenia gave an overview of the various national strategic and legislative documents aiming at increasing the use of renewables and the overall growing role of renewables in the energy system of Armenia (target of 20% renewables share by 2020). The government promotes integration of renewable energy into the energy system via long-term power purchase guarantees, feed-in tariffs based on exchange rates and inflation and by adapting legislation to allow prosumers to sell electricity stemming from renewables to the grid. Hydro, solar, wind and geothermal are the dominating renewable energy sources in Armenia. The untapped potential in Armenia is significant and several projects and licensing procedures are currently ongoing with the view to intensifying the development of the different sub-sectors, notably in the areas of wind and solar (PV and thermal). An important geothermal power plant project is also underway. Ms Keshishyan underlined the important role of renewables in decreasing fossil fuel dependence and increasing energy security.

**Ms Parvin Mamedzade**, Advisor to the Chairman of the State Agency on Alternative Energy of Azerbaijan informed on the place of renewable energy in the national institutional composition and legislative framework, the strategic roadmap and national targets (20% alternative energy by 2020, 35% by 2030 and 50% by 2050), some specific pilot projects and new technologies applied in the country. The country has significant renewables potential, notably in the areas of solar, wind and biomass (including agricultural residues). Azerbaijan gives a lot of attention to produce domestically, such as solar panels, hybrid trucks (solar/gas), solar streetlights (which are also exported to other countries in the region) as well as solar boilers and connectors. In addition, small-

scale solar hydro pumps are used off-grid for smart irrigation in the agriculture. Scientific training and research centres to test renewables related techniques and devices are an important element of the country's strategy. It focuses on small off-grid stations including for buildings, decentralised hybrid-electro off-grid stations (including the use of bioenergy) for each region and hybrid stations for electricity and heating in industry. A most recent project is floating solar panels on lakes, supported by the Asian Development Bank.

**Mr Vladimir Shevchenok** of the Department for Energy Efficiency of the State Standardization Committee of the Republic of Belarus presented the legislative framework for a green economy improving energy efficiency and the use of renewables. For instance, every economic sector has targets to integrate renewables in its energy use with reporting obligation from one MW onwards. A framework to create incentives for enterprises by stimulating tariffs instead of feed-in tariffs was established. Mr Shevchenok informed on the national targets (6% share of renewables in total energy consumption by 2020 and 7% by 2025) and the various sources of renewable energy depending on the region (solar, wind, hydro, bioenergy). In July 2019, the capacity of renewables in electricity generation was 403 MW and it is expected to increase up to 635 MW by 2021. Several projects are carried out with the support of the EU and UNDP on energy saving and the use of renewable energy in public and residential buildings. The Covenant of Mayors is considered as a particularly useful tool. Belarus plans to couple electricity and transport sectors with the help of digitalisation. Storage and grid integration of renewables, e-mobility, waste recovery and the vast buildings' sector (energy efficient renovation and new construction) could be topics for further cooperation in this area.

**Messrs Vladimer Piradashvili and Nikoloz Kholodov**, both Senior Specialists at the Ministry of Economy and Sustainable Development in Georgia reported on the total installed renewables in the energy system of Georgia in hydro (by far the largest share), wind and thermal power. The country has still huge untapped hydro resources of 40 TWh. But also solar and wind capacities have a lot of additional potential. However, a major challenge is the current grid limitation to integrate additional power generated by wind and/or solar. The government has ambitious targets to increase the grids' capacity by 2030 for both sources significantly. Many projects are currently being carried out, with hydro dominating again by far. The speakers also informed about the support schemes and the development of legislative framework facilitating the integration of renewable energy, notably the law on promotion of production and utilization of energy from renewable sources which also sets the target of 35% renewables by 2030. The government is developing secondary legislation and reforming the current support schemes. Difficulties of certain technologies causing unreliability of the energy system, technology prices, environmental impact, and regional characteristics are the main challenges to be tackled in the future. The former INOGATE RESMaps geospatial mapping tool for sustainable energy developments, an interactive mapping of renewables potential in the country proved to be a very useful tool helping interested investors to identify well placed locations for their investments.

**Mr Denis Tumuruc** from the Ministry of Economy and Infrastructure of Moldova informed about the importance the Government of Moldova attaches to renewable energy sources for the sake of energy security. The main threats to the current system are heavy dependency on energy import (> 80%), poor interconnection with neighbouring countries and a very high energy intensity (3 times EU average). The country's strategic objectives focus on security, competitive markets and sustainability. Notably over the last 2-3 years the installed capacity of renewables grew significantly (mainly wind, but also solar and bioenergy). Together with hydro the renewables'

share of the final energy consumption was 27,8% in 2017. Mr Tumuruc informed about the secondary legislation covering renewables including the ongoing work on the transposition of the EU Clean Energy Package which is expected to be finalised in the 2<sup>nd</sup> half of 2020. New supporting schemes including auctions shall help increase investments in and use of renewables. Tenders for generating renewables capacity were designed. In addition, various tools have been put in place to attract investments, such as a specialised information centre, online mapping and data bases, legal framework for public private partnerships. Next steps to promote renewables will be further improvement of the legal framework, the organisation of the first tenders, strengthening the whole bioenergy sector, increasing public awareness and other supporting activities.

**Messrs Bogdana Leshchyshyn** from the State Agency on Energy Efficiency and Energy Saving of Ukraine and **Vitaliy Zaychenko** from the state owned company Ukrenergo informed about the development of renewables in the energy system. Since 2014, Ukraine invested €4.1 billion in renewables notably in order to reduce the consumption of natural gas and decrease dependency from energy import. The country's energy strategy foresees a share of 25% renewables by 2035. This means that investments are needed to construct renewable energy facilities including biofuel production plants and to produce relevant equipment, as well as to grow energy crops. The government's strategy foresees to advance on renewables and on energy efficiency hand-in-hand. Since 2017, notably solar and bioenergy capacities have increased considerably. A major challenge to be managed by the Integrated Power System is the volatility and inaccuracy of the integration of renewable energy into the grid. Therefore, the generation system needs to install 2500 MW additional capacities by 2025 to enable an increase of renewables share in the energy mix. Consequently, a project to rise also the storage capacities is underway. New incentives in form of setting up a "green" auction system, introducing feed-in tariffs and new laws in the area of bioenergy will further boost the generation and use of renewable energy. The new Law on Renewable Energy Auctions was adopted in April 2019. Solid household waste is an additional promising renewable resource. An interactive mapping provides information on implemented projects and on investment needs for potential renewable projects ([www.uamap.org.ua](http://www.uamap.org.ua)). Potential project owners, who are interested in investing in renewable energy in Ukraine but are lacking funding can possibly benefit from the [Global Infrastructure Facility \(GIF\)](#). Ukraine is also creating conditions for green bond markets introduction to attract investment.

**Mr Fager-Pintilia** is data programme manager at the IEA and works for the EU4Energy programme. He recalled the activities, that the IEA carried out and the specific recommendations it formulated under the regional programme EU4Energy. Activities include the [Bioenergy Forum in Vienna in April 2018](#) at which the perspectives in the Eastern Partner countries were analysed and international best practices were shown. The [20 renewable energy policy recommendations](#) prepared by the IEA, cover fundamental, cross-sectoral issues and concrete sectors such as electricity generation, heating and cooling as well as transport. Under EU4Energy, the IEA is currently carrying out in-depth country reviews and conveying roadmaps for the six partner countries, which will also cover renewable energy.

**Mr Seán Collins** from IRENA informed on the analysis of the organisation as regards transforming the global energy system (whereby electricity becomes the central energy carrier worldwide) and the drivers in favour of renewables such as falling costs, reduction of CO<sub>2</sub> emissions, energy security but also creation of jobs and economic gains. In order to respond to the global needs, the share of renewables would need to grow six-fold by 2050. Also, energy intensity improvement would need to increase up to 3.2% per year until 2050. This process can be supported by scaling up solar, wind and other renewables, improving energy efficiency, electrifying transport and heat, and structural changes in transport and industry. By 2050, investments therefore will have to increase

globally by USD 15 trillion and shift to renewables and electrification of heating and cooling and transport. He also presented IRENA's vision as regards actions to unlock the potential of renewable energy notably in the power (86% renewables by 2050), buildings (81%), transport (56%) and industry sectors (62%).

During the **discussion**, participants shared thoughts and questions on the following topics: renewables and digitalisation; how to stimulate and involve the consumers/prosumers; challenges in introduction of smart metering; data and statistics; decentralisation; grid integration and balancing; biomass and district heating; RES testing centres; call on continued financial and political support for the three partners having a DCFTA with the EU and being contracting parties to the Energy Community.

### 3. Work in progress and looking forward – after 2020

**Ms Yevheniya Nimak** from the Ministry of Energy and Coal Industry of Ukraine reported on the third **LNG workshop** that took place in Kiev on 20 September 2019. Discussions focused on border trade in gas and market integration. This includes the challenges in setting up regulatory frameworks for interconnection points; transposition of EU network codes in Energy Community contracting parties; the importance of gas reverse flows and LNG for the sake of diversification and energy security; the development and strengthening of cross-border infrastructure enabling regional gas trading and transit; LNG potential instrumental role as a catalyst to establish a regional gas market; the different preconditions and levels of ambition in the 6 partner countries for a potential use of LNG; and the challenges for investors. In the context of the study on LNG market potential in the partner countries, experts from the consultancy company Stantec presented the key findings and options for LNG market development that they have so far identified for the region based on field visits they have carried out in the Eastern Partner countries.

The **chair** raised some issues imminent to the energy panel working arrangements and invited participants to comment also after the meeting by informal e-mail to the European Commission. These points concerned i) the need to extend the current work programme of the energy panel as integrated part of the Platform 3 work programme until 2020; ii) the post-2020 cooperation in the energy panel as regards priorities but also format; iii) sensing the interest for creating further thematic sub-groups like the LNG initiative – the chair suggested renewable energy and digitalisation as possible topics; iv) the need to nominate a new rapporteur for the energy panel; and v) the need to identify a host country and location for the next workshop of energy regulatory bodies in spring 2020.

The **chair** summarized the outcome of overall discussions as follows:

- **2020 deliverables:** good progress on several projects, but some need a further push, notably in the area of ongoing interconnectivity projects.
- **Key gas and electricity infrastructure projects of Eastern Partnership interest:** the analysis of the overall exercise has shown that at this moment in time there does not seem to be a need for such projects. Still, the agreed methodology could be of use for potential future proposals. Instead, getting the regulatory environment right and fostering the capacity to prepare for such projects seems to be a priority.
- **Post-2020 priorities:** could include more emphasis on RES and digitalization. As regards

further cooperation on LNG, the outcome of the study on LNG potential in partner countries can guide the way. All stakeholders were invited to express their views either in the context of the ongoing consultation process by the end of October or by e-mail to DG Energy before the Platform 3 meeting (26/11).

- **Renewables** to play a more prominent role in the post-2020 cooperation set-up: notably heating & cooling and biomass were identified as promising future cooperation areas, possibly in cooperation with IEA and IRENA. Main challenges: missing strategic planning (including regional perspective) and secondary legislation; integration into smart grids and linked digitalisation, renewables in industry, innovating financing and financial gaps hampering investment.
- **LNG:** the LNG initiative led by Poland and Ukraine is advancing very well including on the study analysing the LNG market potential in the partner countries to be finalized by the end of the year. 4<sup>th</sup> workshop to take place in Swinoujscie, Poland on 17 December 2019.
- **Energy panel imminent issues:** 1) work programme 2020: in preparation to the Platform 3 meeting a proposal of an updated Platform 3 work programme will be sent ahead of the meeting on 26 November; 2) priorities post 2020; 3) potential additional thematic sub-groups; 4) rapporteurship; and 5) location for the next regulatory workshop in 2020. Stakeholders are invited to send proposals and comments to DG Energy.

#### Upcoming events:

- 26 November: Platform 3, Brussels
- 17 December: the 4<sup>th</sup> and final LNG workshop under the energy panel Świnoujście, Poland
- Eastern Partnership Summit in the 2<sup>nd</sup> quarter of 2020 – to be confirmed
- Spring 2019 workshop of energy regulatory bodies
- June 2020 energy panel meeting in Brussels back-to-back with the EUSEW – to be confirmed

**The chair** thanked the participants for their active participation, the various speakers and colleagues for their respective contributions as well as the interpreters, the event organisers and the hotel for the logistical support.

#### 4. Field trip to the company “[Global BOD Group](#)”, on 18 October 2019:

Participants visited the Global BOD Group, a Lithuanian company that has traditions in engineering, manufacturing and innovation since 1998. It runs the company in a very sustainable way (e.g. autonomous as regards heating and cooling of the premises) and is dedicated to long-term sustainability. It produces CD/DVD/Blu-Ray disks, ophthalmic eyeglass lenses, PV cells and PV modules. Regarding the latter two pillars, it successfully focuses on customized solar panels and cells. Instead of producing high quantity, the company focuses on the end user, produces only on demand. In 2018, in the PV sector, it produced 27 MW total capacity and the forecast for 2019 is 50 MW total produced capacity. Through cooperation with many academic entities around Europe, the company’s internal laboratory is always upfront for new technology in order to be able to face the international competition, notably with Asian countries.





