

JANUARY 2016

BALKAN GREEN ENERGY NEWS

Balkan
Green Energy
NEWS

The most comprehensive coverage of green energy news from the Balkans





Content

Interview	03
Features	06
Serbia	20
Kosovo*	27
Montenegro	28
Croatia	30
Slovenia	32
Bosnia and Herzegovina	33
Romania	37
Bulgaria	40
FYR Macedonia	42
Greece	43
Cyprus	44
Albania	47
Turkey	49
Region/EU	53
Events	57

INTERVIEW



Aleksandra Tomić

President of the Committee on the Economy, Regional Development, Trade, Tourism and Energy at the **National Assembly of the Republic of Serbia**

Energy development stands above politics

Countries in the region, and generally in Europe, have strained budgets because of economic and political difficulties, so investments in green energy can be spurred through public-private partnership, Aleksandra Tomić, President of the Committee on Economy, Regional Development, Trade, Tourism and Energy at the National Assembly of Republic Serbia, told Balkan Green Energy News. She is also the President of the informal Serbian Parliamentary Energy Policy Forum.

„Serbia doesn't have a budget developed enough to suddenly open its capacities through feed-in tariffs and state guarantees, or the electric power system, but we can do it gradually, with a long-term, strategic approach,” Tomić said.

How much are you satisfied with the support for green energy and energy efficiency in the 2016 budget?

Unfortunately we still don't have a proper feed-in tariff, as funds are scarce. On the other hand, we are unsatisfied because there are still no capacities installed. I think the new legislation on spatial planning and construction solved the problems which accumulated for years. I think activities will pick up soon, as permits are much easier to obtain.

What are the main challenges and goals in the region in the policy of promoting green energy? What obstacles need to be overcome in Serbia?

Environmental protection will be a great challenge, parallel to huge investment in energy. The biggest problem to solve is the lack of interconnections in the region, and I believe the European Union is making great effort to improve the situation. State budgets are generally oriented to consolidation and public finance restructuring, so it's difficult for the government to subsidize energy projects and support energy efficiency, when it is focusing on the social segment. This is why the state must find the balance between support for one and the other. This is also a place for a greater role of private investors, in partnership with the state. Climate change is a major challenge. Meanwhile, the migration crisis is affecting budgets across the EU, in Serbia as well. Regardless of the situation and the internal relations in the EU, all countries there and in the Western Balkans are aware they need to cooperate in energy. This matter is above politics. Energy security is a matter of life.

The Serbian Parliamentary Energy Policy Forum, which you are leading, held seven public hearings in 2015 about energy development. What progress has been made and how much did members of parliament learn about the subject?

Just by forming, better contact was established between members of parliament, as they now understand the topic has significance above party politics. Great progress has been made with the fact that they respect we opened such a non-partisan debate. Besides, they get a lot of information on developments in the sector, and greater transparency has been achieved.

The parliament got new momentum in energy issues. The civil sector was included, not only from the area covered in chapters 15 and 21 in the negotiations process with the European Union, that is energy and trans-European networks, but also the organizations which participated in preparations for chapter 27, about the environment. They routinely come to our sessions and we speak openly on both what they don't like and what we don't like in the country's energy policy.

In five panels we went through all the segments of energy and the Energy Development Strategy until 2025 with projections to 2030. Propositions were heard and we changed what we saw as necessary; there were adjustments in the implementation part. All stakeholders were included: universities, companies, SMEs and the non-governmental sector.

“Regardless of the situation and the internal relations in the EU, all countries there and in the Western Balkans are aware they need to cooperate in energy. This matter is above politics. Energy security is a matter of life.”

The members of parliament are better informed. We gathered all interested stakeholders in the society, including some institutions which didn't cooperate with one another or they barely did. At a time of great economic changes in the European Union and the opening of regional energy market, there was a need for organizing in the parliament in this way. The Energy Community formed the Parliamentary Plenum on December 14 of this year, and we consider this to be recognition of our work in Serbia as well.

What are the further steps related to the Parliamentary Plenum?

Its regulations were adopted when it was founded. The National Assembly of Serbia should reach a decision to form a new, official state delegation for the Energy Community with two members and two deputies, like the other countries of the region. National parliamentary work will in this way become part of the European and regional segments.

How was the forum founded?

I was following energy through the parliamentary cooperation in the Western Balkans. We established good relations with Brussels, particularly with the energy committee in the European Parliament. We saw how the political and economic situation is changing, crises erupt, like in the Middle East and Ukraine, and energy policy adapts. The EU understands that the Balkans are strategically important for energy security. Also significant are antimonopoly policy and the promotion of green energy.

“Serbia doesn't have a budget developed enough to suddenly open its capacities through feed-in tariffs and state guarantees, or the electric power system, but we can do it gradually, with a long-term, strategic approach.”

The European Parliament has Eufores, its own informal group for renewable energy sources. We saw that we have to focus on solving problems from the perspectives of the committees for energy, the environment, finance and agriculture. We have full support from the Ministry of Energy. We are clear that we do not wish to do their work, and they understand it is useful to present and explain matters like the development strategy, legislation and development through our forum.

How do you cooperate and exchange opinions and experiences with the parliaments in the region?

Since 2012 we have been cooperating with the colleagues from the region, the parliamentary committees, most often the ones responsible for the economy. Regional conferences are the place to exchange experiences. We had bilateral meetings with parliamentarians from Montenegro, and there were frequent multilateral events.

Which other informal parliamentary committees and groups does your forum cooperate with?

In the National Assembly of Serbia we cooperate with the Women's Parliamentary Network and the Green Parliamentary Group. Through the forum we included the committees for agriculture, budget and finance, the environment and administration.

The significance of the women's group is very big, especially in the case of energy, considering there are no women heading public enterprises, while in energy they are in executive positions and have a supporting role.

How was the initiative for public hearings started? Who did you get the most support from?

We started a comprehensive dialogue as a forum about the Energy Development Strategy until 2025 with projections until 2030 with the representatives of the Ministry of Energy, the civil sector, especially the Belgrade Fund for Political Excellence (which is responsible for chapters 15 and 21 in the National Convention on EU) and we established cooperation with international organizations German Development Cooperation (GIZ), United Nations Development Programme (UNDP) as well as business associations like Economic Senate Austria and Germany and Confindustria from Italy and the deans of technical faculties in Serbia. They became our regular partners in dialogue initiation.

The forum is open to hear all the questions from them, and we tend to open dialogue very widely. There is always dissonance in public concerning legislation. We call all the sides which have disagreements on a matter. The parliament is the place where they start to communicate and work on solutions and we consider this our great success. There is also a lot of help from organizations such as the National Association for Local Economic Development (NALED) from Serbia, and the chambers of commerce of Italy, the United States, and Serbia.

Which models from the world or the region do you see as successful and potentially useful for implementation?

The best models in practice to strive for are in Austria and Italy and, when we reach a certain level, Germany. Austria is similar to Serbia by size, population structure and economic possibilities. A big share of renewable energy was achieved and development continues in that area. Germany, as the most developed state in the EU, has best models of energy policy implementation in the field of renewables and energy efficiency.

What are Serbia's advantages in reaching quotas for energy and greenhouse gas emissions? What are the capacities in companies, in technology and education?

The energy sector must cooperate with the environmental sector. Its overall help is the only way to balance the pollution that comes from the energy sector and reach the share of renewable energy sources of 27% by the year 2020. Same goes for the reduction of pollution in transport by 10%. Education is an important segment of energy policy, and without it there is no progress for us. Therefore, this forum will start an initiative to bring together technical faculties, and we can come up with a draft law on engineering.

What is the role of the civil sector and the media in the areas of activity of the Serbian Parliamentary Energy Policy Forum?

Those are the initiators; they come up with topics, or problems which maybe we don't see as members of parliament. They are our partners in public dialogue. I have to praise those journalists who are informed on the matter and professional and active. However, these topics sometimes tend to be less interesting for the media. There is better perception when we speak about savings the people can achieve by introducing energy efficiency measures in their homes.

FEATURES



Katarina Uherova Hasbani

Energy Policy and Business Development
Consultant, **EIR Global** and the lead
author of **REN21 UNECE Renewable
Energy Status Report in 2015**

kuhasbani@eirglobal.eu

Green energy boost comes with policy improvement

South East Europe stays on the margins of global renewable energy investment despite its proximity to EU market.

Seventeen countries of South East and East Europe, the Caucasus, Central Asia and the Russian Federation received less than 1% of global renewable energy investment in 2014, concludes the United Nations Economic Commission for Europe (UNECE) Renewable Energy Status Report launched by the Renewable Energy Policy Network for the 21st century (REN21) on the margins of COP21 summit.

South East Europe is doing comparatively better than the other countries covered by the document. This relative advance is pushed by the countries' membership in the Energy Community and prospects of integration into the European Union. However, the enabling environment needs to be improved in South East Europe to attract more investment into renewable energy sector, which has a lot of potential for growth.

Energy challenges could be drivers

Selected UNECE countries face a number of challenges which could eventually become drivers for renewable energy development. Most of the countries (all in South East Europe) are energy importers, which creates an energy security driver for diversification of energy supply by sources and technologies. Energy subsidies are rooted in the countries' energy systems and present an obstacle to development of renewable energy and energy efficiency. South East Europe has two countries, Serbia and Bosnia and Herzegovina, which are in the world top 10 with the percentage of energy subsidies in the gross domestic product, according to a 2015 study by the International Monetary Fund.

“*South East Europe has two countries, Serbia and Bosnia and Herzegovina, which are in the world top 10 with the highest percentage of energy subsidies in the gross domestic product.*”

Seasonal variation of hydropower in countries with high shares of hydro-based power generation (which is the case for several of them in South East Europe) could be a driver for development of non-hydro renewable energy sources. The report interestingly highlights heating as an issue of energy access in the region, including South East Europe. Part of population continues to rely on traditional use of biomass for heating, as well as cooking purposes with damaging health and environmental consequences. Percentage of population without access to non-solid fuels is high in several countries: 58% in Bosnia and Herzegovina, 38% in Albania, 38% in Montenegro, 33% in the Former Yugoslav Republic of Macedonia, and 31% in Serbia. Replacement of this traditional biomass use by modern renewable technologies, both for district heating and local heating purposes, could drive renewable energy development. There are some interesting initiatives in the region, addressing energy access through renewable energy development. Montenegro

has the only government programme for conversion to modern biomass. In Bosnia and Herzegovina, a technology innovation challenge supported by the United Nations Development Programme resulted in the installation of off-grid renewable power at costs rivalling connection to the national grid.

Modest progress in modern capacity

Shares of renewable energy in total final energy consumption are high in a number of countries, in international comparison. This trend is based on high shares of hydropower (such as in Albania and Montenegro) and the persistent use of traditional biomass. Shares of modern biofuels remain very modest and represented less than 1% of total consumption in 2012 in the 17 countries which were covered. In the power sector, installed capacity for wind (Bosnia and Herzegovina, FYR of Macedonia and Serbia), solar (all countries of South East Europe), and biogas-based (Serbia) power was reported in the region in 2014. It totalled 64 MW, comparing to more than 9 GW of hydropower. The report highlights a power project pipeline for several technologies. Wind-based power generation is in different stages of planning and development in Serbia (500 MW), Bosnia and Herzegovina (138 MW) and Montenegro (118 MW). Small hydro capacity is being tendered in Montenegro.

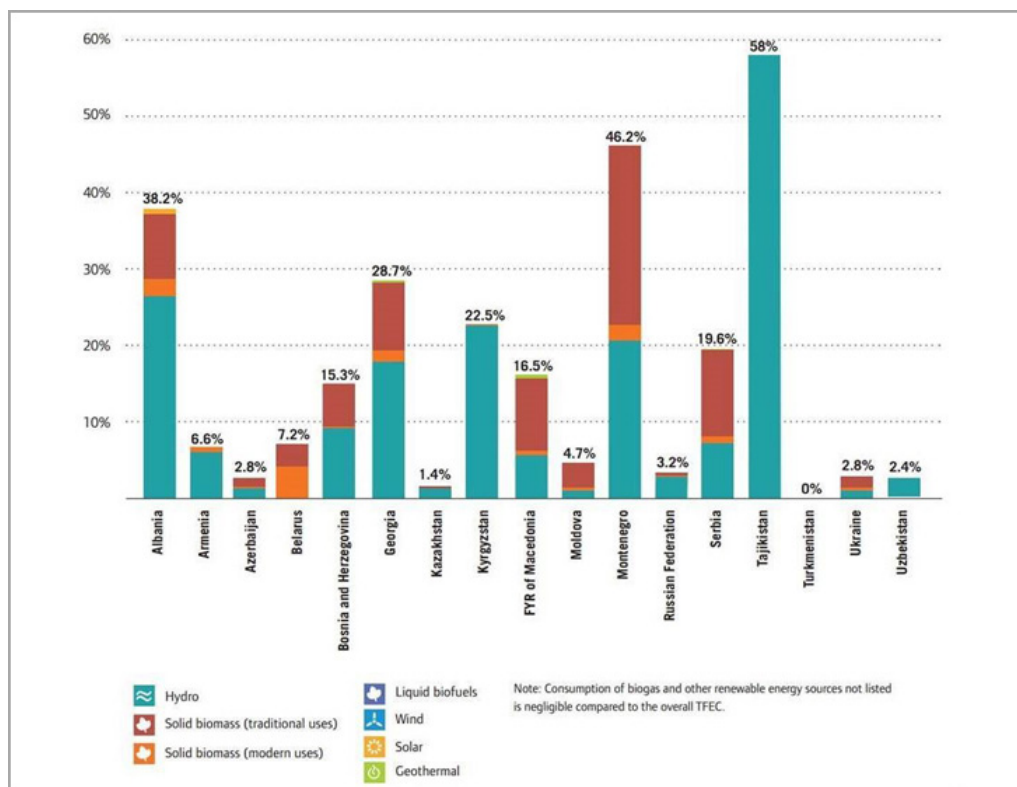


Figure 1: Share of renewable energy in total final energy consumption, 2012
Source: UNECE Renewable Energy Status Report, 2015, REN21.

“ Wind-based power generation is in different stages of planning and development in Serbia (500 MW), Bosnia and Herzegovina (138 MW) and Montenegro (118 MW). ”

Albania (99 MW) and Macedonia (33 MW) have the highest reported solar water heating installed capacities. Known geothermal heat capacities are reported for Serbia (119 MW out of which 22 MW in heat pumps) and Albania (12 MW). Liquid biofuel production capacities are reported only in Macedonia (30,000 tonnes of biodiesel per year).

Policies not bringing investment flows

South East Europe is relatively well positioned in terms of renewable energy policies in the context of selected UNECE countries. All have renewable energy targets and regulatory policies in place. Albania, Bosnia and Herzegovina, Macedonia, Montenegro and Serbia all have feed-in tariffs. The report highlights that the absence of clear, enforceable secondary legislation – resulting in complicated permitting, licensing procedures and rules for the grid, is hampering

investment into renewable energy in the region. National renewable energy action plans, which are adopted by the countries in compliance with EU Directive 2009/28/EC on the promotion of the use of renewable energy, are mentioned as a driver of regulatory changes. While South East Europe has potential for renewable energy use in heating and cooling, Montenegro is the only country that has a mandate in place to drive its deployment.

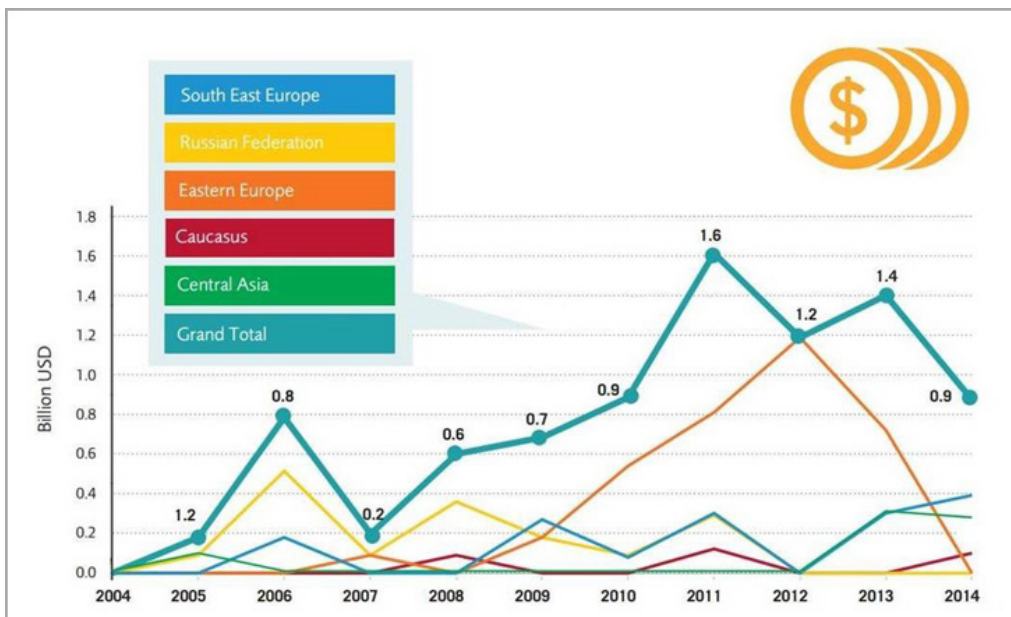


Figure 2: Renewable energy investment in the region, 2004-2014.
Source: UNECE Renewable Energy Status Report, 2015, REN21.

“While South East Europe has potential for renewable energy use in heating and cooling, Montenegro is the only country that has a mandate in place to drive its deployment..”

When it comes to investment, South East Europe is lagging behind global developments similar to the rest of the selected UNECE countries. In 2014, the region received around USD 400 million (EUR 366.6 million) of EUR 249.5 billion placed in global renewable energy investment in 2014, according to Bloomberg New Energy Finance data used by the report. The public sector plays a dominant role in renewable energy financing in the region. The Global Environment Facility (GEF), the European Bank for Reconstruction and Development and the World Bank are contributing to financing renewable energy projects. Climate investment funds are highlighted as a source of financing in Eastern Europe, the Caucasus and Central Asia, but they aren't yet active in the region.

Finally, energy efficiency is pointed out as a complementary avenue to renewable energy deployment. South East Europe is comparatively more advanced than the rest of the region included in the report. The building sector in particular is covered by projects and energy efficiency policies. While financing is available from international donors, interested to advance energy efficiency projects, absorption capacity is a challenge in South East Europe to speeding up project execution.

In conclusion, renewable energy and energy efficiency policy landscape is comparatively more advanced in the context of 17 selected UNECE countries. The enabling environment hasn't been so far conducive to increasing investment flows to the region's renewable energy projects. Yet, the countries could benefit from the proximity to the EU and from the convergence of their industry, installers, and developers with the EU energy market.

FEATURES

CLIMATE CHANGE & DISASTER RISK REDUCTION SNAPSHOTS FOR WESTERN BALKAN

Christoph S.
Henrich

Sustainable Energy Consultant,
Istanbul Regional Hub, **United Nations
Development Programme in Europe and
Central Asia**

christoph.henrich@undp.org

UNDP publishes country snapshots on climate change

One problem of the international climate change debate is that the information presented in technical documents, such as in national communications that are submitted by parties to the United Nations Framework Convention on Climate Change (UNFCCC), is not easy to digest and their outreach to the public is often weak.

Although, or perhaps because, the climate change negotiations represent one of the most ambitious efforts of the international community of all time, the public is often lost amidst a complicated swirl of climate abbreviations like INDC, NAMAS, BURs and on and on.

“ *INDCs are contributions that outline how each country is to tackle climate change such as emission reduction scenarios.* ”

To help to present climate and disaster related information in an easier way, the United Nations Development Programme's Istanbul Regional Hub has produced easy-to-understand climate change and disaster risk reduction country snapshots for six countries and territories in the Western Balkan region.

Albania

Bosnia and Herzegovina

Kosovo*

Montenegro

FYR Macedonia

Serbia

These snapshots distill and visualize in small leaflets some of the most important information on how countries stand at mitigating, which sectors are vulnerable to climate change and where adaption will be needed due to predicted temperature and precipitation changes, and finally, on significant hazards, recent disasters and what we at UNDP are doing to reduce risk of disasters.

In the following, I want to explain some of the most important conclusions that can be drawn when analyzing the snapshots.

Intended Nationally Determined Contributions

Albania, Bosnia and Herzegovina, the Former Yugoslav Republic of Macedonia, Serbia, and Montenegro submitted Intended Nationally Determined Contributions (INDCs) prior to the climate change negotiations (COP21) that took place in Paris in December. INDCs are contributions that outline how each country is to tackle climate change such as emission reduction scenarios. Kosovo, which is not a party to the UNFCCC, committed own national goals to increase energy efficiency and the share of renewable energy. These contributions are an important step since statistics show that four out of six countries show higher per capita emissions than the global average of 4.98 tonnes of carbon dioxide per person per year. Among the six countries, only Albania, with 1.6 tonnes, and Montenegro, with 4.1 tonnes of carbon, lie below the global average.

Energy intensity and generation

Compared to the global average, Albania, Macedonia and Montenegro all show lower levels of energy intensity compared to the world average. The other countries in the region lie above world average with Kosovo being almost more than four times as much as energy intense than the global average. However, some countries such as Albania, Bosnia and Herzegovina and Kosovo show trend reversals where the absolute energy consumption between 2011 and 2012 decreased.

“ Among the six countries, only Albania, with 1.6 tonnes of carbon dioxide per person per year, and Montenegro, with 4.1 tonnes, lie below the global average. ”

High degrees of energy intensity are also the reason that energy is by far the largest sector contributing to carbon emissions. For example over past years, the energy sector in Montenegro was responsible for 76.8% to 97.8% of the total CO₂ emissions. On the other hand, this also means that one of the biggest opportunities to cut emissions is through a more efficient use of energy such as by insulating houses and apartments or modernizing energy intense production processes. High contributions from energy sectors to CO₂ emissions is also due to the fact all countries in the region possess significant coal reserves. Domestically exploitable coal reserves often present a significant barrier to cleaner forms of electricity generation.

Disaster risk and number of hazards are likely to increase due to climate change

The region has faced severe flooding in recent years, such as Serbia's flood in 2014 that cost over USD 2 million (EUR 1.84 million) and affected more than 1.5 million people. It is expected that a volatile and unpredictable climate will lead to many more floods similar to this in the future.

For all countries in the region, it is predicted that negative effects of climate change effects are a combination of rising temperatures and decreasing precipitation. For example, climate models predict for Bosnia and Herzegovina that until the end of the century the annual average temperature will increase between 2 °C and 4 °C with summer temperatures rising up to 4.8 °C.

“ For all countries in the region, it is predicted that negative effects of climate change effects are a combination of rising temperatures and decreasing precipitation. ”

Climate change is likely to increase the risk of hazards like wildfires, droughts, landslides. This on the other hand threatens important sectors such as forestry, agriculture, and water resources, ultimately jeopardizing the socio-economic and human development of the region.

The climate change summit in has shown that the stakes have never been higher to prevent a global catastrophe caused by climate change. The United Nations, including its climate change negotiations, is often criticized as being not effective and producing only weak results – but the UN can only be as strong and as the intentions of its member states. And the general public plays a huge role in exerting pressure on their national leaders to tackle climate change collaboratively and within the international community.

I hope that these factsheets provide a good summary and are a first step to contribute to a better understanding of climate change and disaster risk reduction of countries in the Western Balkan region.

¹ References to Kosovo shall be understood to be in the context of Security Council Resolution 1244 (1999).

FEATURES



Group of authors

Green jobs potential in Macedonia

This article has been developed as per the assessment of the climate change mitigation potential within the Macedonian Intended Nationally Determined Contributions on Climate Change to the UNFCCC by a group of authors:

Prof. Dr. Neven Duić, Faculty of Mechanical Engineering and Naval Architecture, University of Zagreb

Prof. Dr. Nataša Markovska, [Research Center for Energy and Sustainable Development, Macedonian Academy of Science and Arts \(RCESD-MASA\)](#)

Pavlina Zdraveva, [United Nations Development Programme](#)

MSc Aleksandar Dedinec, [Research Center for Energy and Sustainable Development, Macedonian Academy of Science and Arts \(RCESD-MASA\)](#)

The world's attention in December was on the COP21 climate conference in Paris. Never before have there been so many high-ranking officials in one place, because of what is at stake – the survival of our planet. And all stressed the need to sign a global agreement to reduce greenhouse gas emissions, valid for all countries – because no country or region will be spared from the effects of climate change.

In order to prepare for this agreement, all countries were asked to develop and determine their own national contributions or, in climate change terminology, Intended Nationally Determined Contributions (INDCs).

“ *Macedonian INDC includes the reduction of carbon dioxide emissions from fossil fuels combustion by 30%, that is for 36% at a higher level of ambition, by 2030 compared to the business as usual scenario.* ”

Macedonia is fully committed to the global efforts for GHG emissions reduction. With support from the [United Nations Development Programme](#) and [GIZ](#), the [Ministry of Environment and Physical Planning](#) submitted the [Macedonian INDC](#) in August, as the 23rd country in the world.

The document notes the reduction of carbon dioxide emissions from fossil fuels combustion by 30%, that is for 36% at a higher level of ambition, by 2030 compared to the business as usual scenario. Fossil fuels combustion covers almost 80% of the total GHG emissions in the country with the sectors of energy supply, buildings and transport having a dominant share.

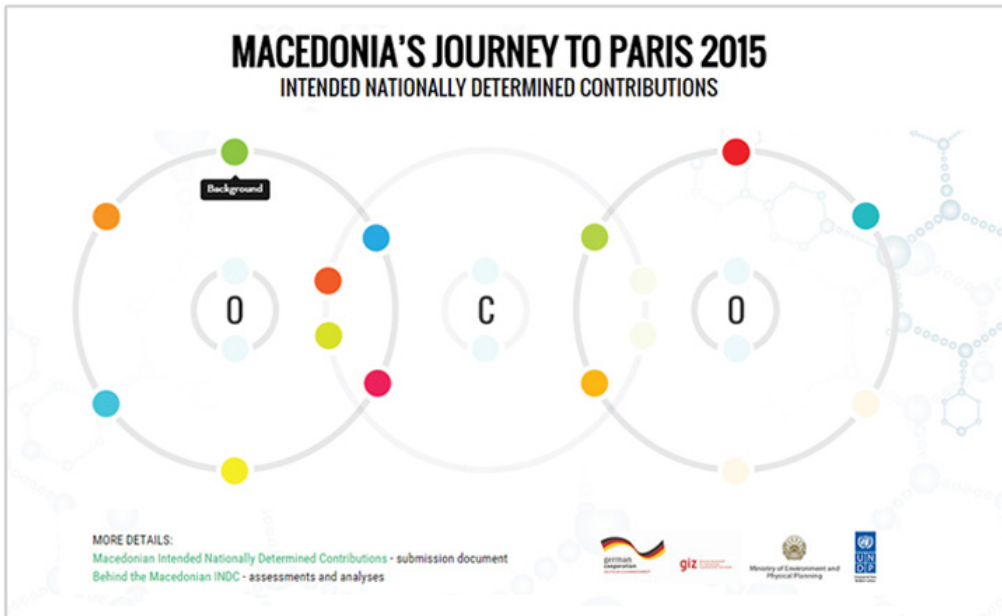


Figure 1. Dynamic infographic – Macedonian INDC

The assessment behind the numbers is a result of hard work and excellent cooperation among various stakeholders, institutions and donors. It is based on detailed technical assessments performed by a wide team of experts and it capitalizes on previous relevant documents.

Bringing people together amplified their impact, the exchange on what works best and, for the first time, made a step further, by combining environmental and economic aspects with the social aspect. It turned out that more than half of the considered mitigation policies and measures have negative specific costs.

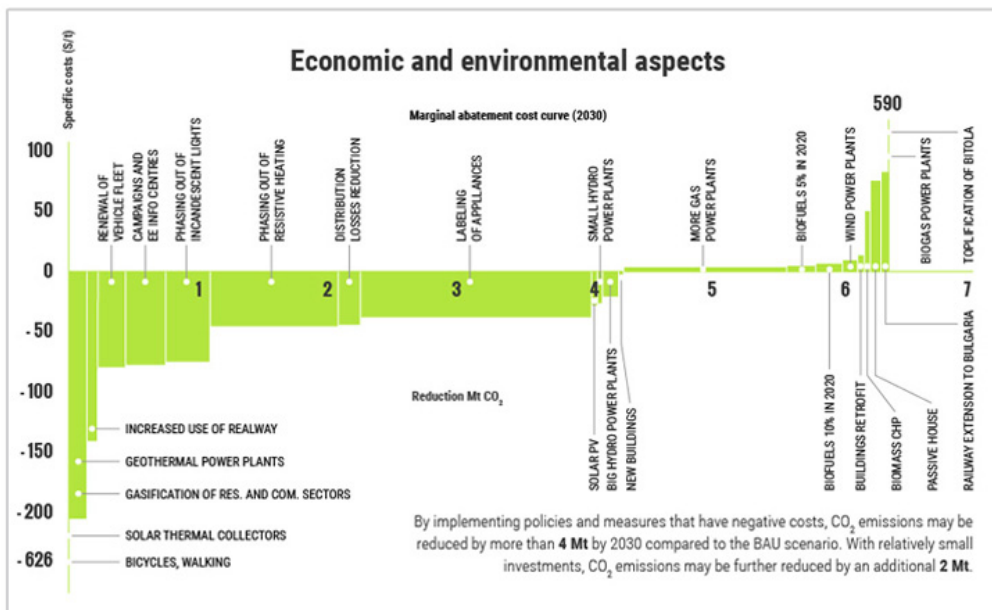


Figure 2. Marginal abatement cost curve for 2030

Moreover, policies and measures that mitigate climate change do not present only a burden because of their implementation costs; they also have positive co-benefits, one of them being increased employment. For the first time in Macedonia, number of domestic jobs created as a result of the implementation of INDC mitigation measures in the area of energy efficiency and energy supply was assessed, using macroeconomic input-output method, based on investments, and factors from literature.

It turned out that these co-benefits offer great opportunities – by implementing energy efficiency measures in buildings and by introducing low-carbon energy supply technologies (renewables and gas), about 6,000 green jobs can be created by 2030.

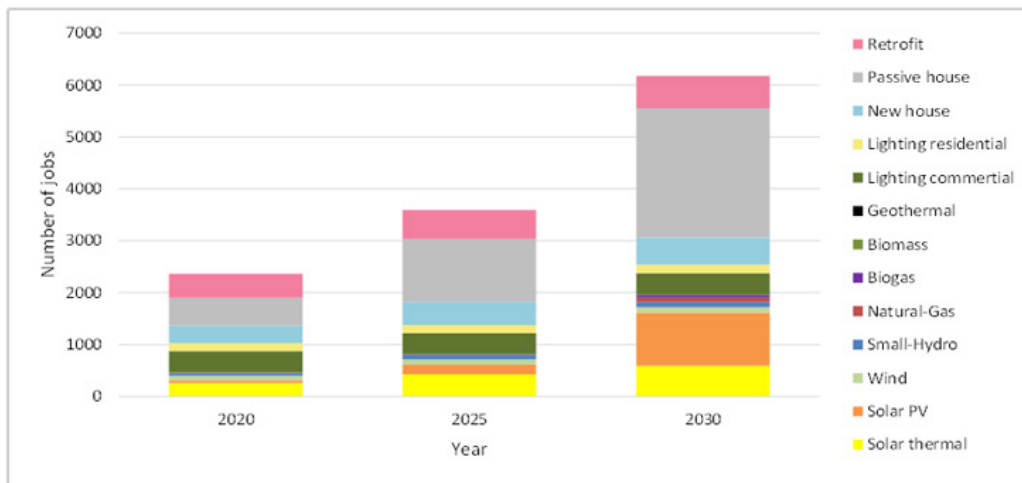


Figure 3: Number of domestic green jobs

And here is how the rationale behind the summary numbers looks like:

Energy efficiency measures in the buildings sector have the highest potential for the creation of new jobs. Introducing higher efficiency standards to new buildings and retrofitting old ones could open 3,500 jobs by 2030.

A switch to LED lighting, which has much higher added value, will create employment, since new channels for sales and more innovative installation will be possible. It is estimated that investment of USD 1 million (EUR 0.92 million) will create 5.1 direct jobs, and 4.2 jobs are indirectly created (supply goods and services).

It is difficult to estimate jobs related to more efficient transport. These jobs will mainly be in the vehicle production and supply chains, and as such not in Macedonia. On the other hand, if electrification of personal vehicle is started, then there will be jobs related to chargers and smart chargers, which would be additional equipment installed in homes, businesses and on public parking places. Also, some jobs would be lost at petrol stations, petrol station servicing and fuel handling. Still, by 2030 big breakthrough of electrification is not expected, so that is why these jobs are not assessed.

It is also difficult to assess jobs related to modal shift towards the public transport, use of bikes, walking and railway. They should be related to new investments in alternative modes of transport, as well as to the maintenance of appropriate technologies.

Investments in energy efficiency in industries are also hard to assess because they are very specific and each industry and each process is not a subject of our analysis.

Using more renewables for power generation, in particular solar photovoltaics, wind, biomass, hydro, geothermal and landfill gas, would open some 1,300 jobs by 2030, mainly in the sector of photovoltaics. The segment is rather labor intensive, especially if small installations are placed on roofs. Establishing such a sector has best employment perspective among supply technologies.

On the energy supply side, policies and measures include an increase of efficiency of existing power plants, a switch to lower-carbon fossil fuels and renewables in power, heat and transport applications.

Increasing energy efficiency of current power plants will generate only a small number of jobs during the retrofit phase, but in the long run retrofit will also bring automation, so no new jobs are expected.

Using more renewables for heat supply is also a good option: solar thermal, biomass, and heat pumps. Establishing solar thermal sector may open 600 new jobs by 2030.

Using more biofuels for transport may also be good for employment in case that biofuels are locally produced. However, local production of biofuels seems not to be an economically viable option in Macedonian conditions.

This initial assessment reveals a wealth of existing opportunities to scale up the reductions of greenhouse gas emissions along with an increase of the green jobs potential. It creates a space of opportunities for the whole Balkan region - effective, readily achievable set of actions to reach a prosperous and stable environmentally healthy world for all.

FEATURES



Maja Turković

Energy Consultant, co-author of the
CIRSD study **A Roadmap for Deploying
Renewable Energy Sources in Serbia and
the Regional Perspective**

The big green challenge: can we change fast enough?

Fossil fuels have been harnessed as an abundant and easily accessible source of energy for two centuries. This cheap energy enabled the growth of populations and consumption levels; and facilitated technological innovations and economic activities that produced economic growth. Present energy systems still depend on fossil fuels overwhelmingly, and today they account for 80% of global primary energy consumption. Coal is the fastest-growing fossil fuel at the global level, showing incredible growth particularly in China, which accounts for a 47% of the world's production of coal.

However, this growth also came at a cost. From the moment of their exploitation and extraction from the ground, fossil fuels represent an environmental and health hazard, while their combustion generates large quantities of carbon dioxide - a greenhouse gas responsible for global warming and climate change. Greenhouse gases are externalities, and their impact is global, as is the risk they impose; and effects are long-term and irreversible. Even if we stopped emitting gases right now, the climate would not return to normal, due to past emissions. The damage has been done.

In terms of climate science, greenhouse gases affect the climate for at least a century after they have been emitted. In terms of economic science, the investments that determine the level of those emissions last for decades after they have been built.

The great enemy of the truth – the myth

The great myth is that coal-fired power plants produce cheap electricity. In other words – yes, they do – only because we never pay for its real cost. International Monetary Fund conservatively predicted that global subsidies for fossil fuels in 2015 amounted to \$5.3 trillion p.a., equivalent to \$10 million a minute every day. This vast sum is largely due to polluters not paying the costs associated with the burning of fossil fuels. These include the costs imposed on governments due to air pollution, as well as floods, droughts and storms being driven by climate change. Coal, and especially lignite, as the type of coal burned in Serbia, runs the highest external costs of electricity production as a result of its devastating environmental impact. The externalities associated with coal-based electricity have been analyzed in numerous studies, two of which, by CEKOR and the Health and Environment Alliance (HEAL), stand out. They note that Serbia has already suffered a major damage caused by acidifications of agricultural land due to soil erosion and lower agricultural productivity, and a greater risk of forest fires and lower forestry growth. Furthermore, the HEAL study shows losses of 2,000 human lives and €1.8 - €4.9 billion p.a. in health costs caused directly by the use of coal in the Serbian energy sector. These evidences shatter the myth that the energy based on burning of fossil fuels is cheap – by showing just how huge their costs really are.

According to the IMF report, the ending of subsidies for fossil fuels would cut global carbon emissions by 20%, and consequently there would be no more need for subsidies for renewable energy worldwide (a relatively small \$120 billion p.a.), only if fossil fuel prices reflected the full cost of their impacts on environment and society.

The big shift: expensive or priceless?

Hence, the world is turning towards renewables - the energy sources that reduce the environmental damage caused by extensive use of fossil fuels and represent a reliable alternative for future generations.

Despite the fact that renewable energy is still considered too expensive, not competitive, insufficient and unstable in many economies, the global energy system is undergoing a major transformation. We have transformed the way we produce and use energy, and renewable energy has gone mainstream. This shift is mainly driven by energy security and the imperative of a sustainable energy future. By reducing energy imports, countries are striving for greater energy independence.

Germany is completely replacing nuclear power plants with renewable energy by 2022. Currently, 26% of electricity in Germany comes from renewable energy, and the country wants to increase their share to 45% by 2025. Furthermore, we have witnessed a major shift in control of electricity generation in Germany, as households and farmers own almost half of all installed renewable capacities, while only 12% of renewable assets are owned by utilities. UK will close all coal-fired power plants by 2023 and switch to gas and nuclear energy by 2025. In Denmark, wind recently became the cheapest energy source, beating out even coal. Utilizing renewable energy in generating technologies leads to further cost reductions and, ultimately, to grid parity, which reduces the need for support mechanisms in the long run. Thus, even if it results in higher costs today, investments in renewable energy pay off multifold in the future, financially and in other ways.

Serbia has nine thermal power plants that fall under the scope of the EU Large Combustion Plants Directive, which require either modernizing or replacing by new capacities. Estimates are that Serbia will have to reconstruct or completely replace about 4,000 MW of currently installed capacities in thermal power plants. An additional €1.2 billion of investment would be needed for the filtering systems, transportation of ash and dust, and water purification systems. Thus, on the supply side, the alternatives to fossil fuels must be found. But renewable energy – except for wind – cannot be scaled up fast enough to fill the gap in the time frame needed.

“ Serbia has nine thermal power plants that fall under the scope of the EU Large Combustion Plants Directive, which require either modernizing or replacing by new capacities. Estimates are that Serbia will have to reconstruct or completely replace about 4,000 MW of currently installed capacities in thermal power plants. ”

Worldwide, renewable energy utilization has grown 85% over the past 10 years, reaching installed capacity of 1,700 GW in 2013. Today, renewables constitute 30% of all installed power capacity worldwide. We will see a massive utilization of renewables during the next couple of decades, with variable renewable technologies having a dominant role (solar and wind), together with fuel switching from coal to gas power plants. Major emissions' benefits related to fuel switching for basic electricity generation can be expected in the mid term – up to 2030; and after 2030 further reductions in emissions would primarily come from gas power plants with carbon capture and storage technologies (CCS). Key issues for replacing coal with natural gas, fuel switching and related investment decisions are linked to pricing, fuel supply constraints, environmental regulations and water constraints.

Indeed, new renewable technologies can bring an end to the fossil fuel era before fossil fuel reserves are depleted – just as the Stone Age ended not because we run out of stones, but rather because the technology of the new Bronze Age became superior.

The playing field: fair dealing or not?

The conventional economics is essentially biased in favor of the status quo; considering environmental impacts as externalities, or damages imposed from one party to another. Indeed, externalities often appear as an afterthought; but they can be priced and incorporated into the calculations of a produced energy unit – allowing fair comparison of different generating technologies. But this is not the case today.

Advocates of change emphasize unfairness of the conventional cost-benefit analysis, insisting instead that the climate and energy policy should be considered as insurance for the planet, aimed at preventing worst-case scenarios. How to perform a cost-benefit analysis to find out how much prevention of climate disaster we can afford, or calculate the willingness to pay for a small reduction in the risk of death? How to assign a price to human lives in the cost-benefit calculation? On the other hand, skeptics consider climate change as a moderate problem that should be solved through the imposing of slow and gradual policy measures that shouldn't be too expensive for the economy to bear – which means without unnecessary expenditures.

Solving the puzzle

Thus, the tough decision remains on policy makers - and the power sector is changing so fast that they are finding it hard to keep up. Policy makers have to understand new technological developments, which enable major shift to renewable energy, to be able to support this transformation with appropriate measures.

The future power systems will represent a right mix of the following five developments: distributed generation, large-scale renewables, energy storage, energy efficiency and smart grids.

“The tough decision remains on policy makers - and the power sector is changing so fast that they are finding it hard to keep up. Policy makers have to understand new technological developments, which enable major shift to renewable energy, to be able to support this transformation with appropriate measures.”

Distributed generation will be dominated by solar power by far, as these technologies have become cost-effective worldwide. Cost curves are undeniable, and this trend is expected to continue, with the further decrease in balancing costs and other soft costs associated with solar technologies. Small-scale solar power plants can be easily scaled up to make significant combined effect – due to ease of construction, low risk for investors and available financing options.

The second piece of the puzzle is a rapid increase in deployment of utility-scale renewables (wind, solar, hydro), which can fill the gap when coal-fired power plants close.

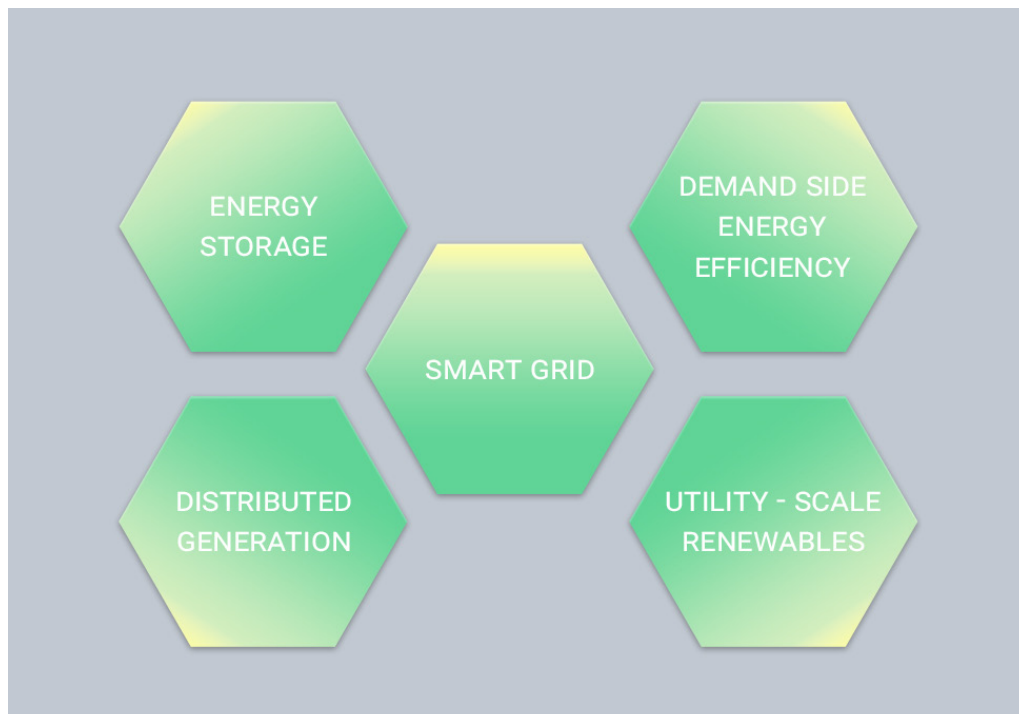


Figure 1: A right mix of the future power systems

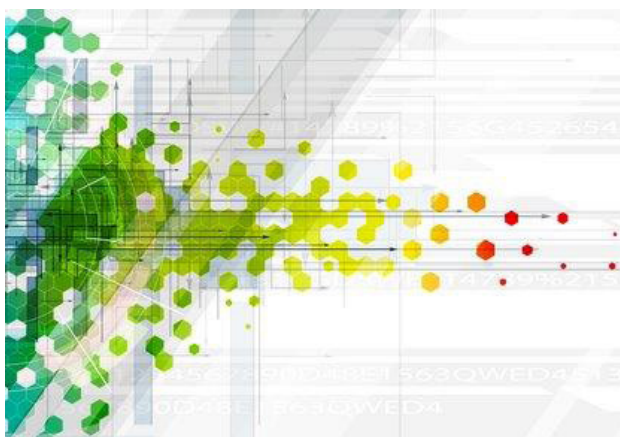
Energy storage availability and affordability completely changed the way future energy system develops. Thanks to technological innovations and economies of scale, these technologies are today affordable to utilities, businesses and consumers. More storage should be used to integrate intermittent renewables onto the grid.

“*The second piece of the puzzle is a rapid increase in deployment of utility-scale renewables (wind, solar, hydro), which can fill the gap when coal-fired power plants close.*”

The fourth piece of the puzzle is an increase in energy efficiency on the demand side, reflected in net zero buildings and smart connected devices. In EU, all public buildings have to reach a nearly zero energy status by end 2018, and other new non-public buildings by 2020.

Finally, the last piece that connects the previous four is a flexible, resilient grid – an intelligent, two-ways electrical grid. As the share of renewable energy increases, smart grid technologies, in combination with appropriate supporting policies, become crucial in the creation of grid infrastructure to support a sustainable energy future.

FEATURES



Tatjana Mitevaska
& Marija Ignatova
Gjosheva

M&E, Public Outreach and Gender
Specialist, CEI Project

LED Specialist, CEI Project

New Energy Balance methodology – Enhancing Macedonia energy reporting and planning capabilities

Recently, Macedonia improved the quality of its energy balance with introduction of new methodology for energy data collection and processing harmonized with EUROSTAT. This is resulting in enhanced capabilities of Government of Macedonia for better planning of the country's energy needs, improved management of existing energy resources and diversification of energy supply, ultimately leading to enhanced long term energy security of the country. Energy balance is a strategic document for reporting and planning energy needs and resources for any country.

The challenge

Macedonia had two separate energy balances prepared independently by Ministry of Economy (MoE) and State Statistical office (SSO), using different sets of forms and different methodologies. This had made the process of planning country's energy needs and reporting of energy consumption a troublesome and highly volatile in the past. The SSO on one hand, and the MoE together with the Energy Agency (EA) on the other hand, were using different forms and questionnaires to collect same/similar information from the same energy producers. SSO developed their energy balance using the EUROSTAT methodology, while the MoE was using different methodology in accordance with the secondary energy legislation effective at that time. The energy balance produced by the MoE was an indicative and planning five-year document, while the energy balance produced by the SSO was a statistical one-year document. This resulted in reporting different energy values. Additionally, they had different schedules for data collection, and were lacking means to share information, which was driving duplication of data collected from energy producers, wasting their time and resources.

“ The energy balance produced by the Ministry of Economy was an indicative and planning five-year document, while the energy balance produced by the State Statistical office was a statistical one-year document. This resulted in reporting different energy values. ”

The process

The initiative for improving and harmonizing the energy data collection process started with joint cooperation of two USAID Projects: EC-LEDS Regional program and USAID Macedonia Clean Energy Investment Project (USAID CEI Project). It was implemented as a result of the good collaboration between the projects and the Cabinet of the

Deputy Prime Minister for Economic Affairs (DPMEA), MoE, EA, and SSO. This effort enabled the stakeholders to seat on the same table, to discuss and negotiate methods to streamline, simplify and harmonize the process of energy balance data collection, reporting and sharing. A working group established for this purpose managed to introduce the EUROSTAT methodology for the MoE energy balance and to enable the MoE to use the energy data that was already collected by the SSO. In support, the two USAID projects organized a study tour for the members of the working group to Serbian Ministry of Mining and Energy to exchange experiences with Serbian colleagues about their database and software for collecting energy data. The final outcome was introduction of the new and improved process for energy data collection and new energy balance methodology. To apply this in practice, USAID CEI Project provided assistance to draft necessary changes in the relevant laws, by-laws and rulebooks regulating the energy balance. The new methodology for calculating the country's energy balance is effectively in use from January 2015. To enable harmonized and smooth implementation of the novelties introduced, the USAID CEI Project in collaboration with the MoE organized series of nine hands-on trainings delivered to more than 80 companies, producers and energy users that contribute data for the country's energy balance, in September 2015. The 2016 energy balance, presented to the public on December 10, 2015, is the first balance developed using the new EUROSTAT methodology.

“ A working group established for this purpose managed to introduce the EUROSTAT methodology for the MoE energy balance and to enable the MoE to use the energy data that was already collected by the SSO. ”

The benefits

Now, with the greater coordination between the MoE and the SSO, it is possible to produce energy balance harmonized with the EUROSTAT methodology, to support development of national policies, and meet reporting requirements to the Energy Community. A single set of data collection forms are developed and distributed to energy producers. The new energy balance provides sound grounds for making additional calculations related to greenhouse gas emissions, reductions, and planning the future targets as required by the international organizations to which Macedonia is member. It also provides for more efficient use of Government and energy producers resources that are now engaged in only one annual data collection and reporting process. They report past and future projection data to SSO and to MoE, respectively, using the same standard forms. Additionally, they can make more precise and realistic projections of energy needs for the upcoming year only, as oppose to the three years requirement in the past. For the MoE this means better coordination with the SSO, leading to decreasing the level of effort as the MoE now benefits from the readily available data from the SSO.

“ A single set of data collection forms are developed and distributed to energy producers. The new energy balance provides sound grounds for making additional calculations related to greenhouse gas emissions, reductions, and planning the future targets as required by the international organizations to which Macedonia is member. ”

The future

This initiative has gone further and encouraged the MoE to pursue the idea for introduction of an electronic energy data collection process. The MoE is expecting budget allocation to accomplish this initiative in 2016, and the Project will be supporting the MoE to design and develop the electronic system for energy data collection for country's energy balance. Introduction of this system will increase transparency and improve data entry and data integrity, while limiting the burden on the companies that provide energy data. It will enable better coordination and ensure completeness, accuracy, and timely transmission of the data, as well as easily generating variety of reports for different government needs.

SERBIA

Heating on biomass employs domestic resources

November 24



Gradiška municipality in Bosnia and Herzegovina utilizes biomass for district heating since last year through a concession, proving that the technology increases energy independence, stimulates employment and attracts investment, while cutting carbon dioxide emissions, participants at a regional workshop learned, Euractiv.rs reported.

The event named 'How to Strengthen the Usage of Bioenergy in the Balkans Region' was organised by Serbian Ministry of Agriculture and Environmental Protection and the international cooperation organization GIZ from Germany and its programme 'Development of a Sustainable Bioenergy Market in Serbia' (DKTI). The example of Gradiška shows **heating can be provided at the same price from domestic resources**, however no facilities in Serbia use biomass for such a purpose, participants said.

The purpose of the regional workshop was to enable regional policymakers and professionals to identify regional advantages for bioenergy utilization in Balkans, to elaborate on common challenges and propose necessary activities and measures for the improvement of the framework conditions for the usage of bioenergy within the region, according to DKTI.

The event gathered representatives of the state administration, municipal authorities and the private sector, **those interested in the development of the bioenergy market** in Serbia, Bosnia and Herzegovina, Montenegro and Croatia, Serbian National Biomass Association – SERBIO reported.

Thomas Michel, DKTI programme leader, said the goals of its activities are to support heating plants to switch to biomass, and to help more efficient use of wood as fuel in households.

Study on renewable energy policy presented by CIRSD

November 27



The Center for International Relations and Sustainable Development (CIRSD) released a study on renewable energy policy in Serbia and the Western Balkans. The study, entitled '**A Roadmap for Deploying Renewable Energy Sources in Serbia and the Regional Perspective**,' was presented before an audience of more than 200 experts, university professors, representatives of the diplomatic corps, and private sector entrepreneurs, the host organization reported on its website.

In his introductory remarks, Vuk Jeremić, president of CIRSD, said that Serbia's main obstacle for development is in the area of energy because of its geographical position and decades of erroneous policies. It is the development policy based on thermal power plants on coal that brought about the economy's low productivity and competitiveness, a high degree of energy inefficiency as well as unacceptable consequences to people's health, he said.

The head of CIRSD explained Serbia has abundant renewable energy sources but that it is failing, similar to the surrounding countries, to put this potential to good use, something which is attributable both to insufficient investment and lack of appropriate know-how. „We are aware that the transition to renewable energy sources and sustainable development is neither politically nor economically cost-free, and that we would face both material and technical limitations. At the same time it is clear that the existing model is not sustainable and that it does not guarantee bright future. Therefore we should carefully yet decisively initiate reforms,” Jeremić concluded.

The study's authors Maja Turković and Ana Brnabić said that the paper offers a different model of

development based on clean energy – produced from domestic resources. This would in turn reduce costs of energy spent per unit of product as well as the external negative effects of energy production and use and the dependence on imports.

Professor Vladimir Đurđević of Belgrade University's Faculty of Physics said the climate has changed and that the mean global temperature continues to rise. This is the direct consequence of the greenhouse effect, he said and added that the study offers a rational response to challenges of climate change and pollution.

Head of the Delegation of the European Union in Serbia Michael Davenport commended the authors and CIRSD, adding that the study represents an important leap in defining Serbia's energy policy in line with European and global trends. The ambassador added renewable energy resources are not being used enough in the country, but he did, however, mention Serbia's significant progress in the field, greater than the one made by the neighbouring countries.

“*Davenport: renewable energy resources are not being used enough in Serbia, but the country has made significant progress in the field.*”

Ambassador of France to Serbia Christine Moro praised the efforts that CIRSD has made to raise awareness about the fight against climate change in the Western Balkans. She emphasized the importance of the climate summit in Paris (COP21) and argued that studies such as this one lay a solid foundation for the success of international negotiations processes. She attributed great significance to technology for the improvements needed to reduce greenhouse gas emissions and limit the increases in temperature. Moro commended the partnership established between the Embassy of France, the French Institute, CIRSD and several others, including the responsible ministry, scientists, the media and non-governmental organizations, **raising awareness throughout this year.** The switch to green economy means an excellent opportunity for growth, as well as modernization and employment, she underscored, the embassy said.

The study proposes three measures: increasing the share of renewables in the energy package, improving energy efficiency and introducing technologies which help reduce pollution from fossil fuel use. The paper identifies unused potentials of Serbia in the energy sector and notes the directions for regional cooperation.

Copenhagen Solutions for sustainable urban development

December 2

One of the strong foundations of Danish economy comes from decoupling growth and energy consumption, Lone Dencker Wisborg, state secretary of the Nordic country's Ministry of Foreign Affairs, said at a round table at the Belgrade University's Faculty of Architecture. The event named **'Energy & Water – Resources Efficiency in Public Administration and Companies'** was organized by the Embassy of Denmark during the exhibition 'Copenhagen Solutions' which lasted from November 23 until December 10.

„With a systematic focus on energy efficiency and a combination of incentive measures, it is possible to spur energy saving investments – this has been Denmark's experience. The Danish energy programmes were developed in close collaboration with the industry and have contributed to a decrease in energy intensity within the industry by 24.5% from 1990 to 2012,“ Dencker Wisborg stated. She added the private sector needs to be engaged and that public finance should be used to catalyse private investment in renewables as well as energy and water efficient infrastructure.

Jakob Matzen, senior urban planner in the City of Copenhagen, presented experiences and solutions from the Danish capital. He underscored sustainability is one of the main priorities, and that the water in the old harbour is now so clean that people can swim in it. Matzen spoke of the need to accommodate about one thousand new inhabitants every month in a suitable way, by finding the balance between the need for new housing, business space, culture and recreational activities.

Kopenhagen is one of the best cities in the world by the quality of life – authorities are trying to improve and develop public transport and increase the number of inhabitants who use bicycle in everyday activities even above the current 50%, he said. Furthermore, the city is closing streets for passenger cars to make room for cycling and walking, and multi-level bicycle tracks are constructed throughout the capital. According to Matzen, one of the most ambitious and most expensive plans is to reshape the storm rain drainage system to mitigate the effects of climate change and prevent damage.

Dušan Ignjatović, Assistant Professor at the Faculty of Architecture, presented a research project on building types and energy consumption properties in Serbia.

International initiative for hazardous waste management

December 4



While developed countries in the European Union, such as the Netherlands, Belgium and Denmark, recycle more than 80% of construction waste, none is recycled in Serbia. There are big amounts of construction waste in urban areas endangering the population's safety, as it is not being dumped adequately, but thrown around settlements and in water streams, said Siniša Mitrović, adviser in the Chamber of Commerce and industry of Serbia. At a workshop held in the institution's premises within the Twinning Project on Improvement of Hazardous Waste Management, he said a large portion of last year's floods in the country, resulting in EUR 1.6 billion of total damage which equals 5% of gross domestic product, was caused by dumping construction waste in rivers.

There is no construction waste recycling in Serbia, which causes big damage, as material from non-renewable sources such as stone and gravel is utilized without limits, and dumping permanently devastates the environment, Mitrović added. The goal of the development of a national action plan for construction waste management, in his words, is to economize, to support the establishment of recycling centres, and full recycling. „The chamber, through its members and associations, will stimulate investment in the construction waste management industry and work responsibly on the best solutions for our economy and new green jobs,” Mitrović said.

The twinning project is implemented by the Environment Agency Austria, German Federal Ministry for the Environment, and Serbia's Ministry of Agriculture and Environmental Protection, the Chamber of Commerce and Industry and its Environmental Management Centre. The initiative was started in May 2015, it has a span of 24 months and is worth EUR 1.5 million. The European Union provided 95% of funds, while the rest is financed by Serbia. The aim is to improve hazardous waste management through the development of the legal frame in line with EU standards. The project includes

the production of four action plans: three for particular waste flows – construction, vehicles and persistent organic pollutants (POPs), and an integrated national plan.

GE promotes advantages of biogas utilization

December 8



Photo: GE Reports CEE

„We want to identify the waste-to-energy potential in Serbia and the need for energy, but also to define the possible route towards successful development of energy generation from biogas in line with the existing conditions and regulations,” said **Gaetano Massara**, head of GE South East Europe, opening the conference 'Serbian Biogas Market Trends and Challenges' in Belgrade organized by GE Distributed Power and GE Jenbacher.

The event's aim was to establish dialogue on production and utilization of biogas, providing information on expenses, challenges and experiences, as well as to bring together all relevant parties, to discuss the best approach towards the efficient energy use and utilization of the available incentive schemes to trigger much-needed power generation projects from biogas.

Case studies were presented about meeting conditions for financial support for projects of this kind, as well as about the development of biogas projects through ESCO model. Topics included implementation of programmes for the removal and processing of organic waste, and the use of biogas in agriculture and food industry as a renewable alternative.

The event was attended by representatives of the Serbian Biogas Association, project developers and engineering, construction and procurement companies, leading agricultural and food and beverage companies, as well as banks and financial institutions. With only a few megawatts of installed capacity in biogas, **Serbian biogas market is quite closed as a result of low feed-in tariffs (FIT)** that do not secure projects bankability, according to a release on GE Reports CEE. Serbian government has published a draft Decree on Incentive Measures from Renewable Energy Sources, announcing an important increase of biogas FIT, the report adds.

As Petar Gvero, university professor from Banjaluka, pointed out, Serbia is dependent on energy imports yet at the same time renewable energy accounts for only 17.5% of total planned primary energy production for 2015. Out of this, solid biomass accounts for 59%, hydro for 40%, and biogas, wind, solar and geothermal have a share under 1%. Danko Vuković from the Serbian Biogas Association talked about the development of a biogas plant, covering the entire process from idea, selection of location, and application for, and issuance of, the relevant permits. The whole development process usually lasts between two and three years, he said.

The conference also featured presentations and case studies from several representatives of banks, including Svetlana Cerović and Albert Hulshof from UniCredit Bank (Serbia), and Aleksandar Savić from Erste Bank (Serbia). „Since financing schemes in Serbia are not as competitive as in the markets where there is a great experience with such projects, we expect the increase of biogas FiT to boost the Serbian biogas market, which will consequently lead to more experience and more confidence from banks to finance projects. As a result, this will lead to more competitive financing,” GE’s report said.

ENVIROS Ltd. launches operations in Serbia

December 8



Consulting company ENVIROS d. o. o. organized the ceremonial launch of its Serbian branch within the premises and with **the support of the Embassy of the Czech Republic.**

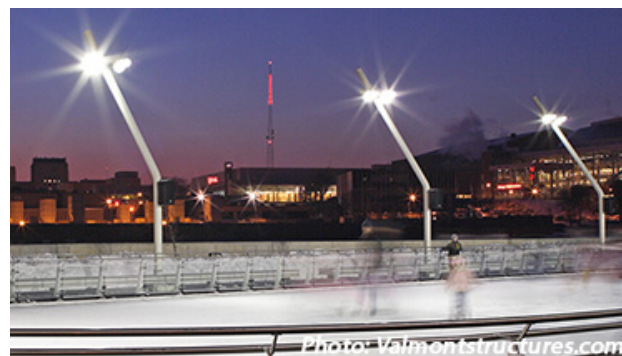
Ambassador Ivana Hlavsová commenced the event by welcoming more than 70 guests from governmental organizations and agencies, industrial companies and consulting firms. The ceremony was facilitated by the embassy’s commercial counsellor Jiří Král, the director of ENVIROS d. o. o. Jan Pejter, the commercial director of ENVIROS Group Jan Pavlík and country manager for Serbia Strahinja Mladenović. The guests

were familiarized with the company’s focus and aims for projects in the fields of energy efficiency, renewable energy and environmental protection.

The company’s experts are ready to cooperate on projects regarding energy efficiency in buildings, reduction of energy demand in industry, reconstruction and extension of networks for central heating, introduction of renewable energy sources, energy and environmental audits, and assessments of environmental impact. ENVIROS can help align the operations and management of enterprises with energy and environmental requirements laid out by the European Union. The company is based at Ušće Tower business centre in Belgrade.

Valmont establishes venture to build a factory

December 12



Energotehnika Južna Bačka a. d., headquartered in Novi Sad, signed a contract with Valmont Industries Inc. from the United States, setting conditions to build a factory in Zrenjanin, in northeastern Serbia. The initial deal is worth EUR 5 million and the production facility, planned for a launch within two years, will hire 70 people, according to a report published on the portal of Radio 021.

Branimir Mijailović, chief executive of Energotehnika, said the contracts means a new page in the company’s operations. „Through direct negotiations with company Valmont which lasted for a year, we established cooperation with one of the leading producers in the area of utility poles for public lighting and power lines. With their investment, we won’t have to import, but we will only export,” he said. Mijailović stressed the signing of the contract will make Energotehnika’s export double to EUR 15 million.

Milan Kocourek, Valmont’s export sales executive for Central and Eastern Europe, underscored the deal means not only placement in Serbia, but also investment in production. The deal leads to the establishment of the company’s office for the Balkans and Serbia. Valmont, founded in 1946, has 110 production facilities. Energotehnika was founded

in 1958. It was privatized in 2010. It builds medium and high voltage substations and overhead lines, with turnkey projects in renewable energy, heating plants and industry automation.

Energy management project launched in municipalities

December 13

Energy managers, who are to be introduced, could help save about EUR 100,000 a year in municipalities and cities, said Miloš Banjac, assistant energy minister responsible for energy efficiency and renewable energy sources, Tanjug agency said. With additional training, 49% of the municipalities could have current employees as energy managers, **31% already does have them**, while the remaining local authorities have no people who could do the job, he added.

The assistant minister expressed hope a law on rational energy use will be adopted by the end of the year, according to a report published in Blic daily. The introduction of an energy management system will happen in enterprises and in municipal units with over 20,000 inhabitants, he underscored.

The Ministry of Mining and Energy and the The United Nations Development Programme (UNDP) held an introductory workshop at the Serbian Chamber of Commerce, officially starting a project called 'Removing Barriers to Promote and Support Energy Management in Serbia'. Grants will be combined with the budget fund for energy efficiency and will be implemented by the Ministry of Energy and Mining in close cooperation with UNDP.

Kruševac upgrades public lighting helped by GIZ, SKGO

December 14



An overhaul of 120 street lights in the centre of Kruševac was completed through the implementation of a pilot project conducted under the regional project Energy Efficiency in Municipal Associations (EeMA),

financed by governments of Germany and Switzerland. It was implemented by the German Development Cooperation (GIZ) through its Open Regional Funds for South-East Europe – Energy Efficiency (ORF-EE) and Modernization of Municipal Services (ORF-MMS), with the Standing Conference of Towns and Municipalities (SKGO) from Serbia. The new system was installed in order to increase energy efficiency and save over RSD 600,000 (EUR 4,900) per year, according to a report on the official website of the town located in the central part of the country.

The public urbanistic enterprise of Kruševac was responsible for the design, public procurement and oversight of the old mercury lamps replacement with sodium-based solutions. Local utilities were selected as contractors after the call was published in early March. The municipal authority was awarded with the project as it met the required criteria, one of them being that it had adopted a strategic document for energy efficiency, SKGO stated. The endeavour is worth EUR 32,000.

The Project Manager, Ms. Dubravka Bošnjak said that „out of 120 applications, the Associations of Municipalities and the GIZ had received in the five South-East European countries where pilot projects are being implemented, total of 18 have been selected as most innovative and valuable for the local community. Kruševac is one of them.“ She also added that „the essential value of the EeMA project is the strengthened collaboration between the SKGO and the Municipality of Kruševac.“

BDI receives BEES 2015 award

December 17



Within the Business Conference BEES 2015 (Business of Energy Efficiency in Serbia), BDI – BioEnergy International AG received the award for developing its latest '**Waste to Value**' technologies in the field of energy production. The event was held in Belgrade and its declared goal was support for institutions which contribute to the improvement of energy efficiency and speeding up renewable energy projects in Serbia.

The award is given to entities which contribute to improvement of energy independence by substituting conventional sources with renewables and show commitment, the organizers said. The event was held for the third time. The platform was provided to discuss the current economic conditions, under the auspices of the ministries responsible for energy, environmental protection and infrastructure.

The European Investment Bank said in late October that it is considering financing a multifeedstock biodiesel plant developed by Biom d. o. o. from Zagreb, Croatia. **The planned facility of 100,000 tonnes** (30 million gallons) per year could receive EUR 38 million. The plant will be built by Austria-based BDI – BioEnergy International AG. The bank said the overall cost of the project is EUR 50 million.

„This award is a great honour for our company – we are constantly working on benchmark technologies in the field of renewable energy sources. We appreciate the cooperation with the Serbian state and are looking forward to being a part of this promising conference of the Senate of the Serbian economy“, says Edgar Ahn, BDI’s Board member.

The company constructs customized biodiesel plants using the multi-feedstock technology it developed. Raw materials such as vegetable oil, used cooking oil and animal fats are used. BDI supplies plant concepts for the production of biogas from industrial and municipal waste.

Teslium promotes Energy Development Strategy

December 19



Energy innovation center Teslium is implementing project Scientia – Small Cities Energy Efficient Territorial Innovative Action, funded by the EU through another large project: Advocacy NGOs Networks for Sustainable Use of Energy and Natural Resources in the Western Balkans and Turkey – Etnar.

Teslium has been promoting its publication entitled ‘Energy Efficiency – Multiple Benefits and Examples of Good Practice – **a Handbook for Cities**’ in Serbian language, by Mirjana Prljević.

Scientia’s objective is to contribute to the improvement and promotion of the Energy Development Strategy of the Republic of Serbia until 2025 with projections for 2030. It is focusing on increasing **the awareness level of local authorities and citizens** about the importance of energy efficiency for sustainable development. It also promotes best practice of energy efficient small cities in Europe.

The project lasts through February 1 and includes the promotion of the publication in five towns, encouraging civic activism in area of energy efficiency, and emphasizing the concept to local governments through written proposal with proposal of further steps. Partners in the project include Civis, the association of non-governmental organisations of Southeast Europe, and the Regional Development Agency of Bačka, an area located in Serbia’s north.

Serbia to ratify climate change deal within one year

December 21



The agreement adopted on December 12 at the United Nations Climate Conference (COP21) in Paris should be ratified by Serbia within one year, the country’s minister of agriculture and environmental protection Snežana Bogosavljević –Bošković said, Beta news agency’s environmental section Zelena Srbija reported. „The plan is to complete the signing and ratification within one year,“ she told a conference held to reflect on the global agreement that was struck on fighting climate change.

Ambassador of France to Serbia Christine Moro and minister Bogosavljević –Bošković said the conference had been successful and recalled that it had resulted in a deal which envisages limiting global temperature growth to under two degrees Celsius by the end of the century, **with a possibility of limiting it to 1.5 degrees.**

Moro said the agreement was legally binding and based on consensus, and that 188 of the 196 members of the UN Framework Convention on Climate Change had submitted their goals for greenhouse gas emission reduction, the report adds.

BioRES project wraps up first year of implementation

December 24

BioRES – Sustainable Regional Supply Chains for Woody Bioenergy is a project of 30 months which started in January 2015, financed by the European Commission's Horizon 2020 research and innovation fund.

In the first year of implementation, four steering committees were organized in Freising, Germany; Joensuu, Finland; Novi Sad, Serbia; and Graz, Austria. Activities consisted of the analysis of European biomass logistic and trade centres (BLTCs) with best practice, the analysis of certification and standardization framework and preselection of priority locations for BLTCs in Serbia, Croatia and Bulgaria including the analysis of local potentials, and an interview survey with local and national stakeholders, says Vojislav Milijić, president of **Serbian National Biomass Association – SERBIO.**

Based on the analysis and survey results, 15 locations in Serbia, Bulgaria and Croatia were defined as priority for the establishment of BLTCs. In the next phase, a series of workshops and meetings with interested parties at priority locations were organized, resulting in formation of local consortiums and letters of intent signed by parties interested in development of BLTCs. Next year, for each of the locations where a local consortium is defined, feasibility studies for BLTCs' development will be prepared by international and national experts from partner organizations.

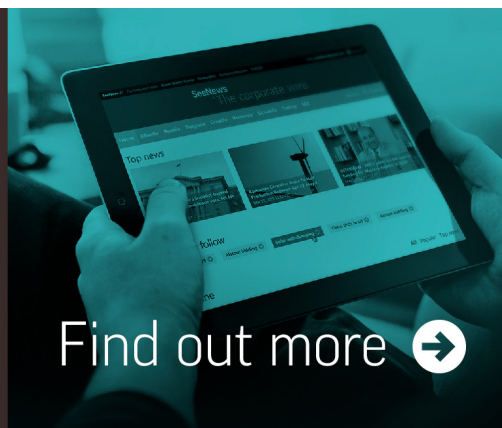
Most important event organized in frame of **BioRES** project in 2015 was the study tour with training of trainers. Over 40 representatives of companies, state and local administration and selected trainers participated in the study tour (from November 30 to December 4), visiting BLTCs of Nazarje, Slovenia; Leoben, Austria; and Achenal and Algau, Bavaria. A workshop was organized at the GIZ International Training Centre at Feldafing in Bavaria on the last day of the tour.

In 2016 the BioRES project will focus on the facilitation of development of BLTCs with local consortiums in concrete locations, training and consumer info and awareness raising, Milijić said.

Workshops have been held in November in the towns of Priboj and Zrenjanin, covering the topic of sustainable biomass use and supply chains. BioRES gathered **local inhabitants and representatives of entities** interested in processing and use of woody biomass. A special accent at the event in Priboj was given to legal and technical frames, while the workshop in Zrenjanin included **a presentation on energy plantations.**

SeeNews

Business news and intelligence
for Southeast Europe



Small hydropower plant inaugurated in Dragas

November 26



The Government of Kosovo is dedicated to ensuring proper development of energy from renewable sources, as a prerequisite for sustainable economic development, said deputy minister of economic development Besa Zogaj-Gashi, during the inauguration of hydropower plant Brodi 2 in the village of Mlike in the Municipality of Dragash. The 3.89 MW facility is part of an investment project of EUR 16 million for five units in the water streams of Rastelica and Brod. Foundations for Brodi 2 and Rastelica 1, a plant with a capacity of 2.28 MW, were laid in August 2014, with a deadline for construction of three years. Zakeršnik family company Eurokos JH Sh. P. K. is the investor.

Gashi said that the hydropower plant will affect the development and welfare of citizens of this region. She said the ministry, in cooperation with USAID and the World Bank, is working in ensuring the facilitation in the process of granting permits or licenses requested by companies which wish to invest in Kosovo. Deputy minister of education Usmen Ballxhi called upon investors to come to the municipality in the south of Kosovo since, according to him, it provides the conditions and capacities necessary to implement projects that impact the lives of citizens of the municipality.

Yll Shamolli, representative of Eurokos JH, expressed his gratitude to all entities supporting this project: the Ministry of Economic Development (MED), the Ministry of Environment and Spatial Planning (MESP), the Energy Regulatory Office (ERO), the Municipality of Dragash, and the Kosovo Electricity Distribution and Supply Company JSC (KEDS).

AFK boosts energy efficiency with EBRD's credit line

December 17

The European Bank for Reconstruction and Development is supporting energy efficiency by providing a loan increase of up to EUR 1 million to the Agency for Finance in Kosovo (AFK), a microfinance institution.

The fresh funds will be **added to the current EUR 500,000 energy efficiency loan**, extended under the Kosovo Sustainable Energy Projects Framework (KoSEP) earlier this year in response to growing demand for energy efficiency financing in the residential sector, according to a report on the bank's website. KoSEP is a EUR 12 million facility which extends funds to local partner financial institutions for on-lending to households and small businesses. It benefits from additional donor funding provided by the New Norway Cooperation Fund and the EBRD Shareholders Special Fund. AFK has already financed over 1,100 projects under KoSEP. The agency covers most of Kosovo and has its head office in Peja in the west of the country and a network of 13 branches and four sub-branches.

“KoSEP is a EUR 12 million facility which extends funds to local partner financial institutions for on-lending to households and small businesses.”

Elena Petrovska, EBRD's associate director and its head representative, said: „We are pleased to see such strong demand for energy efficiency projects in Kosovo. AFK is a great partner with a proven track record. Our financing will increase energy efficiency and take an important step towards reaching climate efficiency targets.”

„AFK's mission is to improve the lives of entrepreneurs running micro and small businesses, especially in the rural areas of Kosovo, by providing them with financial services. Together with the EBRD, we will help our clients realise all the benefits of energy efficiency improvements“, said Vahdet Anadolli, the microlender's executive director.

EBRD began investing in Kosovo in 1999, the statement said. To date, the bank has signed 44 projects with a net cumulative business volume of EUR 150 million. Kosovo became the member of EBRD and country of operations in December 2012.

Building energy efficient residential sector with EBRD

December 22

The European Bank for Reconstruction and Development is fostering energy efficiency in the residential sector of Kosovo with an additional EUR 1 million loan to Kreditimi Rural i Kosovës (KRK), one of the strongest rural microfinance lenders in the country.

The new funding is being provided under the Kosovo Sustainable Energy Projects Framework (KoSEP) in response to growing demand for energy efficiency financing in the country, EBRD said. The availability of medium and long-term funding to the private sector for energy efficiency and sustainable energy investments in the current market condition in Kosovo is limited, notes the report on the bank's website.

KoSEP is a EUR 12 million facility for on-lending to small businesses and the residential sector. The facility benefits from additional donor funding provided by Norway and the EBRD Shareholders Special Fund. KRK is located in Priština but it services the entire territory of Kosovo through its 18 branches and 96 permanent staff.

Elena Petrovska, EBRD's associate director and head for Kosovo, said: „KoSEP was the first EBRD energy efficiency financing facility provided to financial institutions in the country. While the potential for energy savings is high across all the sectors in Kosovo, the existing market barriers for energy efficiency investments make financing such projects difficult. We are pleased to help overcoming these challenges together with KRK.”

Lulzim Sadrija, CEO of KRK, added: „KRK has worked very closely with KoSEP to develop our energy efficiency lending capacities. We believe that KRK is now very well positioned to continue to utilise KoSEP funds in order to further support energy efficiency projects in Kosovo”.

Croatia eyes EPCG, Serbia wants CGES

December 2



Just as rumours calmed down about the takeover of Montenegrin Electric Power Company (EPCG) by Croatia, Serbian Prime Minister Aleksandar Vučić again stated that Serbian power utility **EPS bought 11% of shares of transmission operator CGES**, part of the Montenegrin company, Poslovni.hr reported.

Croatia has openly shown interest in acquiring 41.74% of EPCG from Italian partner A2A, and Croatian Economy Minister Ivan Vrdoljak conducted a series of preliminary meetings on the subject, portal Total Croatia News reported. Montenegro is looking for a new strategic partner in the energy industry because it wants to ensure the construction of the second part of the thermal power plant Pljevlja II, which requires an investment of EUR 338 million.

Vučić said in an interview on December 1 that his government bought a stake in the Electric Power Transmission System, and that it is considering investing further, CdM portal reported. The company said it is not aware of any sale to Serbia and that such purchase wasn't mentioned even as an idea. „Terna couldn't have negotiated the sale of a part of its 22% of shares either, not without the knowledge its partner, the Government of Montenegro, which owns 55% of the shares,” said CGES.

After speculation on the status of Montenegrin utilities, CGES shares rose in value and their trade volume increased at the domestic stock exchange. Furthermore, Vučić said Serbia is interested to buy shares in Elektroprivreda RS if Republika Srpska, one of two entities of Bosnia and Herzegovina, shows interest.

Pellet and briquettes for cleaner air in Pljevlja

December 10



The Government of Montenegro set EUR 500,000 for environmental action in the northern industrial town of Pljevlja, CdM portal said, adding the municipal authority agreed to buy briquettes and pellet for heating, as mayor Mirko Đačić had announced before.

Offers were accepted from Neckom from Nikšić for EUR 164.22 per tonne of pellet and from Lovćen Trade from Foča, Bosnia and Herzegovina for 168.45 per tonne of briquettes in a negotiation-based procurement process, value-added tax included. **The biomass is on sale to the population with subsidies of 50%**, aimed to motivate the people to switch to cleaner fuel.

A week earlier, Đačić told CdM the next step will be **the relocation of the heating station** in Skerlićeva street. „Our idea is to build a 15-20 MW mini heating plant in the industrial zone to replace the aforementioned heating station and several others. Long-term measures include, in the first place, the comprehensive heating system,” Đačić said. He advised his fellow citizens to take advantage of every free moment to enjoy the sun, outside the town. Emir Pilav from Pljevlja has told CdM that the situation in the town is really bad and that citizens of Pljevlja, in addition to the Chinese, are the only people who can see what they breathe.

According to data obtained from NGOs, the air pollution in Pljevlja in early December was more than 11 times or 1,100% above the maximum allowed level of PM10 particles concentration.

The government said experimental measuring and pilot tests showed pellet and briquettes can help reduce air pollution by 50% compared to coal use.

Wood pellet factory opened in Vučje

December 14

The employer created eleven jobs to service a new factory near Nikšić in three shifts, Mina-Business reported. The wood pellet production facility on the Vučje plateau is the third of its kind in Montenegro.

Production capacity is **600 kilograms per hour**. Private company Vučje Energy, owned by Ranko Jovović, was inaugurated by Petar Ivanović, minister of agriculture and rural development, and Nikšić officials, according to a report published by portal CdM.

Works on the 250 square metre factory began on June 8. Ivanović said the project was another step in rehabilitation of the wood processing industry, but also a significant step forward in linking tourism, agriculture and energy. He added that Montenegro was a small country that should primarily be focused on small and stable enterprises. The other wood pellet factories are located in Andrijevića and Pljevlja. The ministry should prepare a plan for concessions, in order to enable the conditions for those who work well and with long-term plans, Ivanović said.

“Kom komerc plans to participate in planned afforestation and tree cutting.”

The wood pellet factory will work within the company Kom komerc and will help, as Jovović said, in creating the preconditions for the development of Vučje as a tourist area. „This project is a new opportunity to make Vučje sustainable and to continue developing similar industries in this area of Montenegro. The investment was made in cooperation with the Investment and Development Fund (IRF) and with EUR 500,000 of its own funds, which make total of more than EUR 2 million with assets invested in Vučje so far”, he stressed.

According to him, the advantage of heating with pellets is primarily economic viability, because according energy power two kilos of this firewood equals a litre of oil. It is an environmentally clean fuel, generated from sawdust and waste through industrial processing and it is cheaper compared to other fuels, Jovović underscored. He added that Kom komerc would work with the ministry on the planned afforestation and tree cutting.

The factory will also produce wood chips for bigger systems, such as hospitals and schools, and this kind of fuel will be even cheaper, according to the owners.

CROATIA

First biomass fueled heating plant in Croatia finished

November 27

The first municipal heating system on biomass in Croatia was launched in Pokupsko, southeast of capital Zagreb. It was completely financed by European Union's Instrument for Pre-Accession Assistance in Rural Development (Ipard), local portal Kronike Velike Gorice reported. The system has **a capacity of 1.1 MW**, and thirty users were connected through individual substations worth up to HRK 23,000 (EUR 3,000). The network includes the elementary school, houses, the health centre, and local utilities, while companies also expressed interest, municipality chief Božidar Škrinjarić stated.

The report said 70% of the territory of Pokupsko is covered by forests, providing biomass, and that users may save up to 40% by using wood chips for heating. The heating plant also burns hay, leaves and corn stalks. The network is planned for expansion throughout the town when needed, and a utility was established to run the facility. The municipality implemented the project in partnership with Regea (North-west Croatia Regional Energy Agency). The national Environmental Protection and Energy Efficiency Fund (FZOEU) also participated. Seven more such projects are in the pipeline, Regea's managing director Julije Domac said at the inauguration.

“Seven more projects are in the pipeline, Regea's managing director Julije Domac said at the inauguration.”

Dražen Barišić, mayor of the nearby town of Velika Gorica, said his municipality should strive for the establishment of a centralised and environmentally friendly heating system. The current facilities are obsolete and problematic, but some progress has been made with the switch from heating oil to natural gas and the reconstruction of the heating distribution network.

Pokupsko has introduced LED lamps for public lighting, solar panels on roofs and heating pumps in the school and kindergarten. The paperwork for the heating system took six years, and the responsible authority received **over 50 kilograms of documents**, according to Regea's deputy head Velimir Šegon, portal Lokal.hr reported.

Biomass should be supported by procurement rules

December 3

Between 260,000 and 300,000 tonnes of pellet is produced every year in Croatia, 90% is exported, and the state could change that with laws which would stimulate bigger consumption of energy from renewable sources and wood biomass, according to participants at the sixth International Wood Energy Conference for Biomass and Renewable Energy Sources in Zagreb.

Marijan Kavran, head of Croatian Wood Cluster, said the government can easily change public procurement regulations so that systems which run on fossil fuel must be replaced with facilities that use renewables when their work cycle ends, the national Environmental Protection and Energy Efficiency Fund (FZOEU) reported. Vesna Bukarica, who heads the energy efficiency sector in the FZOEU, said renewable energy use was **stimulated with HRK 76.4 million (EUR 10 million) last year**. The programme included EUR 1.18 million for 484 biomass boilers in home refurbishment.

“Croatia has seen a rise in opposition to the development of biomass systems, which a part of the public does not consider to be a clean solution, fearing they are waste incinerators.”

President of the World Bioenergy Association Heinz Kopetz said 17% of the final consumption of energy from renewables in Austria comes from biomass, while renewable energy's share in total consumption is one third. He added Finland and Sweden already get a third of total energy consumption from biomass. World leaders should strive to cut fossil fuel use by 50% by 2050 to prevent climate change, and fiscal policy is a necessary tool for energy transition, according to Kopetz.

Croatia has seen a rise in opposition to the development of biomass systems, which a part of the public does not consider to be a clean solution, fearing they are waste incinerators, according to Zoran Fabris from Tinjan in Istria, who owns Donis d. o. o., a wood processing factory. He added protests have put the company's operations at risk, as it invested in the development of a 1.3 MW cogeneration project.

Fabris said the local population is supported by some institutions and „eco-lobbies.“ A similar problem happened in the town of Vinkovci in the northeast, the other side of the country, to Enerkon d. o. o., its director Stanko Plevnik said. He underscored the projects are undermined also by complex and illogical administrative procedures.

CROPEX initiates member admission, postpones launch

December 14

At the meeting of the Board of Commissioners of Croatian Energy Regulatory Agency (HERA), CROPEX was designated as a nominated electricity market operator (NEMO) **for a period of four years**. In accordance with European Commission's regulation on capacity allocation and congestion management (CACM), each member state electrically connected to a bidding zone in another member state shall ensure that one or more nominated electricity market operators are designated.

Earlier, Reuters learned that the **power exchanges of Serbia** and Croatia postponed the initiation of their day-ahead power markets until early next year.

“*Applicants need an energy license issued by HERA, balancing energy contract with Croatian Transmission System Operator Ltd. (HOPS), and agreement regulating mutual relations with Croatian Energy Market Operator Ltd. (Hrote).*”

The agency designated CROPEX as a NEMO for performing the single day-ahead and intraday market coupling. Following the completion and implementation of **the trading platform with Nord Pool Spot AS**, the admission process for future members of the Croatian Power Exchange was launched. **Applicants** need an energy license issued by HERA, balancing energy contract with Croatian Transmission System Operator Ltd. (HOPS), and agreement regulating mutual relations with Croatian Energy Market Operator Ltd. (Hrote).

In accordance with the new rules on energy license, traders from the EU and Energy Community countries can obtain the licence without having to establish a new company or subsidiary in Croatia.

Erste gets EBRD's line for MSMEs and energy efficiency

December 21



Photo: EBRD

The European Bank for Reconstruction and Development said it is providing Erste & Steiermärkische Bank d.d. (Erste Bank Croatia) with funds to increase its support to micro, small and medium-sized enterprises (MSMEs) and to promote energy efficiency investments **in the residential sector**.

A EUR 20 million credit line will be extended to enable the bank to increase financing of small businesses which are important contributors to the country's economic performance and a major employer, the press release said. Despite their key role for the economy, access to finance remains challenging, according to EBRD.

In addition, a EUR 10 million loan will finance subloans to borrowers under the Croatia Residential Sustainable Energy Financing Facility (CroSEFF). The EUR 60 million framework supports investments to address the high energy intensity of the residential sector in the country, EBRD said. Erste Bank Croatia will become the first local bank to join the CroSEFF framework.

Erste is the country's third largest bank, with a market share of 15%. A credit line for MSMEs was signed in 2012, a credit line under the Western Balkans Sustainable Energy Finance Framework (WeBSEFF) followed in 2014, and most recently Erste Bank Croatia joined the EBRD's Trade Facilitation Programme, in May 2015.

The EBRD said it has been active in Croatia as an investor since the country's independence and has invested some EUR 3.22 billion in 178 projects.

SLOVENIA

HSE lifting output to 8.22 TWh in five years

November 25

State-owned power conglomerate Holding Slovenske Elektrarne (HSE) said it adopted a development plan for the period of 2016–20 which foresees an increase in annual electricity output from 7.89 TWh to 8.22 TWh, [SeeNews](#) reports. The blueprint should help the company adjust and respond to tougher conditions on both electricity and natural gas markets as well as on the financial markets in terms of **restructuring and deleveraging** while maintaining its leading position on Slovenia's energy market, the company said in a press release on its website.

“*The holding's increased renewable portfolio will have a share of 45%, and it will generate 63% of Slovenia's green energy, the press release said.*”

Financial, commercial and organizational restructuring, rationalisation of operations, deleveraging in order to maintain long-term growth and development are all goals set in HSE's development plan. The company plans to increase its **renewable energy output from 3.52 TWh to 3.6 TWh** per year and maintain an annual electricity trading volume of over 25 TWh over the next five years. The holding's increased renewable portfolio will have a share of 45%, and it will generate 63% of Slovenia's green energy, the press release said.

So far this year HSE has traded 28.5 TWh of electricity, 13% above plan, achieving revenue of over EUR 1.3 billion. HSE Group is Slovenia's largest power producer and trader and has companies, branches and representative offices in Croatia, Serbia, Italy, Hungary, Bulgaria, Bosnia and Herzegovina, the Czech Republic, Slovakia, Romania and Macedonia.

ELES joins Japanese–Slovenian smart grids project

December 17

Within the framework of the partnership between Japan and Slovenia, ELES hosted Masaaki Nomoto, senior representative of Japanese company Hitachi. Chief executive Aleksander Mervar and the management team spoke about the project on smart

grids and smart communities with the guests. They established that the project has a very important role in the development of smart grids in Slovenia and for **the move of domestic knowledge and industry into foreign markets**, ELES said on its website.

The government in Ljubljana backed the implementation of the Slovenian–Japanese demonstration project, estimated to be worth EUR 80 million. An upgrade on cooperation between companies from both countries and agencies Spirit from Slovenia and NEDO from Japan, the project could begin to get implemented in the first half of 2016, *Slovenia Times* reported. According to the press release issued after the cabinet session on December 3, the project will test new technologies and solutions in working smart networks.

“*Apart from European Union's funds and the contribution from the state, part of the financing would come from the participating companies, energy utilities and local communities.*”

As such it will contribute to the goal of establishing a comprehensive concept of smart electronic energy network in Slovenia, the Government Communication Office said. Another goal is to stimulate long-term strategic partnerships, use of systemic changes in applications not yet in the market and use of the country's spatial and demographic features. If the talks are successful, the project could be launched in the first half of 2016 and continue to be implemented through 2018. Apart from European Union's funds and the contribution from the state, part of the financing would come from the participating companies, energy utilities and local communities.

Funding would be earmarked as part of a measure to boost R&D for the demonstration of Slovenian technological solutions for integrated management of distribution networks, electricity consumption management and comprehensive management of energy within smart networks.

A consortium has also been formed including eleven Slovenian companies such as Iskraemeco, Iskratel, Kolektor and Robotina as well as the Japanese concern Hitachi.

BOSNIA AND HERZEGOVINA

Concessions for two small hydro projects underway

November 27

The territory of the Trnovo municipality in East Sarajevo has good hydroelectric potential, so the authorities decided to prepare concessions for small power plants Kijevo 2 and Hrasnica, Bosnian daily paper Oslobođenje said.

Mladenka Rađen from the local urbanistic department said domestic investors have been expressing interest before as well. „First the concession must be awarded, then the procedure starts to obtain construction paperwork and permits and so on, thus we don't know when construction can start and when everything could be done,” she said. The two small hydropower plants will have **concessions for 30 years**.

Kijevo 2 will be installed on the river Željeznica in Kijevo village. Estimated capacity of 242 kW will have yearly production of 1.25 GWh. The reservoir dam facility with flow-of-river regime will be worth BAM 1.8 million (EUR 9.2 million) and works include digging the river bed downstream. Hrasnica project will be constructed in Turovi village, where Hrasnica creek flows into Željeznica. Estimated capacity is up to 250 kW, and the plant will generate 1.04 GWh per year. The investment is worth EUR 1.54 million. The intake structure will be upstream, at a height of 1,217 metres, while the machine house will be at 900 metres.

Heating plant builds fire in boilers for biomass

November 27

District heating in Prijedor, in the northwest of Bosnia and Herzegovina, switched to biomass, as the first fire was lit in the new boilers.

„The so-called camp fire was started in one of two boilers, and the second one will be activated in a couple of days. This way the boilers are dried, the temperature is being increased and from December 1, as was announced, heating on biomass will be launched,” Ljiljana Despotović, head of Toplana system, told Srna news agency. She explained this is

the usual procedure after the boilers are mounted, and that after the drying process is complete, biomass is sent by a line in. „We purchased about two thousand cubic metres of biomass and this is enough for the start, and we have an arrangement with the enterprise **Forests of the Republic of Srpska, our only supplier for the moment**,” Despotović added, according to a report on Nezavisne portal.

Austrian company Urbas is the main contractor in the switch from heavy fuel oil to the renewable source. A cogeneration system is also being built, and it should be complete by the beginning of 2016. The European Bank for Reconstruction and development lent EUR 7 million for the reconstruction of the heating plant, while the Swedish International Development Cooperation Agency (SIDA) **donated EUR 2 million**, from which EUR 400,000 is for metering devices for consumers. The switch should bring sustainability to Toplana, which is overburdened with loans because of high prices of the fuel that was used, and the enterprised is being kept afloat by borrowing from the town's budget.

Hydro project endangers Danube salmon's habitat

November 27



Kelag, an Austrian–German energy company, is building hydropower station Medna, endangering a globally threatened fish species, non-governmental organizations and scientists said. The investor is about to destroy one of the most important river sections for the endangered Danube salmon or huchen (Hucho hucho) in Europe, according to the joint press release

by Riverwatch, EuroNatur, Center for Environment and the Coalition for the Protection of Sana, the river located in the northwest of Bosnia and Herzegovina.

At a press conference in Banja Luka, organized in the context of the international campaign 'Save the Blue Heart of Europe', environmentalists said the upper reach of Sana is the site of construction, with further dams planned for downstream. Scientists said this is one of the six most important rivers for the globally threatened fish species. „Together with only a few other rivers, the Sana provides the backbone of the remaining huchen population in Europe. These rivers must remain unobstructed by hydropower plants,“ says Belma Kalamujić from Sarajevo University.

“People from all over the world are visiting to fish for trouts, graylings, and above all the huchen, in unspoiled nature, so residents can profit from tourism without destroying the landscape, says Nataša Crnković from the Center for Environment.”

People from all over the world are visiting to fish for trouts, graylings, and above all the huchen, in unspoiled nature, so residents can profit from tourism without destroying the landscape, says Nataša Crnković from the Center for Environment. Millions are spent to regenerate rare huchen populations in the European Union, and especially Austria, the scientists said.

Even the Verbund group, co-owner of Kelag, is financing a river restoration project on the Traisen in Lower Austria with EUR 6 million, in order to regenerate the population of huchen, the activists said, adding all efforts are co-funded by the EU's Life Projects.

China's CWE plans to build 159 MW hydropower plant

December 7

A memorandum of understanding about the construction of Dabar hydropower system, worth EUR 180 million, was signed in Banja Luka by the Ministry of Industry, Energy and Mining of the Republic of Srpska and the China International Water & Energy Corporation (CWE). Minister Petar Đokić said **the company will be able to participate in the process of selection** of the contractor and equipment supplier. He said the company is one of the world leaders and that it invested significant capital in the area of energy. Dabar hydropower plant belongs to the Gornji horizonti system, Đokić added. The location is in southeastern Bosnia and Herzegovina, and Srpska is one of its two entities.

Chen Liang, head of CEW's office in Serbia, said the company will do everything in its power to file the best technical and commercial offer for the project's implementation. „I believe we established good contact, which should result in successful cooperation in the construction of Dabar hydropower plant,“ he stressed. Chen said the company is a subsidiary of the Three Gorges system, which worked on the biggest energy facilities in the world, especially in the sector of renewables. It was hired for the Kozjak hydropower plant in Macedonia and the biggest solar power plant in Greece, and it is the biggest shareholder of Portuguese electric power company, he underscored.

“The company is a subsidiary of the Three Gorges system, which worked on the biggest energy facilities in the world.”

Branislava Milekić, chief executive of the state-controlled power utility Elektroprivreda Republike Srpske (ERS), said preconditions have been met to cooperate with the company from China. „This means access to certain studies and technical documentation in order for the company to secure access to credit of a state-owned bank in China. We do not give them any exclusive rights, but competition is enhanced for the implementation of this project,“ she said and added a tender was published for the construction of the tunnel for Dabar hydro system. She reminded the feasibility study is complete and that Hidroelektrane na Trebišnjici a. d. Trebinje is the sole owner of **Hidroelektrana Dabar d. o. o.** project.

Basketball player invests in small hydropower plants

December 9



Mirza Teletović and his family recently registered their company Eko-wat in Jablanica with the aim to start an investment of BAM 10 million (USD 5.56 million), portal Klix.ba reported.

Salem Dedić, the mayor of the town in Herzegovina region's north, said the basketball player's projects received necessary permits and that the construction of two small hydropower plants **could start in 2016**. The concession still needs to be followed by the environmental licence, issued by the Ministry of the Environment and Tourism of the Federation of Bosnia and Herzegovina, one of the country's two entities. According to the spatial plan, there is possibility for construction of two more mini systems.

The Teletovićs plan to build the facilities in the river Doljanka, helped by a consultant firm from capital Sarajevo. The NBA player is placing the biggest investment in his hometown of all its athletes, according to Dedić. „He has various visions on investing in Jablanica and we will support and follow him in that,“ the municipality chief added.

Italian Building Energy looks at solar energy projects

December 10

Petar Đokić, energy minister of the Republic of Srpska, signed a memorandum on understanding with Fabrizio Zago, chief executive of Building Energy SpA from Milano, Italy. The company's multiyear experience and results in building and implementing energy projects have been recognized, the minister said and expressed pleasure because of its interest in the construction of solar power plants in the entity, the government said on its website.

Đokić added Building Energy will be assisted in its projects in line with Srpska's regulations. He stressed Srpska wants to strengthen its role in the power market. Zago said the entity of Bosnia and Herzegovina has significant energy potential and that the construction of solar power plants planned by his company will be **one of the most important ones in the Balkans**, improving Srpska's position in Europe.

The construction of **a biomass power plant** was announced in November by Building Energy and the City of Kruševac in central Serbia.

Public buildings' overhaul assisted by UNDP

December 10

The Canton of Sarajevo signed an agreement with the United Nations Development Programme to facilitate mutual participation in the funding for an energy efficiency project. Public buildings will undergo

refurbishment **worth BAM 1.2 million (EUR 614,000)**, where the regional authority will provide EUR 358,000, and the international organization took on the responsibility for the remainder.

The project's concept is based on the structures' rehabilitation in the energy segment, according to Čedomir Lukić, the cantonal minister responsible for spatial planning, construction and the environment. He said activities include the identification of buildings which urgently need refurbishment measures, with the subsequent development of funding and action plans for the year ahead.

Zahira Virani, UNDP's deputy resident representative in Bosnia and Herzegovina, stressed that Sweden donated the funds for the Green Economic Development Programme. The segment focused on energy management and efficiency in Sarajevo Canton was agreed one month before the financial deal, she said. The project includes a study, a five-year action plan and 15 audits of selected public buildings. The responsible ministry already chose five structures: three elementary schools, an orphanage and a theatre.

Silicon factory eyes 120 MW capacity per year

December 11

Italy's MegaGroup said its plant for silicon ingots and wafers, set to open in Bosanska Dubica by the end of 2016, will have a nameplate capacity of 120 MW per year during the first phase of the project, **SeeNews** reported.

The first phase of the construction **is worth EUR 12.5 million**, while the company's entire planned investment is valued at EUR 35 million, according to MegaGroup's press release. The company said it recently signed a land purchase agreement for a 20,000 square metre plot with the Municipality of Dubica, located in the north of Bosnia and Herzegovina, for the construction of the facility.

„We aim to start the production of mono and polycrystalline silicon ingots and wafers by the end of 2016 in order to provide the raw materials for cells and modules production. This is the first step towards the creation of a world photovoltaic hub,“ MegaGroup's president Franco Traverso said.

Output will be earmarked mainly for MegaCell, a subsidiary which produces bifacial solar cells and modules in Padua, and also for joint venture plants that the group has been establishing abroad for

the production of bifacial cells and modules and innovative bifacial solar systems. MegaGroup added that it chose the Bosnian industrial site, already equipped with infrastructure, because of its favourable conditions for energy-intensive production.

The Dubica plant is set to be powered by green hydroelectric energy and will employ 90 workers, the report said. MegaGroup, founded by Traverso in 1981, is a holding company consisting of MegaCell, MegaEngineering and MegaCivic.

GIZ implements eight energy efficiency projects in BiH

December 18

As part of the regional project Energy Efficiency in Municipal Associations (EeMA), implemented through the Open Regional Funds for South-East Europe – Energy Efficiency (ORF-EE) and Modernization of Municipal Services (ORF-MMS), the German Development Cooperation (GIZ) implemented eight energy efficiency pilot projects across Bosnia and Herzegovina (BiH) in November and December. The improvement of energy efficiency was undertaken in the municipalities of Bijeljina, Novi Grad, Gradiška, Iliđža, Zenica, Foča, Trebinje and Kreševo. A total of 40 local authorities applied for funds.

Works were financed by the German Federal Ministry for Economic Cooperation and Development (BMZ) and the Government of Switzerland. The project is part of the overall support provided by these governments as regards BiH's process of approximation to the European Union. Provision of support by the Government of Germany also refers to the particular process of transposition of energy sector relevant EU acquis into the country's legislation.

The pilot projects brought together actors from different government levels, the non-governmental sector, municipal associations and other relevant institutions, which recognized the projects' potential and showed the willingness to help the initiation of a serious debate on energy efficiency in BiH, also demonstrating support in addressing and applying necessary changes in the future.

Pilot projects addressed the general improvement of energy efficiency in BiH, particularly through increased and improved public lighting by use of LED technology and replacement of old lighting in the municipalities, improvement of heating and cooling systems in public buildings, installation of mini power plants with solar photo-panels, modification of façade windows in public buildings, GIZ said.

Five local projects were completed by early December, while the ceremonies for the introduction of efficient lighting in Foča and Trebinje, and the modification of façade windows in public buildings in Iliđža in Sarajevo were held in mid-December.

“The improvement of energy efficiency was undertaken in the municipalities of Bijeljina, Novi Grad, Gradiška, Iliđža, Zenica, Foča, Trebinje and Kreševo.”

Trebinje, a town in the south, has replaced 40 public lighting lamps on its outskirts. Representatives of GIZ visited the Geljev most site and met local officials. One half of the total project value was provided by GIZ and the other half by the Association of Towns and Municipalities of Republic of Srpska.

The lamps now use four times less energy than the mercury-based bulbs. This is not the first project related to energy efficiency that had been implemented in Trebinje, as we have already replaced a number of street lights with LED lights in the city area,” said deputy mayor Nedjeljko Čebedžija.

In the Second Primary School in Hrasnica, in the municipality of Iliđža, replacement of exterior fenestration elements on the classrooms part of the school building with windows and doors of improved thermal characteristics was also conducted within the EeMA project. The Mayor, PhD, Prof. Senaid Memić, as stated on the Municipality's website, said that „children are the future we all need to invest in.”

A system of heat pumps for heating and cooling was introduced in one of the buildings of the local authority of Bijeljina, which resulted in electricity savings by up to 70%.

„Bijeljina has a lot of potential to use alternative energy sources. The use of gas, geothermal and solar energy can significantly increase energy efficiency and reduce the pollution of our environment. Thanks to GIZ, the heat pumps were installed in the building of the Department of Urban Planning and Department of Veterans and Civil Protection, which will help us achieve huge savings of electricity,” Mayor Mićo Mičić said, as reported on the municipal website. Two pumps of 10 kW will heat and cool 37 offices, distributing heat more evenly.

EeMA is being implemented in BiH, Kosovo, Albania, Serbia, Macedonia and Montenegro.

Hidroelectrica wins case for power export to Hungary

December 2

State-controlled hydropower producer Hidroelectrica SA won the lawsuit against Romania's Energy Regulatory Authority (ANRE), according to its press release. The watchdog had banned export of electricity and fined the company for its trade in Hungary from December to February, Romania Journal's website reported.

Hidroelectrica was selling power on a centralized, transparent and competitive platform operated by Tradition Financial Services Ltd., while under obligation to trade on Opcom platform in Romania, ANRE's document said. According to Euro Insol, the insolvency administrator of Hidroelectrica, the interpretation **violates the principle of free movement of goods** within the European Union, the report said.

The moment the sentence sets into force, any manufacturer, whether it is called Hidroelectrica, Nuclearelectrica or Oltenia, will be allowed to directly export power on contracts on any of the markets of the EU member states, the company's trustee Remus Borza said. He added Hidroelectrica has exported 15 MWh, after which ANRE issued a penalty and warning, with supply license withdrawal. State companies were thus deprived of trading for two years, the article adds.

Cut in distribution fees slashes power prices

December 3

Electricity distribution fees will go down 8% to 10% on January 1 and household electricity prices will be reduced by 5% to 6%, president of the National Energy Regulatory Agency (ANRE) Niculae Havrileț said, Romanian news agency Act Media reported. Energy fees will decrease proportionally to the fall in distribution fees included in the end price, he explained. The distribution fee will go down and **the cogeneration bonus will also decrease, by 4%**, Havrileț told the 25th edition of the Energy Focus Conferences.

The annual compulsory quota of electricity produced from renewable sources for 2016 is to be 12.5% of

gross final consumption of electricity and under these conditions the impact of green certificates in the bill of the end consumer of electricity will be RON 35 (EUR 7.78) per MWh, according to a draft government decision published on the site of the Ministry of Energy. A quota of 17% had initially been in law, so producers made their business plans accordingly. Taking into account the exemption agreements issued so far and ones estimated to be granted until the end of 2016, **the impact in the bill will actually be about EUR 9.57 per MWh**, according to the draft, Energynomics.ro reported.

“The annual compulsory quota of electricity produced from renewable sources for 2016 is to be 12.5% of final consumption of power, instead of 17% initially set by law.”

Until the end of August, 27 agreements of exception were issued, corresponding to almost 6 TWh, and until the end of the year this could reach 8 TWh. Thus, keeping the level of sustainability of the promotion scheme for energy from renewable sources at the level of the end consumers is difficult to put to practice taking into consideration the issuing of exception agreements in 2015, their pressure being transferred to the non-expected end user, namely population and small and medium-sized enterprises, the presentation says. The exemptions are given to large industrial customers based on an energy-intensity index.

In 2015, the annual compulsory quota was reduced to 11.9% against 17% as it was established in law. Ministry of Energy claims that new mandatory quota will lead to the trading of about 60% of green certificates issued for the energy delivered.

Enel sets EUR 630 million for investment by 2019

December 6

In late November, a financing programme for energy distribution networks in Romania was announced by Italian-based company Enel SpA to be implemented by 2019, according to a report published on The Diplomat's portal.

The company's **aim is to increase its customer base from 2.7 million to 2.9 million consumers**. „Through the investment we have made in green energy we

have achieved our targets in terms of the number of green certificates," said Francesco Starace, head of the group. „We don't want to create an excess. I would say that we are in balance and we are satisfied with what we have at the moment." He expressed belief that the results won't be visible sooner than 2017.

Aside from development projects, Enel is known for its legal dispute with the government in which the Italian entity was sued for damages of EUR 521 million for the 23.6% stake that the Romanian state holds in the former electricity distribution company Electrica Muntenia Sud. Enel is the largest private energy distributor in Romania, featured in three regions: South Muntenia, Dobrogea and Banat, the article said.

Two solar farms to be built in Vâlcea County in 2016

December 9



One photovoltaic facility will be installed in Bujoreni commune and the second in Balcesti's industrial park next year. The two power plants will thus produce electricity for companies that will invest there, Agerpres informs.

„It is green energy and I am convinced that this investment will galvanize the real-estate sector. Based on the talks with the company that will make this investment, we have the guarantee that street lighting and the lighting of public institutions, mayoralty, schools, clinics will be ensured. So it is an extremely useful investment," Bujoreni's mayor Alexandru Rosu stated, Energy World magazine reports.

In Balcesti, the photovoltaic power plant that will be built **inside the industrial park** will offer electricity to the other companies that will invest in the area. „This was one of the arguments of the investor that will build on one hectare of this park. It will be ready next year. At any rate, natural gas supply will be brought to the park in the spring, too," mayor Ion Curelaru stated, citing the importance and proximity of the Craiova–Balş–Balcesti triangle and the possibility of auto parts companies coming.

Vâlcea County currently has three operational photovoltaic power plants – Horezu, Şirineasa and Mihăeşti – and four others in various stages of construction.

Nexans strengthens wind power transmission capacity

December 9

EnergoBit SA's 30 MW Babadag III wind farm in Romania will transmit energy to the grid using 140 kilometres of Nexans SA's high temperature conductor cables and accessories. The existing Babadag – Tulcea Vest 110 kV power line does not have enough capacity to carry power from the solar plant, Nexans said. The high temperature ACSS/TW Brant conductors **will double the line rating** without adding mechanical loads, the company's statement said. Upgrading the conductor along the 44 kilometre route allows the wind farm to operate with existing infrastructure, according to the press release.

With a capacity of 194 megavolt-amperes, the new power line is able to carry 63% more current than the existing system when operating at the same temperature. The ACSS conductors also allow for a 16% reduction in joule losses when operating at the same current as the existing ACSR system, the specifications say.

Babadag 3 is in Dobrogea, southeast Romania. The conductors will be manufactured at Nexans' Benelux plant in Elouge, Belgium.

Renewable energy capacity tops EU targets

December 14

Romania's green energy capabilities have reached the mandatory levels set by the European Commission for 2030, portal Nine o'Clock reported, adding that the new energy minister Victor Grigorescu pushes for yet bigger green energy quotas. Although two years ago it was believed that once the restrictions concerning green certificates trading come into force investments in this sector would drop, **investments are in fact continuing to grow**, the article said.

According to the information offered by Transelectrica SA, the capacity to produce electricity from renewable energy sources has reached a total installed level of 5.18 GW at the end of October. The system had wind parks of 3.19 GW, solar farms with a total capacity

of 1.3 GW, small hydropower units of 583 MW and biomass projects with total power of 103 MW, according to Nineoclock.ro.

““ *The situation with renewable energy does not depend solely on the quota, but also on the way in which the energy exchange works, energy minister Victor Grigorescu says.* ””

Grigorescu announced he asked the representatives of the Regulatory Authority for Energy (ANRE) to reanalyze the green certificates quota for next year, against the backdrop in which renewable energy producers claim the quota should rise, the report said. „Following talks with renewable energy industry representatives, they claim that there are elements for raising the quota. My goal is for us to have a new quota. This regulation should have been initiated much earlier,” the minister stated.

The situation with renewable energy does not depend solely on the quota, but also on the way in which OPCOM (the energy exchange market) works and the green certificates are traded, and on the exemptions from the payment of certificates, Grigorescu added.

Asked whether the hiking of the green certificates quota would also lead to a hike in the consumers' electricity bills, the minister stated that there should be a balance between the parties involved: „We need a balanced result. I am in favour of a well-balanced energy mix.”

Thermal power plant to be converted to cogeneration

December 14

Bucharest's thermal energy supplier Radet will convert the heat power plant located in the Casa Presei building, in the north of Bucharest, into a cogeneration plant, Romania Insider reported.

The company's **board approved a EUR 8.21 million investment** earlier in December, Agerpress said. The inhabitants in the north of the capital will mostly benefit from this investment, which will reduce the losses in the heat distribution network. The Bucharest City Council still needs to approve Radet's budget for next year, which includes the investment for the power plant's conversion. The company has been facing big financial problems and has been relying heavily on subsidies received from the city and the state government.

OPCOM becomes nominated electricity market operator

December 14



Romanian gas and electricity operator said it was designated by the Romanian Energy Regulatory Authority (Anre) as nominated electricity market operator (NEMO) for fulfilling tasks related to **the coupling of the day-ahead and intraday markets**. The designation of OPCOM was performed according to European Union regulation for an initial period of four years.

The rules established a guideline on capacity allocation and congestion management, OPCOM said on its website. The European legal act covers the implementation of the mechanisms of the European single electricity market according to its target model, establishing framework for the coupling of the electricity markets on day-ahead and cross border intraday horizons. The designation of OPCOM as NEMO represents recognition of its performance and capacity to fulfil the tasks specific for market coupling in the context of European integration of the energy markets, according to the required level of exigence and the European best practices, also bringing complex responsibilities to which OPCOM committed since the moment of participating in the 4M MC cooperation and that will be continued with same determination in the ongoing European projects, too.

OPCOM trusts that the market participants will support its deployment, and that the authorities will perform the same determining role in Romania's process of conformation to the European provisions with relevance for the Romanian wholesale energy market, the statement said.

BULGARIA

Liberalization leads to power price increases

November 29



Energy minister Temenuzhka Petkova stated the forthcoming energy market opening in Bulgaria is likely to lead to higher tariffs for electricity, Novinite agency reported.

In an interview with the Bulgarian National Radio (BNR), she said the power price hike could be expected **immediately after liberalization in the beginning of next year**. Petkova didn't give any figures, underscoring that the cost is to be determined by the market. She said it isn't possible to forecast what the price of electricity will be after full liberalization.

Soon after the market is opened, there is a trend of slight increase of electricity prices, followed by a decrease, the article said, citing international data. Petkova explained that the full liberalization of the electricity market will take place gradually throughout next year as had been recommended by the World Bank.

Bulgarian Finance Facility Energy Efficiency Window for SMEs (SMEFF-EE) closed

November 30

The Council of Europe Development Bank (CEB), KfW development bank from Germany and Raiffeisenbank (Bulgaria) e. a. d. (RBB) successfully closed an EU grant-supported Finance Facility Energy Efficiency Window for SMEs (SMEFF-EE) based in Bulgaria.

Econoler said it had been hired to support RBB and the applying SMEs in identifying, developing and implementing energy efficiency subprojects that were subsequently financed by KfW's credit line. The endeavour was completed at the end of October, according to the company's statement.

With a worth of EUR 30 million, SMEFF-EE was designed to serve two main purposes: to increase SMEs' competitiveness and to offer the firms easier access to energy efficiency financing by providing a grant.

Since the SMEFF-EE's implementation officially started on April 11, 2014, Econoler has reviewed over 300 subproject applications and prepared a total of 259 technical evaluations. Of the approved sub-projects, 231 were successfully implemented and verified, and a total amount of EUR 32 million in investments was mobilized. The beneficiary SMEs were in six economic sectors: agriculture, cargo (freight) transport, passenger transport, services (including retail and wholesale trade, equipment and machinery service and maintenance), manufacturing, and buildings and construction. The environmental target set by the program for all kinds of vehicles, and manufacturing and farming equipment was at least 20% energy savings, or 20% reduction in emissions of carbon dioxide, while for buildings and construction the target was 30%.

It is expected that almost 30 GWh will be saved each year and 8,000 tons of CO₂ emissions will be avoided annually thanks to the programme. Most of the energy savings and greenhouse gas emission reductions were achieved in the transportation sector, cargo in particular. This sector not only had the biggest percentage of all the subprojects, but also had some with significantly larger investment values. One of the key factors contributing to the SMEFF-EE's success was the effective communication with RBB and the participating SMEs, which facilitated the application and project assessment procedures, Econoler said.

The company is based in Sofia, as a subsidiary of Econoler Canada, a consulting firm specializing in the design, implementation, evaluation and financing of energy efficiency programs and projects.

Sofia overhauls district heating system with EBRD

December 4



Toplofikacia Sofia EAD, the single-owned district heating company serving the capital of Bulgaria, intends to use the proceeds of the grant funds provided by the Kozloduy International Decommissioning Support Fund (KIDSF), administrated by the European Bank for Reconstruction and Development and its own financing for contracts within the Project for Upgrade and Modernization of Sofia District Heating Production and Distribution System.

The general procurement notice published by EBRD is an update of a document from December 3, 2014. The project Increase of Heat Transfer Energy Efficiency aims **to annually replace about 21 kilometres of pipelines** (about 63 kilometres in total for 2016, 2017 and 2018) with preinsulated district heating pipes.

“*The new cogeneration facility will operate all year to cover the base heat load of HOBs Ovcha Kupel 1 and Ovcha Kupel 2.*”

The project will be implemented invoking two types of contracts, where the procurement of goods is through three separate contracts for pipelines for 2016, 2017 and 2018. The expected duration of each supply contract is nine months and the total estimated cost is EUR 5.1 million. The procurement of works refers to the installation of the supplied preinsulated pipes,

including dismantling of existing pipes and restoration works. The contracts will be carried out in 2016, 2017 and 2018. The duration of each contract is expected to be 9 months and the total estimated cost of each contract is EUR 6.5 million.

The construction of cogeneration plant for heat only boilers (HOBs) Ovcha Kupel is envisaged. The project includes installation of new cogeneration modules with three gas engines with electric and thermal capacity of about 10 MW. The new cogeneration facility will operate all year to cover the base heat load of HOBs Ovcha Kupel 1 and Ovcha Kupel 2. Duration is expected to be 24 months and the total estimated cost is EUR 9 million.

The reconstruction and modernization of energy boiler units EK220 t/h No. 7 and No. 8 at Thermal Power Plant (TPP) Sofia comprises boiler heating surfaces, replacement of old burners with new low emission burners, upgrade of boilers control systems and installation works of boiler flue gas utilization equipment. The duration is expected to be 31 months and the total estimated cost is EUR 11.7 million.

The turbine unit TG3 at TPP Sofia East is to be modernized. In order to meet the requirements of Energy Efficiency Directive 2012/27/EC regarding high efficiency of cogeneration for district heating purposes, the existing condensing type turbine is intended to be replaced with a new backpressure steam turbine with capacity of 30 MW to 35 MW of electricity and 89 MW of heating energy. The duration of the contract is expected to be 30 months and the total estimated cost is EUR 9.1 million.

The project includes the construction of flue gas utilization facility for boiler unit EK 220 t/h, No. 9 at TPP Sofia and flue gas utilization at HOBs in 24 and 36 months, respectively, for EUR 1 million and EUR 900,000.

Procurement will be open to tenderers from the member states of the European Union, Switzerland and the bank's countries of operation.



We continue to seek additional support and expert contribution for our Balkan Green Energy News project. If you want to partner with us please

GET IN TOUCH

MACEDONIA

Future of energy comes from two workshop projects

November 23

Naser Miftari, high school teacher from Kumanovo in Macedonia, and his former student Bujar Dalipi, who studies applied sciences in the capital of Albania, invested two years of hard work in two endeavours, called Drita (Light) and BuNa, for which they were awarded. The duo feels these projects are the future of energy, a report by Anadolu Agency said.

Drita is the **direct conversion of sun's radiation to power** through a regulation device for solar battery charging, protecting it from overload, Dalipi said. The projects differ from other inverters in many ways, he adds. „Consumption is the most important. The project's demonstration showed that one light bulb spends 0.65 ampere hours, while with another inverter the same item consumes 1.6 ampere hours. Furthermore, it is quite mobile, maintenance is exceptionally easy and charging is facilitated with solar panels, so it works with the help of alternative energy, the energy of the future,“ Dalipi stated.

“*The teacher and the student stated they managed to light a row of 70 bulbs with nine to ten ampere hours.*”

Also, measuring an inverter produced in Europe or the world shows that with a usual battery a light bulb can burn up to five hours, while in Drita project, in his words, the same battery can power such a bulb for 30 hours. Miftari and Dalipi first presented the project in Tirana, to the German Society for International Cooperation – GIZ, from which they say they expect good news.

The BuNa project is for recharging batteries of 12 volts, also with solar panels. Miftari says the innovation enables for 12 or 13 bulbs to shine with only 2 ampere hours. „This means that if we have a battery of 100 amperes, the same number of bulbs can shine for up to 50 hours with this discovery. It can be used at any place without electricity, because power supply battery can be found easily. Unlike the Drita project, where the feed gets disconnected, the other one doesn't have that problem, even though light bulbs of 220 volts are used,“ he said.

The teacher and the student stated they managed to light a row of 70 bulbs with nine to ten ampere

hours, while that with other inverters from the world market the same number of units would spend about 45 ampere hours. The projects are in the process of recognition and certification, after being awarded at a scientific conference in Tirana and an innovations fair in Skopje.

Energy consumption seen rising 4% in 2016

December 10



The draft Energy Balance, presented before the Macedonian Energy Association (MEA), predicts for total energy consumption to increase by 4% next year, Independent.mk reported.

The document, developed by the Ministry of Economy, includes a projection that 3% more oil and derivatives will be spent in 2016. There will also be a rise in the consumption of natural gas, biomass and other energy resources, the Macedonian news agency said in the article. Rising energy needs can be met by domestic and imported sources. Oil, derivatives and gas will be imported, while electricity output will depend on hydrology and gas prices.

“*About 16% of final energy from renewable sources is projected for next year.*”

„Renewable energy sources have an increasing share in the energy output, especially in the section of electricity. **About 16% of final energy from renewable sources is projected** for next year, primarily from small hydro plants, photovoltaics, wind parks and biomass,“ MEA's president Kočo Anđušev said. He added energy balance also depends on six large companies – Feni, Jugohrom, Makstil, ArcelorMittal, Bucim and Usje – which account for 20% of overall electricity consumption in Macedonia.

Memorandum includes cooperation in green energy

December 11



Macedonia and Albania are small countries and have need of mutual energy connection that is of interest to both sides, ministers Bekim Neziri and Damian Gjicknuri said in Struga. They signed a memorandum of understanding on cooperation in the fields of energy efficiency, small hydropower plants, wind power, oil and oil products, Macedonian Ministry of Economy said on its website. Gjicknuri, minister of energy and industry of Albania, visited the neighbouring country and met his counterpart in the border town one day after the European Bank for Reconstruction and Development signed an agreement for a loan of up to EUR 37 million for the construction of the first electricity interconnector between the two countries.

By signing the memorandum, according to Neziri, good relations between Macedonia and Albania are confirmed and the benefits are yet to be felt. „Cooperation in the energy market we have with Bulgaria and Serbia, and with the interconnection with Albania, a project that should be completed by 2018, we make the Republic of Macedonia a link in the regional energy market,” Neziri stated.

Gjicknuri said the two countries made remarkable progress in the project for the construction of the interconnection Bitola–Elbasan and added he expects that in 2017 there will be concrete steps. „Funds are provided for the realization of the project in both countries. Interest is huge in both countries as it will provide connection to the energy system of Macedonia, and thus in Bulgaria and Serbia. Apart from our countries, the entire region will benefit. The project provides connectivity to Albania, but not only Albania, I would say of Bulgaria and the region with Italy by sea,” Gjicknuri emphasized.

Islands need no pharaonic green power plants

December 1

Deputy energy minister Yiannis Tsironis has expressed strong opposition to any prospective development of large-sized renewable energy projects on the Greek islands, portal Energy Press reported.

„Our islands are an energy paradise. For starters, their geothermal and renewable energy potential has not been utilized in the slightest. **We don't need to install 300 MW on Skyros**, as is being planned. That's a pharaonic project. Let's install 30 MW instead,” Tsironis noted in an interview hosted by Thessaloniki-based radio station Praktorio 104.9 FM.

He said Greece remains committed to reducing greenhouse emissions by 40% until 2030 through increased reliance on renewables in the energy and transportation sectors, stressing however that enormous green energy projects are not necessary for the country to achieve environmental objectives.

Projects of excessively sized proportions and „forests” of wind energy parks prompt reaction from locals, Tsironis noted, while adding that moderately-sized wind turbine installation plans for the islands would be worked out in agreement with municipalities and local residents. Commenting on a long-term forecast by Bank of Greece that the country will have spent EUR 700 billion in consumption of fuel, lignite and other costly resources if a permanent shift towards renewable energy sources is not made by 2100, Tsironis said such a development would be hugely detrimental for the country.

PPC eligible for compensation from Admie's split

December 21

The agreement for Independent Power Transmission Operator (Admie SA) clearly states the need for the Public Power Corporation (PPC SA) to be compensated, according to the environment and energy minister Panos Skourletis, who gave an interview to newspaper Agora, Greek Reporter said. „We have agreed for **an independent appraiser to determine the exact amount** of the compensation as

CYPRUS

well as how the payment will be handled," he said and added new Admie's public character is secured.

Skourletis earlier noted that as a result of the **growing amount of money that PPS is owed**, currently **EUR 2 billion**, the electricity provider is looking into the ways it can enforce payments.

Admie or IPTO will cease to be independent as the government and its creditors agreed that it should split from PPC and be converted into a company that will be a 100% subsidiary of the state, ahead of the privatization of a minority stake, Kathimerini said on December 11. The plan will provide for **the state to hold on to a majority of 51%** and a strategic investor to take 20%, while the remaining 29% will be floated on the domestic stock market. According to the ministry, PPC claims Admie's up to one tenth of the future subsidiary's annual core profit, too.

Skourletis insisted before the negotiations that transmission system operators should be under public control.

Cretan interconnection plan scaled back

December 21

The Independent Power Transmission Operator (IPTO or Admie SA) cut back on the scale of its interconnection plan intended to link Crete with the grid serving the wider Athens area and, for the time being, will connect the island as far north as the Peloponnese, according to sources of Energy Press portal.

The operator is striving to finalize the revised latter project's details for inclusion in its ten-year plan, the report said. **The initial plan, offering a capacity of 1 GW**, would have covered electricity supply needs from the mainland to Crete, while also serving as a channel for the supply of the island's renewable energy production from to the capital city's area.

Following the revision, the project will, for its initial stage, be limited to a 2 x 200 MW system connecting the Peloponnese with Crete to cover the island's electricity needs. The resulting infrastructure will not be able to facilitate delivery of Cretan green power production to Athens. This will require development of a supplementary project, according to Energy Press.

PCIs to place Cyprus on Energy Union map

November 25



The prospects of terminating energy isolation through the creation of an energy union, together with its potential impact on enhancing energy security and contributing to lower energy costs for consumers were discussed during a seminar at the EU House in Nicosia, Financial Mirror reported.

Already, three projects for Cyprus – a subsea cable and two natural gas endeavours, have been included in the European Commission's list of Projects of Common Interest (PCIs). In his remarks at the conference, energy minister Yiorgos Lakkotrypis said that the government continues the implementation of its strategy to exploit the hydrocarbon reserves, discovered in its exclusive economic zone. He also said that the ultimate goal is to achieve lower energy prices for consumers.

The event was also addressed by Neoklis Sylikiotis, member of the European Parliament, who welcomed the inclusion of several energy projects of Cypriot interest in a European Commission priority list, unveiled a fortnight before. Lakkotrypis referred to the **10% electricity interconnection target**, which forms part of the Energy Union goals, saying that this needs to be achieved by all member states. Cyprus must be part of the internal energy market, he noted, adding that this facilitates Nicosia's energy plans. He further talked on the aspect of upholding member states' sovereign rights, with regard to their energy sources, adding that this provides Cyprus the opportunity to properly utilize its local resources.

The minister also talked about Cyprus' energy isolation and the market's small size which impeded competitiveness to a significant degree, resulting in higher fuel and energy prices compared to other

EU countries. Speaking on energy infrastructure, the minister referred to the 195 energy PCIs. The list includes the EuroAsia Interconnector, a joint venture between Greece's PPC, Quantum Energy and the Israel Electric Corp., providing for the interconnection of Cyprus with Israel and Greece through an electric cable, as well as to two natural gas projects. These projects can benefit from speedy licensing and environmental assessment procedures, and may eventually receive funding from the „Connecting Europe“ facility.

On the energy projects of Cypriot interest, Lakkotrypis said that approving necessary studies was important, however that significant work had still to be done.

The seminar was also addressed by the Head of the European Parliament Office in Cyprus Andreas Kettis and the Head of the European Commission Representation in Cyprus Georgios Markopoulitis, who said that the EU's commitment to reduce carbon emission by at least 40% by the year 2030 now seems realistic which will also contribute to energy security and help protect the environment.

The design for the EuroAsia Interconnector project has already been included in the EU's Projects of Common Interest. Undersea cables are laid in trenches along the seabed to prevent their disturbance by ships' anchors. The work is carried out by robotic technology. The first phase of the project involves connecting Crete with Athens and Cyprus with Israel, while the second phase will see the linking of Crete with Cyprus. The cable will transfer electricity produced from natural gas in both directions.

“„The demand for electricity in Europe is phenomenal... we think that in the future even a second cable might be required,” said Nasos Ktorides, chairman of DEH-Quantum Energy, ””

Greece's Hellenic Cables is set to participate in the EUR 3.5 billion project. The underwater cable with a total length of 1,500 kilometers will be laid at depths of up to 2,000 meters below sea level with a capacity of 2 GW. „The demand for electricity in Europe is phenomenal... we think that in the future even a second cable might be required,” said Nasos Ktorides, chairman of DEH-Quantum Energy, a joint venture of Cyprus's Quantum Energy and Greece's DEH (Public Power Corporation – PPC).

The target is to complete the first phase of the project within 36 months from the launch, for the first connection in 2017, Ktorides had stated in 2013. The link would be able to transmit power in either direction and would primarily focus on electricity generated

from natural gas. But electricity from renewable sources could also potentially feed into the network, Ktorides said.

Employers praise Solar Energy for Everyone scheme

November 27



The government's stimulation programme aimed at installing up to 40 MW of capacity in photovoltaic systems until the end of 2016 earned approval from the Cyprus Employers & Industrialists Federation (OEB). **Half of the quota** in the scheme called 'Solar Energy for Everyone' is for users' own needs, the organization stressed. Employers underscored new measures will help small and medium enterprises cut energy costs and improve competitiveness.

Energy minister Giorgos Lakkotrypis earlier said the cabinet approved two support schemes offering assistance in replacing **solar water heaters for homes, and installing photovoltaic net metering systems** for commercial consumers, Cyprus Mail reported on November 24.

The first scheme offers EUR 350 in assistance per home for replacing solar water heaters and EUR 175 per unit to replace existing solar panels. The second scheme 'Solar energy for everyone' provides for an increase in the maximum capacity for net metering systems from 3 kW to 5 kW. This is the first time commercial consumers are included in the scheme. Vulnerable groups are eligible for up to EUR 2,700 for net metering installations.

The cabinet approved a lower value-added tax rate of 5% for all house renovations, deputy government spokesman Victoras Papadopoulos said. The category is applied to renovations and repairs of all private properties including those that are not used as a primary residence. The standard rate so far was 19% with the reduced rate applying to just primary residences. The reduced rate will also be paid by vulnerable consumer groups and residents of remote

areas, for repairs and improvements to private homes, including upgrading their energy efficiency and structural integrity.

Exploring limits in advanced LEDs and solar cells

December 2

Researchers from the University of Cyprus and Cyprus University of Technology, along with colleagues from the University of Crete in Greece, have conducted a comprehensive investigation on how various structural and electronic parameters affect a phenomenon called Förster resonant energy transfer (FRET) in structures of nitride quantum wells with lightemitting polymers, Phys.org news service reported.

Based on their studies, the scientists discuss the process to optimize the energy transfer process and identify the limitations and implications of the Förster mechanism in practical devices. The work demonstrates the importance of understanding FRET in hybrid structures that **could pave the way for developing novel devices** such as high-efficiency LEDs and solar cells. The researchers presented their work in a paper published in the Journal of Chemical Physics.

Hybrid optoelectronic devices based on blends of hard and soft semiconductors can combine the properties of the two material types, opening the possibility for devices with novel functionality and properties, such as cheap and scalable solutionbased processing methods. However, the efficiency of such devices is limited by the relatively slow electronic communication between the material components that relies on charge transfer, which is susceptible to losses occurring at the hybrid interface, the report said.

FRET was recently theoretically predicted and experimentally observed in hybrid structures combining an inorganic quantum well with a soft semiconductor film. Förster resonant energy transfer is a radiationless transmission of energy that occurs on the nanometer scale from a donor molecule to an acceptor molecule. The process promotes energy rather than charge transfer, providing an alternative contactless pathway that avoids some of the losses caused by charge recombination at the interface.

„Pioneering theoretical and experimental work has demonstrated that energy can be efficiently transferred across hybrid semiconductors via the Förster mechanism. However, our understanding is not complete and many material and structural

parameters affecting FRET in such hybrids remain unexplored. Our work employs for a first time a comprehensive approach that combines fabrication, theoretical modeling and optical spectroscopy to fully understand FRET in a nitride quantum wellpolymer hybrid structure,” said Grigorios Itskos, the primary researcher and an assistant professor from the Department of Physics at the University of Cyprus.

Kouyialis: Climate deal means much more work

December 13



Electricity production and renewable energy are areas that need much improvement, but there are also other issues now that a global agreement on climate change has been reached in Paris, Agriculture and Environment Minister Nicos Kouyialis said to Cyprus News Agency. „This agreement is just the beginning. From now on we must all work **collectively and in a spirit of solidarity and transparency** mainly because transparency was one of the issues that had been widely discussed in this global conference on the environment,” he underscored, Cyprus Mail reports.

He mentioned **two upcoming large solar thermal parks** in Cyprus, „to be built before 2020.” Kouyialis said two ministries would soon launch programmes aimed providing incentives to businesses and v to invest in renewable energy. „And we will launch measures to fund innovative technologies,” he added.

To cover the cost of the Paris agreement, Kouyialis said the European Union collectively would pay a huge amount. „We are all committed that from 2020 onwards EUR 100 billion euros a year would be given by the EU and the developed countries, mainly the United States,” he said. The minister added Cyprus would contribute EUR 350,000.

„The EU will create more programmes for new energy technologies and I hope that we will be able to participate in these programmes,” said the minister.

ALBANIA

Towards sustainable municipal infrastructure

December 2



Photo: EBRD

The municipality of Tirana and the European Bank for Reconstruction and Development have agreed to work together to upgrade the municipal infrastructure and make Albania's capital more environment-friendly and to develop it in a sustainable way.

A memorandum of understanding (MoU) was signed in Tirana by the bank's first vice president Phil Bennett and mayor Erion Veliaj. The parties list strategic areas of cooperation such as urban transport, urban roads infrastructure, water and wastewater services, solid waste management, street lights and overall improvements in energy efficiency, the statement on EBRD's website said. In addition, an action plan designed to address the global climate change challenges will be developed.

“The parties list strategic areas of cooperation such as urban transport, urban roads infrastructure, water and wastewater services, solid waste management, street lights and overall improvements in energy efficiency.”

„We believe that sustainable municipal infrastructure is a pre-requisite for **climate-friendly urban development**, which is at the heart of our green economy approach. Together with the city of Tirana we have identified key areas where EBRD's expertise can contribute to the efficient and sustainable implementation of municipal projects. We strongly support Tirana's drive to becoming a green capital,” Bennet said.

„This is a very important step for our city. We are pleased to have the EBRD's backing in this crucial undertaking. The implementation of sustainable and

environmentally friendly projects will help in creating a reliable and sustainable municipal environment which will stimulate the capital's economic growth, will improve living conditions for many citizens of Tirana and make a positive contribution to the green economy,” Veliaj stated.

EBRD will be supporting project preparation, institutional development and training, assistance with project implementation and procurement, and energy audits to support the assessment of energy efficiency of street lights and building in the city. Since the start of its operations in Albania, the EBRD has invested almost EUR 1 billion in 70 projects in various sectors of the country's economy, the report added.

National EITI report published for 2013, 2014

December 17

Albania is one of 49 countries complying with the Extractive Industry Transparency Initiative (EITI). The government published the report on the extraction of oil, gas and other minerals, contribution of this industry to the budget and allocation and spending of income. The EITI report for the years 2013 and 2014 provides an overview which includes hydroelectricity and reconciliation of main flows paid by licensees and collected from the government agencies in this and other sectors.

Based on data reported by the National Agency of Natural Resources (AKBN) and the Energy Regulatory Authority (ERE), the production generated out of these sectors is estimated at USD 777 million (EUR 715 million) in 2013 and EUR 750 million in 2014, according to portal Albeiti.org. The share of hydropower was EUR 97.5 million and EUR 84.7 million, respectively. Its contribution to the national budget was 8.7% in 2013 and 3.5% in 2014, where the former was affected by the privatization of four power plants.

Contribution of the extractive industry to total employment is almost insignificant. Because of the large number of small-scale producers in the mining and hydropower sectors, certain materiality criteria based on annual turnover and production were applied to select the most significant producers. In hydroelectricity sector, the multi stakeholder group (MSG) selected the 10 largest producers and 5 largest investments in the pre-production phase for the report.

Electric power accounted for 29.3% and wood had a share of 9.9% in total energy produced by primary sources in 2013. Crude oil dominated with 59.1%, and its share increased in 2014 to 67.7%. The shares of natural gas and other sources were in the 1% range. Electric power accounted for 20.1% in 2014, while wood had a share of 10%, according to Instat, the Albanian statistics agency.

Hydropower generation is dominated by the public sector. At the end of 2014, the state owned and operated the Albanian Electrical Power Corporation (KESH), the Transmission System Operator (TSO or OST) and the Electricity Power Distribution Operator (Oshee). KESH is the largest producer in the country. With an installed capacity of 1,45 GW or 80% of total installed capacity in Albania built in a cascade over Drini River in the north, KESH contributed with 87% of power output in 2013. This ratio fell to 74% in 2014, due to increase activity of private hydropower plants and those under concession.

ERE reported domestic **hydropower output of 6.96 TWh in 2013 and 4.73 TWh in 2014**. If estimated using average export prices, domestic output would have been reported at ALL 25.5 billion (EUR 185.2 million) in 2013 and EUR 175.1 million in 2014. However, because KESH sells its output at regulated price of ALL 1 (0.73 euro cents) per KWh, sales from the sector did not exceed EUR 79.9 million in 2013 and EUR 69.7 million in 2014.

“ In 2013, 42% of power was lost in the distribution system because of its poor technical conditions and informal connections to the system. In 2014, the losses dropped to 36% of domestic needs for power. ”

The state subsidizes the power sector through regulation prices of power generation, transmission and distribution. This fact explains the relatively low contribution of the sector to GDP at about 2%, the report said. In 2013, 42% of power was lost in the distribution system because of its poor technical conditions and informal connections to the system. In 2014, the losses dropped to 36% of domestic needs for power as a result of combined efforts of the government and the power distribution company Oshee. Foregone contribution of power losses measured at export prices is estimated to be EUR 162 million in 2013 and EUR 144.5 million in 2014.

The cost structure of domestic power output has changes in the last five years with the intensification of production from private and hydro systems under concession and is expected to change further when

a large number of medium and small plants under concession enter production phase. The sector's known contribution accounted for 4.9% of the total revenue in the budget in 2013 and 0.1% in 2014.

Data reported from AKBN show that a large number of hydro facilities with concessions has not commenced construction or is still under construction, showing delays of two years and above. Out of 501 systems, 307 with installed capacity of 1.13 GW and estimated generation of 6.3 TWh per year have not yet started the construction phase. The remaining 84 are under construction.

According to the National Energy Strategy, total annual potential production from hydropower plants in Albania is estimated at 10 TWh. This can be derived from an installed capacity of 3 GW. Current exploited opportunities represent 58% of the hydropower potential with a total installed capacity of 1.73 GW.

The final aim of this initiative is to promote transparency in order to prevent corruption, and raise awareness among citizens to demand from their government proper use of the fiscal and non-fiscal income generated from the exploration and exploitation of natural resources in Albania. EITI is a voluntary international coalition of governments, extractive industry companies and civil society organizations engaged in management and use of natural resources.

Study: legislation improves development of renewables

December 21



Partial implementation of the national law on renewable energy has been one of the main factors why interest for investments in the energy sector has been focused only on small hydropower plants, according to a study published by the **Albanian Centre for Energy Regulation and Conservation – ACERC**. The summary report finds the implementation level in the area of green energy is instable due to the

TURKEY

dependence on hydrology and the volatility registered from season to season. Despite the drawbacks, the adoption of the Law on Energy Sector in April opened a new era, notes the document, signed by Lorenc Gordani. The National Renewable Energy Action Plan (NREAP), required for setting out the necessary measures to reach the target of 38% share, has been already presented to the Energy Community Secretariat. The draft is currently in its last revision stage at the Ministry of Energy and Industry.

“The paper examines consistency, effectiveness, relevance and viability of the national legislative measures with the provisions of the European Union’s Renewables Directive.”

In the framework of the Energy Community, Albania is committed to binding renewable energy targets for 2020. In 2012 it adopted the European Union’s Renewables Directive (2009/28/EC) on the promotion of the use of energy from renewable sources. The document identifies several compliance gaps compared to the European Union’s Renewables Directive in relation to administrative procedures in all sectors. The legislative framework is still not conducive to investments in renewable energy, including improper formulation of the power purchase agreements, complicated authorization and licensing rules and unsatisfactory rules for connection to the networks. Biofuels sustainability criteria and establishment of certification schemes have not been adopted.

The study examines consistency, effectiveness, relevance and viability of the national legislative measures with the provisions of the directive. The analysis identified inconsistencies in the data reported with official energy statistics, mostly related to biomass consumption.

The study concludes that some progress has been achieved on the use of renewable sources for electricity generation. Nevertheless, the heating and cooling and transport sectors are severely lagging. The country is at least slightly below the trajectory for meeting the 2020 renewable energy targets, ACERC said.

National regulator approves wind power pre-licenses

November 28



Energy watchdog EMRA evaluated pre-license applications for wind power plants and submitted them to the Turkish General Directorate of Renewable Energy (YEGM) for technical evaluation, head of EMRA said on November 27, and Anadolu Agency’s Energy Terminal reported.

The Turkish Electricity Transmission Company (Teiaş) offered 3 GW of transmission capacity for wind energy production up to 2018 to applicants. EMRA, overseeing the application process, received 1,099 pre-license **applications amounting to 4.2 GW.**

Head of EMRA Mustafa Yilmaz said the watchdog approved 1,005 applications and dispatched them to YEGM for technical evaluation. The regulator declined 59 applications while 10 applicants withdrew their applications. „We regard wind power as significant and the attention of the Turkish energy industry to wind power plants makes us happy,” he stated and expressed hope the 20 GW capacity goal from wind power will be reached by 2023.

“YEGM will send the approved applications to Teiaş and electricity distribution companies to evaluate the suitability of connection to the electricity grid.”

YEGM will send the approved applications to Teiaş and electricity distribution companies to evaluate the suitability of connection to the electricity grid. Turkey’s wind power plant capacity was 8.7 MW in 1998, and by now it reached 3.65 GW. To date EMRA has awarded 250 wind power plants with the licenses for a capacity of 9.9 GW. Geycek, Turkey’s biggest wind power plant, located in central part of the country, entered service

in January. The wind power plant consists of 70 wind turbines with the potential of 384 GWh of electricity a year with an installed capacity of 150 MW.

According to Ernst&Young's global report from April 13, Turkey has climbed up one step in the attractiveness index for renewable energy investment to the eighteenth spot globally. Turkey is turning into a hotspot for renewable energy investments in mainly hydro, wind and the solar sectors. The country came after Denmark and just before Portugal in the 40-country list, the report shows.

Turkey increases incentives for renewable energy

November 30



As it relies more on local resources to generate electricity, Turkey's government expands incentives that cover renewable energy investments, the country's Investment Support and Promotion Agency said on its website.

According to a recent legislative amendment, the manufacturing of equipment such as turbines, generators and wind blades will be **considered priority investments** and will be eligible for value-added tax and customs duty exemptions, tax reductions, interest rate support, land allocation and social security premium support, the statement said.

Turkey's multi-layer incentive scheme supports investments by type, scale and region, according to the posting on Invest in Turkey website. „The scheme divides Turkey into six regions and investment projects located in higher-numbered regions benefit the most from the incentives. Projects related to the manufacturing of equipment to be used in harnessing renewable sources are designated region 5. The total investments required to fulfill Turkey's forecast energy demand in 2023 of 440 TWh is estimated at USD 130 billion,“ (EUR 118 billion), the agency noted. Nearly one third of the country's installed power will be generated from renewable energy sources by then, according to the statement.

Burdur solar park gets online in record time

December 1



Hanwha Q Cells Turkey, branch of photovoltaics provider headquartered in South Korea, said it finished the construction and grid connection of an 8.3 MW solar power plant in the southwestern province of Burdur. The system is the first part of a project totaling 18.3 MW. The construction of the remaining capacity is expected to start in 2016. In its largest solar project in Turkey so far, Hanwha Turkey has been responsible for module supply, engineering, procurement, construction (EPC), operations and maintenance (O&M) and it is also a shareholder with 50% of the power plant, with partner Zen Enerji AŞ holding the remainder.

The company **launched works in August** and reached grid connection in November. The plant is comprised of 31,878 polycrystalline solar modules of the type HSL60S and covers an area of 128,600 square metres. It is expected to produce 13.47 GWh per year, enough to power around 2,700 average households in Turkey. Thus the park will save around 2,700 kg of carbon emission in every year of its operation, according to the company's calculations.

“The company has closed a USD 20.15 million (EUR 18.6 million) for the complete system with Yapı ve Kredi Bankası AŞ.”

The company has closed a USD 20.15 million (EUR 18.6 million) for the complete system with Yapı ve Kredi Bankası AŞ, the press release said, adding that with a runtime of 12 years, it is the first such agreement in Turkey. The attractive return on investment is mainly driven by the state's feed-in-tariff, Hanwha said.

In February, Hanwha SolarOne and Hanwha Q Cells merged, and the combined company is listed on Nasdaq.

Turboden makes ORC turbogenerator of 3 MW for Afjet

December 1

A Mitsubishi Heavy Industries company said it delivered its first turbine made in Turkey as it is expanding into larger-sized geothermal projects. Turboden Turkey ORC Turbo Jeneratör Sanayi AŞ was founded on April 27 in Ankara, aiming to give customers access to government incentives for renewable energy generation along with providing local on-site and after-sales services, the press release said. The first turbine, with electricity generating capacity of 3 MW, was delivered to Afjet AŞ on November 24. The company's solutions employ renewable sources and waste heat, and the new organic rankine cycle (ORC) turbogenerator is **for geothermal power production**.

Afjet's system will be installed in parallel with geothermal district heating of 100 MW. The facility will start operation by mid-2016, generating electric power from a low enthalpy geothermal source, exploiting hot water at 110 °C.

“For a geothermal plant of 20 MW with locally manufactured ORC equipment, extra benefit close to EUR 15 million will be granted within five years by the state, the release said.”

„After the success of four Turboden geothermal projects in Bavaria, Germany, of which three operational since 2012 with an overall installed power of 16.2 MW, of a 1 MW heat and power unit in Austria, of a 500 kW supercritical prototype in Italy, and of a 5 MW plant in Japan, in operation since June 2015, plus a backlog of additional 65.3 MW geothermal plants under construction, we are now focused on offering competitive and winning solutions in the range of 20 MW and more optimized for Turkish market's demands,” said Paolo Bertuzzi, head of Turboden. For a geothermal plant of 20 MW with locally manufactured ORC equipment, extra benefit close to EUR 15 million will be granted within five years by the state, the release said. The company has six plants in Turkey, ranging from geothermal to biomass and waste to energy.

A 16 MW geothermal plant in Croatia was recently contracted for the Turkish geothermal development company MB Holding. Turboden also signed **an order with Starwood**, a chipboard specialist, for a new 5.5 MW cogeneration plant in Bursa.

IBC Solar Turkey completes 1.1 MW solar power plant

December 2



In the province of Kayseri, FIT Enerji Yatırımları AŞ commissioned a photovoltaic facility built by IBC Solar, a company headquartered in Germany. Nominal peak output is 1.11 MW and the open space project was jointly developed by both parties, IBC's statement said.

The power plant, located in the central part of the country, spans two hectares and was completed in just a few weeks in the late summer. IBC Solar Turkey took on all planning and procurement tasks as an engineering, procurement and construction (EPC) contractor. A total of 4,400 polycrystalline IBC PolySol CS ValueAdded Modules, each with a nominal output of 260 W, and 17 string inverters each with 60 kW from SMA were assembled. **The substructure was delivered by Schletter**. IBC Solar Turkey will also be responsible for the maintenance, servicing and monitoring.

“A total of 4,400 polycrystalline IBC PolySol CS ValueAdded Modules, each with a nominal output of 260 W, and 17 string inverters each with 60 kW from SMA were assembled.”

It is expected that the solar power plant built in the vicinity of the village of Güzel Öz will produce 1.8 GWh of electricity in its first year of operation and benefit from the feed-in tariff of 13.3 cents (12.07 euro cents) per kWh over the next 10 years, the press release said.

IBC said it has a pipeline of 50 MW and plans to create projects totalling 100 MW in Turkey in the next two years.

Solar power projects with Netherlands in the pipeline

December 3

An investment and cooperation agreement worth EUR 200 million was signed by Turkey and the Netherlands to carry out solar projects with a capacity of 175 MW, Anadolu Agency's Energy Terminal reported.

Yakamoz Energy Solutions and Turkish Humartaş Energy AŞ signed the agreement in Istanbul during Innovation Week, organized by the Turkish Exporters' Assembly (TIM), with the participation of Cihad Terzioğlu, chief executive of Humartaş, Anwar Wazir, Yakamoz Energy's chairman of the board and chief executive Sefton Lo. Guido Landheer represented the Dutch Ministry of Foreign Affairs.

The first phase of the projects will be 57 megawatts in capacity and is planned for completion in the first half of 2016. **The first phase requires EUR 64 million** in investment. In 2017, the solar project is expected to rise to 175 MW in capacity. Solar projects will generate 280 GWh a year, enough to supply 80,000 homes with power, said Yilmaz Humartaş.

Green energy investments take time to reap returns

December 12

Returns from funds directed into energy from renewable sources will be realized within nine to 10 years, according to Turkish energy investment company Özgül Holding's chairman Faruk Özgül. Anadolu Agency's Energy Terminal said he added such investments which are feasible and realistic will have **a life of at least 50 years**. „Investments in renewable energy are never wrong," Özgül asserted in an interview.

Turkey is turning into a hotspot for renewable energy investments mainly in hydro, wind and solar sectors. The country's wind power plant capacity, which in 1998 was at 8.7 MW, reached 3.65 GW by 2015. To date, Turkey's energy watchdog EMRA has awarded 250 wind power plant licenses for a capacity of 9.9 GW.

According to Ernst and Young's global report published on April 13, Turkey has climbed up one step in the attractiveness index for renewable energy investment, to the eighteenth spot globally, while India and Sub-Saharan Africa are soaring. The country came after Denmark and just before Portugal in the list of 40 countries, the report shows.

Özgül explained that the company's main goal is to continue to be an investor with the intention of increasing production and employment.

EBRD acquires stake in Akfen's renewable energy arm

December 15

In its first direct equity investment in Turkey's power sector, the European Bank for Reconstruction and Development (EBRD) is acquiring a 20% stake in the renewable energy subsidiary of Akfen Holding, one of the leading infrastructure groups in the country. The USD 100 million (EUR 91.5 million) investment will provide a further boost to the national renewable energy sector, the bank said.

Akfen Yenilenebilir Enerji (Akfen Renewable Energy or AkfenRE) will own a portfolio of renewable projects, including operational hydro and solar power plants and several wind, solar and hydro projects under development, with **a total operational capacity of 210 MW**.

EBRD's investment will help AkfenRE to almost triple the size of its renewable portfolio to over 500 MW of installed capacity and to become one of the largest producers of renewable energy in Turkey, the press release adds. The bank said that as a shareholder, it will nominate a member for the board and will help further advance the company's corporate governance and competitiveness.

“EBRD's investment will help AkfenRE to almost triple the size of its renewable portfolio to over 500 MW of installed capacity.”

Nandita Parshad, EBRD's head of power and energy utilities, said: „We are pleased to enter into a strategic partnership with Akfen to scale up the development of renewable sources of energy in Turkey. We already have a strong relationship with Akfen in a number of sectors and look forward to success as partners in the energy sector. Turkey has set itself ambitious targets. We will be part of the solution.”

Süha Güçsav, chief executive of Akfen Holding, added: „We are in the process of developing a balanced portfolio in the medium to long-term with sustainable generation in all segments of the energy sector. To achieve this goal we are planning to continue diversifying by investing in hydro, wind and solar projects. The shareholder agreement with the EBRD is one of the main steps for us in this process.”

Turkey is working to meet growing domestic demand for electricity and the country aims to add 34 GW of hydropower, 20 GW of wind energy, 5 GW of solar energy, 1 GW of biomass and 1 GW of geothermal to its energy mix by 2023. EBRD has invested almost EUR 2.8 billion in sustainable energy projects, including two of the country's largest wind farms – Bares and Rotor – and the largest geothermal power plant in Turkey, which is also the second largest in Europe, Efeler GPP, the report said. EBRD is working **with the Turkish Ministry of Energy and Natural Resources** and has helped develop the first National Renewable Energy Action Plan to attract more investment in renewable energy projects. It is currently working on a National Energy Efficiency Action Plan to help the country's industry become less energy intensive.

Şekerbank arranges credit line for green energy, SMEs

December 14

A multi-currency syndicated loan facility of USD 115 million (EUR 105.8 million) was secured by Şekerbank TAŞ. Part of the package will go for green lines in support of energy efficiency and renewable energy projects, **SeeNews** reports.

The line was arranged by the Korea Development Bank (KDB) and Dutch development bank FMO. The proceeds will also be used by the Turkish financial institution to back local small and medium-sized enterprises (SMEs) and businesses in cross border trade activities, according to the statement by FMO. The loan has a tenor of up to five years. FMO secured a share of the package through the Actiam FMO SME Finance Fund, whilst **KDB underwrote the largest tranche** of the facility. The OPEC Fund for International Development (OFID) also took part in the process, the report said.

This is the first syndicated loan in Turkey providing the local banking sector with up to three years of commercial funding combined with five years of development finance institution (DFI) financing. „It should also be emphasized that this facility brought together the investors from Korea, Austria and the Netherlands to support sustainable development of our SME customers, their energy efficiency investments and foreign trade activities,” Şekerbank's executive vice president Zeki Onder, noted.

Video game presents SEE 2050 Energy Model

November 30



As the climate talks were beginning in Paris, a group of civil society organisations under SEE SEP programme launched a video game version of the South East Europe (SEE) 2050 Energy Model. The organisations argue that the countries in the region can have a cleaner, fairer and more efficient energy system, resilient to future climate shocks, SEE Change Net said on its website. The South East Europe Sustainable Energy Policy (SEE SEP) is a programme that has 18 partners from the civil society organizations from Albania, Bosnia and Herzegovina, Croatia, Kosovo, Macedonia, Montenegro, Serbia and the European Union.

The model is a result of work by a team of international experts working with regional civil society groups. It is presented in the form of an online video game that allows everyone to choose the energy future. By creating their own visions, everyone who plays with the model will be able to see that **it is possible to make sensible choices**.

„Informing the general public about decisions regarding the future of their energy systems is extremely important for the Energy Community. This energy video game is an excellent tool to explain a complex issue to the public in a simple and fun way”, says **Janez Kopač**, director of the Energy Community Secretariat.

The model offers a range of scenarios, from business as usual, using all the coal there is and not investing in renewable energy sources, to an EU-compatible scenario demonstrating that it is technically feasible to have a low-carbon and efficient energy system. This would be in line with the EU goal of reducing greenhouse gas emissions by 80% by 2050. As the

more technical version of the model shows, it can be done cost effectively as well, the report adds.

„The facts tell us this road is possible. What is now required is vision, political will and commitment from our elected representatives. Any sensible government should want a fairer, cleaner, and more efficient energy system for their citizens“, says Garret Tankosić-Kelly, principal of SEE Change Net.

SEE Change Net was founded in Sarajevo, Bosnia and Herzegovina, in 2012. As the think tank deals with sustainable development issues, the SEE stands for social, economic, and environmental.

EBRD provides long-term support for green investments

December 3



Photo: EBRD

Businesses in 23 countries, including Bosnia and Herzegovina, Bulgaria, Croatia, Macedonia, Kosovo, Romania, Serbia, Slovenia and Turkey, benefit from Sustainable Energy Finance Facilities (SEFFs), said the European Bank for Reconstruction and Development, which initiated the programme. It extends credit lines to local financial institutions for on-lending to their clients **from the industrial, commercial, residential and municipal sectors** for investments in energy efficiency and small-scale renewable energy projects.

“*Kopač: Serbia and Albania advanced the most within the Energy Community.*”

The goal is to help countries where EBRD invests to improve energy balance and avoid greenhouse gas emissions by reducing inefficiencies and diversifying energy supplies, according to a presentation on its website. „A surprising number of sustainable energy investment opportunities is not recognised as an investment priority,“ said Terry McCallion, the bank’s head for energy efficiency and climate change. „The expertise provided through our SEFFs helps identify such projects and evaluate their technical and financial potential, thereby increasing the likelihood of them being financed.“

Recognising that investing in the sustainable use of energy and other resources often represents a new area of activity, the combination of dedicated financing for admissible investments and direct support in building capacity to address market barriers has proven to be the key to successful deployment, the report adds. EBRD operates SEFFs through a network of more than 100 local financial institutions (banks, microfinance institutions and leasing companies), providing EUR 500 million in credit lines for sustainable energy projects per year, according to the press release.

Of the total number of 95,000 projects financed through SEFFs, 94% were in the residential sector. In terms of finance, however, industry and commerce received 86% of all disbursed funds, with the residential sector accounting for 11% and the municipal sector for 3%. Each EUR 1 billion of investment avoids the equivalent of carbon dioxide emissions of 2.5 million tonnes each year, the bank said.

Board of AEBIOM joined by officials from Balkans

December 7



The General Assembly of the European Biomass Association (AEBIOM), held in Brussels, elected the organization’s leadership. Among the 16 candidates from 14 different countries, four of the elected board members are from Southeastern Europe, namely Romania, Croatia and Bosnia and Herzegovina: Ilias Papageorgiadis, president of the Romanian Association of Biomass and Biogas (Arbio), Marijan Kavran, director of the Croatian Wood Cluster / Association of Producers of Pellets, Briquets and Wood Biomass, Vanja Ćurin, secretary general of the Biomass Association in Bosnia and Herzegovina, and Petar Curic, secretary general of the Association of Wood Processing and Biomass Industry in the Croatian Chamber of Economy. All candidates from the region presented the advantages of their countries and the opportunities that the bioenergy sector has in their area, Arbio said.

In addition, Papageorgiadis introduced the idea of creating a platform in AEBIOM, dedicated to the

collaboration of all the countries in Southeastern Europe. „From Greece and Cyprus, to Ukraine and Slovenia, in smaller or bigger markets, there are serious players to work with. By launching this collaboration, we will create opportunities for our members and the companies in our region to conclude trans-border agreements,“ he added.

AEBIOM is the biggest organization in Europe in the renewable energy sector, representing approximately 500,000 employees, more than 60% of the renewable energy and 10% of the total energy produced in the European Union. Gustav Melin was reelected as president and Didzis Palejs was elected as the association's vice president.

A unique technology transforms waste and residues into cheaper heat, generates thousands of jobs, a cleaner environment, energy independence and includes tens of other advantages that many European countries already benefit from, the press release said.

EBRD linking Albanian and Macedonian energy markets to EU

December 10



Photo: EBRD

The European Bank for Reconstruction and Development is boosting the regional integration of energy markets in the Western Balkans. The institution said it is providing a loan of up to EUR 37 million for the construction of the first electricity interconnector between Albania and Macedonia and the introduction of grid efficiency improvements to the infrastructure of MEPSO, the Macedonian electricity transmission system operator.

This project is part of the European Commission's initiative to establish an **East-West electricity transmission corridor** between Bulgaria, Macedonia, Albania, Montenegro and Italy, including the planned submarine cable from Montenegro to Italy, an important step towards establishing a regional electricity market. The grid efficiency components implemented by MEPSO will also ensure that the transmission of electricity is energy efficient and uses the best available technologies, according to the arrangement.

„Supporting crucial regional cross-border infrastructure and creating larger integrated energy markets increases energy security. It is also one of the EBRD's priorities in the energy sector of the Western Balkans“, said the report on the bank's website.

“*Kopač: Serbia and Albania advanced the most within the Energy Community.*”

A loan is provided to Macedonian Transmission System Operator AD (MEPSO), a joint stock company responsible for electricity transmission and power control in the country. The financing will support the construction of the Macedonian portion of the planned 400 kV cross-border electricity connection. It will be used to build the transmission infrastructure from the southwestern Macedonian town of Bitola to the Albanian border with a substation at Ohrid, and to implement grid efficiency components. In addition, MEPSO will use the newly developed EBRD Client e-Procurement Platform (Ecepp) for the procurement of contracts to increase the transparency and efficiency of its operations, the statement said.

The project has received technical assistance from the Western Balkans Investment Framework (WBIF) to fund the feasibility study, the environmental and social impact assessment and preparation for the main design of the project. Separately, the EU is also co-financing the new project with a EUR 12 million grant provided under the WBIF Instrument for Pre-Accession (IPA) 2015 funds. In addition, Luxembourg is providing funds to for technical assistance in MEPSO.

„This is an important investment promoting energy security and the development of regional electricity markets. The construction of the new line will connect the Macedonian electricity market, which is dominated by thermal power, to the Albanian electricity market, where hydropower prevails. This will improve the balancing of the two electricity systems, reduce operational costs and boost the use of renewable energy,“ said Holger Muent, EBRD's director for the Western Balkans.

„With the construction of this transmission line, both Macedonian and Albanian electrical power markets will benefit considerably. I am pleased to have such fruitful cooperation with the EBRD and its continued support for the development of the Macedonian power sector and the realisation of energy infrastructure projects,“ said Bekim Neziri, Macedonia's minister of economy.

„Energy is a strategic sector in every country, vital for all aspects of people's daily life and for the development of all other sectors of the economy. The EU is providing substantial support for this

sector through the IPA programme and also through the Western Balkans Investment Framework, which means provision of finance and technical assistance for strategic investments," added Aivo Orav, head of the Delegation of the European Union in Macedonia.

„We are pleased to continue our successful cooperation with the EBRD. Through this new regional project, MEPSO is connecting Western Balkans countries and improving electrical supply in the region," emphasised Siniša Spasov, general manager and president of the Management Board of MEPSO.

EBRD said it began investing in the Macedonian economy in 1993. To date, it has signed over 90 projects in the country with a net cumulative business volume of more than EUR 1.5 billion, according to the report.

transmission capacity allocation in the region. With the implementation of Regulation (EC) No 714/2009 of the European Parliament and of the Council in the Energy Community Contracting Parties, SEE CAO said it has proven its role for open and competitive electricity market. Nevertheless, in order to complete the regional perimeter, its shareholders are open and ready to enroll the remaining transmission system operators, it said on its website.

SEE CAO enters second year of operation

December 17



Coordinated Auction Office in South East Europe – SEE CAO said it completed auctions for electricity for January, after in late November yearly auctions for 2016 were finished, **one year into operation**. Complete sequence of borders from Croatia to Turkey is included for the first time in coordinated capacity allocation procedure.

The anniversary of coordinated auctions was marked with high-level representatives from shareholding companies – transmission system operators, the Energy Community Secretariat, international financial institutions which supported the project, and the Ministry of Economy of Montenegro. The ceremony took place in Bečići, Montenegro, on December 8.

Yearly auctions were launched in November 2014. SEE CAO included the borders between Croatia, Bosnia and Herzegovina, Montenegro, Albania, Greece and Turkey. The entity based in Podgorica said it achieved its goal – to be a **one-stop-shop for**

UPCOMING EVENTS

February 10-11, 2016

2nd Hydro Tech Albania
Tirana, Albania

March 9-10, 2016

Balkan Energy Leaders
Belgrade, Serbia

March 14-15, 2016

Energy Risk Summit 2016 Balkans
Sofia, Bulgaria

March 20-22, 2016

International Conference on District Energy
Portoroz, Slovenia

April 5-7, 2016

**South-East European Exhibition on Energy Efficiency and
Renewable Energy**
Sofia, Bulgaria

April 20-21, 2016

RENEXPO Western Balkans
Belgrade, Serbia

SUPPORTER



Schweizerische Eidgenossenschaft
Confederation suisse
Confederazione Svizzera
Confederaziun svizra

Swiss Confederation

Federal Departement of Economic Affairs,
Education and Research EAER
State Secretariat for Economic Affairs SECO

PARTNERS



implemented by **giz** Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

MEDIA PARTNER

SeeNews

● Know how to see



Contact information:

Center for Promotion of Sustainable Development
Bulevar Mihaila Pupina 133, Belgrade, Serbia
Phone: +381 63 871 28 74
E-mail: office@balkangreenenergynews.com
Web: www.balkangreenenergynews.com



Balkan Green Energy News is a project of the Center for Promotion of Sustainable Development, a non-profit organization from Belgrade, Serbia. It is published one a month and distributed without charge. We encourage you to share the newsletter to persons that may be interested in its content. Balkan Green Energy News is not responsible for the accuracy of information provided from third party media sources.