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THE INTRODUCTION OF ENERGY MANAGERS a Big Step Forward for Serbia



Aleksandra Tomić

In late September 2016, a conference on "Energy efficiency in public buildings in Serbia" was held at the hotel Metropol and was organized by GIZ, Ministry of Energy and Mining and the Faculty of Architecture. At this meeting, we learned more about the methodology of collecting and processing data on public buildings and comprehensiveness of this project, keeping in mind that in the last 20 years there were no investments in Serbian cities. Among the speakers was also Ms. Aleksandra Tomić, PhD, who addressed the conference on behalf of the National Assembly of the Republic of Serbia. We talked to her in the building of the National Assembly, in the luxurious ambience of one of the three buildings that thanks to Ms. Tomić got an energy passport. The reason for our conversation is newly formed, informal parliamentary group called Serbian Parliamentary Energy Policy Forum. Ms. Tomić is the President of this group.

EP: The project "Energy efficiency in public buildings in Serbia" that GIZ supports is important for Serbia in terms of restoring public buildings, municipalities, schools and hospitals on the local level. You are involved in this project on behalf of the Parliament, so tell us what is the existing situation like and whether, in your opinion, the project can improve the situation on the local level.

Aleksandra Tomić: Within the cooperation between the German GIZ and NARS (National Assembly of the Republic of Serbia), which was established for monitoring implementation of the Law on the Rational Use of Energy, which the Serbian Parliament adopted on March 15th 2013, with particular emphasis on energy efficiency in buildings, Committee on the Economy, Regional Development, Trade, Tourism and Energy formed a Subcommittee to deal with these issues. Therefore, our cooperation lasts from 2013.

The Committee, which I chaired then realized that issues relating energy should be pointed out and set aside for the public to hear the truth about energy policies of all political actors in the world. Here, I have in mind EU countries and countries of the region in the first place, because they are an integral part of the political relations of the countries we cooperate with. Therefore, we have always been active participants in GIZ projects. In that way, we realistically represented all entities who seek for new legislation as MPs.

The relationship with local governments is an inseparable part of functioning of MPs, the Committee and NARS, with a special emphasis on the implementation of the new laws. They are not only the obligation of the authorities on the national level, but also authorities on the local level. GIZ really invested a lot of effort and the results are visible. However, the needs are much greater, because it is obvious that nothing has been done for 20 years in this area until 2012.



EP: Tell us more about the activities of the Serbian Parliamentary Energy Policy Forum that you lead. You have effective international activity, such as the Conference Bioenergy held on November 18th, 2016 in Belgrade. Also, you have plans for exchange with the German Parliament in June 2017. Why are these experiences important for us and whether the implementation of solutions from developed countries is possible in our legal system and energy?

It is also important to mention that the National Assembly has established the cooperation with the Energy Community Secretariat for the past four years. Mr. Janez Kopač, Director of the Secretariat, presented to the Committee on the Economy, Regional Development, Trade, Tourism and Energy reports on the progress of the Republic of Serbia. He spoke about the implementation of the package of regulations in the field of energy. Every year in September, the report for the previous year is presented. This cooperation and activities have contributed to the forming of the Energy Community Parliamentary Plenum, where twice a year, members of all national parliaments of Energy Community members participate.

Aleksandra Tomić: Serbian Parliamentary Energy Policy Forum is an informal parliamentary group which at this Assembly consists of 15 MPs. Meanwhile, another 14 MPs from several parliamentary groups submitted a request for membership. The Forum has 10 permanent members from the group consisting of 90 non-parliamentary members from other institutions: universities, companies, civil society organizations and the media. The activities of the Forum do not replace the activities of other institutions, but they are complementary. The Forum organizes events where the key actors in the energy sector meet, inform each other and discuss all the issues in the energy sector. Given the fact that MPs pass laws, open dialogue is necessary with all the actors who enable MPs to make decisions based on quality information that reflect numerous points of view. In this context, the meetings of Serbian Parliamentary Energy Policy Forum, is the place where all local, state, regional, European and other international actors in this field meet. During these meetings, they exchange information and express opinions. In the last Assembly from 2014 to 2016, we had seven meetings and several conferences and other activities where we discussed various issues. Some of these issues concern the possibility of using biomass for energy purposes, possible models of funding energy efficiency in buildings, as well as the topic in the field of mining and mining-geological research. Energy Development Strategy of the Republic of Serbia until 2025, with projections until 2030, we have considered at five simultaneously held panels, on which many journalists participated. Each participant had the opportunity to express their opinion, ask questions and participate in the discussion and the result is our recommendations of the Forum that we submitted to the Ministry of Mining and Energy and published on the website of the National Assembly.

Clearly shaping energy policy objectives and creating opportunities for their achievement is a necessary prerequisite for ensuring the economic development of Serbia. There is no economic development without good energy policy. Adequate setting of

the targets enables the reduction of poverty, affects the increase in employment and the health of the nation. In a country like ours, with limited energy resources, limited human resources and without the ability to significantly influence global politics, it is not an easy task. A good energy policy enables a rational and efficient use of our limited resources, provides the ability to earn money, as well as heating and transport. I must say that events like conference COP21 influence the eventual review of the goals set forth in the Energy Strategy, which we adopted at the beginning of December

2015, and the objectives of the National Strategy for Sustainable Development we will have to revise as soon as possible.

EP: You have been involved in the preparation of energy passports for three significant buildings in Belgrade. How do you assess last year's introduction of Energy Managers in the management system in our country, and the necessity of making energy passports?

Aleksandra Tomić: One of the results of the work of the Committee and Subcommittee, which I mentioned earlier, is also creation of energy passports for three most important buildings in Belgrade, which was conducted by the Faculty of Architecture in Belgrade based on the cooperation between GIZ and NARS. Buildings that have received energy passports are the edifice of the National Assembly of the Republic of Serbia, the Presidency of Serbia and the Palace of Serbia. These are the initial documents, without which you cannot start doing anything precise in the direction of reducing energy consumption.

The introduction of Energy Managers in the system is a major step forward for Serbia. They are essential because they provide support to local governments in terms of personnel, in order to start developing energy passports for all the buildings owned by the Republic or local authorities. Regional Chamber of Commerce provides the assistance in obtaining certification of Energy Managers, which makes the inclusion of the economy in improving the process of introducing energy efficiency much higher. Otherwise, the law that introduced the function of Energy Managers in the system is a part of the EU standards, and this occupation is also considered to be one of the most popular and highest-paid not only in the EU but also in the world. If we want to reduce budget costs and increase public expenditure, and to use energy more rationally, this is a sure path to economic development of Serbia.

Interview by Vesna Vukajlović



CENTRE FOR ENERGY MANAGEMENT TRAINING at Faculty of Mechanical Engineering

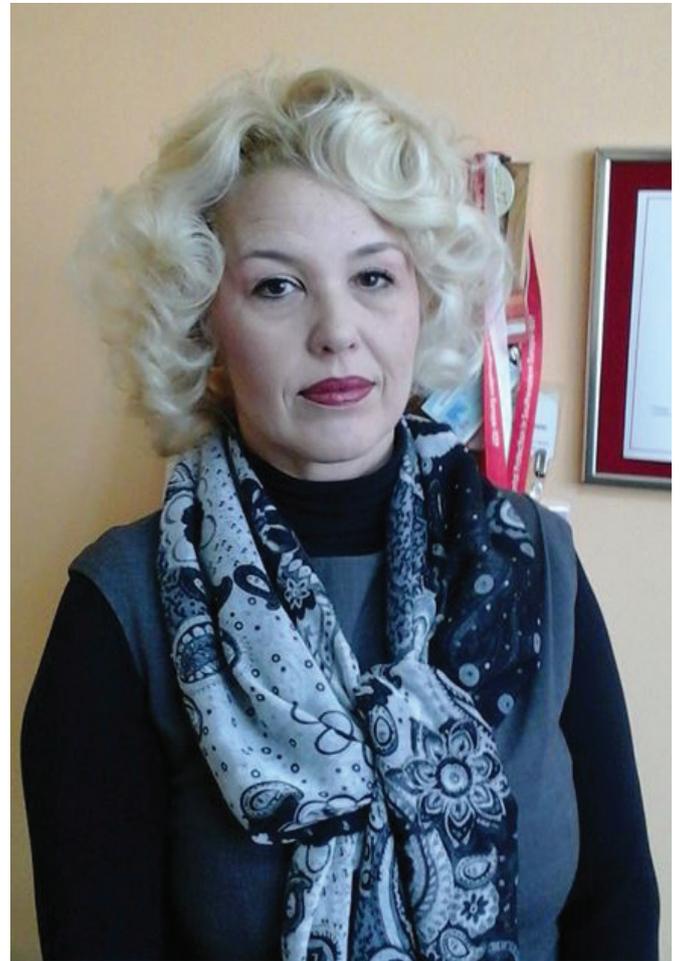
Last year in June a training organization for the training of Energy Managers and authorized energy advisors commenced its operation. The first participants have acquired necessary knowledge about legal framework of the Energy Management System and standard ISO 50001:2012. Law on Efficient Use of Energy (Official Gazette RS 25/2013) provides that there are organizations that can carry out trainings of Energy Managers. When the competition was announced in 2015, based on the submitted documentation on technical potentials and human resources, it was decided that the Faculty of Mechanical Engineering, University of Belgrade becomes the authorized organization.

The Centre is part of the Project "Assistance for the improvement of energy management system in all sectors of energy consumption in the Republic of Serbia". This project, by the end of 2013, jointly implemented by the Ministry of Mining and Energy and the Japanese International Cooperation Agency (Japan International Cooperation Agency – JICA).

At the opening of the Centre for Energy Efficiency in October 2016, the Minister of Mining, Mr. Aleksandar Antić, reminded that Serbia committed to reduce total energy consumption by nine percent by 2018. On this occasion, he emphasized that in recent years we have achieved savings of almost six percent. Regarding these innovations, we had the honor to talk to the Deputy Head of the Centre – professor and doctor of science, Mrs. Maja Todorović. The process is not easy, but according to our interlocutor, the right steps are being taken.

EP: On the occasion of the opening of Centre for Energy Efficiency one could hear that for Serbia energy savings is more significant than the investment in new energy facilities. How do you personally see the opening of this Centre?

Maja Todorović: The Faculty of Mechanical Engineering has always dealt with energy efficiency, especially the Departments whose main scientific fields closely relate to energy. I am personally engaged in the Department of Thermal Engineering, my narrower field is heating and air conditioning. As an educational institution, we previously had the established regional Centre for energy efficiency, which makes us a recognizable institution in this area. Perhaps it is for this reason that the Ministry decided for the Centre for Energy Managers and authorized energy advisors to be open here. We also responded to a call that the Ministry issued, and the call was related to granting authority for the training of Energy Managers. The very Law on Efficient Use of Energy predicted the introduction



Maja Todorović

of energy management systems. The system is organized based on the system which exists in Japan. So, the Government of Japan, has offered to our Ministry certain support in the introduction of this system, through the involvement of JICA, Japanese International Cooperation Agency. In line with that the Regulation has been adopted relating to the training itself. We have Energy Managers for Municipal Energy, Industrial Energy and energy efficiency in buildings.

EP: What are the exact responsibilities of the Energy Manager? Do these licenses need to be renewed and what kind of jobs can Energy Managers perform after this training?

Maja Todorović: Energy Manager should contribute to a synchronized, methodical approach in monitoring energy flows in his area. Specifically, they are required by law to monitor the consumption of large consumers; in industry, municipalities and buildings. They need to systematize data on energy flows



and energy consumption appropriately. It is necessary to do an annual energy balance and inform the Ministry about it. Based on the balance, an annual program for the improvement of energy efficiency can be done. Energy Manager can, in his field or company, propose measures that will result in energy savings. This is the main task for the Energy Manager. On the other hand, the Ministry will have accurate information about energy consumption, considering all the measures that need to be introduced. Not only that total energy consumption is monitored, but it is also monitored the type of energy, its purpose and the energy sources that are being used.

EP: Serbia is at the very top on the list of countries that consume energy inefficiently. Can we expect progress and change with this new institution of Energy Manager in real terms?

Maja Todorović: The process is not easy. It started back in 2009, when the Law on planning and construction was introduced in the field of energy efficiency in buildings. With the introduction of Article 4, the introduction of energy certificates for buildings became the obligation, or as we popularly call them: energy passports. When we observe the matter in this way, a lot of campaigns were done in this process. The emphasis was mostly on the residential sector, although the leader in this respect should be the public sector. Certainly, much has been done. There is also considerable support of the Ministry of Construction and Infrastructure, then the German Agency for International Cooperation and Development – GIZ. In the meantime, the studies on energy efficiency in buildings have been made. One such study was funded by the World Bank. Here, the biggest problem is to develop models for financing the projects for the improvement of energy efficiency. A variety of modalities should be provided, so that different entities can find the one that suits them best. And of course, we should encourage the development of ESCO companies that provide energy services. This means that in the beginning you do not have to invest, ESCO company invests for you and they will charge for their services from the savings generated from the project they funded. These financing models are not developed

at a sufficiently high level in our country and I think that the state should consider some incentives. For example, reduced duty rates for the equipment and devices that contribute to reduced energy consumption.

EP: You have already had three rounds of training since the establishment of the Centre. How many Energy Managers are there in Serbia currently and how do interested candidates apply for the training?

Maja Todorović: We conducted the first training in June, it was intended to Municipal Energy. Then we had 40 participants. In one training cycle, which lasts 6 days, we can have up to 40 participants. This is maximum because of the capacity for practical part of the training. In October, cycle for Municipal Energy was repeated and we had 3 cycles for Industry, and in February 2017 the first cycle for Energy Managers in building design and construction. For the Municipal Energy we had 70 participants, for industrial managers about 100 and there is a group of 40 students registered for energy managers in building design and construction. After the training, the participants are required to do independent work. To be more precise they must do a plan and program of energy efficiency which their mentor monitors. After this part, it is considered that they successfully completed the training and capable of taking the exam. After passing the exam, we pass on the results to the Ministry, after which candidates apply for a license in the Ministry. We will see if this license will have to be renewed.

When it comes to the registration of candidates, the Ministry held regular seminars informing those who are legal subjects to this system, about the organization of trainings. Currently, the Faculty of Mechanical Engineering is the only institution that has been authorized. We have on our website published calls for training, so the municipalities and interested companies can send candidates. The Law defined that large consumers are liable. For municipalities, the criterion is number of inhabitants and for the industrial plants the amount of energy consumed.

Interview by Vesna Vukajlović



SERBIA IS A REGIONAL LEADER

in the Field of Energy Efficiency in Building Design and Construction

The final conference of the project 'Advisory services in the field of energy efficiency in buildings' was held at the beginning of March. The project Manager, Mrs. Renate Schindlbeck said that significant results were achieved during nine years, and Serbia has managed to position itself as the leader in the field of energy efficiency in buildings in the region of Western Balkans.

At the conference, it was said that Serbia today has 1,600 licensed engineers for energy efficiency, and from the day of passing the Law on Energy Efficiency, 1,500 green passports have been issued. Copydesk of Energetski portal was at the conference held by GIZ at the Metropole Hotel in Belgrade in autumn 2016. The kick off meeting with the representatives of municipalities regarding the project for the improvement of energy efficiency in public buildings was then held. We talked to Mrs. Renata Schindlbeck about these activities for our bulletin.

- At the meeting in the Metropole Hotel, we had an ambitious plan to get data on all public buildings in Serbia. We actually wanted to see how many such facilities there are, because we didn't have any clear answer. Then, we started with our activities. We exclusively needed energy data. That was the goal of the kick off meeting in fall last year. The main focus was on schools and kindergartens, but we said – Ok maybe we should process the data on other buildings too. We didn't ask for details, but we needed at least basic information, whether we are talking about 5,000 or 50,000 public buildings. We still do not have the final number because the data are being processed. We had a great response of municipalities in all this. We had a really great collaboration. Our team of experts now has all the details. The second step was to gather and process the data from all schools and after that to develop a typology. Roughly speaking, most of the schools were built in the 70's and 80's of the 20th century. The most important thing in all of this was to obtain the information on energy situation and to make typology.

EP: Can you tell us at this point how much work has been completed so far and when will all data be collected and processed?

R. Schindlbeck: Everything is collected and it is literally put in boxes. And now comes the biggest part of the job to do the evaluation and to analyze all the research from the field. Also, we must do cross-check, because there are



R. Schindlbeck:

times when you come to all wrong data. Then we make a data bank and typology that I have already mentioned. That should end in summer.

EP: What do you expect to happen after summer? Does GIZ invest in energy efficiency or it just collects data and analyzes the real situation in municipalities?

R. Schindlbeck: Our development agency has 'two legs' or 'two pillars'. One pillar represents financial cooperation and the other one is technical support. Financial cooperation is achieved through the operation of KfW Bank and GIZ represents technical assistance and provides support in this regard. The project we are talking about is under the auspices of DKTI – German Climate Technology Initiative, and financial assistance will arrive in 30 schools. Restoration of these facilities will be performed. We actually provide analysis for these strategic decisions. All this is implemented in cooperation with our main partner in Serbia and that is the Ministry of Mining and Energy of the Republic of Serbia. Our task is to advise municipalities.



In the first project, which was presented in March, we processed data on residential buildings. Now, we move on, each municipality should improve energy efficiency in public buildings. We should give them concrete recommendations: this will cost that much, do these measures and so on.

EP: Were there such projects in the region, and whether you were personally involved?

R. Schindlbeck: What we are doing now is a pilot project. Cooperation between GIZ and the Ministry of Mining and Energy is the first project of this kind.

EP: What was the condition that you found and what was your impression on Serbian municipalities and public buildings in them?

R. Schindlbeck: There is never enough investment – everything comes to that conclusion in the end. In Germany, one can conclude that much has been done, but there can always be much more, because energy efficiency is an investment in the future and it is never finished. You invest, and the money soon comes back and then you start to save. Thus, it is necessary to invest, and the question is not whether it is enough or not. Enough for all of us will be when we all move 100% to renewable energy and when there are no CO2 emissions. Perhaps the most important on the long-term plan for us is to reduce CO2 emissions. If we are talking about this field, I was impressed when I came in June 2014. Everything was set on solid foundations, typology of houses was done, etc. That project will be replicated in other countries in the Balkans. I am an architect and I must say that this part of the job was done perfectly. Typology was made in this segment.

EP: What will be your main recommendation when it comes to public buildings, what will you suggest?

R. Schindlbeck: We'll have to perceive the entire facilities. We have architectural measures that we will propose, but also

the ones regarding the technical equipping. Of course, we want to increase energy efficiency and reduce CO2 emissions. We will analyze whether the house faces south or north, or maybe insulation is needed, in what way it is heated and cooled. We will check the technical equipment, we will try to find the way to use renewable energy sources. This is the approach to these issues.

EP: Can you give us an example from Germany in which public buildings are energy efficient and schools and kindergartens operate in the manner to which we aspire in Serbia?

R. Schindlbeck: In Germany, we have some villages which are completely 'passive', both private homes and public buildings. All those settlements completely switched to renewable energy and now we have one 'bio' village. Essen as the European Green Capital for 2017 is a good example. But I must also say that Frankfurt has a serious strategy when it comes to energy efficiency and renewable energy sources. According to EU directive from 2018 all new facilities that are being built must be 'passive', and that is our certain future and the way we move. The obligation will be for all cities and villages to be absolutely energy efficient.

EP: Who were your business and strategic partners, with which institutions do you implement such a comprehensive project?

R. Schindlbeck: University of Belgrade is a very important partner. Faculties such as Mechanical engineering, Electrical Engineering and Architecture are involved in the development of typology based on the obtained data. UNDP is our international partner with whom we have a memorandum on cooperation. They also participate in the development of software which is used in the Centre for energy managers in training. It is very important to encourage the progress in your country.

Interview by Vesna Vukajlović



BUDGET FUND

for the Improvement of Energy Efficiency

Law on Efficient Use of Energy envisaged the establishment of the Budget Fund for energy efficiency as an efficient method for collecting and placement of funds in order to finance or co-finance projects, programs and activities aiming at efficient use of energy.

A public call for the allocation of funds from the Budget Fund for financing projects in the field of energy efficiency was carried out in 2014 in local administration units. After that, in December 2014, the Contracts for grants from Budget Fund were signed with 11 local administration units: Dimitrovgrad, Gadžin Han, Babušnica, Mali Zvornik, Priboj, Ljubovija, Gornji Milanovac, Bor Žagubica, Kula and Kikinda. The projects were implemented during 2015 and 2016 and primarily they included measures for the improvement of energy efficiency on thermal envelope of the building (replacement of doors and windows and installation of thermal insulation). Also, there were projects for the improvement of HVAC systems by using renewable energy sources. The total value of all works was around 80 million dinars, Total savings in energy consumption for heating compared to the previous condition before energy rehabilitation was around 40% that is 2 million kWh.

New Regulation on conditions for allocation and the use of funds from the Budget Fund for the improvement of energy efficiency in the Republic of Serbia and the criteria

for the exemption from the obligation to perform Energy Audit ("Official Gazette RS" No. 13/16) was adopted at the beginning of 2016 and then, on the basis of the Regulation on establishment of the program for financing activities and measures for the improvement of efficient use of energy in 2016 ("Official Gazette RS", No. 13/16) the first public call for the allocation of 125 million dinars from funds of Budget Fund for financing projects for the improvement of energy efficiency in local administration units in 2016 (JP1/2016) was announced. This public call lasted from 11th April to 16th May 2016, after that the contracts for 15 local administration units were signed in September 2016. 15 municipalities that signed the Contract are: Mionica, Boljevac, Bečej, Kruševac, Kragujevac, Svilajnac, Ražanj, Novi Bečej, Doljevac, Žagubica, Bački Petrovac, Gadžin Han, Užice and Novi Sad.

The second public call (JP 2/16) was published on 24th October in the daily newspaper "Politika". This public call is being implemented within the Project "Removing obstacles for promoting and supporting energy management system in the municipalities in Serbia" which together implement the Ministry of Mining and Energy and UNDP. 25 million dinars were provided from the funds from the Budget of the Republic of Serbia for the implementation of the Public call and 500,000 USD were provided from the Project (GEF).

Source: mre.gov.rs





PROVIDED ENERGY PASSPORTS for Public Buildings



Dragan Vidanović

We talked with the Mayor of Babušnica, Mr. Dragan Vidanović about the activities carried out in the municipality. Our interlocutor confirms that it is one of the most underdeveloped municipalities in Serbia, but there is enthusiasm and effort to improve the quality of life. Geographic location is attractive, the municipality is close to Bulgarian border, well connected with roads to nearby Niš and Pirot. It remains to work and invest in neglected areas of public life to take advantage of all the benefits that this town has. And there are many, this includes the history that goes back to the Roman period, archaeological sites and thermal waters that this locality is famous for.

EP: Municipality Babušnica signed the Contract with the Ministry of Energy and Mining and received together with Žagubica and Kragujevac the largest amount of funds, 15 million dinars for the improvement in energy efficiency. You have already had allocated funds in 2014, so tell us what was done in 2014 and what will you spend the funds allocated at the end of 2016 on?

Dragan Vidanović: In 2014, the municipality of Babušnica participated in the public call of the Ministry of Mining and

Energy for financing projects in the field of energy efficiency in local governments. This activity was carried out in accordance with the Action Plan for Energy Efficiency of the Republic of Serbia and the municipality received funds in the amount of 12,178,920.00 dinars for the implementation of the project Improvement of Energy Efficiency in 2014: "Reconstruction of thermal envelope and replacement of doors and windows in the Babušnica Municipal Building ". Within this Project energy rehabilitation of the Babušnica Municipal Building was done. The Project was completed successfully and its realization improved energy efficiency in such a way that the building after the performed works received a passport that upgraded the building from class "G" to class "B". The implementation of this project reduced carbon dioxide emissions, while in the financial domain cash savings are generated. Due to the public call, the municipality received funds in the amount of 17,650,000.00 dinars VAT included, for the realization of the project Improvement of Energy Efficiency in 2016 "Rehabilitation of the façade and windows of the Health Centre "Dr. Jovan Ristić" Babušnica". The contractual value after the procedure of public procurement is 10,007,570.00 dinars without VAT and the deadline is 180 days from the date of introduction in the work itself. After the completion of works, energy passport will be issued and the



building passes from "E" class to "B" class. Also in 2016, the municipality Babušnica realized the project "Improvement of Energy Efficiency of the building of the Cultural Centre in Babušnica". The project is funded by the European Union and the Government of Switzerland, and is implemented within the framework of European PROGRESS program. The contractual value of the works amounts to 10,777,805.00 without VAT and the deadline is 30 days from the date of introduction in the work itself. After the completion of works, energy passport will be issued and the building passes from "G" class to "D" class.

EP: *Similar projects are being implemented in Bosnia and Montenegro, public institutions receive funds, and in Croatia even citizens as private persons entered the project and received funding for rehabilitation and change of windows and doors in private homes. How do you assess the overall situation in the region? Why did the investment in energy efficiency fail for more than two decades?*

Dragan Vidanović: I think that Serbia is late in relation to the surroundings when it comes to improving energy efficiency, but now Serbia is catching up. In the last few years Serbia has invested considerably more in energy efficiency both in terms of legislation and policy documents, as well as in terms of allocation of funds for the promotion of energy efficiency as evidenced by the example of the municipality Babušnica, which has received significant funding from local and international donors. I believe that the potential for the improvement of energy efficiency is great and that it is still underutilized, which is our task in the forthcoming period.

EP: *What is more important for your local community: road infrastructure, water supply, rehabilitation of landfills or is this type of projects the most important? Tell us about the overall situation in your municipality.*

Dragan Vidanović: Although municipality Babušnica is one of the most underdeveloped municipalities in Serbia, when it comes to energy efficiency we invest a lot of effort and resources from the local budget for the promotion of this field as one of the fundamental pillars of our civilization. I think that it is equally important as the development of road infrastructure, water supply and cleaning of landfills. By improving energy efficiency, we significantly affect the protection of the environment and the reduction of carbon dioxide emissions. In our municipality, there is a large percentage of the rural areas with low level of pollution, but environmental protection is certainly one of the priorities. Energy recovery and efficient use of energy, help protect the environment, improve the quality of life of citizens and contributes to the reduction of financial resources which influences the sustainable economic development as the ultimate goal.

EP: *What are the institutions involved in this project? Which contractors will implement all planned activities?*

Dragan Vidanović: Local government with its organ, public institutions, public enterprises and other institutions and organizations are involved in the implementation of the project and they contribute directly or indirectly to the implementation of project activities. As an example of good practice and cooperation with the European PROGRESS program. With their help municipality realizes the project "Improvement of Energy Efficiency of the building of the Cultural Centre". When it comes to improvement of energy efficiency of the Health Centre "Dr. Jovan Ristić", a contract was signed with the best bidder in accordance with the law and other legal norms, where the works will be carried out in accordance with the license granted and elaborate on energy efficiency for this building. When selecting bidders, the preference is given to those who offer goods of domestic origin.

Interview by Vesna Vukajlović





SCHOOL IN KREPOLJIN

Will Be Rehabilitated by June 1st



Safet Pavlović

The Mayor of Žagubica, Mr. Safet Pavlović especially for the newsletter ENERGY EFFICIENCY talks about activities that are ongoing in this local community. In 2014, a public call was carried out for the allocation of funds from the Budget Fund for financing projects in the field of energy efficiency in 2014 in local governments. Then in December 2014, contracts for grants from the Budget Fund were signed with 11 local governments: Dimitrovgrad, Gadžin Han, Babušnica, Mali Zvornik, Priboj, Ljubovija, Gornji Milanovac, Bor, Žagubica, Kula i Kikinda. We asked Mr. Pavlović this time about the newly signed agreement from 2016. Žagubica is a picturesque town in eastern Serbia, in Braničevo District which has about 3,000 inhabitants and about this town there are not many media releases and reports. Nevertheless, Žagubica is rich in tourist attractions such as the example Springhead of the Mlava river, whose depths are explored by the scientists across Europe.

EP: Ministry of Mining and Energy of Serbia signed contracts with representatives of 15 local governments on the allocation of 125 million dinars for the projects that improve energy efficiency. These funds were provided from the Budget Fund

for energy efficiency. The maximum amount to be allocated to local governments is 15 million dinars and they are obliged to finance those projects with a minimum of 30 percent of their value. Žagubica was awarded with 15 million dinars. Tell us what are the biggest problems in the Serbian municipality when EE (energy efficiency) in question?

Safet Pavlović: Regarding the municipality Žagubica, this is the second Project which is financed from the Energy Efficiency Fund in the last two years. The first project was elementary school "Moša Pijade" in Žagubici and it was completed. The second is a project of the Energy rehabilitation of the elementary school in Krepoljin, the reconstruction of the outer envelope (installation of thermal insulation) and the setting up of aluminum windows. Many years of not investing in facilities for public use, lack of funds for their maintenance and negligence of users have caused that many facilities are in a bad state. These are only first steps in solving the problem of energy-inefficient buildings on the territory of our small municipality, but also the major problems we have, because these two schools represent the largest facilities of this type. In addition to these two schools, we will try to continue solving these problems





and to bring more buildings that are in public use in the state of maximum energy savings, reduce energy consumption and thereby improve working conditions in them.

EP: *What will you improve and how will you allocate the sum of 15 million dinars? Does the municipality have partners in this project: contractors, project implementers?*

Safet Pavlović: The entire amount of the funds received from the Ministry will be invested in the Project for Energy rehabilitation of the elementary school in Krepoljin. Žagubica municipality has its own public company whose activity is project management, so our company conducted the entire procedure, participated in creation of the project documentation and will act as the coordinator of the Project and conduct professional supervision of the works. The contractor was chosen in the public procurement and the implementation of the project is in progress.

EP: *In what time frame do you expect the realization of energy efficiency improvement and whether these are long-term ventures? Is it important to improve the general quality of life and job creation?*

Safet Pavlović: As far as the specific Project for Energy rehabilitation of the elementary school in Krepoljin, deadline for implementation is June 1st. The Contract with the Contractor is signed and the procedures of the introduction in the work itself are completed, we are waiting for nicer weather to start

with construction works. The deadline will certainly be met. When it comes to general energy efficiency of buildings in the municipality, it is certainly a long-term endeavour, given the number of facilities that require remediation. Certainly, any repair improves working and living conditions in such facilities, large energy savings, and hopefully with the improvement of working conditions some other positive reactions will occur.

EP: *What else is important for Žagubica and what other fields are vulnerable? Are water supply, landfills and energy supply well-regulated? What is the next field that needs investing according to your data?*

Safet Pavlović: In addition to this type of influencing the very quality of life in the municipality, there is also the improvement of living and working conditions in the countryside. We strive to improve conditions with speedy construction and reconstruction of infrastructure systems, to keep people in the area and improve the development of the local community. A lot of funds are invested in water supply system, there are still a couple of settlements on the territory of the municipality where this issue is not resolved, so this year we have in plan the creation of project documentation and the water supply system for one more settlement in the municipality. We are also improving the conditions for cultural events in the settlements of the municipality. We reconstruct the Houses of Culture, sports facilities and generally resolve many municipal problems.

Interview by Vesna Vukajlović





THE COMMITMENT OF THE CITY'S AUTHORITIES to Environmental Protection in Kragujevac

Kragujevac is one of the cities which invests a lot in ecology, as evidenced by the investments in the construction of Recycling centre, as well as the procurement of the equipment for the waste collection and implementation of environmental projects. We talked to Dragan Marinković, the Head of the Department for Environmental Protection of Kragujevac about this year's plans in the field of ecology and environmental protection.

EP: The city of Kragujevac has envisaged 44,442,000.00 dinars from the Budget for the environmental protection for 2017. In what way do you plan to use these funds?

Dragan Marinković: The Budget Fund of Kragujevac city has existed since 2010, and natural persons pay environmental tax. Since this year, the changes have been introduced so the environmental tax will also be paid by legal entities and thus we expect more funds than last year. The money for monitoring of air, surface waters, soil, pollen, noise, greening and cleaning up illegal dumps is allocated from the Budget Fund. Public Utility Companies such as PUC 'Zelenilo' and PUC 'Čistoća' are also subsidized from these funds.

EP: Do you plan to allocate these funds for setting up containers for the separation of waste?

Dragan Marinković: Kragujevac has wire containers for the disposal of PET packaging, but still there are no funds for the purchase of special containers for paper, glass, metal, plastic, etc. The citizens are interested in recycling a lot, we have a good response and the need for larger number of these containers. As for the separate collection of waste, there is a problem with waste collectors who steal

goods because it has a market value.

EP: The construction of the Recycling centre in Kragujevac began last year. When is it expected to be put into operation?

Dragan Marinković: The Ministry of Agriculture and Environmental Protection has provided 45 million dinars for the development of project documentation and the construction of the Recycling centre, and this year the investment of 30 million dinars has been envisaged by the Budget Fund of Kragujevac. The facility was built, but for its equipping it is necessary to construct the access roads, and after that the facility will be put into operation. We expect that in spring this year.

EP: Do you plan some other projects in the field of environmental protection and waste management during this year?

Dragan Marinković: Last year we allocated 2.6 million dinars for projects of associations that are implemented in the field of environmental protection, and in the forthcoming period we expect a new announcement of the competition. Also, at the end of last year we purchased new containers through the European Bank for Reconstruction and Development, and in March this year new garbage trucks arrived which the city didn't have. Anyway, Kragujevac is one of the few cities in Serbia which has a plant for wastewater treatment. The plant is located in Jovanovac and in the following period it is necessary to perform its optimization. In addition to that, the city supports environmental projects, such as "School Biological Centre" whose implementation should start in March 2017.

Interview by Sandra Jovičević



SERBIA IS SUCCESSFULLY CARRYING OUT the Implementation of "Soft Energy Measures"

Energy portal traditionally cooperates with the Guarantee Fund of AP Vojvodina. We talked to Mr. Goran Vasić and learnt a lot about the importance and the potential which Vojvodina has in terms of biomass and biogas. Now, after a year, the new CEO of this institution is Mr. Đorđe Ratković. Open competition for the loans guarantee in the field of energy efficiency was announced and it stimulates the use of better equipment in agriculture and projects that improve the field of renewable energy sources. The competition will last for an unlimited period. The Law on Energy Efficiency was passed in Bosnia and Hercegovina and at the same time in Republika Srpska workshops are implemented and trainings for citizens on energy savings. The importance of energy efficiency is becoming more important than ever in the region. Mr. Ranković will tell us what he thinks about these tendencies.

Đorđe Raković: These are all positive signals, and all countries in the region should maximally be committed to the implementation of measures which lead to the cleaner environment, through the implementation of energy efficiency measures and the use of renewable energy sources. At the meeting in Skopje it was stated that the Republic of Serbia successfully conducts the implementation of 'soft' energy measures, and that it is on the right track in achieving of renewable energy share in energy mix of 27%, to which we committed as a state. It is important that everyone does their part of the job. We also as the Guarantee Fund of AP (Autonomous Province) Vojvodina, a non-profit financial institution, provide strong support to renewable sources in Vojvodina by guaranteeing the earmarked credit line which have been at disposal since 2015.

EP: What is the goal of your project and what exactly are the terms for taking part in this competition?

Đorđe Raković: The main objective of issuing guarantees is creating preconditions for an easier access to credit line of commercial banks, business enterprises (micro, small and medium), entrepreneurs and registered agricultural households in order to provide missing funds for financing the purchase of energy efficient equipment and the equipment necessary for the use of renewable energy sources. The condition for taking part in the open competition is for the users of the guarantee



Đorđe Raković

(companies, entrepreneurs or natural individuals, holders or registered agricultural farms) to be on the territory of AP Vojvodina and the project which competes must be implemented on the territory of AP Vojvodina. Energy efficient equipment includes the equipment which leads to reduction in energy consumption for at least 20% and which leads to a minimum 20% reduction of CO2 emission. The credit line also provides support to joint projects carried out by more legal or natural persons.

EP: What is your opinion on applicants for guarantee, and what was previously missing for the improvement of the situation of Serbian households?

Đorđe Raković: The fact is that people haven't been educated enough so far, and that is the reason why we have



started an 'aggressive campaign' since the new provincial government was formed and we have been in the field every day. We have visited almost 45 local municipalities in Vojvodina, people from the Guarantee Fund were present at all events on which our credit line was presented in direct contact with businessmen and agricultural producers. Only in the last two months, in addition to everyday tours of local authorities, the programs of the Guarantee Fund were presented on the Winter seminar of farmers, the International Energy Days, at meetings organized throughout Vojvodina by the Group Alliance of Vojvodina, at the Kopaonik Business Forum, etc.

EP: Can you name some examples of good practice or projects that came to life in Vojvodina?

Dorđe Raković: According to my information, numerous projects of energy efficiency are in progress in the Province and they are supported by the provincial government and we as the Guarantee Fund are involved in the projects dedicated to entrepreneurs and farmers. Special attention is being paid to the local resources which are insufficiently used, and these are biomass, wind energy and geothermal energy. We are preparing the programs which will rely on IPARD projects that will be financed from the EU accession Funds dedicated to the development of agriculture, and are oriented to the use of renewable energy sources on farms.

Interview by Vesna Vukajlović



Гаранцијски фонд АП Војводине





NEWS / MIX PRESS



ALMOST 90% OF NEW POWER IN EUROPE FROM RENEWABLE SOURCES IN 2016

Renewable energy sources made up nearly nine-tenths of new power added to Europe's electricity grids last year, in a sign of the continent's rapid shift away from fossil fuels.

But industry leaders said they were worried about the lack of political support beyond 2020, when binding EU renewable energy targets end.

Of the 24.5GW of new capacity built across the EU in 2016, 21.1GW – or 86% – was from wind, solar, biomass and hydro, eclipsing the previous high-water mark of 79% in 2014.

For the first time windfarms accounted for more than half of the capacity installed, the data from trade body WindEurope showed. Wind power overtook coal to become the EU's second largest form of power capacity after gas, though due to the technology's intermittent nature, coal still meets more of the bloc's electricity demand.

Germany installed the most new wind capacity in 2016, while France, the Netherlands, Finland, Ireland and Lithuania all set new records for windfarm installations.

"The installation numbers for now look OK, and the investment number is very good," said Giles Dickson, chief executive of WindEurope. "But on the longer term outlook, only seven out of the EU's 28 countries have clear policies and volumes [for wind power] in place for the period beyond 2020." Despite Europe's installed wind power capacity now standing at 153.7GW, it is still a relatively small fraction of the region's 918.8GW of total power capacity. The industry is hoping much of its growth will come from filling the gap as governments force old coal power plants to close to meet climate change goals, as the UK has committed to doing by 2025.

Spain, Portugal, Italy and Greece, which together drove much of the growth in new windfarms in the noughties, now amount to a tiny fraction of new installations. Poland last year passed a law limiting how close wind turbines can be to buildings, effectively stalling the industry there.

The result is an increasingly small number of countries connecting serious amounts of new wind power. Germany, which already has three times as much wind power as any other EU country, installed 44% of Europe's new wind capacity last year.

Source: theguardian.com



CENTRICA LAUNCHES £100M ENERGY INNOVATIONS VENTURE

British Gas owner Centrica has launched a new innovations unit that will invest up to £100m in new energy technologies, including clean energy start-ups.

Centrica Innovations (CI) will "identify, incubate and accelerate new technologies and innovations" in a bid to boost growth and innovation across the Centrica business, the energy giant said yesterday.

It will invest up to £100m over the next five years in new start-ups developing innovative technologies for smart homes, energy supply and distributed power, with key "scout hubs" to be established in Seattle, Houston, London, Cambridge and Tel Aviv.

Centrica said it hopes the move will give the firm "access to technology and entrepreneurial capability and resources". The venture builds on its existing social entrepreneurship fund Ignite, which has invested £10m in enterprises. Ignite will now sit inside CI, Centrica confirmed.

The news coincides with the publication of a report today from the UK Energy Research Centre (UKERC) warning the costs of the low-carbon energy transition are set to increase substantially unless "urgent" action is taken to integrate greater flexibility into the UK power system. Source: businessgreen.com





INDIA TARGETS ELECTRIC VEHICLES 'IN A VERY BIG WAY' WITH 2030 GOAL FOR ALL-ELECTRIC FLEET

The Indian government is working on plans that could see it set a target of ensuring the country's entire road fleet consists of electric vehicles (EVs) by 2030.

According to local media reports, Power Minister Piyush Goyal told the CII Annual Session the government would provide support for the nascent sector, adding that falling costs could soon see EVs dominate the auto market across the country.

"We are going to introduce electric vehicles in a very big way," he was quoted as saying by The Times of India. "We are going to make electric vehicles self-sufficient like UJALA [a previous government initiative to promote LED light bulbs]. The idea is that by 2030, not a single petrol or diesel car should be sold in the country."

He added that the Ministry of Heavy Industries and the The National Institution for Transforming India were working on a plan to promote the roll out of EVs, noting how the government had played a key role in supporting the development of India's domestic automakers which subsequently led to a booming industry.

He argued the government could aid the sector up to the point where EVs become cost competitive, from where he expects to see rapid take up of a technology that reduces running costs, eases reliance on oil imports, and tackles air pollution. "The cost of electric vehicles will start to pay for itself for consumers," he said, according to the International Business Times. "We would love to see the electric vehicle industry run on its own."

He also said any support for the industry could draw on the success of the UJALA scheme, which has already seen 500 million LEDs installed across India in the last two years. And he trailed plans for EV car sharing schemes, centred on large urban areas such as Delhi.

Source: businessgreen.com



CENTRAL AMERICAN SUSTAINABLE ENERGY EXPERTS ENDORSE PLANS FOR THE NEW CENTRE FOR RENEWABLE ENERGY AND ENERGY EFFICIENCY OF THE SICA COUNTRIES (SICREEE)

The current Costa Rican presidency of the Central American Integration System (SICA) hosted a regional workshop that validated the technical design and institutional set-up of the future SICA Regional Center for Renewable Energy and Energy Efficiency (SICREEE).

The workshop was another step forward in the establishment of SICREEE, which will support the region's transition to sustainable energy use. SICA is the economic and political organization of the Central American states: Belize, Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, Panama and the Dominican Republic.

The two-day workshop was co-organized by Costa Rica's Ministry of Environment and Energy (MINAE) and the General Secretariat of the SICA. During the workshop, the technical and institutional design of the Regional Centre for Renewable Energy and Energy Efficiency was presented. To complete the proposal, the United Nations Industrial Development Organization (UNIDO) provided the technical assistance needed. UNIDO has also conducted a consultation process that included a regional needs assessment and the development of the project document.

The workshop was attended by more than 60 Central American experts and specialists from the public and private sectors, who recommended that SICREEE focuses on policy implementation, capacity development, knowledge management, and awareness-raising, as well as on the creation of business opportunities for the local sustainable energy industry. The center will play a key role in creating economies of scale, thus fostering a more competitive market in the sustainable energy sector and will allow the region to be less dependent on imported fossil fuel.

The workshop completed the preparatory phase of SICREEE. It was agreed that the final SICREEE project document will be submitted for consideration to the next Council of Energy Ministers of the SICA countries. Subsequent to its approval, the selection process of the host country for the Secretariat of the center will begin.

When SICREEE is integrated into UNIDO's Global Network of Regional Sustainable Energy Centres, south-south cooperation and post-2015 triangular cooperation will be promoted together with the other regional centers already operating in Africa, the Caribbean, the Pacific islands, and other regions.

Source: unido.org



SIKA

According to LEED Standard

We have visited the branch office of company Sika in Belgrade and talked to Mr. Nenad L. Stamenković, the Manager for roof systems and insulation. Swiss company, which is engaged in chemical industry in the field of construction has introduced a number of innovations and participated in many projects in building design and construction. They are recognizable by LEED standard and that means Leader in Energy Efficiency Design. These are some of the projects in Serbia and Montenegro which have this standard: US Embassy in Belgrade, IT Park in Indjija, Ušće Shopping Centre, Henkel Kruševac, UEA Embassy in Belgrade, Luštica Bay in Montenegro. Sika participated in Borča bridge construction and the highway Podgorica-Boljare in Montenegro was carried out with their innovative products.

They also participated in educational conferences such as Green Building Expo in November 2016. Together with the Ministry of Education of the Republic of Serbia they took part in the round table named 'Green Schools'. Certain engineering solutions were proposed at this round table, but they did not offer specific materials that Sika produces. This is how they showed that they are socially responsible. They continue to care for younger generations by taking part for the second year at this round table.

- We have a large portfolio as a company; I can tell you that we have worked on remediation of health centres in Serbia, in Belgrade and Subotica. In some way, we participated in the construction segment when gamma knives were introduced into the hospitals in Niš, Subotica and Novi Sad. It's upon us to respect the requirements of green construction, and that includes products such as adhesives for battens, parquet floors; We have also worked on the project GTC in Block 21 in Belgrade – says Mr. Stamenković. As a long-time expert of the company, Mr. Stamenković said that as the company they are fully dedicated to sustainable development and that the business environment considers Sika as an innovative construction company. He also gave us an example of using bitumen sheets in white colour at the facility of JUB company, which enables twice lower temperature on the roof. Sika is also present in industrial facility in various types of plants and in all types of industries, which includes Lidl distributive centre in Nova Pazova, Energogroup facility, etc.



Nenad L. Stamenković

- Since my field of specialty is roof structure I will mention an idea for the project 'Green gardens'. That hasn't come to life yet, and the goal is to slow down the flow of water on the roof. Our products reduce the energy consumption used for cooling and heating. We want to relieve the urban zone of sunlight radiation. Our advantages against the competition are concrete additives, and the fact that we have 2 labs for testing mortar and concrete. One segment of the company deals with floor surfaces and we also have decorative floor coverings. There is a large variety of products in the field of waterproofing, but also those designed for the rehabilitation of bridges, chimneys and industrial facilities.

Mr Stamenković has reminded us on the definition of sustainable development given by the European Commission in 1987 and that is sustainable development is the development that meets the needs of the present and

worries about the possibilities of new generations in meeting their own needs. This is something that should make us all think about the future, says our interlocutor. The principle 'SIKA 4' Sustainable Construction confirms his word. SIKA 4 Sustainable Construction consists of the following: the 1st principle is Energy Efficiency Solutions –requests for reduction of energy consumption, the 2nd is Resource Efficiency Solutions – requests for reducing consumption of non-renewable resources, the 3rd principle is Climate Protection Solutions which represents requests for production of CO2 and the last one Air Quality Solutions which is most visible through Sika Green Roofs.

- We must think about limited resources such as oil and gas when we create new services and products. Climate change is also a very big inspiration for manufacturers such as Sika. Each product must meet the highest standards and minimize the impact on the environment.

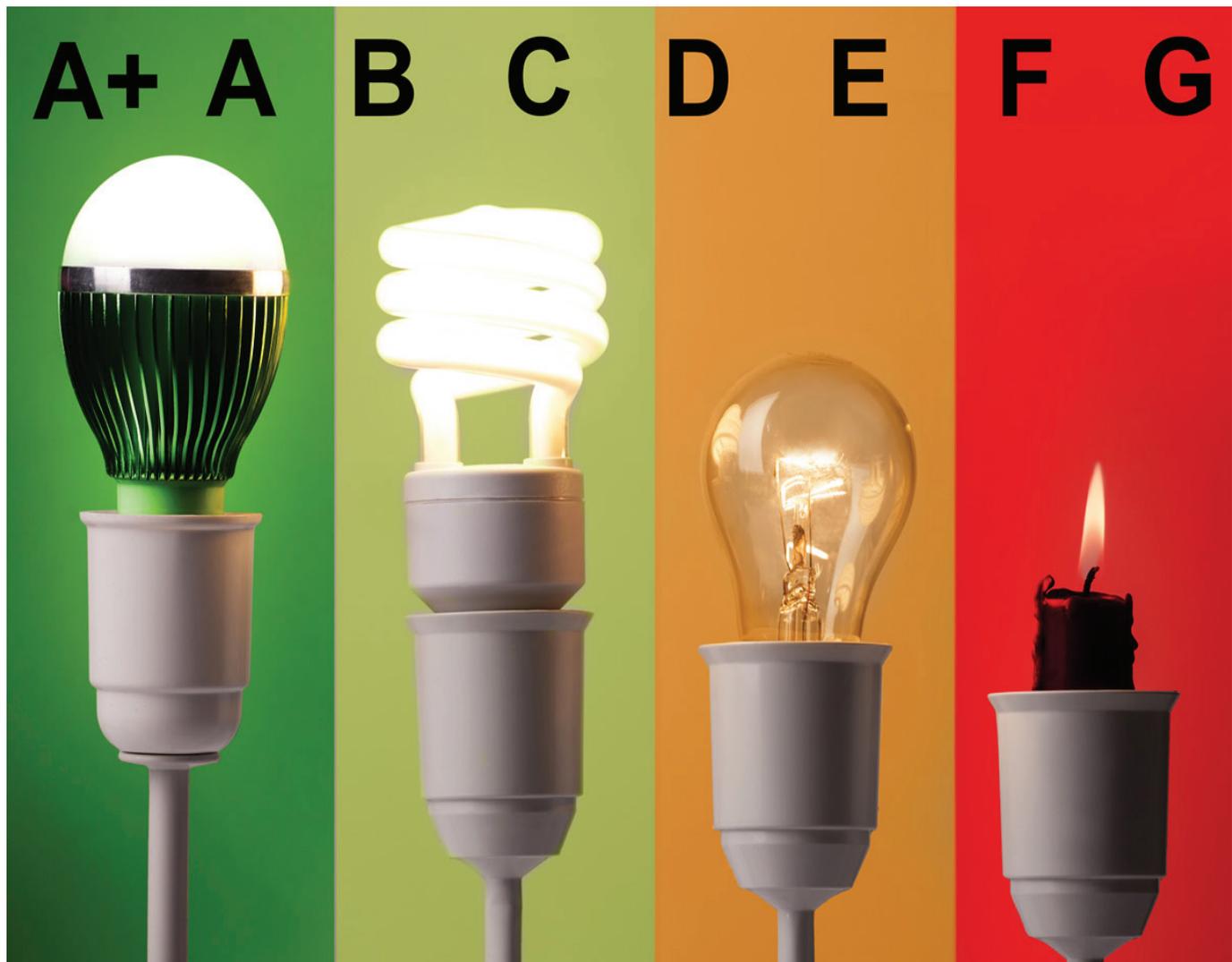
- In this regard, Sika also relies on renewable energy sources, and thus according to Mr. Stamenković, the company is trying maximally to use solar energy. The company has also developed flexible photovoltaic cells that are integrated in the

roof insulation and covering. Such covering can make different kinds of shapes, but unfortunately in Serbia that hasn't come to life yet, because there are not so many solar parks here. Such investments we still cannot use in public buildings, but we should go towards making such innovations our reality, so that these kinds of investments are viable and to make plans 10,15,20 years in advance.

- We have done some calculations for the company Metro and they haven't passed their internal control. Currently, we are working on innovation park in Krnjaševci, where they had a demand for the construction to be less burdened and that is why we used Peer panels. Load capacity is such that photovoltaic panels can be installed. This is just one of the new activities that we are currently doing.

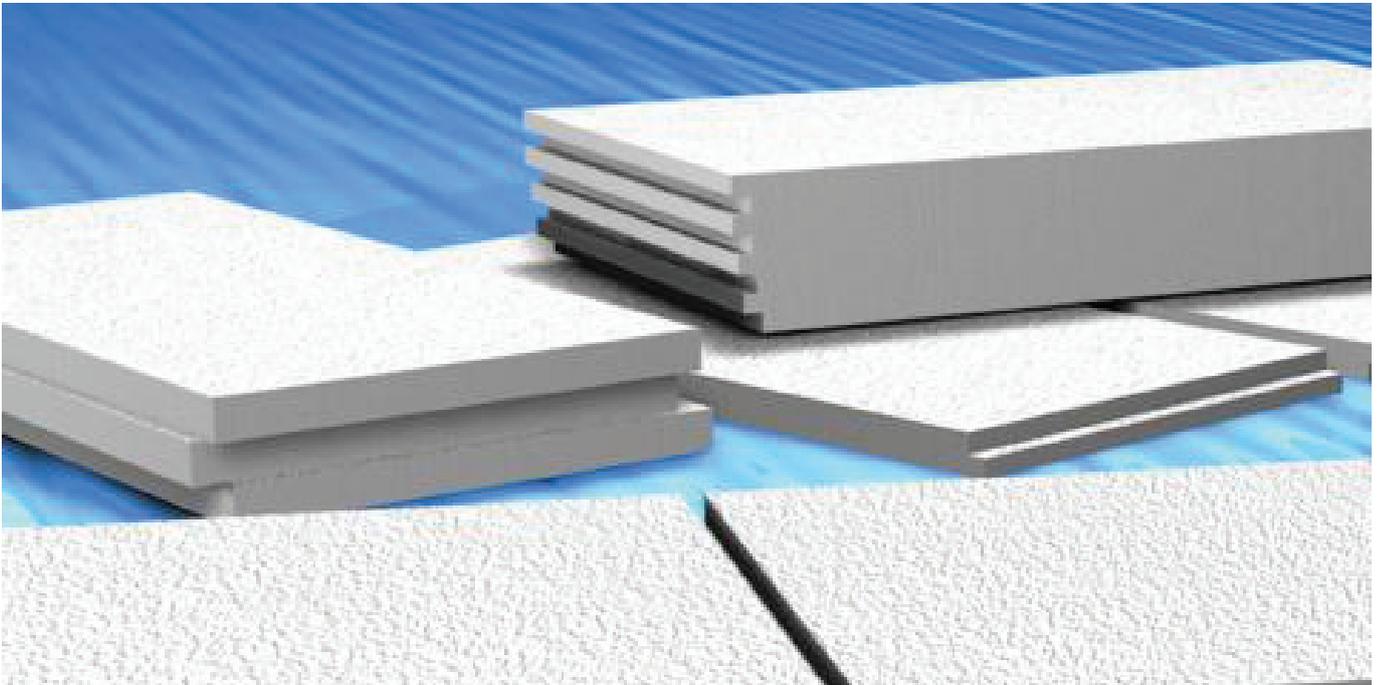
All that we have heard and seen in the building of Sika company has convinced us that the future belongs to completely new technologies and solutions. We should adopt them and learn new thing such as why it is not good to feel the smell of 'new' in dwellings that have just been built, why any chemical material should be unnoticeable and much more than that.

Interview by: **Vesna Vukajlović**



SIKA

High Performance Thermal Insulation



Thermal insulation is a key factor in creating a comfortable atmosphere inside the building, and it is also the key to energy conservation.

The importance of insulation has grown with the development of insulating standards around the world. The requirements for the thermal resistance of buildings are getting bigger, with the aim to reduce the energy needed for heating and cooling.

Sika provides a wide range of materials for thermal insulation, specially designed and created as an integral part of Sika roof constructions. The best known are Sika Pir thermal panels.

SIKA

Uses the Reflection of the Sun in a Completely New Way

There is a great benefit from the materials that repel sun's rays and it is well known to everyone. Users understand that and maximally use these materials for their facilities. Especially in warm climates around the world. In the urban environment, materials such as thermal plastic have the heat island effect; they increase the heat effect and increase the use of energy for cooling a building.

Sika roofing systems support LEED green building certification – by achieving a high level of solar reflectance (SRI).

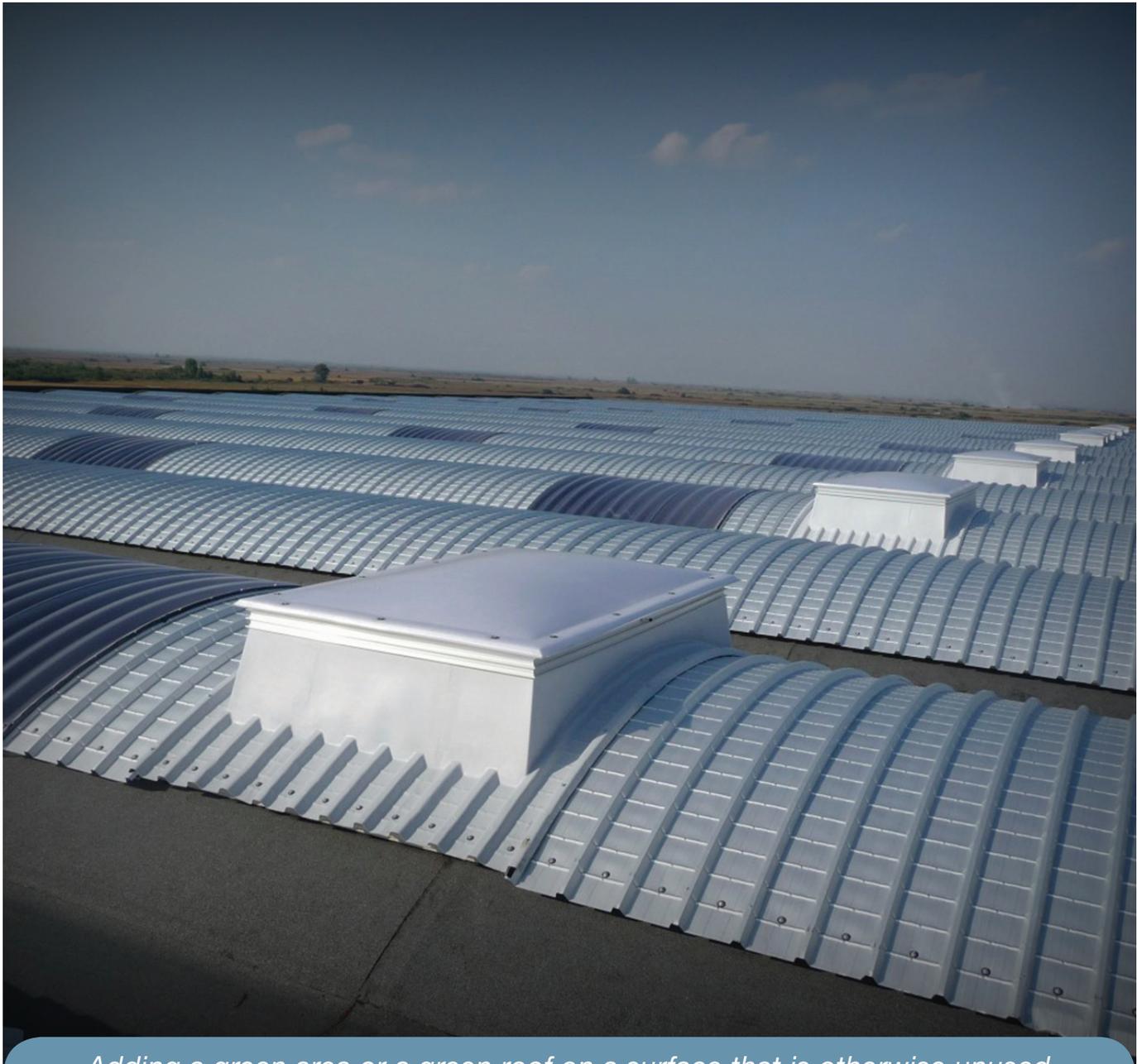


BUILDING TRUST



SIKA

Natural Environment for Your Roof



Adding a green area or a green roof on a surface that is otherwise unused on a building is a significant improvement of the environment and contributes to obtaining green building certification. Green roofs are excellent insulators and can significantly reduce the energy used for cooling, as well as costs.

More than that, green roofs purify the air by absorbing CO₂ and turning it into oxygen.

Sika green roofs help to improve the micro-climate, mitigation and development of urban heat island effect. They also help in water drainage from the roofs.



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