



NEWSLETTER

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ENERGY AND BIOMASS

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Guvernul Republicii
Moldova



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Vocational schools will train specialists in biomass energy



Vocational Schools from Moldova are launching a pilot educational module dedicated to the biomass energy sector, responding to the demand of professionals in the energy sector. The initiative belongs to the Moldova Energy and Biomass Project, funded by the European Union and implemented by UNDP, which supports the authorities in creating a national system of training of specialists in the biomass sector.

The Ministry of Education and the United Nations Development Programme have signed on October 13 a Memorandum of partnership for the development of technical vocational education.

The Minister of Education expressed her acknowledgments to the European Union and to the United Nations Development Programme for "supporting this forward looking project which will strengthen the energy security of the Republic of Moldova. "The Memorandum of Understanding signed today advances the commitments of the Ministry of Education in modernization the Vocational Training Education and the adaptation of the curricular offer to the labour market demand", said the Minister.

Starting with this academic year, students of three VET schools will study new educational modules on "Energy plants – a renewable energy source" within the forester profession and "Biomass heating plants" within the operators in the boiler room profession. The VET schools from Cuhurestii de Sus village, Orhei town and the School No. 3 from Chisinau are the first schools to pilot the educational modules.

"The signing of the Memorandum of Understanding with the Ministry of Education represents a continuation of the partnerships started three years ago thanks to which 19.00 students from 340 schools all over the country learned about renewable energy. The optional course "Renewable Energy Sources" demonstrated the importance of education among the younger generation. Equally valuable is the training of future professionals for market production and consumption of the biomass energy. Piloting these innovative modules in vocational schools is a joint effort in providing more sustainable way for Moldova's development", mentioned Dafina Gercheva, UNDP Resident Representative, UN Resident Coordinator in Moldova.

The vocational schools will teach new specialties based on the educational program developed with the European Union financial support through the Moldova Energy and Biomass Project. Students will have access to practical training laboratories equipped with biomass based technologies, different types of biomass boilers and energy plants plantations due to the Energy and Biomass Project contribution funded by the European Union.

"We are glad to see this MoU being signed today between our Energy and Biomass project and the Ministry of Education. The key goal of the EU funding provided for this project is to ensure sustainable development of Biomass sector in Moldova

and we need well trained professionals capable of using biomass technologies, as well as making the best use of their potential. Another positive aspect is that, in the years to come, biomass sector should offer more and more job opportunities for Moldovans", underlined Alexandre Darras, Attaché-Project Manager, EU Delegation to Moldova.

During the study course, the future specialists will conduct study visits to biofuel producers, to institutions connected to biomass heating systems, to enterprises for assembly and production of biomass boilers in Moldova.

"Vocational and training schools – part of the new educational course will benefit from assistance from the Unique Informational Centre in the Sustainable Energy Sector, launched in October by the Energy Efficiency Agency. Future specialists, inclusive energy managers, will participate in trainings organized by the Centre, will exchange information and will benefit from the expertise of specialists in the sector ", says Mihai Stratan, Director of the Energy Efficiency Agency.

European Union provides financial support to set the first lab to perform quality tests for biofuels

The Energy and Biomass Project envisages purchasing, at the expense of European funds, modern equipment with the aim to perform quality tests for solid biofuels (briquettes, pellets) produced in the Republic of Moldova. The equipment shall be bought by the end of this year through an international tender launched by the Energy and Biomass Project.

One of the key objectives of the Energy and Biomass Project II is to provide assistance aimed at strengthening the biofuel production market.

The Project experts, in partnership with the national authorities, Academia and private sector, have launched processes targeting proper and balanced development of Moldovan biofuel market focused on ensuring high quality finished products.

Upon the Project initiative, an expert group has been established, comprising experts of key sectors, which developed and approved 37 non-binding standards. A Solid Biofuel Regulation, approved by Government Resolution No. 1070 of 27.12.2013, entered into effect on 01 January 2015. It binds the biofuel producers to follow the technical requirements covered by the Resolution.

Along with the biofuel quality, it is essential to ensure proper management of heating plants, thermal distribution systems and building energy efficiency measures.



How to choose quality briquettes and pellets

In the run-up to the heating season the Energy and Biomass Project presents some advice on how to test the biofuel quality by using readily available tools.

Please follow these steps to make sure you buy quality briquettes and pellets that match the type of biomass boiler installed in your dwelling.

Recommendations to check the quality of pellets:

- Place a small quantity of pellets in a glass of water. Quality pellets shall preserve their shape for longer time. If the pellets dissolve immediately in the water then their quality is doubtful;
- Qualitative pellets are smooth and rigid at touch;
- Those pellets that are crumbly at touch have high moisture content and, therefore, would have low heat output;
- Qualitative pellets have the ash content of 4% at most after being burned. The remaining ash is a good fertilizer for plants. High ash content is an indicator of pellets poor quality.

Recommendations to check the quality of briquettes:

- Place some briquettes in a vessel with water for several minutes. Quality briquettes shall sink in the water, reaching the bottom of the vessel, and would dissolve harder. Briquettes with low density would float on the water surface and dissolve easily;

- Throw some briquettes on the floor/ground. If they break apart then the briquette density is low, and you would have to use larger quantities to reach the desired indoor temperature;
- Lower density briquettes have less energy: they burn more rapidly and release less heat;
- Qualitative briquettes have the ash content of 6% at most after being burned. Briquettes with high ash content have a smaller heat output;
- If you have to collect and dispose the ash more frequently than every four days then the fuel quality could be a source of concern.

Choosing qualitative biofuel that is suitable for the type of the installed boiler is a key precondition for the efficient operation of biomass heating plants.

The biofuel heat output and, respectively, its price may vary depending on the biomass source it is made of:

Briquettes/pellets with moisture content not exceeding 10%	Gross Heat Output (MJ/kg)
Walnut shells	20
Sunflower husks	19
Sawdust	18
Straws	15

Biofuel producers on both banks of Dniester shared experiences in developing businesses in renewables

15 entrepreneurs and representatives of most relevant institutions in the field from the left bank of Dniester met a group of entrepreneurs from the right bank, active in biofuel production and growing of energy plants, for exchange of experience. The visit was organized by the Energy and Biomass Project in Moldova, financed by the European Union and implemented by the United Nations Development Program.

"The perspective of developing businesses in biomass energy, presented by the project experts, opens new possibilities for the entrepreneurs on the left bank of Dniester. The experience shared by those producing briquettes and pellets on the right bank of Dniester, as

well as the visit paid to the pellets' production facility in Porumbeni, district of Criuleni, were very useful and helped us know better the development trends of the biofuel market", Igor Stefanco, briquette producer from Tiraspol, said. It is noteworthy that on the left bank of Dniester, four briquette producing businesses were started in the last few years.

The participants exchanged experience on how to start and develop businesses in the area of biomass energy, visited briquette production facilities on the left bank of Dniester and a company producing pellets on the right bank of Dniester.



"It has been a very useful meeting. It is important to have complex information on the steps needed to launch a business in this area so that it turns out profitable, as well as to know the lessons learned as a result of the production experience. It is valuable that the biofuel producers know each other, exchange their experiences and become a united community to defend and promote their interests", Ala Gădrăuțan, briquette producer from the district of Râșcani, says.

Energy and Biomass project shall also carry out other activities to support the development of the biofuel production sector on both banks of Dniester. "Briquette producers on the left bank of Dniester shall be invited to trainings organized by the project in the following months on topics that refer to the quality of biofuel production, business management and marketing. We'll organize study visits to other companies producing briquettes and pellets, as the entrepreneurs would request", Lina Acălugăriței, training and capacity building officer within the Energy and Biomass project, said.



An EU-funded study visit for Moldovan journalists to Denmark

Eight journalists from the Republic of Moldova will participate this year in a study visit to Denmark to learn of this country's experience in renewables' production and usage. The visit is organized by the Energy and Biomass Project.

40 journalists applied for the study visit contest. The journalists will be selected based on the following criteria:

- portfolio of media materials on biomass energy
- complexity and correctness of addressing the green energy issue
- media project to promote biomass energy following the study visit.

The group of journalists from the Republic of Moldova will learn, in the course of seven days, of the development of the green energy sector in Denmark. The journalists will visit companies that produce biofuel, that manage and supply biomass heating and electricity, will talk to the representatives of the authorities, the private sector and civil society about the challenges in the area of renewables.

PURE WATER DROP

40%

of the total energy produced in Denmark comes from renewables.

70%

The largest share of the total used renewable energy is biomass energy, especially agricultural waste. Denmark is the country with the highest rate of agricultural waste use.



Villagers come to my house like on excursion. Biomass boiler is in the limelight today

Dorin Pântea was the Mayor of Pepeni, Sângerei District for eight years. He learned from his brother who is a pilot and travels a lot around the world that people in European countries forgo coal or natural gas heating in favour of biofuel. Dorin was curious to test the new energy source himself.

"When briquettes were available in Moldova I used them in the stove at home, for testing purposes, and since then I have forgone fire woods and coal. It is convenient. I do not care about fire-wood cutting, ash removal", he said.

Dorin Pântea was one of the 650 beneficiaries of the Subsidising Programme implemented under the Energy and Biomass Project Phase I. The Project was funded by the EU and co-funded and implemented by the UNDP Moldova.

"I intended to show the villagers that biomass technologies are available and affordable. People stopped by my house and stepped in as on excursion. They wanted to see the boiler, to understand how it was operated. Being confident that the green energy is a plausible solution for them, tens of villagers applied to the Project Subsidising Programme Phase II. So far 12 households managed to conclude contracts with the Energy Efficiency Agency", Dorin Pântea explained.

The EU investments in the community energy sector triggered the development of Pepeni Commune. Being confident in biomass heating advantages, Mayor Pântea took the decision that the whole community should take advantage of the new technology. Hence, the new boiler installed at Kindergarten of Rasalai Village, which is part of Pepeni Commune, proved its efficiency during the first two winters. The costs incurred for boiler installation were covered out of European funds. Therefore, villagers decided that children attending the large Kindergarten also should enjoy such comfort. The building of Pepeni Mayor's Office heated previously by stoves switched to biomass energy the same year.

Being a real promoter of renewable energy sources, Dorin Pântea filed an application, as an entrepreneur, with the Energy and Biomass Project Phase II. He is going to have a biomass boiler installed at one of his business premises, and the amount of EUR 1,300 would be refunded to him out of European funds.

"Should I succeed in having a biomass boiler installed at the bar and at the rabbit mini-farm I currently manage, then the next step would be to launch a briquette and pellet production line in Pepeni", former Mayor of Pepeni said.





We have curbed Moldova's energy dependence by 8%

Interview with Mihail Stratan,
Energy Efficiency Agency Director

○ Mr. Stratan, the Energy Efficiency Agency (EEA) was established in December 2010. What are the Agency accomplishments in five years of activity and how would you describe the evolution in the area of energy efficiency and renewable energy sources (RES)?

● Indeed, we would be marking five years of activity in December this year. Of course, we managed to attain a series of achievements that are not always visible and easy to measure, but which are not less important for the Republic of Moldova and have a significant impact. In principle, in this period we managed to develop elements of new markets, such as energy efficiency and solid biomass fuel. Efforts and investments allocated by the State in this area have paid off. In addition, we have contributed to building an adequate legislative and regulatory framework, necessary for the proper functioning of these markets! Now it is important that both the state and private sector to keep up with the scope of enhancing a fully efficient energy consumption society.

It is time to encourage the private sector as it to come and invest in energy efficiency and renewable energy, to come up with mature and performant, less polluting, technology, to continue implementation of innovations in this sphere. It requires a change of mentality, a change in consumer behaviour and attitude of the whole society vis-a-vis everything is energy. The latter was very cheap once, but those days were long gone. Today energy is a very precious commodity of great importance, having political connotations, economic and social.

We also should note that compared to 2010, with the support of the entire society, we managed to reduce dependence on imported energy resources by about 8%. Currently, Moldova imports about 88%

of everything is called and consumed as energy. Reduction of import dependence is not the merit a single institution, but the fruit of the effort of all stakeholders in the process of increasing energy efficiency and use of renewable – state institutions, development partners and, not least, the private sector.

○ One of the EEA important activities is to keep the stakeholders, companies and end users posted on the opportunities to reduce the energy consumption and achieve energy savings. What actions do you undertake to this end?

● We try to employ various and attractive awareness raising tools for a wide circle of beneficiaries. So, along with basic channels as television and radio, social media, brochures and guides, together with Energy and Biomass Project in Moldova we organize sms information campaigns, concerts powered by the sun and mobile biomass boilers caravans, covering almost the entire country. It is an interesting way of promotion, which proved to be successful in popularization of these technologies. Caravans involve direct contact with potential customers and help increase the number of "fans" of clean energy in all localities of Moldova.

Having regards to the country bioenergy potential, each rural family could cover part of its energy needs out of agricultural waste produced by their own households. However, such reserves have to be mobilised...

The EEA organises the Competition titled "Moldova Eco-Energetica", currently at its fourth edition, jointly with the Ministry of Economy, UNDP and other partners. The Competition aims to reward the best energy efficiency and RES projects.

On 1 December 2015 we envisage to launch an Information Centre for Sustainable Energy targeting both the potential investors and energy efficiency users. Apropos, on 14 November, the EEA is going to conduct consultations with suppliers and distributors of energy efficiency services, materials and technologies to involve the existing information centres, as well as the expertise of industry professionals and of notorious people. The Information Centre for Sustainable Energy is to become an information hub to liaise the entities in place, which already have provided support to users and general public. Also, by the means of this Centre we aim to provide capacity building assistance to the market actors via field-related trainings.

○ You have mentioned the Competition Moldova Eco-Energetica. What news should be brought at the current edition?

- Moldova Eco Energetica is the largest contest to reward successful energy efficiency and RES initiatives. The Competition pursues the goal to support the most important initiatives targeting efficient production, transmission, distribution and use of RES, as well as to develop and promote modern technologies and innovations related to energy efficiency and RES.

Since its launch in 2011, Moldova Eco-Energy has evolved from a contest whose prizes were awarded during a festive Gala, to be a "Week of sustainable energy", marked the beginning of December this year. It will include, as an umbrella, the Contest of Eco-Responsible Ideas, the traditional Bio-Forum, a workshop on energy performance of buildings, culminating of course with Gala Moldova Eco-Energetica, where heroes of the evening will be the people behind Eco-Responsible Stories. Among the topics to be addressed during the discussions held this week, we will have buildings with close to zero energy consumption, the financial instruments for the realization of such projects, with emphasis on energy performance contracts, the ESCO and not least, we will encourage the emergence of debates and polemics on the subject of local energy autonomy.

I would like to mention that many projects with an important innovative component have been submitted for the Contest of Eco-conscious Ideas. I am so pleased that the submitted projects have an improved quality. Therefore, we envisage to identify valuable projects and to provide them both the necessary support and viable financial partners, which could underpin the project implementation. Last year, four ideas, out of ten, were accepted for funding. I have to emphasise that we accept for competition final projects requiring funding only and ideas at the level of design as well. To this end, we organised a platform to foster networking of those who initiated the project and the potential financiers; thus, having established partnerships and moving on to actions.

We shall organise again the Fair of Eco-conscious Technologies – an exhibition of efficient technologies we can recommend to users.

The already traditional Bio-forum would be devoted this year, as I said earlier, to local energy autonomy, and we'll present solutions and technologies to contribute to this autonomy. At the Forum we shall present the Study on Co-generation Potential of the Republic of Moldova, other research studies conducted by scientists as well as Success Stories of practitioners in the area where they managed to implement projects, which are replicable in other settlements. By implementing such technologies, we aim to advocate the concept of local energy autonomy in Moldova. At first glance, this concept is impossible in Moldova, but we are sure, on the longer run, it is achievable.

○ What other priorities has EEA established in the short-run?

- Out of many planned measures I would mention just one, which is paramount: develop the National Energy Efficiency and RES Action Plan for 2016–2018, as a sector planning document of great importance. This document shall guide all the actors involved in the energy policy implementation process with the aim to attain the target of 20% more efficient energy consumption on the horizon of the year 2020 and, in parallel, the achieve the national commitment of having 17% of renewable energy in the energy mix by the same year.

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