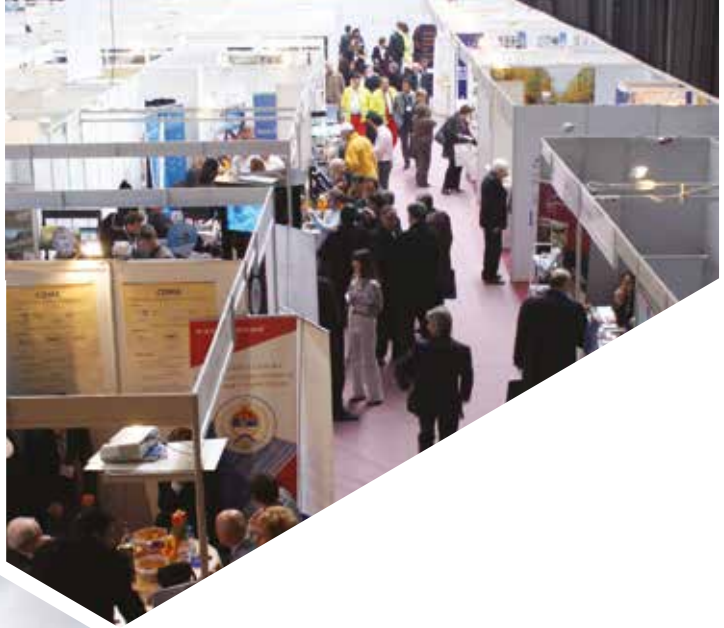

Matchmaking for a Greener South-East Europe

Second International Municipal Fair NEXPO 2013
25-27 September 2013, Rijeka and Opatija, the Republic of Croatia

where ideas come to meet

This publication has been produced within the project "*Establishment of a Matchmaking Platform for local governments and the business sector*", implemented by the Network of Associations of Local Government Authorities (NALAS) and supported by the Open Regional Fund for South East Europe, Modernization of Municipal Services (ORF MMS).

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Needs Assessment Study of Local Governments and the Private Sector in the Area of Energy Efficiency and Renewable Energy Sources Use

Key Findings and Lessons Learned

About NEXPO and its Matchmaking Component

NEXPO International Municipal Fair (http://nexpo.nalas.eu), organized by the Network of Associations of Local Authorities in South East Europe (NALAS), is the largest and most important municipal event in South-East Europe (SEE). It brings together local governments, local government associations, development agencies, civil society organizations and businesses from SEE and beyond. NEXPO combines fair exhibitions, thematic conferences, workshops and other side events of interest to local governments and associations of local governments in South East Europe, allowing them to discuss common challenges and to present innovative approaches in various areas of good governance, local economic development, environmental protection, social inclusion etc., always from the perspective of the European integration process. NEXPO 2011 was held in Sarajevo, Bosnia and Herzegovina and hosted over 2000 visitors, 100 exhibitors and 200 mayors from SEE. NEXPO 2013 will be held in Rijeka and Opatija, Croatia, on September 25-27 2013, in partnership with the Association of Cities of the Republic of Croatia, the Association of Municipalities of the Republic of Croatia and the Cities of Rijeka and Opatija.

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Matchmaking Platform:
Develop a sustainable cooperation platform for local governments and stakeholders from private sector, enabling them to:

- promote and exchange best practices
- present their plans and projects
- market their products and services for improvement of municipal services in SEE

The central topic of NEXPO 2013 is *EU Integration*, but the specific focus of this year's Fair is to provide multiple opportunities for local governments and business sector representatives to meet each other, initiate cooperation, create partnerships and agree on investments in the area of *energy efficiency* and use of *renewable energy sources*. The focus of the event will be on promoting practices and experiences amongst municipalities, but also on building up a regional platform enabling municipalities to exchange with suppliers, service providers, investors and other private stakeholders interested in operating or investing in municipal services.

Cooperation and partnerships between local governments and the private sector have been long promoted as a promising means to increase investments, improve and modernize services with leveraged costs and, in the long run, reduce unemployment and improve the standard of living of their citizens. However, while examples of successful private-public cooperation and partnerships exist, most local governments still fail to reach the necessary level of business-friendliness which would allow them to attract the desired number and amount of investments to their local communities. Although it cannot be denied that local governments face many external challenges and obstacles, not uncommonly, they adopt a passive role, failing to proactively present and use their own resources and capacities for investment attraction. Due to such lack of proactive approach and public sector initiative, the private sector is frequently not aware of municipal demand and supply and their projects under development. Equally, the private sector's demand and supply is not sufficiently known by local governments. In order for NEXPO 2013 to best serve its purpose, NALAS had decided to take a series of preliminary steps to ensure that a productive exchange between local governments and the private sector at the Fair takes place, with the goal of producing visible and measurable outcomes –new initiatives created, investment contracts signed and partnerships for specific projects established.

This publication provides an overview of the Needs Assessment conducted to determine the needs of the SEE municipalities and the business sector in the area of Energy Efficiency and Renewable Energy, as well as their mathchmaking priorities. Further on, it explains the matchmaking platform and its elements. Finally, the publication compiles SEE local government profiles and plans for EE/RE investments, as well as profiles of companies active in the EE/RE sector.

We hope that this publication will provide a valuable contribution for getting to know each other and enhancing the collaboration among SEE municipalities and the private sector, for the benefit of the citizens and a greener and healthier South-East Europe.

Assessment of Local Government and Private Sector Needs in the Area of Energy Efficiency and Renewable Energy Sources[1]

The needs assessment study conducted in March-April 2013 provided a framework for creating a viable private-public matchmaking platform for NEXPO 2013. It is aimed at identifying and defining municipal and the private sector supply and demand, value drivers, market opportunities and key obstacles to investment attraction and PPP establishment, with a specific focus on the business-enabling environment and planned projects in the area of EE and renewable energy RE use, best EE and RE practices and success stories, all in the context of the EU integration. This Needs Assessment was implemented within the GIZ/ORF funded project "Design and Establishment of an ExchangePlatform for Local Governments and the Business Sector".

The assessment study included an online survey of local governments in 12 NALAS-member countries, an in-depth analysis of local governments in 3 countries (Bulgaria, Croatia and Serbia) and needs assessment of energy efficiency/ renewable energy companies in 6 selected countries (Bulgaria, Croatia, Germany, Serbia, Slovenia and Turkey). 103 local governments from 11 SEE countries responded to the survey (all NALAS member countries, except Albania), while 70 LGs were visited in the field. 72 EE/RE companies from 6 countries participatied in the online survey and 114 were visited in the field. This brochure includes a number of municipal future projects and presentation of EE/RE companies.

The needs assessment study targets both local governments and the private sector. Although the study has a specific thematic focus, it also provides a general overview of current local government capacities to attract investments, as well as to reach funding for and manage projects. By offering a comprehensive overview of the private sector demand and supply in the area of EE and RE, and their expectations of local government conduct, thereof, this study should provide specific ideas and innovative approaches to establishing successful partnerships between these two sectors, along with recommendations for removing some commonly recognized barriers to this process, as well as for creating new values and improved services for citizens and businesses.

The needs assessment study results presented in this brochure include an overview of demand and supply of local governments and private companies in the area of energy efficiency and renewable energy use, with an insight into the challenges and obstacles faced by local governments in the process of investment attraction and project implementation in the area of EE and in general, their current local economic development (LED) and energy management (EM) capacities, as well as the surveyed companies' investment strategies and planned projects and their expectations from local governments. Thus, this brief overview of the needs assessment study results provides an overview of overlapping interests of local governments and companies that can be used as a basis for establishing specific partnerships, with a summary of value drivers, market opportunities and obstacles for partnerships projects between the two sectors.

1 The Needs Assessment has been conducted by the Development Consulting Group (DCG) from Serbia. The findings presented herewith are deriving from the final Needs Assessment Report, prepared by DCG. The opinions presented are those of the authors and do not reflect NALAS, ORF or GIZ opinions.

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Local Government Demand and Supply for Investments/Partnership Projects in the Area of Energy Efficiency and Renewable Energy Use

KEY LOCAL GOVERNMENT DEMAND/SUPPLY ISSUES ADDRESSED

- **What is the municipal demand for investments?** Are there clear policies and strategies? Does the LG have a clear picture of their community's resources and potential? Do they have updated databases? Have they managed to translate their resources, potentials, goals and objectives into clearly defined priorities, programmes and projects? What funding do they need? What potential sources of funding are accessible for them? What kinds of partnerships are needed?
- **What is their demand in the area of EE/RE?** Do LGs know what they need in the area of EE/RE? Have they clarified a strategic framework for EE/RE? Have they defined and prepared EE/RE projects that they need to attract investments for? What potential partners they are looking for in this area?
- **What can local governments supply potential investors with?** This includes a clear strategic framework, available investment locations, incentive policies, local economic development tools, planned projects, completed technical documentation, feasibility studies, cost-benefit analyses, available human resources and technical support that can be offered to investors, etc.
- **What can local governments supply potential investors with?** Do they have clearly defined strategies, plans, projects and prepared project documents for EE/RE? Do they have a clear picture of local firms that can be subcontracted by potential investors? If they opt for PPP, what would the LG's share be? In case of RE – what available locations and studies they can offer?

Strategic Framework

The existence of local governments' strategic documents is a prerequisite for EU and other fund-raising, investment attraction and establishment of partnerships. On the demand side, it defines LGs long-term goals, objectives, priorities and needs. On the supply side, it helps the private sector plan their future business strategies and tailor their products and services to the local government market needs. The current framework in most SEE local government includes a variety of general-type and sector-specific strategies, which are, frequently, poorly coordinated with each other, prepared by different methodologies and not supported with adequate implementation plans, including a lack of viable action plans to support EE and RE projects.

The survey indicates that the strategic framework for EE/RE implementation is not sufficiently developed. Only 36 (37.5%) of the respondents have reported that they have a Sustainable Energy Action Plan (SEAP) (mainly Croatian, Bulgarian and, to some extent, BiH local governments). The existence of SEAP is significantly related to the membership in the Covenant of Mayors, the extent to which national legislative and institutional frameworks for energy management have been developed and supportive of EE/RE use at the local level and how much effort has been invested in various EE/RE awareness-raising campaigns. Some additional EE/RE-related strategic document forms have been identified: Municipal Energy Efficiency Program, Program for promoting the use of RE, Municipal Energy Efficiency Programme, Municipal program to promote the use of renewable energy sources and biofuels, Strategy for Sustainable Energy Development, Energy Efficiency Improvement Program and Green Agenda.

Local governments' EE/RE projects are either included in general documents such as local spatial plan, sustainable development strategy and local economic development plan or in specific programs related to EE/RE sector. There is rarely a comprehensive approach that would provide integrated framework that fits local energy plan into overall local economic development strategy. Very low value of responses for developing a capital investment plan shows that there is a substantial mismatch between strategic considerations and planning of capital investments. An insight into randomly chosen strategic documents, has proved that many of the documents and programs are of formal character and do not transfer into real projects. This is not of much use for the private sector interested in investments or partnerships. Strategies need to be translated into EE/RE projects and documents, which can be presented to investors. NEXPO 2013 could be a good opportunity to provide some capacity building to LGs in this area.

Local spatial plans and geographic information systems (GIS) are also very important documents for successful capital investment project implementation, including EE/RE projects. However, only a half of the surveyed LGs (52%) have their own spatial plans (others rely on national and regional ones), or GIS (47.5%).

Only 15,8% of local governments (those with advanced GIS features) have an appropriate basis for developing EE/RE projects in a more systematic and comprehensive manner. This kind of spatial data is one of the necessary preconditions for attracting private sector investments. By having a spatial database on infrastructure and public lighting energy audits and procedures related to planning of energy programs are simplified and the process of investment preparation is fastened. This also presents a more efficient platform for general presentation of local government investment potentials.

EE/RE Programmes and Projects Envisaged by LGs Strategies:

Municipal strategic documents emphasize three major EE/RE areas – EE in public buildings 85.4% (82 of 96 provided answers), public lighting (80.2%) and solar energy (62.5%). Another area of interest and high stake identified during the field visits is EE in public transport.

There are several key drivers for giving priority to public buildings, lighting and transport – pressure by the central governments to comply with EU standards; a high supply of donor (mainly EU) funds for EE in public building and lighting projects and, not less importantly, membership in the Covenant of Mayors (and LGs commitment to 20-20-20 goal). In these areas, the EU and national institutional and regulatory provisions are somewhat relaxed in order to give primacy to the utilization of EE/RE sources and attain the set goals. This kind of positive pressure is, naturally, reflected in the local development strategies and plans.

The Study has proced that membership in the Covenant of Mayors, although voluntary, is an important motivation factor and a mechanism of positive external pressure and needs to be further promoted among SEE local governments.

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Available Locations for Investments:

According to the respondents' feedback, most LGs have available locations for investments (82%). However, this number is significantly decreased when it comes to locations with available communal infrastructure (38%), completed regulation plans (26.3%), availability of database of investment locations (19%) and their public availability on the website (6.3%). 39% claim that they are able to provide information on the costs of doing business. However, local governments frequently offer land with unsolved property issues, no regulation plans and with no primary or secondary infrastructure available. Furthermore, they are rarely able to provide full and accurate information on the costs of doing business, since these involve those regulated and provided by the national level public institutions.

One of the biggest drawbacks for investors is a lack of proper technical documents, as well as accurate and accessible data necessary for a preliminary evaluation of investment location.

Incentives Offered to Investors in EE/RE Projects

The top three incentives LGs are ready to offer to investors at the moment are non-financial ones: 57% of the surveyed local governments provide technical assistance to investors, ensure quicker building and permitting process or EE projects (34.5%) and RE projects (27.4%), while 28.6% state that they can provide workforce development services.

Other, less represented incentives include tax rebates (22.6 %), grants (direct payment subsidies (28.6%), energy audits are provided (21.4%), voluntary labeling programs (green building, energy star, zero energy, etc.), preferred treatment by government procurement (6%) and mandatory disclosure programmes (10.7%).

Other, tailored support provided to investors includes provision of land (57.5%), infrastructure (57.5%), services per requested (50.6%), human resources (63.2%) and facilities (31%).

Local governments in most of the assessed countries do not have many possibilities for giving significant incentives for EE/RE projects financially, due to the fact that the level of centralization in the region is still very high and incentives and tax holidays are defined at the national level. There is some space for incentives when it comes to charges and fees related to communal property (or property tax). To some extent, the survey indicates more lenient incentive procedures, regulations and administrative procedure for EE/RE projects.

Availability of Technical Documents:

Approximately one third of the the local governments participating in the survey have no technical documents prepared for the planned projects. This partly explains their low feedback in providing input for the Catalogue of Municipal Projects.

There are no country specific answers - positive answers come from all surveyed countries, which indicates that the availability of technical documents is more dependent on the LG leadership and project management capacities and skills.

Availability of technical documents is a prerequisite for investment attraction and private-public partnerships. In combination with a poor supply of locations, limited knowledge of English language and a lack of specific EE/RE strategies and action plans, LGs capacities for investment attraction seem to be significantly decreased. On the other hand, feedback

from field visits and increased orientation towards EE/RE projects indicates that this is an emerging factor across local governments in NALAS region that in the forthcoming years we can expect substantial improvements in the quality of technical documents provided.

Local Regulatory Framework for EE/RE

Only 10% of the local governments report having a solid regulatory framework for EE and RE in place, whereas as many as 65.6% admit that they have no local regulatory framework at all.

The procedures and framework necessary for the implementation of EE/RE projects are still not clear in many countries, even at the national level, but they are increasingly under development. There are some countries where local energy frameworks (concepts) are mandatory (Slovenia).

Energy Management Capacities

Local governments increasingly recognize that the energy management is an important local government function; however, there is still a lack of notion that local government needs to have energy manager or energy management department which can interact on equal basis with the business sector.

Low energy management (EM) capacities have been confirmed by the online survey results and the field visits to three countries. It is somehow discouraging to find out that the significance of energy management has not been fully acknowledged and that the scope of work of energy management is not clear yet, in most of the SEE countries. Only 21% of the respondent LGs confirm that they have a fully institutionalized energy manager (1 person), or an energy management unit. The majority of surveyed local governments have added energy management to an existing job description (57.8%). In Bulgaria, energy is most frequently managed within the Unit or Directorate or Environmental Protection or Infrastructure Development which is a model that seems to work better than others.

In addition, local or regional Energy Management Agencies seem to be very active and cooperative with local governments. They provide a range of services to LGs, from expert assistance in energy calculation and project preparation, to soft support, like training or awareness-raising activities.

NEXPO 2013 will be a very useful forum for discussing energy management and exchanging experience and best practices among countries. This would be particularly helpful to those local governments which are now in the process of establishing an energy management function.

Energy Management Databases

The majority of data stored in energy management database of local government refers to a registry of public buildings (54.3%) and in somewhat lesser extent to information on local construction companies and EE/RE sector SMEs. However, there is no detailed data that would enable a perspective on more specific projects and their implementation (types of potential projects, detailed infrastructure data etc.). Unfortunately, there is still a lack of basic data for conducting energy audits and energy programmes.

The City of Bar, Montenegro, has an information system for energy management which, among other data, contains data about energy consumption of all public buildings and public facilities in the City for the past five years. This information system is used by the Municipal Energy Management Team in order to monitor, analyze and control energy consumption in public buildings and facilities.

Standardization of LED database contents, including the roles and responsibilities for its maintenance, analysis and use would be beneficial for local governments. One important aspect to consider is data sources and the availability of data from the national level.

Institutionalization of Local Economic Development Function

Local economic development offices (LED) have mushroomed in most of the SEE countries in the past five years. Similar institutional models have been promoted by donors (primarily USAID) in Bulgaria, Macedonia, Serbia, Romania, etc. Several key functions of LED offices have been distinguished, investment location database management, investment attraction, support to the private sector and monitoring of strategy/project implementation being the central ones. It is expected that LED offices and EM closely cooperate and coordinate on creating a business-friendly environment for EE/RE growth.

63% of the surveyed cities and municipalities have an institutionalized local economic development (LED) function. 12% perform this function within some other department and it is not addressed systematically. Surprisingly, 16.3% of the LGs do not consider LED to be within their scope of work.

Models of cooperation of LED and EM offices, as well as the necessary support from other municipal departments in the process of investment attraction in the area of EE/RE could be an interesting topic for NEXPO 2013.

LED Databases

The status of LED data bases is not encouraging. Only one half of the surveyed municipalities have an updated community profile, data on available investment locations, updated business registry or systematic data on infrastructural project implementation. Such data are a basis for business friendliness, and economic growth and are crucial for EE and RE projects, as well.

The situation in the field is even worse than shown in the online survey – in many LGs updates are not done regularly and some key data are missing. Also, there is a low level of awareness of potential uses of good LED databases and the advantages they bring in attracting investments.

Upcoming Municipal Projects in the Area of Energy Efficiency and Renewable Energy Use

The ranking of projects in the pipeline corresponds to the strategic framework:

Projects in Preparation	%	# of Answers
EE in public buildings	80,2%	77
Public lighting	67,7%	65
Biomass use	22,9%	22
Pellet use	26,0%	25
Solar energy use	51,0%	49
Use of hydro-potentials	12,5%	12
Use of geo-thermal potentials	10,4%	10
Wind energy use	12,5%	12
	Sample:	96 LGs

Examples of EE projects presented by local governments:

EE in Buildings:
- Refurbishment and maintenance of facilities of public enterprises and other public institutions,
- Refurbishment of kindergartens and schools,
- Introduction of EE Measures,
- Energy Assessment / Audit.

Street lighting:
- Reconstruction of street lighting in the municipality,
- LED lighting,
- Intelligent Street Lighting in Varna,
- Development of one solar park with energy storage which would provide energy for public lighting.

In line with the previous findings, as well as with the EU Directives, energy efficiency in buildings is seen as a priority. According to the answers to online survey, typical EE projects in buildings include refurbishments of municipal public buildings, kindergartens, schools, health facilities, etc. This was, also, confirmed in the field, in all three in-depth surveyed countries (Croatia, Bulgaria and Serbia). In Serbia, some of the earliest EE projects were implemented on school buildings. While in Bulgaria and Croatia the legislative framework for EE in buildings is more or less complete and clear,

in Serbia, it is still being created. In Bulgaria, EE projects at the local level predominantly include refurbishment of old buildings and improvements of public lighting, which is directly related to available funding (EU Intelligent Europe, Kozloduj Fund, state incentives, EE/RE Fund facility). All new buildings are being constructed in accordance with the Energy Performance Building Directive (EPBD). Croatia has some best practice examples, which will be presented later in this borchure, such as the construction of energy efficient social housing (e.g., Croatian "Green Buildings" project).
NEXPO 2013 will be an opportunity to present their experiences and learn about innovative approaches to EE in buildings.

All surveyed countries have very good natural potential for energy production from RES. The efficiency of RE project implementation, however, is mainly dictated by the extent to which their regulatory framework at the national level is favourable to such investments. In Croatia, there is a high number of applications for gaining the status of an eligible producer and companies active in the field of RE demonstrate the economic potential and interest in the development of RE in this country. The legislative framework is in place and strategic targets are set. Croatia had positive experiences in the last year with RE supporting schemes, RE installations and setting up a progressive framework for fostering RE development industry and no coal production, and thus, path dependency is less strong than in countries with a big coal industry branch. Despite the high potential, the share of new RE in energy production is still staying marginal and up to now, only few RE plants have been built. The policy instrumentation mix, although improved during 2012, still represents a big obstacle in its implementation on the field. Therefore, new regulatory amendments have been prepared in early 2013, which should eliminate the difficult and time-consuming procedure – at the moment, a number of different institutions are involved and there is no unified procedure when it comes to the building of RE facilities. Another serious problem is the unresolved legal ownership of land and a lack of proactive approach by the local governments.

Solar energy is very popular in all surveyed countries and the field visits confirmed this finding. However, no examples of PPP have been identified in this area, except in Turkey. Solar panels are usually installed on private land, in direct negotiation with owners. In case of larger solar plants, they are usually installed on private land, or in case municipal land is sought, LG's role is confined to sole land provision for the investment.

Although biomass and pellet use projects, are less represented in the surveyed sample (23 and 26%, respectively), during the field visits, a number of municipalities expressed their plans to initiate biomass and pellet project use. For example, the Association of Bulgarian Energy Agencies (ABEA) in Plovdiv is a great promoter of these RE sources and is currently involved in a couple of projects.

In the framework of the Energy Community, Serbia has a binding target of 27% of renewable energy share in the final energy consumption by 2020. Renewable energy projects are only starting to find their way in Serbia – mainly the use of hydro potentials and solar energy. Serbia is now at the phase of establishment of the wind energy market – a couple of projects are currently at the initial stage (for example, in Vrbas and Kovin). A significant amount of lobbying is currently going on for the improvement of wind energy-related legislation. KfW currently promotes biomass use through one of their projects. Serbian government currently supports the construction of mini-hydro energy plants. According to the answers, the maximum acceptable pay back period for EE/RE projects is 5-10 years.

Soft Projects Related to Energy Efficiency and Renewable Energy Use

Not less important are the soft projects aimed at citizen awareness-raising about energy savings, EE and RE use. According to the interviewees from several regional agencies, EE networks and associations in Bulgaria, despite numerous initiatives, the level of EE awareness is still very low, requiring a more aggressive campaign and educational events for citizens. In Croatia, a number of such projects are going on with the national level support. Typical awareness-raising projects include activities aimed at different target groups, from general campaigns for citizens on electronic media, to targeted campaigns and educational events for small children, young people, family house owners, etc., aimed at changing their behaviour and adopting new, EE standards of living. Croatian examples include the Info Days organized by the Croatian Association of Cities, Green Week in the City of Zagreb, etc. In Serbia, German Agency for Development Cooperation (GIZ) is currently supporting a *Discovering Energy* initiative in 30 cities and municipalities, within its project Energy Efficiency in Buildings. The initiative includes an awareness-raising campaign for private house owners at the local level, an exhibition of day and night (thermo visualized) photos of local buildings in the municipal hall, to illustrate energy wasting, pilot assessment of thermal characteristics in buildings and issuance of the first 150 "energy passports". A key message to be conveyed is that local government is fully in charge of reducing energy consumption and CO2 emission at the community level and thus, should not only care for EE in public buildings – citizens should actively participate and be involved in activities, as well.

The role of civil society organisations' (CSO) projects in raising-awareness should not be neglected, either. Several examples of best practices involving CSO's initiatives are provided in this in this brochure.

NEXPO 2013 will be an opportunity to local governments to get ideas for increased citizen participation and innovative awareness-raising campaigns.

Sources and Models of Funding

Source of Funding	%	# of LGs
Central government funds	75,0%	60
EU-funding	57,5%	46
Commercial loans	11,3%	9
Development loans	17,5%	14
Private sector	25,0%	20
	Sample	80

Models of Funding	%	# of LGs
100% from central government	7,9%	7
100% from regional government	3,4%	3
100% from local government	21,3%	19
Co-financing: LG and other governmental institutions	52,8%	47
Co-financing: LG and private sector	19,1%	17
Co-financing: LG and donor funds	40,4%	36
	Sample	80

At the moment, most of the EE projects are subsidized either by the national government (usually environmental funds) or EU funds. The reason is that local governments do not have sufficient funds for such projects on their own, the ESCO market is still underdeveloped and the ratio between savings and investment costs is still rather high in order to have a

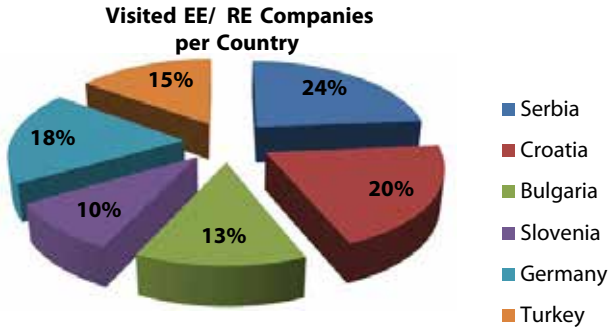
more developed market. The majority of EE/RE investments are based on co-financing of local government and usually this amounts to about 25% of the total investment costs.

As an EU-member country, Bulgaria, and now Croatia, have access to a number of EU-funding facilities, including *Intelligent Energy Europe* (apart from the EU-member states, Croatia and Macedonia are also eligible). The ELENA facility (European Local Energy Assistance) is provided within the framework of the IEE II programme (Intelligent Energy Europe) and supports local and regional authorities in contributing to the "20-20-20" initiative The new KfW-ELENA facility offers a complementary approach in order to mobilize sustainable investments of small and medium sized municipalities and, where appropriate, Energy Service Companies (ESCOs). KfW-ELENA consists of three innovative and complementary financing schemes. Bulgarian LGs also use the International *Kozlodui Fund* and the National Eco-Fund.

In Croatia, the Fund for Environmental Protection and Energy Efficiency (FZOEU) was established in 2004, with an aim to finance investments by private persons and local authorities, primarily through long-term "soft" loans and grants in EE and RE. The Fund has significant amount of money that could trigger RE and EE development. But the problem for years was that the majority of its means has been going to waste management and not to RE and EE development. At the end of 2012 Fund has announced that it will subsidize RE and EE projects in 2013 with amount of more than 12 million euro. However, the administrative hurdles for getting money from the Fund are high. Similarly problematic, the Fund does not provide money for individuals. It has, so far, provided financial aid to legal persons only, which again creates a big obstacle for small projects and private initiatives. Financial market is also developing very slowly, commercial banks have not yet developed specific loan facilities for RE and EE. The Fund is supposed to pay 2 percent interest on commercial loans but it has been reported that banks are not accepting the Fund's subsidy. No use of fiscal policy is made and there are no tax exemptions for the RE and EE projects.

Presentation of various sources of funding should be one of the central topics at NEXPO 2013. The presentations should include both facilities through which EE/RE projects are funded and various donors for the provision of technical assistance. Particular attention should also be paid to those funding sources which are accessible to the private sector, for example, the FP7. Municipalities will have an opportunity experience with successful funding models.

Local governments' capacity to prepare project proposals is a significant impediment to accessing funds. Some LGs successfully rely on external capacities for project preparation. One such example is the cooperation of Bulgarian LGs with the Black Sea Regional Agency for Energy Management (BSRAEM) and the Association of Bulgarian Energy Agency (ABEA) and which have an excellent track record of successful projects. These organisations have experience with accessing the EU FP7 facility, as well.



A total of 114 companies from six countries were covered by the survey.

The surveyed companies can be, roughly, classified into two groups – those that have been dealing with EE/RE services for more than 10 years (38%) and those companies that have recognized a potential in this area in last 1-5 years (about 41%). Large companies are longer in this business and small companies usually just recently entered the market. About 20% of the companies are present in the EE/RE market between 5 to 10 years.

EE/RE Companies' Presence on the SEE Market

The surveyed companies operate in most of the countries of the SEE region. The majority of the resppondent companies from six countries in which the survey was done, have well developed markets in Croatia, Slovenia, Serbia, Turkey, Bosnia and Herzegovina, Bulgaria, Romania and somewhat less in Albania, Kosovo, Macedonia, Moldova or Montenegro. In addition to the listed countries, many of them cover additional, non-SEE countries, including: Russia, Ukraine, Italy, Germany, Hungary, Greece and Austria.

Coverage of EE/RE Areas

The surveyed companies' top three EE/RE areas of operation fully match the LGs priority areas and planned project needs:

- EE in buildings (56%),
- Solar energy – including photovoltaic and thermal energy (50%),
- Public lighting (42%).

The answers reveal common trends in the field of EE/RE in the global market. Most of the companies offer products and services in the domain of energy efficiency/building sciences (56%), solar energy - including photovoltaic and thermal

(50%) and Energy efficiency/public lighting (42%). In some lesser extent there are companies that deal with wind power (33%) and bio-energy – wood pellets, crops, waste, and their derivatives (32%). All other fields are represented below 20%. By comparing these with previous answers we can conclude that most of the companies that deal with energy efficiency/building sciences are actually much segmented. Very few companies have integrated services in the domain of energy efficiency/building sciences.

Typical EE/RE Products and Services

According to the stated answers we can easily determine trends in the field of EE/RE in the world. Most of the companies are suppliers of renewable energy/energy efficiency technologies, offer service and installation of EE/RE efficient technologies and services of energy efficiency/renewable energy consulting. There are also manufacturers (43%), companies that deal with green building design and construction (35%), service in EE/RE equipment disposal (34%), service companies engaged in energy audits (34%). Relatively few companies (18%) offer ESCO services.

Energy Service Contracting (ESCO Model)

Companies are mostly aware of the ESCO market (61%) but from previous responses we can conclude that very few of those (every fifth on average) offers ESCO services. The supply of ESCO companies is high in Germany, Slovenia and fairly good in Bulgaria. The market is now being developed in Croatia and less quickly in Serbia. ESCO model is not popular in Turkey and, consequently, there are almost no ESCO companies in that country.

Products and Services Listed by Surveyed Companies:

EE equipment:

- Pumps for heating and cooling business and private spaces, solar collectors for water heating, polyester measuring and distributional enclosures, street LED lighting that offers large energy savings,
- Boiler plants fired by different kind of biomass. Steam, hot water and thermo-oil boiler plants as well as CHP, combined production of heat and power,
- Smart automation systems that improve energy efficiency in aspects of HVAC and lighting, in buildings, recreational facilities and public lighting,
- Gas supply system, gas heating central, biomass heating central and energy efficiency,
- District energy systems,
- Design new systems with new technologies and highest EE and low pay back time. Designing systems with alternative heating energy sources like waste energy, solar energy, heat pumps,
- Plastic heat exchanger systems, complete collectors/collector chambers with flow regulation, polyethylene pipes and fittings, accessories and welding equipment for these products.

EE construction materials and services:

- Aluminum facade, doors&windows, interior, insulated glass units, safety glass, etc.,
- EE renovation project for hospital, hotels, office buildings, multi family buildings,
- Architectural design from small to large scale with an emphasis on energy efficiency of buildings and use of renewable energy sources,
- Preparation and management of building energy renovation projects,
- Development of modern energy concepts for new buildings with emphasize on nearly zero energy buildings concept,
- Automated buildings design and --integration based at open protocols (lonworks, bacnet, modbus) by usage of our brightcore framework through all disciplines (lighting, HVAC, ...),
- Design and deployment of intelligent buildings,
- Special products such as glass-glass modules, Solrif modules for building integration replacing conventional roof covering of pitched roofs, are unconventional approach in finding new methods which are different from the current industry standards.

Energy Performance Contracting:

- Energy management of buildings,
- ESCO services,
- Energy Performance Contracting in public building, street lighting and in industrial systems. Performance of energy audits, designing and implementing of energy saving measures.

EE promotion and consultancy:

- Promotion of low-energy and passive house standards, improving existing buildings and reconstructing low-energy and passive house standards, as well as advising professionals and educating the general public,
- We are an open type organization which promotes the awareness of energy efficiency and its application in the field of architecture, civil engineering and social development,
- EE/RES consulting,
- EE audits, project design, planning and management,
- Energy audits and issuance of energy certificates,
- Financial consulting with regard to investment in energy saving projects,
- Consulting and education on energy savings for the public sector, financial institutions and designers.

Lighting equipment:

- EE lighting - luminaires and systems,
- Effective lighting systems,
- Lighting design, comparable calculations of different lighting solutions, lighting consulting, maintenance of lighting systems, lighting management systems planning and operating, lighting solution providing,
- EE lighting projects and products for indoor and outdoor.

Solar energy systems/equipment:

- Thermal solar systems,
- PV plants.

Hydro-energy systems:

- Small hydro plants.

Wind-energy:

- Wind turbines.

Private Sector Investment Strategies and Projects in the Area of EE and RE

In the area of EE, the companies will continue to be focused on EE in building, public lighting and transport. Based on the survey answers and interviews, it can be concluded that the majority of the companies will be very active in domain of offering EE/RE services in SEE region, including all services from marketing and selling energy efficiency technologies and materials (57%) to conducting EE project through Energy Performance Contracting in public lighting (34%).

In the area of RE, the surveyed RE companies will be mainly involved in building and testing of power plants (72.5%) and designing of power plants (65%) It has to be noted that this question is applicable only for companies that deal with RE sector. About 45% will strat operating power plants and, consequently, marketing and selling produced energy (45%). This involves mainly solar plants, wind turbines and hydro-energy plants. For example, in Turkey, the government is encouraging private companies to build power plants (auto producers) to meet their own needs, and construct larger power plants to sell electricity to other neighboring companies and to the state and to take over existing government-run facilities to help maintain growth in energy.

Potentials and modalities for marketing and selling of energy obtained through renewable sources of energy will be an interesting topic to address at a NEXPO 2013 forum.

Apparently, the companies participating in this survey have a long history of cooperation with local governments. Representatives of the private sector have the most extensive experience in implementing EE/RE projects in Croatia (43%), Slovenia (37%), Serbia (33%), BIH (25%), Turkey (23%), Romania (22%) and Bulgaria (20%) and much less projects in other countries.

Private Sector Demand from Local Governments:

In order to be able to set up and implement projects at the local level, the companies need:

- Technical documentation (construction and/or technology documentation) – companies that deal with EE in buildings sector (75%),
- Data on energy consumption (72%) – tightly related to the buildings sector,
- Information on available investment locations (65%) – related to investments,
- Documents on development plans (63%) – potential investments,
- Information on costs of doing business (54%),
- Information of existing SMEs that could be partnered at the local level and spatial planning documents (53%).

Last, but not least, the surveyed companies stress out importance of data on real estate property and ownership (47%). In short, almost all of the stated information should be available to the private sector in order to create and offer EE/RE projects.

Acceptable Payback Period for the Private Sector

Most of the surveyed companies seek for investment payback in theperiod of up to 5 years (44%). For larger infrastructure projects this period is 10 years (24%) while for large infrastructure ESCO and PPP it can be 15 and more than 18 years (about 9%). Some special services have much shorter payback period up to 3 years (16%).

Incentives for EE/RE Investments

Incentives Offered by Local Governments

Due to different experiences across countries and many companies that deal with many activities and interests there is a significant dispersion of answers. Nevertheless we can conclude that the most appropriate tools for boosting EE/RE investments are grants - direct payment subsidies (avg. 4,8), building permits are processed more quickly for energy efficiency measures in new and existing buildings (avg 4), voluntary labeling programs (green building, energy star, z ero energy, etc. (avg 3.95) and preferred treatment by government procurement (avg 3.8).

Financial Incentives for EE/RE Projects and Activities Required by the Private Sector

Most appropriate forms of incentives for the companies are corporate tax incentives (4,39), grant programs (4,13), tax rebate programs (4,12) and green / Energy efficient building programs (4,11). Other instruments are less popular.

Major Issues Encountered in EE/RE Project Implementation

The major problems are difficulty in convincing clients of benefits of EE equipment (61%) lack of funding (51%) and difficulty in identifying demand (41%).

This confirms the notion that LGs do not have qualified and skilled individuals that deal with EE/RE projects. In addition, there is a problem of funding and lack of understanding of EE/RE projects in banking sector.

Most of the companies agree that one of the largest problems that leads to lack of LGs motivation for EE projects is that EE is often not regarded as a priority (75%), lack of awareness on energy efficiency (63%), lack of consistent investment plans in EE products and technologies (51%) and „Quick-win "investments favored over EE projects with longer payback periods. There is also a problem of lack of trust in EE technologies due to lack of information and knowledge about EE market. These findings were also repeatedly confirmed in the field in all three in-depth assessed countries.

It is a great benefit of this survey that it has identified the key underlying factors for a lack of capacity and motivation of municipalities to do EE/RE projects. NEXPO 2013 will be an excellent opportunity for the LGs and the private sector representatives to discuss these major issues and to start to jointly address them.

It may also be concluded that many local governments have prejudices towards EE/RE investments and establishment of EE partnerships. NEXPO 2013 should welcome both the LGs and the company representatives to present real examples, facts and figures of the benefits of EE/RE projects.

Local governments need to be constantly informed about new technologies, products, services and practices. There is no better forum for such exchange than NEXPO-type events.

Future Investment Destinations

According to the survey, companies see the greatest potential for EE/RE project development of the market is in Croatia and Serbia (54% and 42%, respectively). Potentials are also seen in BIH, Romania, Bulgaria, Macedonia, Slovenia and Montenegro (ranging from 29% to 19%). However, this result should be viewed with some reserve and with consideration of the survey sample.

NALAS seems to have rightly decided to do an in-depth assessment of the situation in Croatia and Serbia (and Bulgaria, primarily as the next NEXPO host). As a new EU-member state, Croatia will be building a huge EE/RE market in the next 5 years, and is, thus, an interesting investment destination. As a very poorly developed market, but as a prospective EU-candidate country, Serbia is also of great interest for investors.

When it comes to Turkey, their companies successfully meet most of the requirements of their national market, but German companies also have a significant presence in the Marmara region. German companies cover the entire SEE region, mainly through their branch offices in most of the countries.

nexpo

NALAS International Municipal Fair

where ideas come to meet

Based on experiences with communication with the private sector representatives in Slovenia and Germany we can conclude that there is an impressive market of EE/RE technologies that contains production of goods and delivery of goods and services. Development of such activities was triggered by new EU directives and system of incentives for EE/RE technologies. This trend has been set of by Europe and nowadays is becoming global. Experiences from stated countries show that there is a substantial competition on markets in solar technology and energy savings in buildings – systems of heating, cooling, ventilation, hot water preparation, isolation etc. There are also few large companies that offer complete range of products and services in the EE/RE sector.

Companies are generally familiar with the ESCO model of business but only few of them (20%) offer such services. For a difference from EE/RE market, in the ESCO market there is no substantial competition and market is still under development. The same refers to Energy performance contracting market (EPC). There are also examples of conducting infrastructure projects by PPP. Such references usually belong to large multinational corporations with strong possibilities for self-financing of the projects.

Value Drivers and Market Opportunities

Key value drivers regarding local governments in Croatia, Bulgaria and Serbia still come through external pressures. It is our impression from the field visits that only a small number of cities and municipalities are driven by their own needs to decrease energy consumption or reduce CO_2 emissions. Croatian level of awareness regarding these issues seems to be somewhat higher than in Bulgaria and Serbia. Even those local governments that are the signatories of the Covenant of Mayors do not seem to pursue the "20-20-20" goal with specific local energy efficiency needs and priorities in mind. It seems that it is the "carrot and stick" approach that drives the local governments towards energy efficiency project implementation. This, in turn, implies that national legal and regulatory framework for energy efficiency policy is fully in place, which is, more or less, the case in Bulgaria and Croatia. In Serbia, the Law on Rational Energy Consumption has recently been adopted, but the overall regulatory framework is still being built. Thus, the local government market in the area of energy efficiency is, generally, driven by the priorities defined in national legislation, in line with the EU pressure to comply with the energy efficiency standards in buildings, public lighting, or public transport.

NEXPO 2013 should include presentations of the drawbacks of national legislations, as well as the opportunities provided by the national level; presentations of EU EE standards; promotion of varuous EU intititives, such as the *Covenant of Mayors*, *Intelligent Energy*, etc.

However, many local governments still do not have reliable data on energy consumption, either because they lack the necessary skills and knowledge, or because they lack appropriate tools to calculate it. During the field visits, for example, a number of IT solutions have been encountered for the calculation of building thermal characteristics – designed by both the public and the private sector. Energy consumption monitoring is another issue – very few local governments can be said to have reliable systems in place, except in Croatia where Energy Management Information System (EMIS) is in place. Up to date, EMIS is only partially connected with remote meter reading. However, local governments are gradually introducing a system of remote meter reading which enables intelligent energy consumption management, for example, the City of Bar in Montenegro. Moreover, an interesting model of remote energy consumption monitoring system is now being established and tested in the Bulgarian municipality of Pernik, in partnership with a private company (Enersyst). The idea is to integrate all energy consumers into one system (buildings, lighting, transport) and monitor consumption in real time. Reliable data about energy consumption and reliable analyses would help identify the priority areas of intervention and consequently, create new market opportunities.

Local governments are very keen on learning about possible energy calculation models and software solutions that can be helpful in managing energy data. Such examples should be presented in the NEXPO2013. Ability to calculate energy consumption is directly related to and crucial for performing a situational analysis, as a basis for preparing the SEAP.

Energy Performance Contracting (ESCO model) has, at one point, entered Bulgarian local market, focusing primarily on energy efficiency measures in buildings, lighting, transport, i.e., sectors which are highly dependent on long-term and cost intensive system maintenance. ESCO models are applied in several municipalities across Bulgaria (in some local governments, such as Burgas, or Blagoevgrad, very successfully) – however, since, local government systems of values are

frequently shaped and driven by the word-of-mouth on how certain models work in other local governments, negative experiences from some, including the City of Sofia, have made this model highly unpopular. Thus, instead of a growing ESCO market, Bulgaria now faces its significant decline. ESCO models, as a very specific type of public-private partnership (PPP) are rapidly developing in Croatia and Slovenia (and, of course, Germany). They are now entering Serbian energy efficiency market (several ESCO companies have recently been established and are looking for market opportunities), while in Turkey, energy performance contracting has never become popular and is, virtually, non-existent.

Energy performance contracting is definitely an area with a high and long-term matchmaking potential. A workshop on ESCO, with best practices examples from the LGs, along with the clearly presented economic benefits and risk-sharing models, would be very motivating for LGs to decide in favor of energy performance contracting. This workshop would be equally appealing to both the public and the private sector.

Removed budgetary restrictions for the use of financial instruments for energy efficiency projects in the public sector have opened the ESCO market in Croatia in 2012. Energy performance contracting model for purchasers of energy services and other energy efficiency improvement measures in the public and private sector has been defined and Retrofitting program for public sector building a certain booster for energy efficiency projects developed. Even though the legislative and institutional framework of EE/RE sector in Croatia is nominally set, there are still many issues that remain problematic in practice. There is still much to do in order to implement PPP and ESCO-based projects in practice. The government has been very keen on initiating EE/RE investments and has implemented EPC models and solutions in the area of public buildings but still there are numerous problems and risks in place both for private and public sector. In addition there is still much to do in developing financial models and promote PPP and ESCO models through the financial institutions. Even though Croatian Bank for Reconstruction and Development offers simulative funding and some commercial banks have credit lines from EBRD there is still a lack of understanding of project financing that has to be implemented in ESCO and EPC projects. EE/RE contract are rather complex and both public and private sector subjects still do not understand and cannot evaluate potential risks in EE/RE projects. Overall, these constraints are in front of stronger implementation of EE/RE investments. There was a strong spike of investments in solar energy sector when the government relaxed the procedures and while feed-in-tariffss were high. However, there is a great uncertainty at this market due to feed-in-tariffs limitations based on the first-come-first-served principle. The value of tariffs is based on political decision and this causes uncertainty in business sector and creates dissimulative surroundings.

The energy efficiency market is currently in developing phase in Croatia, 44 cities are signatories of Covenant of Mayors' initiative and 32 of them have obliged themselves to implement specific energy efficiency measures defined in their Sustainable Energy Actions Plans (SEAP).

Regarding renewable energy use, the situation varies from country to country. The survey and the field visits indicate that local governments recognize their potentials, thus, force projects that comply with their own resources and needs (an insight into field visit reports from municipalities clearly shows that municipalities take their natural resources into account and base their investment planning on local renewable energy potentials). While national level regulations play an important role in this area, too, influencing the renewable energy market by the prices of energy, feed-in-tariff policy etc., the market seems to be equally driven by the local governments' ability to attract investments, i.e., to provide appropriate locations, offer certain incentives and tax holidays for the interested private sector investors.

Obviously, availability of locations for renewable energy projects, along with the necessary infrastructure, clear strategic framework, necessary technical documents and shortened administrative procedures of licensing and permitting are among the key factors for successful investments in the RE area. Therefore, NALAS' assistance to LGs with guidelines on how to prepare their offer for the private sector, as well as how to present it at NEXO 2013, is crucial.

Wind energy was extremely popular in Bulgaria at one point, but poor market regulation (low cost of energy, energy production exceeding consumption, decreased feed-in tariffs) and high costs of wind turbine production and installation have caused the initial enthusiasm of local governments towards this, once very popular renewable energy source to dwindle. According to the Deputy Executive Director of the Bulgarian Wind Energy Association (BGWEA), which has more than 60 members, many wind energy producers are now turning to new, neighbouring markets (e.g., Romania, Serbia, Croatia). Bulgaria has also developed a solar energy market, the growth of which is heavily dependent on the ability of national governments to provide ensure business-friendliness, as well as on the capacity of local governments to provide adequate locations and create an agreeable investment climate for the private investors. The cooperation of LGs and the private sector, generally, ends at public land provision for private investments in the area of renewables.

Croatia has very good natural conditions for energy production from renewable energy sources. The policy instrument mix addressing energy efficiency and renewable energy investments have been improved during 2012. Revised FiT tariff in 2012 has set up a progressive framework for fostering renewable energy development industry where producers can get the payments for 14 years, while administrative procedure for installment of integrated solar systems on roofs has been simplified. The country is still highly centralized and, therefore, local governments are often characterized as not willing to cooperate, due to a lack of local initiatives and limited capacity to handle such projects. So, despite a high potential, the share of new renewable energy in energy production is still staying marginal and up to now, only few renewable energy plants have been built. In general, the cooperation between the private and the public sector is still rather weak. Poorly conducted ppublic procurement slows down the implementation of EE projects. Taking risk between public and private partners is not clearly defined.

There is a strong interest from foreign investors for investments (WPD,GES) in wind energy. Currently, 89 projects are in the phase of preparation or construction, with a total power of about 4100 MW. It is very unlikely that conditions for receiving so much power in the network can be created.

In the field of solar energy, there is also a strong interest of investors: 328 projects are in the implementation phase, with a total power of 80 MW. It will be very difficult to secure funding for incentive rates for many solar power plants. In Croatia, there is a trend to reduce the tariffs in solar technologies (in Slovenia, this trend has been present since 2012).

In the domain of biogas and biomass, about 140 projects are currently in preparation, with a total power of 310 MW. Aslo in the field of hydro, 60 small hydro and 1 geothermal power plants are being established. All this production will require additional investment in the transmission system and electricity distribution system.

Since wind energy market is only being established in Serbia at the moment, this country is perceived to offer new, lucrative investment opportunities. At the moment, there is ongoing lobbying for adoption of the legislation necessary for the development of this market and start of significant projects.

The results of the survey also indicate that the private sector has a clear idea of how to approach the market, including: *lobbying at the national level* (which explains a high percentage of interest for meetings with representatives of national level regulatory bodies); *direct inquiries about the technical status of projects and administrative requirements* (through meetings with energy managers); *negotiations with the decision-makers at the local level* (during meetings with Mayors at the Fair) and *learning about their competition* in the region. Therefore, it is very important that such private sector needs are carefully considered when designing the matchmaking platform.

When it comes to EE/RE market in Turkey, it is a rather closed system, almost sufficient to itself. As one of the interviewees has put it "solely Istanbul is a market to itself". In Marmara region, most of the EE/RE companies are concentrated in Istanbul, Bursa and Izmit. Turkey has a favourabe geographical position in terms of the variety of renewable energy sources – hydro energy, biomass, wind, biogas, geothermic and solar energy count as the leading renewable energy sources, sharing a huge portion of energy production (approximately 20%), with a target set for 2023 at 30%.

In Turkey, Marmara Region, solar energy is one of the most popular RE source. Obviously, the market in this country is driven by the vast opportunities for solar energy use, due to its climate and abundance of sunny days. Wind energy use is also very popular. Consequently, the market is, virtually, saturated with solar and wind energy production companies. Other RE sources include biomass and pellet production, which accounts for a large number of companies which produce equipment for energy production from these sources (pellet boilers, heating pumps and other HVAC systems). Although Turkey is one of the main exporters of this equipment to Europe (for example, in Bulgaria, many visited pellet or biomass production companies use Turkish equipment), the feedback obtained during the field visits indicates that Europe is not their primary market – the visited companies are primarily focused on meeting the demands of their own country, and then expanding to the Near and Middle East and Northern African markets.

Germany is an absolute leader in the area of EE in public and private-owned buildings and industrial processes. It covers a large portion of the market when it comes to public lighting, but in other EE/RE areas, as well. It is also the greatest European exporter of EE/RE-related products and services, with companies and branch offices present in all other visited countries. During the assessment, more than 600 companies related to EE and RE have been identified. Germany is not only one of the best suppliers of EE construction materials and equipment, but its companies can also be presented at the Fair as successful business models. Since German companies are constantly expanding to new markets, NEXPO 2013 should also be seen as an excellent opportunity for B2B exchange and the creation of new partnerships.

German EE/RE market has a long history where there is a continuous cooperation between government and business sector. In a way we can state that EE/RE industry is developed not only to meet the demand at domestic market but to create strong export industry. Some of the largest EE/RE companies in Germany have a full range of EE/RE products and services and they act as a multinational/global leaders and trendsetters. However, these companies are very open to cooperation with SMEs that operate in EE/RE sector and, very often, these companies, if proven successful, are subject to acquisitions. Strong support for all companies is provided by German government either to very low costs of financing through development and local banks or by providing different incentives. It is important to address the role of central and regional government agencies that strongly promote EE/RE sector both domestically and internationally. In addition to that, we have observed strong presence of R&D sector that comes both from public and private sector. Well known R&D public institutions (Fraunhofer Institute) and R&D departments of large companies (Siemens, Airbus, Audi etc…) had a significant role at the Hannover fair. We can say that German approach to this issue has been very comprehensive and integrates a kind of a cluster of public and private subjects that act together and keep the country on the top of technological and economic frontier in this sector.

If we pay attention more specifically to the German market, we can note that it is a very competitive market, mostly due to large number of companies that posses advanced technology and knowledge in EE/RE sector. Most German companies declared that the process of public procurement is not a problem and that government provided favourable institutional and regulatory framework. ESCO services and PPP services market has been established and steadily a long time ago in Germany. Even though the financial terms for financing projects are very much favourable, it is important to note that German companies are mainly funded by their own capital. The public procurement procedures and institutional framework stimulates technological advancement because companies that enable better EE/RE solutions easily win public procurement tenders.

A high interest of German companies to present their services and products and NEXPO2013 indicates the importance of SEE markets for them. German companies' participation is very important, as it will play a major role not only with regard

to establishment of potential partnerships and investments, but in transfering valuable know-how, innovative products and services to the participants of the Fair.

Regarding Slovenian EE/RE market we can state that it is one of the most advanced in the region, however, it is far from being saturated. One of the problems very present among Slovenian companies is that economic and financial crisis has made EE/RE sector very competitive. The core of EE/RE companies set 5-10 years ago is jeopardised by companies that enter the sector mainly from construction industry which is in deep recession. Regarding the institutional and regulatory framework, it is mainly shaped by the EU directives and regulations and mostly based on the EU structural funds. There are numerous examples of utilization of EU funds in many sectors (public lighting, EE/RE in public buildings etc.). One of the problems is that Slovenian market is small and, therefore, companies have to try to extend to foreign markets. One of the largest Slovenian companies (Petrol) has a full range of EE/RE services developed and applies EPC in their operations coupled with strong self-financing possibilities. There are standard problems which curb higher level of investments that plague whole region such as public procurement difficulties and inadequate funding. It seems that government was not that successful in resolving these issues but more relies on EU structural resources and directives related to EE/RE sector.

Key Obstacles for Partnerships and Projects in the Area of EE and RE

Key Obstacles Identified by the Private Sector

Two largest problems in implementation and execution of EE/RE according to the private sector are administrative barriers at the local level (42%) and low energy price (42%). After that we can observe administrative barriers at the national level, complicated public procurement process, lack of market demand for RE/EE projects, energy efficiency in not perceived to increase buildings' value as an investment (from 35% to 38%). About third of the companies observes obstacles such as: issues with permitting and licensing, investment horizons are too short-term to capture the benefits, difficulties in securing adequate credit, there is no senior manager with responsibility for EE/RE investments, staff lack sufficient technical know-how (from 27% to 33%). It is important to conclude that there is a great dispersion of results and all of the above stated issues present serious obstacles in realization of EE/RE projects.

Other issues identified:

- Lack of information related to energy consumption in LGs,
- Lack of energy managers in LGs (lack of qualified personnel to talk to),
- Delayed payment by LGs after contract execution,
- Insufficiently transparent procedures,
- Heavy monopoly/corruption associated with energy markets,
- A lack of mutual trust between the two sectors, due to bad experience and constant changes of regulations,
- The banking sector in RE is not sufficiently developed. The procedures are complicated and some documents which can be issued at the end of investment are required by banks for loan approval,
- Insufficient regulation or overregulation in some EE/RE areas,
- Lack of creditors trust in models of project financing (SEE region),
- Long-term contracts and long periods of payback,
- Uncertainty due to increase of expenditures due to increase of prices of energy and energy sources.

Import of products and equipment related to EE/RE can also be associated with a number of issues.

Based on the analysis of the survey results it can be concluded that one of the major issues in the process of realisation of EE/RE projects is the procedure of public tendering (53%), licensing and permitting related to constructing (47%), situational analysis and baseline evaluation (36%) and projecting procedures according the EE/RE standards (23%). Other stated activities are not that problematic. Public procurement significantly slows down the procedures of realization and it presents a significant obstacle for implementation of ESCO projects.

The interviewed companies in Bulgaria, for example believe the preparation of a project in accordance with all standards the procedure is very complicated: "Too many documents and certificates need to be collected, and it may be that not all of them are needed."

Public procurement has been repeatedly encountered as an impediment to EE/RE project implementation. This topic has rightly been recognized by NALAS as a priority one for NEXPO 2013. A prospective public procurement workshop should tackle a number of issues, including the EU procedures – in particular "green" procurements (the principle of EE and environmental protection), transparency and efficiency of public procurement procedures, ensuring competition and equality of bidders through transparent and clear criteria and specifications for EE/RE-related goods, services and goods, bid evaluation process, etc. The workshop should include both LG and the private sector participants to make sure that both perspectives are considered.

A number of obstacles are also associated with the complexity or a lack of regulations:

- Regulation related to EE/RE market (60%),
- Regulation of electric energy market (38%),
- Regulation in the field of construction (38%),
- Regulation of funding provision (32%).

A discussion board on energy service contracting, preferably held jointly by a LG and ESCO company that have established a successful model would be highly desirable and beneficial, particularly for those LGs which are planning to introduce it but lack sufficient knowledge on how this model works.

Key Obstacles Identified by Local Governments

- LG lacks information about potential partners/investors (52.0%),
- LG lacks skills on how to approach the potential partners/investors (38.8%),
- Businesses are not interested in partnering with LG (32.7%),
- Legal obstacles (40, 8%),
- Public procurement limitations (30.6%)
  (Sample: 98).

Additional obstacles encountered in the field:

- Insufficient promotion of LGs' potentials, due to poorly defined product and services, and a lack of promotional skills,
- Investments are not decided about at the local level - national level frequently interferes and ruins opportunities for investments,
- Lack of lobbying capacities by LGs,
- Too strict public procurement rules under the EU/PRAG.

Surprisingly, local governments address a lack of information about potential business partners as one of the most important impediments for partnership with the private sector. This result provides a strong indication of need for a matchmaking platform based on exchange of information between local governments and business sector. Second problem is in legal obstacles and public procurement procedures which are over restrictive and complicated for local government administration.

The problem stated as an obstacle – lack of information is a suggestion for improvement of cooperation with the business sector. There is a need for creation of Catalogue of both local government potential projects and a database of EE/RE business.

Observations by Country

In **Bulgaria**, one of the reasons for insufficient cooperation between the public and private sectors are complicated public procurement procedures and a high level of mistrust created by delayed payments after contract execution. Private companies do not trust that public procurement procedures are transparent and are suspicious about bidders being treated equally. This is further illustrated by frequent request for the protection of bidders' rights.

Local governments, generally, lack management skills, project writing skills and human resources to implement complex local economic development (LED) functions, with the exception of some cities (e.g., Burgas and Gabrovo, which has 3 full industrial zones). One of the obstacles to the preparation of good quality EE and RE projects is municipal inability to properly measure energy consumption at the local level. Generally, there is also a visible lack of investors – in many municipalities there are no more than 1-2 investors in the area of EE and RE.

In **Serbia**, there is a strong perception that LGs cannot do anything about investments which are not within their scope of work: "In Serbia, we have no authority to decide about RE projects. All needed licenses and approvals are going through relevant republic institutions – Ministry for Energy, Development and Environmental Protection, Public Enterprise "Srbija Vode", Public Enterprise "Elektroprivreda Srbije", etc.

The **Croatian** state is still very centralized, the local governments are characterized as often not willing to cooperate, what might also hinder the development of RE as local initiatives and capacity to deal with RE projects are missing. Also, the cooperation between the private and the public sector is weak.

Revised FiT tariff in 2012 has set that producers can get the payments for 14 years. However, limitation for PV presents a great weakness. Especially after new FiT tariff has simplified administrative procedure for installment of integrated solar systems on the roofs. This puts a serious barrier in front of an energy source, which has great potential and where the technology is steadily getting cheaper and more advanced.

Prices for fossil energy are subsidized. The low energy prices hinder the development of RE and EE, and prevent technological development in the energy sector in general. Regulated prices of some oil products provide a certain protection to the Croatian consumers; however, they also limit competition and subsidize consumption.

Although RE have been considered in many physical planning documents, spatial planning for RE facilities is non-existent, nor is a strategic energy technology plan, which could include also the development of RE and EE technologies.

Many actors criticize the strong preference of wind in the legislation and in the energy strategy, connect this to lobbyism of German wind companies and assume that therefore, solar energy and small-scale projects are neglected. The rationale

behind the limitation for PV is supposed to be the technology's relative high price, which the Croatian state was not willing and able to pay for. The second reason might be the weak interest groups pushing for solar energy. Fund for Environmental Protection and Energy Efficiency (FZOEU) established in 2004 should finance investment by private persons and local authorities, primarily through long-term "soft" loans and grants in EE and RE. The Fund has significant amount of money that could trigger RE and EE development. But the problem for years was that the majority of its means went to waste management and not to RE and EE development. At the end of 2012 Fund has announced that it will subsidize RE and EE projects in 2013 with amount of more than 12 million euro. However, the administrative hurdles for getting money from the Fund are high. Similarly problematic, the Fund does not provide money for individuals; it has so far just given financial aid to legal persons, which again creates a big obstacle for small projects and private initiatives. Financial market is also developing very slowly, commercial banks have not yet developed specific loan facilities for RE and EE. The Fund is supposed to pay 2 percent interest on commercial loans but it has been reported that banks are not accepting the Fund's subsidy. No use of fiscal policy is made and there are no tax exemptions for the RE and EE projects.

The situation in EE has greatly improved during 2012 when new legislation was set up, which removed budgetary restrictions for the use of financial instruments for EE projects in the public sector. Contracting model for energy performance contracting for purchasers of energy services and other energy efficiency improvement measures in the public and private sector has been introduced which open the ESCO market in Croatia. In 2012 created national Retrofitting program for public sector building was a certain booster for EE developments. The EE market is currently in developing phase, convincing market actors and local governments on the benefits of EE measures and equipment. Jointly with regulatory provisions they are setting up EE policy as priority with establishment of long-term sustainable energy actions plans in EE products and technologies.

However, it is necessary to initiatestronger cooperation with several ministries in order to troubleshoot problems that occur in the realization of EPC projects. There is also a major problem with the public procurement process, which does not comply with the principles of EPC and leaves a very small possibility for implementation of the EPC projects. Public procurement process also slows down the implementation of EE projects. Risk-sharing between the public and private partners is not clearly defined.

Innovation networks or advocacy networks are relatively weak. The academic experts or producers are not united in any cluster of interest. Competition within the pro-RES stakeholder community prevails and the topic is not systematically addressed.

Key Interests of the Private Sector

The top five NEXPO 2013 activities of local governments' interest:

- Attracting investors for municipal projects (69.2%),
- Networking with other SEE cities and municipalities (69.2%),
- General representation of the city/municipality at the Fair (67%),
- Exchange of experience at various knowledge sharing platforms (65.9%),
- Establishment of partnerships for projects (64.8%).

The top five NEXPO 2013 activities of the private sector's interest:

- Pre-appointed business-to-local government meetings (55%),
- Presentation of the company (57%),
- Presentation of EE/RE country specifics (42%),
- Round tables and topic-specific forumes with city/municipality representatives (42%),
- Participation at the conference (38%).

The private sector expects to meet representatives of local governments in charge with the consumption of energy and energy sources – energy managers (85%). This shows that private sector is mostly interested in direct contact with operative representatives of LGs in order to obtain necessary information more easily and to increase their chances to conduct concrete projects. After that companies would like to meet heads of city/municipality departments (54%), sectoral ministry representatives (49%), mayors (45%), representatives of energy efficiency networks (41%), and heads of regulatory agencies (38%). It is important to note that there is a strong interest to meet all investment-related stakeholders.

Most of the surveyed companies (44%) would like to arrange 5-10 meetings at the Fair with the representatives of the LG. This data show that companies are willing to invest time and resources for direct and concrete discussions about implementation of the projects with operative representatives of LGs. About fifth of the representatives of the private sector is interested for 1-5 meetings. This number of meetings mostly refers to the companies that offer large infrastructure projects such as construction of heating system for LGS. 10-20 meetings are preferable for companies that offer selective services in domain of EE/RE and also equipment producers. Only about 3% of companies would like to have more than 20 meetings at the NEXPO 2013 fair. The number of meetings depends on a number of parameters. Some companies stated that the number of meetings is not an issue because, in case that these meetings are judged to be fruitful, they will engage all necessary resources (larger companies).
As a result of the Needs Assessment, the NALAS NEXPO 2013 has put significant efforts into designing a Matchmaking Platform that would meet the needs of both the local governments and the private sector.

NEXPO 2013 Matchmaking Platform

NEXPO 2013 Activities

- **Conference "The Road to EU Integration-Removing Barriers, Unlocking Our Potential"** (25 September 2013, Croatian Cultural Dome in Susak, by invitation),
- **NEXPO Fair** (26 and 27 September 2013, Zamet Centre),
- **Series of workshops** (26 and 27 September 2013, Zamet Centre, entrance by participant badge), grouped in two main themes: Improving practice in Sustainable development and Improving practice in governance and partnership work,
- **Mayors' Café** (26 and 27 September 2013, Zamet Centre), the perfect place for face to face discussions between mayors on cooperation, investments, donations or twinning,
- **Matchmaking** (26 and 27 September 2013, Zamet Centre), by pre-arranged meetings, will enable municipalities and the private sector to meet, present to each other and identify collaboration opportunities,
- The rich **Cultural Program** from 25-27 September, will present a mosaic of the Croatian traditional and modern culture, but also cultures of other SEE countries.

Key products and services proposed within NEXPO 2013Matchmaking Platform

To ensure sustainable effects and an integrated approach the concept of NALAS Matchmaking Platform is seen as an ongoing process, which includes activities **before, during and after NEXPO 2013**, including the prepararion for NEXPO 2015.

Key Matchmaking Platform Elements

- Online based Matchmaking Platform with an integrated Matchmaking Tool, including a wide array of services and information for local governments and the private sector,
- Pre-appointed meetings - B2LG, LG2LG and B2B,
- Exhibitor's catalogue,
- Workshops & Discussions.

Matchmaking Tool Booking of pre-appointed meetings between registered participants Features for registered participants: creating own profiles, finding business contacts, posting business inquiries scheduling meetings (at meeting area or exhibition booth) Search options by LG/ company/ key words Detailed guidelines and templates for profiles	NEXPO ONLINE MATCHMAKING PLATFORM
News News and notifications/ agendas related to NEXPO 2013	
Download area Follow-up information (e.g. market information, information on funding, guidelines and tips for LG and private sector, brief abstracts of each program point including short conclusion, presentations hold at workshops in the framework of NEXPO 2013)	
Best practices LG and B2LG (possibly relevant to renewable energies and energy efficiency)	
B2LG-related links	
Discussion Board	
Presentation/ Advertising opportunities Opportunity for participants to present themselves (e.g. feature one NEXPO 2013 participating LG and one company on the website's cover pager on daily basis. This should be a brief, effective presentation)	
Surveys among participants Follow-up survey of participants' satisfaction with the Fair	
Success stories & "Voices" Results of follow-up survey of participants' satisfaction with on NEXPO 2013. Successful investments and partnerships resulting from NEXPO 2013. "Voices" of participants	

The Online Matchmaking Tool provides easy access to information on demand and supply of registered participants (local governments and the private sector) and features to book business meetings with potential business partners. Activities are based on the profiles of local governments and companies.

Registered participants can directly contact or schedule business meetings with identified potential partners at NEXPO 2013. Before the event, the participants will receive a provisional appointment schedule according to the expressed wishes. An option for booking of meeting facilities can be provided as well.

To facilitate the search of appropriate potential partners the profiles can be searched by key words.

Pre-appointed meetings have been ranked as very important by the local governments and the private sector. The main tool for appointing individual meetings is the online platform.

To allow for a larger number of meetings going on simultaneously, matchmaking meetings will be organized either in a designated matchmaking area (with numerated "offices"/tables) or at the exhibition stand for those participants that rent a booth. These should be short meetings, not longer than 30 minutes.

Workshops and Discussions

Experience has shown that workshops on specific topics are an effective instrument for generating the exchange between public and private sector. The results of Needs Assessment show the necessity of workshops and round table discussions as format for exchange of best practices and experiences as well as opportunity for initiation of direct contacts between representatives of LGs and companies.

For companies, workshops on specific subjects are a good opportunity to present their technologies through best-practice examples.

Depending on subject, content, aim and target group, possible formats are workshops, panel discussions, round table discussions or breakfast discussions.

nexpo

NALAS International Municipal Fair

where ideas come to meet

Best Practices Identified

Matchmaking Experiences of the Croatian Association of Cities

Since 2006, the Croatian Association of Cities has been organizing INFO DAYS in cooperation with the Croatian Association of Municipalities and the Croatian Association of Management Consultants. INFO DAYS have gathered 300 participants from local and regional government, state institutions, and the private and non-government sectors.

Plenary sessions have been thematically related to transposition of the EU acquis communautaire into Croatian national legislation relevant to the local and regional government operating areas. The exhibition part of INFO DAYS has hosted over 40 consultant and private companies as well as regional development agencies which have presented their programmers, products and services related to increased efficiency and transparency of city and municipality governance. Moreover panel discussions have been organized with key, noted speakers from EU member states and national government organizations focusing on current economic development segments, like implementation energy efficiency policy, communal policy, IT solutions for local self-government units, etc.

However, after three years, it was decided to hand over the organization of INFO DAYS to a newspaper publishing house, Lider, due to its organizational complexity. Organization difficulties were associated with balancing between sponsors and exhibitors at the INFO DAYS. Fundraising from sponsors on the one hand and the arrangement of exhibitors on the other hand was a challenging task that required a huge effort of the already insufficient organizational staff numbers to align the desires of sponsors and exhibitors.

Therefore from 2009, Lider and the Association of Cities have successfully organized the conference for the fourth year in the row under the name "48 hours for cities mayors and business companies," which is nowadays in Croatia a respectable matchmaking platform conference for cities and private companies. The conference has hosted over its two days more than 200 participants from local government, the private sector and representatives of state institutions, who have discussed how to improve cooperation between business and local government, and to increase the competitiveness of cities as well as the number of investment projects.

The aim of the conference is to set up a dialogue and exchange of experiences among mayors and business owners, to discuss how cities can help to create an entrepreneurial climate, and how entrepreneurs can stimulate the development of local communities. Good opportunities and cooperation with the business community makes a difference between successful and unsuccessful cities. Opening opportunities for sustainable investments in cities directly influences development that provides quality of life to their citizens. These meetings therefore provide a unique opportunity to local government heads and entrepreneurs to find successful models of cooperation in order to jointly create future opportunities.

The two very intense days of the conference offer solutions on how to improve cooperation between business and local government, competitiveness of cities, improve governance and attract investments. The conference includes panel discussions and case studies from Croatian cities and abroad, which can offer practical solutions on business and public sector cooperation.

nexpo

NALAS International Municipal Fair

where ideas come to meet

CROATIA: Implementation of sustainable energy management (SEM) in local governments

Implementation of continuous and systematic energy management in Croatian local governments consists of the following activities:

- Acquisition and verification of all necessary input data on public buildings owned by the cities and municipalities in the Energy Management Information System (EMIS) for the purposes of establishing a verified energy data base of all buildings in the system,
- Establishment of Energy Efficiency Offices - EE Offices in cities and municipalities. This includes establishment of appropriate organisational structures and education of the experts (the EE team) that will support and perform SEM project activities and all other activities needed for achieving strategic goals to increase energy efficiency and environmental protection in cities and municipalities,
- Establishment of the practice of weekly and daily energy consumption analysis and interpretation of energy consumption data, identification of EE measures, energy planning and verification of achieved savings, subsequent to the verified building registry in EMIS,
- Establishment of the practice of active utilisation of the EMIS for energy consumption data collection, analysis and reporting, energy planning and decision making,
- Implementation of the practice of local energy planning, preparation of energy efficiency plans and programs as defined by law and identification and implementation of EE measures,
- Techno-economic analysis of EE measures, verification of achieved savings (analysis and definition of base and target consumption, verification of savings and identification of corrective measures for energy efficiency improvement).

Improvement activities of SEM are continuous, implemented as an integral part of the above mentioned activities and include promotion of local governments' strategic development documents. Besides SEM activities, strategic documents need to include development and utilisation of network infrastructures that will improve economical, energetic and political efficiency in managing and use of public services and local resources. In this way a foundation for integrated management of all resources and public services in local government will be established, which directly promotes installation of sophisticated systems for collecting and processing of the necessary data which finally leads to the concept of "Smart Cities".

Implemented activities in Croatia have resulted in the establishment of the verified building registry - Energy Management Information System (EMIS) - with all necessary data related to implementation and training of the EE teams responsible for energy management in local and regional self-government units. In the last 4 years, EE offices and EE teams have been established in all 20 counties and 93 cities in Croatia.

CROATIA: Establishment of the Energy Efficiency Office – the EE Office

In Croatia, there is a new initiative to establish EE Offices within the local government structure, as a separate department, with 2 employees on average. In order to make them an efficient part of the local administration, certain activities need to be implemented, such as education of employees in local government in the field of implementation of the process of centralized and "green" public procurement, introduction of economic and technical criteria of energy efficiency in tender documents, use of available norms during technical specification preparation, production of detailed analysis and Life Cycle Cost Assessment (LCCA) of products and services in the process of public procurement.

CROATIA: Sustainable Energy Action Planning (SEAP) in Cities and Municipalities

Local energy planning and reporting has been established, including defining action plans and the strategic steps for implementation of EE measures (SEAP), defining critical energy complexes in local and regional government and establishing implementation plans for corrective EE measures.

Educational and interactive workshops have been organized that focus on systematic energy management, energy and water usage analysis, and interpretation of results and verification of achieved savings. Additionally, the organisation of an interactive workshop focused on connecting the methodology of energy analysis, data interpretation, energy management and EMIS, with the goal of facilitation of usage of EMIS as a tool for systematic energy management and energy analysis.
Continuous educational workshops in municipalities and cities have been provided with the aim of training all groups that are directly or indirectly involved in systematic energy management (like EE offices, development agencies, and responsible persons in cities and municipalities) to facilitate the process of implementation of obligations imposed by the law, increase capacity for implementation of building energy audits, and preparation and execution of measures to improve energy efficiency.
Energy Planning aims to promote and foster development of energy efficiency improvement action plans in all 20 counties and 93 cities in Croatia.

CROATIA: Energy Management Information System (EMIS) in Cities and Municipalities

A Central Energy Management Information System (hereinafter EMIS) has been established - an internet application for supervision and analysis of energy and water consumption in public sector buildings. For the successful implementation

of EMIS in local government structures, employees working with EMIS need to be properly educated and local governments needs to take it seriously. Continuous and systematic operation of EMIS in local governments consists of the following activities:

- Advanced education of the EE teams in local governments so that they would be able to manage and update data in EMIS independently, and also to perform analysis and educate end users in buildings for data input,
- Local management and use of application (data analysis through the application and preparation of different reports),
- Analysis of local and individual energy efficiency indicators using EMIS,
- Technical support to local administrators and users of EMIS,
- EMIS Software and Hardware maintenance support,
- Database maintenance and regular safety data backup,
- Upgrade of the application regarding new needs and requirements,
- Adjustment of the application according to changes in legislation,
- Adjustment of the application to work with other related IT systems,
- Enabling EMIS to connect with other existing information systems in order to coordinate activities.

In Croatia, EMIS is fully integrated as a central information system for gathering and analysis of data about energy consumption in public buildings owned by national, regional and local governments. Currently EMIS provides data for over 7.000 buildings from all 20 counties and 93 cities in Croatia. More than 2400 buildings owned or used by the cities and counties have established the practice of regular energy cost control through bill auditing.

SERBIA: Serbian Network of Energy Managers (MEMS)

Serbian Network of Energy Managers (MEMS) was initiated by the Central European Forum for Development (CEDEF), with the support of key Government institutions. The MEMS is an important step towards establishing an adequate energy management function in Serbian cities and municipalities, public enterprises, but also industry. Various educational programs and events are organized for energy managers throughout the year. Awareness-raising campaigns and various EE/RE-related publications are also provided.

Best Practices of Public Private Partnerships and Private Sector Initiatives in the Area of EE and RE

BULGARIA: Energy Efficiency and Renewable Sources Fund

The **Energy Efficiency and Renewable Sources Fund** (EERSF) was established through the Energy Efficiency Act adopted by the Bulgarian Parliament in February 2004. The initial capitalization of EERSF is entirely with grant funds, its major donors being: the Global Environment Facility through the International Bank for Reconstruction and Development (the World Bank) - USD 10 million; the Government of Austria - Euro 1.5 million; the Government of Bulgaria - Euro 1.5 million and several private Bulgarian companies. EERSF is one of the most successful examples in the region.

EERSF has the combined capacity of a **lending institution**, a **credit guarantee facility** and a consulting company. It provides technical assistance to Bulgarian enterprises, municipalities and private individuals in developing energy efficiency investment projects and then assists their financing, co-financing or plays the role of guarantor in front of other financing institutions.

The underlying principle of EERSF's operations is a **public-private partnership**. The Fund pursues an agenda fully supported by the Government of Bulgaria, but it is structured as an independent legal entity, separate from any governmental, municipal and private agency or institution.

To date, 143 loans were provided through this facility, amounting to 39.8 million EUR. 79 loans were received by Bulgarian local governments-

BULGARIA: Integrated System for Monitoring Energy Consumption and Savings

Bulgarian Company Enersyst (www.enersyst.com) has a long track record of cooperation with local governments across Bulgaria. The company advocates for, and applies an "integrated approach to EE/RE", based on policy and strategy coordination at the local level and observance of a need to reduce energy consumption as a cross-cutting issue at all levels and sectors. A remote monitoring system of energy consumption and savings that this company has developed brings all energy consumers together and allows integrated data collection in real time. Such a model is now being introduced in the Municipality of Pernik – public buildings, lighting and transport consumption will be measured remotely, on daily basis. Such a monitoring system can also be considered as a planning tool, as it provides feedback on where the issues are, what areas need to be improved and what news solutions, interventions and projects need to be designed, in order to further reduce energy consumption and bring it closer to a desired level.

SLOVENIA: Central Heating on (Wood) Biomass in the Municipality of Semič

In the Municipality of Semič, Slovenia, the company ZARJA EKOENERGIJA (ZARJA KOVIS, Kamnik) has installed a central heating system and system for preparation of hot water which uses biomass as fuel. The project was funded under the Operational Programme of Environmental and Transport Infrastructure. Funds were obtained from the Cohesion Fund in the amount of 50% of eligible costs (the EU share 85% and 15% share of Slovenia).Heating system with renewable energy sources is placed in the local area which potentially covers 1,200 households in the municipality Semič and offers an environmentally friendly source of energy.

Central heating system Semič is a modern facility, which provides a clean, reliable and economical source od heat. The system consists of a central boiler, heat distribution systems – special pipes and units for heating and hot water which are installed in public buildings. The boiler room consists of two boilers (wood chips) that have power 1850 kW. Hot water storage tank, which gives the final power 2200 kW is used for reliable heat supply and power reserve.

The energy-generating product is natural wood biomass, which ensures that local forest owners who produce wood waste are involved in the supply chain. The Operator intends to include as many private users from the municipality as possible into the central heating system. The Operator also has an obligation to reduce energy consumption for a minimum of 10%.

The project has certainly been challenging in terms of building systems and logistics, as it is covers the area of the entire municipality. The preparation took about 1 year, and the construction about 7 months. Most of the investments referred to the central boiler system. The system is currently connected to 40 consumers, including all major municipal facilities and also private users, who have opted to take advantage of technologically sophisticated and clean biomass heating systems. The project is of great importance for the whole community.

SERBIA: Establishment of Pirot Energy – Company for Mini-Hydro Power Plant Construction

Municipality of Pirot, company "Tigar" and Italian company "Dekotra" have established joint company "Pirot Energy" for the construction of mini hydro power plants, in response to the needs for PPP in this area. Pirot has significant hydro power potentials and t. 58 locations have been identified by the Ministry of Energy, Development and Environment and the LG. 43 out of the 58 locations are in the Nature Park "Stara Planina", for which the Ministry needs to issue the permits. The rest of permits will be issued by municipalities.

SERBIA: Demonstration of Biomass Production Process for Kamena Gora Citizens

On September 15, 2012, the company *Jela Star* d.o.o. from Prijepolje demonstrated the process of biomass production from wood waste on Kamena Gora. The presentation was attended by approximately 50 inhabitants of Kamena Gora, wood owners from Majdanpek and Bor and members of civil society organizations interested in this topic.

SERBIA: The City of Vranje Partners its Private Sector for Pellet Production

The City of Vranje has established excellent cooperation with company SIMPO on pellet production.

It also hosts and supports a private investor of pellet and briquette production in the Business Incubator Centre.

Best Practices in Promotion and Awareness-Raising about Energy Efficiency and Renewable Energy

CROATIA: Establishment of EE Info Points

EE Info Points are operated by local and regional governments and serve as places for local promotional and public information activities for different target groups and the general public, such as: EE info days, thematic workshops, educative lectures, etc.

To date, **112 EE Info Points in 47 cities and 12 counties in Croatia have been established**. Annually, 30 different info-educational events are organised aiming to raise awareness, inform and educate citizens, along with 20 EE„think of tomorrow"school lectures in primary schools. Moreover, they are implementing regular studies on citizens' awareness on energy efficiency and the availability of energy efficient products on the market.

SERBIA: National Zero Emission Network

The National Zero Emission Network in Serbia was founded on October 4, 2010 in Čačak, under the patronage of the Ministry of the Environment, Mining and Spatial Planning. The Network was initiated in December 2008 by Dragana Oberst, founder of the Technology Transfer Centre South-Eastern Europe, Germany, within the framework of the One-Hundred German-Serbian Success Stories project, under the patronage of the President of the Republic of Serbia.

The national Network was developed according to the model of the Zero Emission Network of the Federal Republic of Germany, owing to the substantial support of its coordinators, the Institute for Applied Material Flow Management (IfaS) from Birkenfeld, and the Government of the Federal State of Rhineland-Palatinate (Rheinland-Pfalz).

The Serbian Zero Emission Network is the first of its kind in South-Eastern Europe and - after the abovementioned one which was founded in the Federal Republic of Germany - among the first national Networks worldwide. It was established as a non-government, non-profit association, registered in Čačak. The City of Čačak has been providing important logistics and manpower support during the initial period and throughout the first year after the Network´s establishment. Apart from the important scientific support provided primarily by the University of Belgrade (Faculty of Technology and Metallurgy) and University of Novi Sad (Faculty of Technology), an increasing number of cities, municipalities, scientific and educational institutions, development agencies, governmental and non-governmental organisations and citizens are joining the Network and actively contributing to its development.

MONTENEGRO: Info Offices for Energy Efficiency

Info offices for energy efficiency in Montenegro were opened in cooperation with the Directorate for Development of Small and Medium Sized Enterprises and GIZ. The main idea of this project is promotion of energy efficiency in Montenegrin municipalities through the existing network of business centers at disposal of the Directorate for Development of Small and Medium Sized Enterprises. Seven info offices for energy efficiency were opened within the existing Regional business centers (**Niksic, Berane, Cetinje, Bijelo Polje, Zabljak, Plav and Rozaje**) as a part of the previous cooperation (the following pictures are from Bijelo Polje and Cetinje).

Employees in these info offices are trained by GIZ to provide information on energy efficiency measures to small and medium sized enterprises and to citizens of the above mentioned 7 cities. Several round tables related to energy efficiency were organized in these cities.

BULGARIA: Best Practices –Manage Energy Award and Publication of Best Practices

The Association of Bulgarian Energy Agency Plovdiv has a very resourceful website, where it publishes very useful information in the area of EE/RE for various target groups. It also posts annual brochures with good practices in this area, following the Manage Energy Award contest.

Ms Liyana Adjarova, the Executive Director is a great supporter of RE projects. She would be willing to present their experiences and current efforts in promoting biomass use.

ManagEnergy annually rewards some of the most outstanding energy actions at the local and regional level with the **ManagEnergy Local Energy Action Award**. The main objective of the award is to acknowledge cases of good practice for their significant contribution to the promotion of energy efficiency and/or renewable energy use and for their strong potential for replication. The recognised projects are selected by a jury from the case studies submitted through an annual call.The most outstanding projects are promoted on the website as ManagEnergy good practice and are included in the ManagEnergy Good Practice Brochure.

BULGARIA: Black Sea Regional Agency for Energy Management (BSRAEM) – SEAP Support and Outstanding EU Project Preparation Capacities

The Black Sea Regional Agency for Energy Management was founded by the Union of Bulgarian Black Sea Local Authorities (UBBSLA). The UBBSLA cities and municipalities are among the most committed members of the Covenant of Mayors. So far, the BSRAEM has supported more than 20 municipalities in SEAP preparation. It is also one of the most successful energy agencies in Bulgaria in terms of projects won through various EU-funds for EE, including the Intelligent Energy Europe (ELENA), the Kozlodui fund, the FP7 facility, etc. Mrs Mariana Kancheva, the Chair of the Managing Board of the Agency, the lead of these efforts has expressed interest in holding a workshop, or another event at the Fair, to present SEAP concepts, methodology and challenges, as well as their experiences with EU-funded projects.

Replicable Energy Efficiency and Renewable Energy Projects and Models

CROATIA: Educational Modules for the Public Sector Related to Systemic Energy Management (SEM)

Various educational modules for the local governments' public sector need to be developed to include the following target groups:

- Mayors, district prefects, heads of the economy, finance, planning, energy, environment and utility services departments,
- Expert staff in various city and county institutions (engineers, technical staff),
- Technical staff in buildings (administrators, superintendents),
- EE teams and future EE teams,
- All employees.

The educational modules for the local governments' public sector can include:

- Introduction to Systematic energy management (SEM), goals, activities, purpose and obligations for authorized persons of all levels of responsibility, the purpose and obligations of the users with an emphasis on the Building registry including a module on Building registry establishment and an introduction to EMIS intended for all beneficiaries at the technical level,
- EMIS training to enable beneficiaries responsible for buildings in the public sector (such as technical staff in hospitals, administration personnel required for data entry, etc.) to use EMIS, enter data and monitor energy consumption which ensures early detection of problems and irregularities,
- A one-day course for technical personnel at the building level intended for building administrators and technical staff (superintendents) aiming to increase technical capacities for quality building maintenance and recommending investments for EE measures to authorized persons. The course consists of 4 technical units covering these topics: building envelopes, renewable energy sources, electricity and HVAC systems,
- An energy advisor course to ensure quality advice to citizens. It is intended for future advisors in the EE centres as well as public administration employees, and technical personnel who will propose investments or other measures for improving energy efficiency in their institutions. The course should include the following topics:
  - Thermal building protection,
  - Heating, ventilation and cooling,
  - Renewable energy sources in buildings,
  - Building energy audits,
  - Economics in energy,
  - Communication skills.

- The EE Office workshop for all employees and EE Office managers, to raise awareness and motivation for responsible behaviour in the office,
- The EE Office Public Procurement workshop, to educate personnel in public procurement (cities, counties, departments for procurement and finance) on how to discover ways and fields in which green and sustainable criteria can be introduced.

In order to achieve the complex implementation of a systematic energy management (SEM) process, it is still necessary to actively support and encourage cities and municipalities to start or to continue with the implementation of systematic energy management (SEM) activities.

The following workshops are annually organized in Croatia: seminars, round-tables, Info days and other Info-educational and promotional events in cooperation with local self-government units:

- Implementation of at least 2 courses for EE advisers,
- Implementation of 5 to 10 EMIS basic workshops for the EE team,
- Implementation of 10 to 15 EMIS basic workshops for beneficiaries,
- Implementation of up to 30 advanced EMIS workshops,
- Implementation of up to 10 workshops about the methodology of analysis and interpretation of energy consumption and key laws and regulations,
- Supporting EE teams in organizing Motivation and Awareness workshops for EE Offices.

Retrofits through Local Energy Service Company (ESCO)

The best way to implement a Building Retrofit Program on a local area is to establish an ESCO owned by the local authority and acting as an implementing body. This is the most suitable model where the ESCO's function is focused upon matters of social, economic or environmental well being, and where commercial considerations of making profit are secondary. Energy reconstruction of buildings is, thus, carried out in buildings owned by local governments, particularly hospitals, health centers, schools, kindergartens and administrative buildings, and in residential buildings - private houses and multistory buildings, in cooperation with the building manager. Energy efficiency improvement measures that should be implemented include:

- Replacement of indoor lighting,
- Replacement of existing and installation of new energy efficient exterior doors,
- Installation of thermal insulation and roofing membrane,
- Installation condensing boilers and renovation of existing chimneys,
- Replacement of oil boilers with gas and biomass boilers,
- Installation of thermostatic valves,
- Installation of solar thermal systems for domestic hot water preparation,
- Installation of heat pumps in heating systems.

With the local ESCO, obstacles in applying the ESCO model contracting through an *energy performance contract* would be removed, such as:

- Long contracting period for large energy building renovation requires favorable financing sources,
- Insufficient number of companies specialized in the provision of energy services, dependence on the ESCO market development,
- Lack of financial sources for commercial ESCO companies at the market,
- Lack of experience of financial institutions in financing energy efficiency projects.

Also, the local ESCO allows application of smaller-scale energy efficient measures to the refurbishment of buildings that are not cost-effective, but require financing and buildings that are culturally protected monuments or listed in a historically protected zone.

Energy Performance Contracting can account for the refurbishment of more than 50 buildings annually, with a total area of over 200,000 m2, which would:

- Decrease energy expenditure by 60%,
- Reduce CO2 emissions by 5,000 tons per year,
- Launch an investment of approximately 40 million euro annually.

CROATIA: Construction of Low-energy Apartments as a Social Housing Model

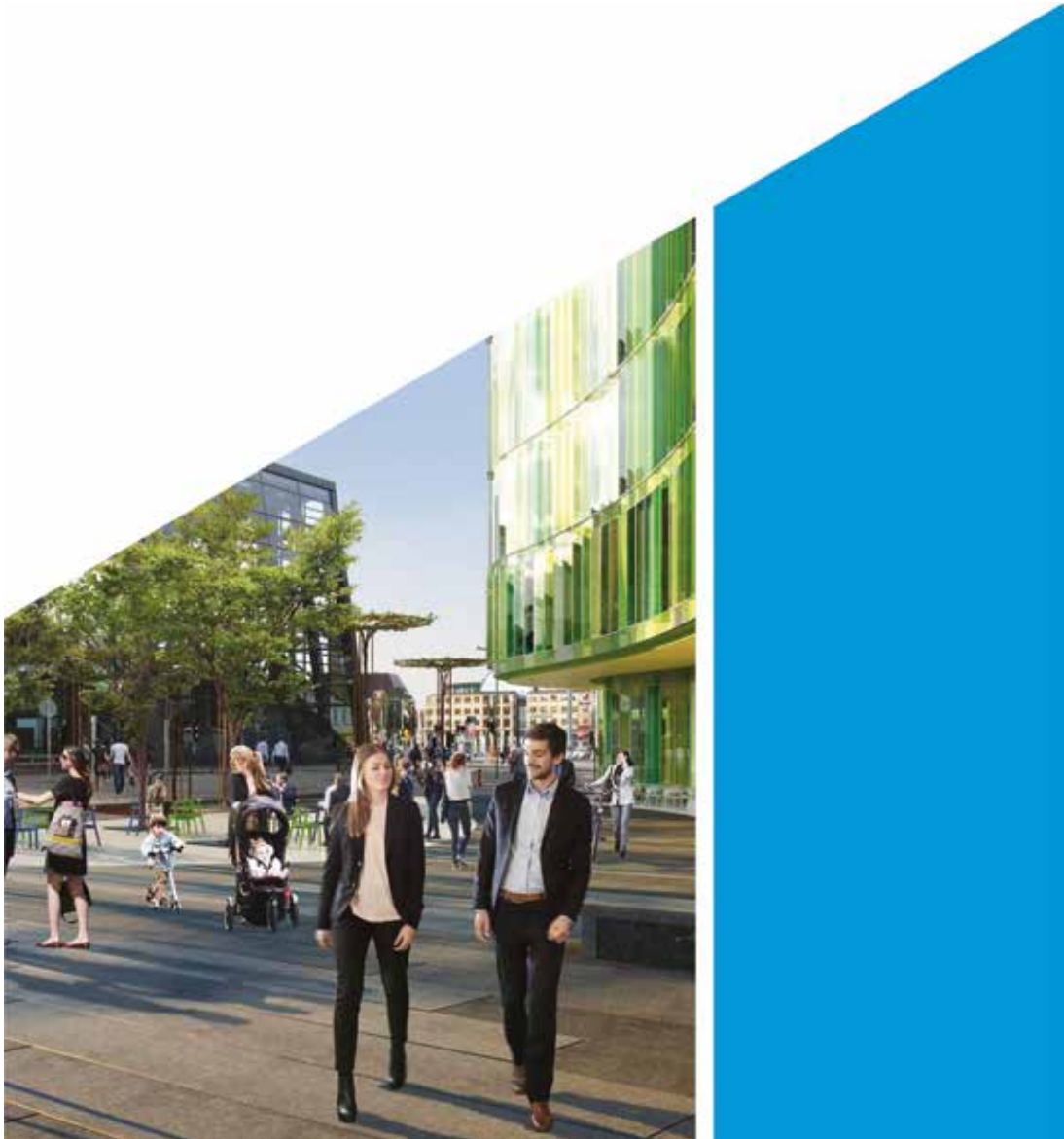
Responsible use of natural resources is now an imperative that must be met at all levels, from individual, through organizations, local communities and the state, to international and global community. But responsibility first of all must be initiated at the local level, because it is the closest to the people, and has greater impact on their personal choices and behavior models. Therefore, the activities must be primarily focused on sustainable urban planning and land use, energy efficiency, renewable energy, efficient water use, sustainable waste water management, sustainable transport and the consequent reduction in greenhouse gas emissions.

Low energy dwellings meet the need for housing of young families, poorer and disadvantaged populations, who stand out as the main development priorities and challenges. Over 20% of the population in the cities faces such a challenge today. Such a solution also delivers an answer to the demographic problem of population decline, particularly those of working age. A lack of adequate housing and development opportunities related to education is reflected in a decreased population level in the past decade in most cities across Croatia. Therefore, cities must focus its development concept on offering a higher quality of life.

Construction of low-energy apartments as a social housing model starts in partnership with the city; city subsidized housing agency and the private sector. The aim is to build a residential building in which the a square meter of living space costs less than a thousand euros per m2 of net usable area, along with high energy efficiency standards. The city should abolish local fees in this building, and help its successful implementation in that way. Also, the city provides mortgage guarantees to prospective tenants with banks, taking into account the financial constraints of young people and other vulnerable groups of citizens. This partnership model has shown that low-energy buildings do not need to be more expensive than traditional buildings, and thus eliminates the bias of the high initial cost of energy-efficient construction.

The City of Koprivnica in Croatia has decided to build a "green neighborhood" with low-energy residential buildings as a demonstrative example of sustainable local development. The first "green neighborhood" buildings were built in the period from 2010 to 2012. The first two low-energy buildings, out of seven planned, have the highest energy class - A + (passive house) as a residential building with 28 apartments. They include the first passive house in Croatia, and also the first passive buildings constructed on the model of state-subsidized housing scheme. The housing price per 1m2 is 1,000 euros. Funding for housing construction Agency is obtained under the provisions of the Act on Subsidized Residential Construction and the project is carried out in close cooperation with local designers and contractors. The City of Koprivnica has given up the collection of municipal fee in 100% of the amount. An average low energy apartment (60 m2) has a total monthly cost for heating and cooling between 50 and 60 euros, while the total cost (including the consumed water, cooking gas and electricity) is around 100 euros, which is a proof of an exceptionally high quality and saving housing. Built apartments were sold instantly and the City is currently developing new ones.

http://udruga-gradova.hr/Default.aspx?art=372(A similar larger-scale initiative exists in Stockholm – "Green City" in the settlement Hammarby Sjöstad.

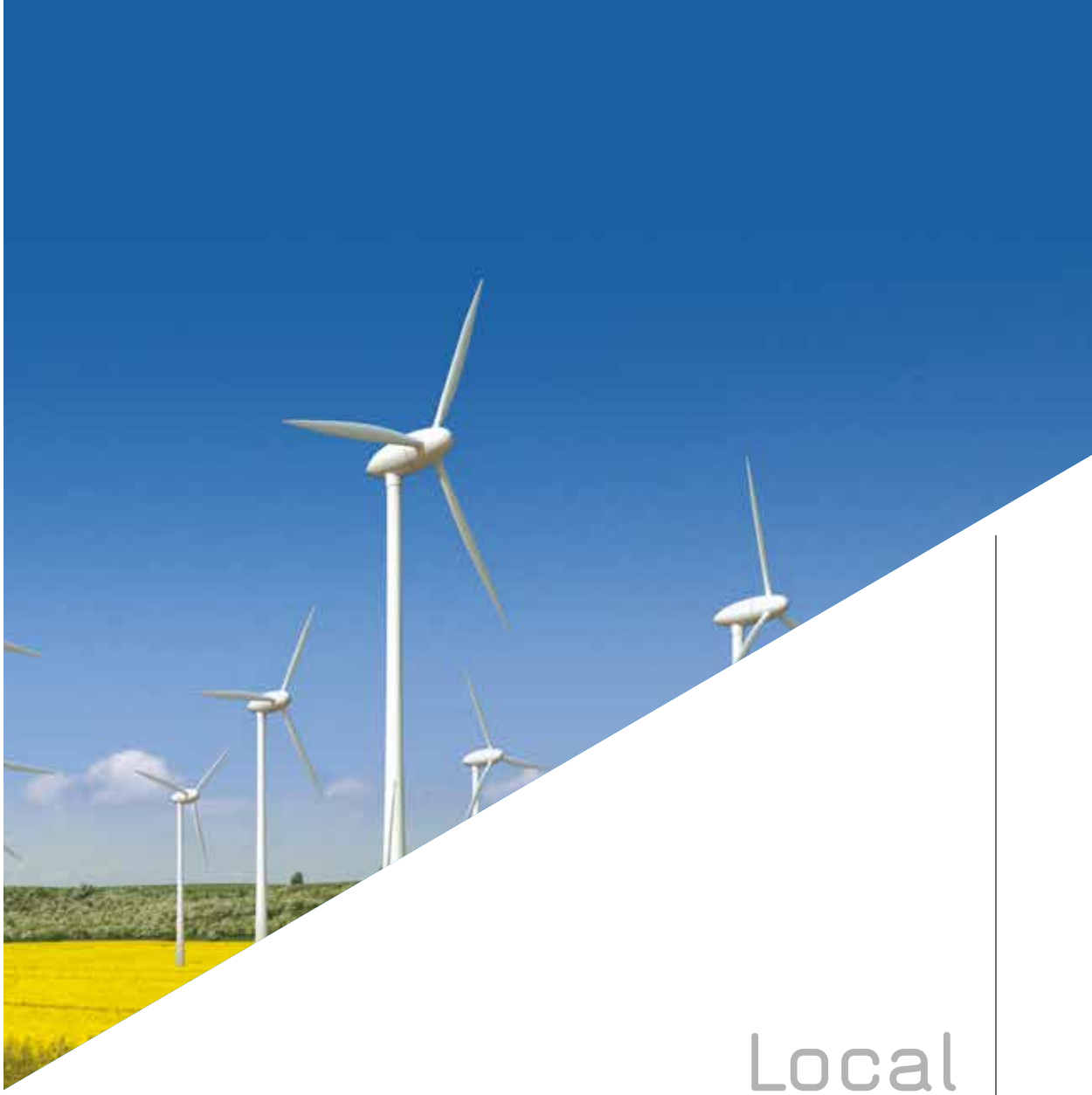


Regional Catalogue of Local Government Projects and Company Profiles

This Catalogue presents information collected during the implementation of the Needs Assessment. The information is presented as submitted by local governments and companies and they are solely responsible for their content.

NALAS International Municipal Fair

where ideas come to meet



nexpo

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Local Government Projects

The City of Trebinje
Bosnia and Herzegovina

Contact details

Country	Bosnia and Herzegovina
City/Municipality	Trebinje
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Telephone	+387 59 274 400
Web address	grad@trebinje.rs.ba
Contact Name	Milan Grubac
Position	Consultant of Mayor
Email	grad@trebinje.rs.ba
Key facts about city/municipality	
Population	36 000 inhabitants
Geographic data	The Republic of Srpska, East Herzegovina, 904 km^2, South-East
Key Strategic Documents	Sustainable Energy Action Plan, http://www.eumayors.eu/about/signatories_en.html?city_id=2297

Brief Description of Municipality and strategic framework for EE and RE

Trebinje is the most southern town of the Republic of Srpska and Bosnia and Herzegovina. It is situated in the Trebišnjica river valley at the borders of three countries - BiH, Montenegro and Croatia. The altitude of the urban area of the city is about 275 m. Trebinje is located at the important crossroad. Due to its climatic conditions and abundant precipitation, the area of Trebinje city is the richest water area in the Balkans and Europe. The largest water resource represents a catchment area of the Trebišnjica river that includes 4,457 km2, which was explored in detail. The area of Trebinje city belongs to the Mediterranean climatic zone. The average annual number of sunny days is about 260, which makes this area very suitable for installation of photovoltaic cells for electric power generation. The area of Trebinje city belongs to the areas of moderate values of average annual wind speed, which is around 4 m/s at a height of 50 m. The main strategic framework for EE and RE is Sustainable Energy Action Plan. Priority activities of the SEAP are in sectors: spatial planning, buildings, transport, renewable energy sources, public lighting and waste management and waste water treatment.

Project Title	**Improving energy efficiency of public lighting**
Sector	Public lighting-equipment/facilities
Reference to strategic document:	Sustainable Energy Action Plan, Item 1.4.2 - Installation of new LED lighting models
Expected implementation timeframe (from-to)	Pilot project from the beginning of 2012 to the end of 2013 Timeframe by the Action plan is from 2012 to 2020
Estimated project investment costs	Cost of pilot project 75.000,00 EURO Estimated project investment cost by the Action plan is 500.000 EURO
Expected sources of financing	Pilot project budget of The City of Trebinje and donation USAID and UNDP Expected sources of financing 1.4.2. activity from the Action plan: Facilities owners, private and public companies, organizations, donors etc.
Expected energy savings (MWh/a)/ expected renewable energy production as an outcome of project actions (MWh/a)	Expected energy savings of pilot project are 115,43 MWh/a Expected energy savings of activity 1.4.2 from the Action plan 69,08 MWh/a
Expected CO2 reduction of project actions (t/a)	Expected CO2 reduction of pilot project actions 95,92 t/a Expected CO2 reduction of project actions 1.4.2 from the Action plan are 402 t for period of 2013-2020 or 57,41 t/a

Brief description of the project key actions

The existing solutions for the public lighting system management in most cases carry features of systematic and technical solutions that were used in this technique twenty or more years ago. Such solutions and the very public lighting status and its systematic lack of definition resulted in:

- development and expansion of the system without concept,
- partially solving of problems from case to case,
- heterogeneity of light-technical, control and switching gear,
- neglect of analyzing and monitoring of public lighting efficiency,
- rationalization of electric power consumption reduced to exclusions,
- neglect of repairs and failure resulting in waste of energy,
- lack of interest of the system owner for public lighting quality improvement,
- random installing of pillars without care whether they disturb residents and whether efficiently illuminate public areas and outer parts of buildings.

By insight in the existing state of installations and equipment, the following can be concluded:

- light sources are obsolete because of low light utilisation, so electric power consumption at power supply of these installations is too big,
- the equipment is outdated, inefficient, and proper maintenance is impossible due to lack of spare parts,
- Illumination and brightness of the observed areas are extremely bad (by intensity and equality) and do not meet minimal requirements of official regulations and recommendations.

The main aim of the project is to decrease electric energy consumption of public lighting, and in the same time emission of CO_2. We are planning to do that with replacing old mercury lamps with energy efficiency LED or natrium lamps. In the same time we will decrease light pollution.

Project Title	**Improving energy efficiency by heating and cooling municipal and tertiary buildings with water-water heat pump**
Sector	Buildings/plants, installations and industry
Reference to strategic document:	Sustainable Energy Action Plan, Item 1.2.3 - Installation of more energy efficient appliances for heating and cooling
Expected implementation timeframe (from-to)	Timeframe by the Action plan is from 2012 to 2019
Estimated project investment costs	Estimated project investment cost by the Action plan is 2.400.000 EURO
Expected sources of financing	Expected sources of financing 1.2.3 activity from the Action plan: Facilities owners, private and public companies, organizations, donors etc.
Expected energy savings (MWh/a)/ expected renewable energy production as an outcome of project actions (MWh/a)	Expected energy savings of activity 1.2.3 from the Action plan 548 MWh/a
Expected CO2 reduction of project actions (t/a)	Expected CO2 reduction of project actions 1.2.3 from the Action plan are 171,42 t/a

Brief description of the project key actions

Existing heating and cooling systems of public and business facilities at the territory of Trebinje Municipality were constructed at the beginning of 70th of last century. They are generally based on usage of fossil fuels. Utilization of these heating systems has environmental, as well as economic implications. Constant deficiency of financial means required for procurement of energy generating products and maintenance of the existing systems enforced the users to utilize the systems in reduced capacity, which resulted in electricity consumption increase, since they had to additionally heat the rooms. Such occurrence is hardly controllable. Analysing existing equipment and current necessities for cooling and heating energy leads to conclusion that it is environmentally unfriendly, does not meet current energy necessities and is unprofitable in terms of financing. Wishing to find adequate solution, analysis of various heating systems has been done. It has been found that use of the water-to-water heat pump guarantees sufficient quantity of heat with the lowest extent of energy generating products consumption. This is supported by fact that the Trebisnjica River is running through Trebinje providing sufficient heat during whole year. This project would reduce energy generating product consumption, CO2 emission and move the heating quality to higher level.

Gračanica Municipality
Bosnia and Herzegovina

Contact details

Country	Bosnia and Herzegovina
City/Municipality	Municipality Gračanica
Address	Mula Mustafe Bašeskije 1, 75320 Gračanica
Telephone	+387 35 700 805, +387 35 700 806
Web address	http://www.opcina-gracanica.ba
Contact Name	Džana Sokolović
Position	Mayor's advisor for local economic development and EU integrations
Email	dz.sokolovic@opcina-gracanica.ba
Key facts about city/municipality	
Population	58.926 inhabitants
Geographic data	Northeastern Bosnia and Herzegovina, Tuzla Canton, 219,5 km^2
Key Strategic Documents	Strategy for local development of Municipality Gračanica (2011-2020) http://www.opcina-gracanica.ba/index.php/bs/uprava/dokumenti/category/31-poduzetnistvo-lokalni-razvoj-i-finansije.html Capital investments programme (2010-2014) http://www.opcina-gracanica.ba/index.php/bs/uprava/dokumenti/category/31-poduzetnistvo-lokalni-razvoj-i-finansije.html Local environment action plan LEAP (2012-2017) http://www.opcina-gracanica.ba/index.php/bs/uprava/dokumenti/category/31-poduzetnistvo-lokalni-razvoj-i-finansije.html

Brief Description of Municipality and strategic framework for EE and RE

Gračanica Municipality is in the range of mid-developed communities. Economical structure is formed by 500 private and public companies and around 700 independent shops. In 2006, Municipality Gračanica launched the district biomass heating project, a pilot project in Bosnia and Herzegovina. Today, six years later, 80% of the urban part of Gračanica Municipality is covered with the district heating network, as well as all of the public buildings. Municipality Gračanica established LEAP in 2012 and is making significant progress in municipal energy efficiency. Municipality Gračanica is also creating SEAP and implementing two energy efficiency projects funded by the EU and IPA funds.

Project Title	**100% of the Municipality Gračanica covered by LED lighting by 2017**
Sector	buildings, equipment/facilities, transport, local electricity production, local district heating/cooling, CHPs, land use planning, public procurement of products and services, working with citizens and stakeholders
Reference to strategic document:	LEAP (2012-2017) - Measure 2.3., pages 43-44
Expected implementation timeframe (from-to)	2012-2017
Estimated project investment costs	2.100.000,00 Euro
Expected sources of financing	Municipal budget Public-private-partnership Donor funds
Expected energy savings (MWh/a)/ expected renewable energy production as an outcome of project actions (MWh/a)	Expected energy saving 1094 MWh/a

Brief description of the project key actions

Replacement of traditional public lighting with the LED lighting. Gathering of donor funds, public procurement of goods and services, installment of new LED lighting in the municipal centre, as well as in the 24 other settlements. Study on the rationalization of consumption of the electricity and the public lighting for Municipality Gračanica is already adopted.
Installment of automatic mode management.

Maglizh Municipality

Bulgaria

Contact details

Country	Bulgaria
City/Municipality	Maglizh
Address	32, Treti mart, Sqr.
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Contact Name	Yanko Nikolov
Position	Coordinator
Email	ob_maglizh@mail.bg
Key facts about city/municipality	
Population	12 299 inhabitants
Geographic data	Region Stara Zagora, area of 385 km^2, central Bulgaria
Key Strategic Documents	Municipal Energy Efficiency Program 2010 - 2013 http://maglizh.com/images/programi_strategii/Obst.%20programa%20(1).pdf Programs for promoting the use of renewable energy 2010 -2015 http://maglizh.com/images/programi_strategii/programa_VEI.pdf

Brief Description of Municipality and strategic framework for EE and RE

The Municipality of Maglizh is located in the eastern part of the sub-Balkan Kazanlak valley an area of 385 km2. It occupies 7.55% of the territory of Stara Zagora and ranks among the medium size municipalities / 300 500 km2 /.
The Municipality of Maglizh formed on the basis of the settlement network consisting of 15 settlements. The town of Maglizh is the administrative center.

The climate in the Municipality of Maglij is transitional continental and continental.

Thought the land of the municipality flows the Tundja river, which is a potential area for the use of water as a source as a source of energy through hydropower.

On the territory of the Municipality of Maglizh is the mineral water "Yagoda", which contributes to the extraction of geothermal energy.

About 15% of the municipality is situated in the area of technology currently usable wind energy potential at an average speed of over 5m/sek, about 3% of the area of the municipality is situated in the windiest area with average annual wind speed over 7 m / sec.

Increasing renewable energy production is directly related to environmental protection. An important effect of their implementation is the reduction of greenhouse gases in the atmosphere.

The Municipality of Maglizh has a limited role as "Producer" and "Provider" of the energy heating in the single objects - municipal property. The most widely practiced in the municipality is a function of "User". It comes from municipal ownership of objects. The main item in the consumption of energy services for municipal buildings as: office buildings, buildings for education, health and culture and the street lighting system. Through a system of concrete measures to enhance the efficiency of energy consumption in municipal facilities here can be reduced the power consumption and energy costs, also the greenhouse gas emissions in the atmospheric air and to improve the quality of the environment in the municipality.

Energy costs take a significant part of the municipal budget. This requires a new approach in prioritizing actions on energy efficiency and energy-saving heating and lighting. The measures will be aimed at saving electricity and heat, which will not only reduce costs but also to keep the environment, which is one of the priorities of the Municipality.

Project Title	**Implementation of energy saving measures in municipal buildings through funding of „International Fund Kozloduy": 1. Kindergarten "Bell" - Maglizh 2. Basic school "Cyril and Methodius" – village Vetren, Municipality of Muglizh**
Sector	Energy efficiency in buildings
Reference to strategic document:	Municipal Energy Efficiency Program 2010 - 2013 Programs for promoting the use of renewable energy 2010 -2015
Expected implementation timeframe (from-to)	June 2013 – June 2015
Estimated project investment costs	198.908,93 Euro (032.05 Levs 389) without VAT
Expected sources of financing	Scheme for financing of „International Fund Kozloduy"
Expected energy savings (MWh/a)/ expected renewable energy production as an outcome of project actions (MWh/a)	383.49 MWh
Expected CO2 reduction of project actions (t/a)	113.78 tons of CO2 per year

Brief description of the project key actions

1. Kindergarten "Kambanka" - Maglizh

Envisaged that the following energy saving measures:

ESM 1 - It is envisaged the laying of insulation (EPS or similar) with 60 mm of the outer walls of the building in full detail in Table 1. Insulation is applied directly over the existing exterior plaster. On insulation runs coat with PVC grid and tiles and exterior plaster or facing the choice of architect. To provide activities "flipping windows" of insulation with a minimum thickness of 20 mm and laying of external plaster.

ESM 2 - It is envisaged the replacement of old windows of the building. To replace the windows entirely. To provide replacement PVC windows with a total heat transfer coefficient of PVC profiles and glass U summary ≤ 1,60 W / m2K.

ESM 3 - Installation of thermostatic valves envisaged that all radiators to be installed expansion valves for precise temperature control in the rooms. Thermostatic expansion valves are expected to be manually set.

ESM 4 - Replacement of the boiler is planned to replace the heat source in the building. Oil boiler is expected to be replaced with a pellet boiler. Pellet boiler is expected to be equipped with a hopper for automatic fuel. It is envisaged that the boiler is automatically controlled and weekly programmer to refine the coolant supply in the off-time of the building and to ensure the average volume decreases of temperature - 15 degrees.

Goal: It is Established a potential for reduction to an actually necessary heating costs by 41.53%, which is equivalent to 161,374 kWh / year with a total ecological equivalent emissions saved 50.19 tons CO2. After implementation of all ECM building will have a specific primary energy 273.00 kWh/m2y which will answer to the requirements of Class "C" and could obtain a certificate of category A.

2. School "Sv. Sv. Kiril i Metodii "- Vetren, Maglizh

Envisaged that the following energy saving measures:

ESM 1 – It is envisaged the laying of insulation (XPS or similar) 50 mm thick external walls of the building in full detail in Table 1. Insulation is applied directly over the existing exterior plaster. On insulation runs coat with PVC grid and tiles and exterior plaster or facing the choice of architect. To provide activities "flipping windows" of insulation with a minimum thickness of 20 mm and lying of exterior plaster.

ESM 2 - It is envisaged that the replacement of old windows of the building. To replace the windows entirely. To provide replacement PVC windows with a total heat transfer coefficient of PVC profiles and glass U summary ≤ 1,60 W / m2K.

ECM 3 - Replacing the Water heating installation and installing of thermostatic valves.

ESM 3 - It is envisaged that the replacement of the distribution network of the heating system, replacement of radiators, aluminum radiators, installing pumps with electronic control, installation of thermal insulation of piping in transit areas, provides on all radiators to be installed expansion valves for precise temperature control in the rooms. Thermostatic expansion valves are expected to have manual adjustment.

ESM 4 – It is planning the oil burner of the boiler to be replaced. The burner to be with automatic digital control for switched mode. It is envisaged that the burner will be automatically controlled and weekly programmer to refine the coolant supply in the off-time of the building and to ensure the average volume decreases of the temperature - 15 degrees.

Goal: It has the potential to reduce the actually necessary costs to heat of 45.34%, which is equivalent to 222,115 kWh / year with total ecological equivalent emissions saved 69.08 tons CO2. After implementation of all ECM building will have a specific primary energy 231.10 kWh/m2y which will meet the requirements of Class "C" and can obtain a certificate of category A.

Varna Municipality
Bulgaria

Contact details

Country	Bulgaria
City/Municipality	Municipality of Varna
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Contact Name	Desislava Tsvetanova
Position	Senior Expert Energy Management
Email	gamzakova@abv.bg; dtsvetanova@varna.bg;
Key facts about city/municipality	
Population	340 000 people
Geographic data	Southeast Europe, area in km2 – 353 000 , position in the country - Northeast
Key Strategic Documents	Municipal development plan 2007-2013; Integrated plan for urban regeneration and development; Strategy for sustainable energy development of the municipality of Varna 2012-2020 Action plan 2013-2020 etc. www.varna.bg; http://agup.varna.bg/

Brief Description of Municipality and strategic framework for EE and RE

Varna municipality is in the eastern part of the Danube valley on the Black Sea. Our city is 465 km. from capital Sofia and is the administrative, economic and cultural center of northeastern Bulgaria. In Varna are located international resorts, port and airport. The area of the municipality is 237 square kilometers, of which the city of Varna and the resorts occupies 80 square kilometers. Administrative - territorial division of Varna Municipality includes 6 districts. The population density of total area of the municipality is extremely high - averaging 1 430 people per km2, while the average for Bulgaria is about 70 people per km2. Our city is famous for its sea resorts of "Golden Sands", "Saints Constantine and Helena", located on the Black Sea and the best conditions for tourism. We have also many sightseeing, cultural events such as international film and ballet festivals.

In the context of decentralization and expansion of the power of local governments, municipalities are becoming a major role in the management of energy. Extremely serious are the EU directives on energy efficiency, low energy consumption, energy saving measures and renewable energy sources. Therefore, energy planning and securing energy independence is becoming a major component of the sustainable development policy of each municipality.

To achieve its objectives in the field of climate and energy, reaffirming its commitment to the new European requirements, Varna has undertaken the following initiatives that ensure its commitment to the sustainable development:

"Strategy for Sustainable Energy Development of the Municipality of Varna 2012-2020." and "Action Plan 2013-2020." After a thorough investigation of the situation in the municipality we have identified four priorities that will work till 2020. We tried they were sufficiently comprehensive and legally grounded in order to ensure all our purposes for energy efficiency and renewable energy.

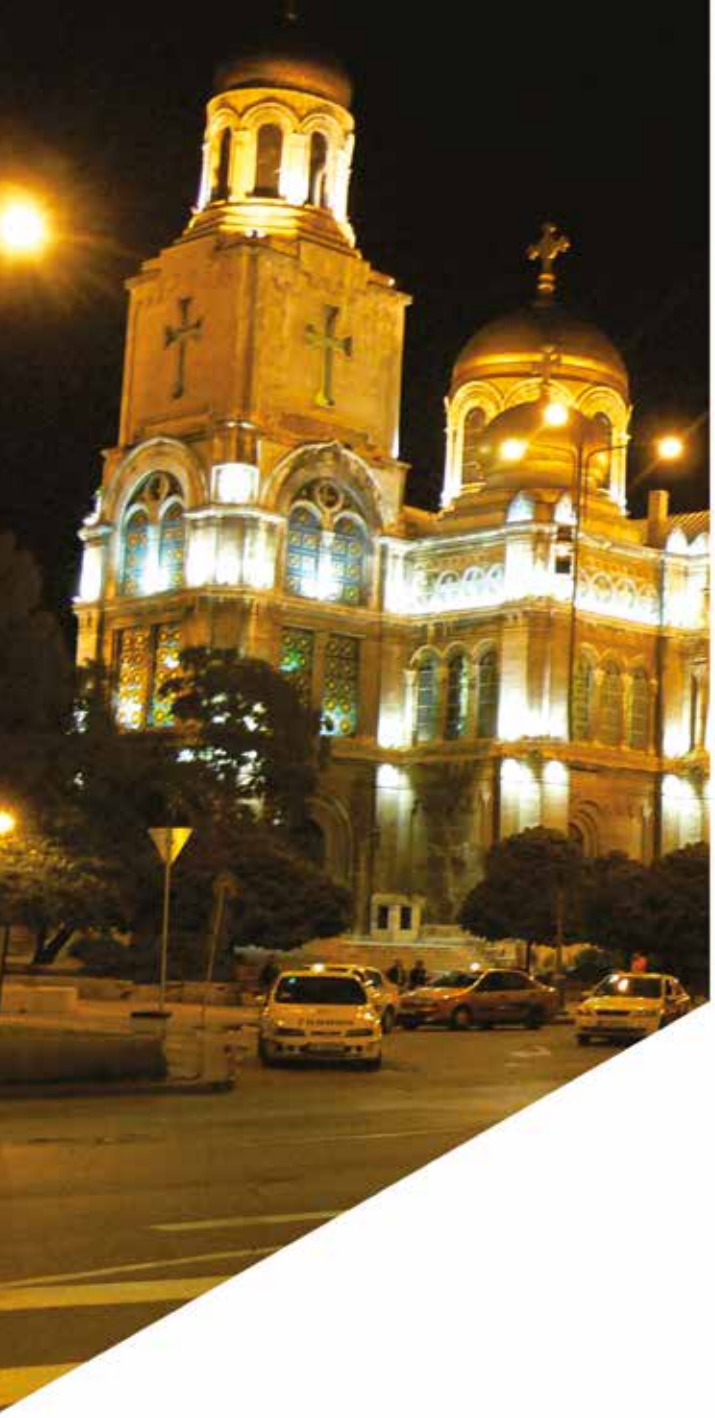
Priority 1 – Rehabilitation and modernization of the infrastructure, insuring conditions for sustainable growth and employment.
Priority 2 - Development of Sustainable Urban Mobility
Priority 3 - Increase the share of produced and consumed energy from renewable energy sources in the municipality of Varna.
Priority 4 – Increasing the management capacity of stakeholders and improve public awareness of energy efficiency programs, funding opportunities and the use of renewable energy.

Project Title	**Exploring the possibilities on the use of geothermal spring № P-119h, located in Therapeutic block, city of Varna and its use for heating Kindergarten "Nightingale", Kindergarten " Dove ", Kindergarten 14 and a primary school**
Sector	local district heating
Reference to strategic document:	Strategy for Sustainable Energy Development of the Municipality of Varna 2012-2020, Priority 3
Expected implementation timeframe (from-to)	It depends on contract and permissions
Estimated project investment costs	It depends on contract and permissions
Expected sources of financing	private, or public-private, or operational programs of European union
Expected energy savings (MWh/a)/ expected renewable energy production as an outcome of project actions (MWh/a)	reduce the consumption of oil and natural gas about 40%

Brief description of the project key actions

Provides for the use of geothermal water for heating of 3 kindergartens and one school in the municipality of Varna. For the project will be used the existing water supply network. It is currently being developed technical projects. Following the authorization by the competent authorities for the use of the source will be developed technical design.

Project Title	**Intelligent street lighting of Varna**
Sector	public services
Reference to strategic document:	"Strategy for Sustainable Energy Development of the Municipality of Varna 2012-2020", Priority 1
Expected implementation timeframe (from-to)	2013 - 2016
Estimated project investment costs	1.804.000,00 Euro
Expected sources of financing	KIDSF
Expected energy savings (MWh/a)/ expected renewable energy production as an outcome of project actions (MWh/a)	Saved electricity by 60-70 %, 3 800 (MWh/a)
Expected CO2 reduction of project actions (t/a)	2 650 000 CO2 (t/a)



Brief description of the project key actions

Description of measures in the project

1. Lowering the total electricity consumption. Reducing the cost of electricity bills and greenhouse gas emissions.

2. Improving service management, reducing operating costs, increase reliability of street lighting in the project scope.

3. Repeatedly shortening the time for locating faults in street lighting and removing them.

4. Improving traffic safety in the night by achieving the BS EN 13201-2 standard for the light environment in a system for automated management of street lighting.

5. Improving the quality and comfort of the light environment.

In the extended pilot project "INTELLIGENT STREET LIGHTING OF VARNA" will be covered all major streets of the city

Technical details:

The design concept was developed specifically for specifics and infrastructure of Varna, aiming at building a system for intelligent street lighting from high technological level, based on proven quality and reliability technologies for luminaires, control devices, communication environment, software and network security. The main optimization criterion is quality and reliability of the street lighting at maximum usability of the existing unmanageable street lighting system parts, which still have significant operational resource (poles, luminaires, cable network, etc..), infrastructure assets (minimum destruction and subsequent reconstruction of road and pavement) and introduction of new components with long lifetime, based on techno-economically viable design solution.

So the basic facilities will be upgraded in the most economical way to extend their service life and increased reliability of the infrastructure of the street lighting.

To achieve maximum effect in operational management and reduce operating costs, will be used hierarchical system of three levels - Lamp module, segment module, control center. This architecture dramatically reduces the time to locate and diagnose faults, the deadline for their removal and the relative costs of repair service. Increasing the quality of the light environment and improving traffic safety. To achieve the minimum construction works, a complete lack of destruction and recovery of expensive road and pavement, as well as highly reliable communication (and excluding the possibility of external intervention to low level), as the basic communication technology Level 1 - luminaire – segment, Powerline (LonWorks) communication on the main power cable segments will be used. Thus will be totally excluded the need for additional communication cables and the likelihood of terrestrial intervention. Communication channel between the Level 2 (segment) and Level 3 - Control and Information Center, will use modern, pervasive, reliable and high-security environments - Internet (TCP / IP) and WWAN (2G, 3G mobile networks). Software and hardware security system for intelligent street lighting, including the Control and Information Center will be built as an open system with the ability to cover the needs of the city.

Automated control system of intelligent street lighting in Varna will be based on LonWorks Open Protocol over Powerline and fully CENELEC EN-50065-1 and ANSI 709.2 compliant.

Real savings on electricity by 60-70%

Municipality of Gabrovo
Bulgaria

Contact details

Country	Bulgaria
City/Municipality	Gabrovo
Address	5300 Gabrovo 3 Vazrazhdane sq.
Telephone	+359 66 818 400
Web address	www.gabrovo.bg
Contact Name	Tanya Hristova
Position	Mayor
Email	gabrovo@gabrovo.bg
Key facts about city/municipality	
Population	64 545 inhabitants
Geographic data	Total area: 555.57 km2 Positioned at the heart of the country - where its geographic center is located Elevation: 392 m Semi-mountainous relief
Key Strategic Documents	Municipal Development Plan (2005-2013) http://www.gabrovo.bg/files/OPR_Gb.pdf

Brief Description of Municipality and strategic framework for EE and RE

The city of Gabrovo is situated in the North Central region of Bulgaria. Its central geographic location is a strategic advantage for developing the city as a key transport, economic and cultural center. It is one of the most important industrial centers in Bulgaria, with a favorable business environment, based on the implementation of proactive policies for accelerating economic growth, raising productivity and employment, and creating a favorable business environment by provision of incentives to local companies. Gabrovo Municipality is a pioneer in the implementation of energy efficiency projects since 1992, and is one of the Bulgarian municipalities with the greatest experience in the area of intelligent energy. Over the past 15 years the Municipality has been working efficiently towards improving energy efficiency. A major priority is the development of "green economy" through retention and expansion of local businesses and recruitment of new investments, to create a high GDP, based on knowledge and high technologies in terms of ecological environment with good quality of life. Gabrovo continues to have a relatively large share in final energy consumption. This practically means that there is significant potential about energy-saving effect through the implementation of energy efficiency projects which is very important for sustainable economic development in the municipality.





Project Title	**Rehabilitation, modernization, introduction of energy-saving measures and creation of accessible environment in the school "Tsanko Dyustabanov", incl. landscaping and redevelopment of school yard**
Sector	buildings, equipment/facilities
Reference to strategic document:	Municipal Development Plan (2005-2013)
Expected implementation timeframe (from-to)	2014 - 2015
Estimated project investment costs	750.000,00 EUR
Expected sources of financing	Operational Program "Regional Development"
Expected energy savings (MWh/a)/ expected renewable energy production as an outcome of project actions (MWh/a)	475,074 MWh/a
Expected CO_2 reduction of project actions (t/a)	238,5 t/a

Brief description of the project key actions

The aim is the building to meet the legal requirements for energy efficiency and to ensure normal working conditions and proper learning environment. Overall, the building needs replacing flooring, joinery, repairs and installations in all rooms. Additionally, adjacent territory (yard and playgrounds) the school is poor and there is a significant need of improvement.

Energy audit has been carried out for the building. Based on it, the investment project should provide all the necessary energy saving measures in the building and construction of accessible architectural environment. Project should include repair of all facilities, overhaul of existing plants and building new ones (fire alarm, video surveillance, etc.) and development of the adjoining yard areas of the school.

Project Title	**Rehabilitation, modernization, introduction of energy-saving measures and creation of accessible environment in the school "Cyril and Methodius", incl. development of garden areas**
Sector	buildings, equipment/facilities
Reference to strategic document:	Municipal Development Plan (2005-2013)
Expected implementation timeframe (from-to)	2014 - 2015
Estimated project investment costs	1.500.000,00 Euro
Expected sources of financing	Operational Program "Regional Development"
Expected energy savings (MWh/a)/ expected renewable energy production as an outcome of project actions (MWh/a)	369,213 MWh/a
Expected CO2 reduction of project actions (t/a)	132,5 t/a

Brief description of the project key actions

The aim is the building to meet the legal requirements for energy efficiency and to ensure normal working conditions and proper learning environment. An energy audit of the building has been performed in 2011. The results show that the existing conditions of the building specific energy consumption meets the energy class "E". The investment project should provide all the necessary energy saving measures in the building and construction of accessible architectural environment. The project should include repair of all facilities, overhaul of existing electrical plants and building new ones (fire alarm, video surveillance, etc.) as well as development of the adjoining open space/ yard areas of the school.

Project Title	Reconstruction of the building in the Municipal Center for Children "Radion Umnikov"
Sector	buildings
Reference to strategic document:	Municipal Development Plan (2005-2013)
Expected implementation timeframe (from-to)	2014 - 2015
Estimated project investment costs	500.000,00 Euro
Expected sources of financing	Operational Program "Regional Development"
Expected energy savings (MWh/a)/ expected renewable energy production as an outcome of project actions (MWh/a)	Expected around 300 MWh/a
Expected CO2 reduction of project actions (t/a)	Expected around 100 t/a

Brief description of the project key actions

The building is located at the very center of the city of Gabrovo and has had been used as a school in the past. The building has a cultural and historical significance, and its preservation and modernisation is crucial in terms of preservation the local heritage.

Reconstruction of the building from a school to a child center is necessary due to the identified local needs for providing appropriate and comfortable environment for the children of Gabrovo to develop their individual abilities in various fields. The perfect location of the building in the center of Gabrovo will enable the local community to organize various activities related to the development of interests, abilities and needs of children in science, technology, arts, recreation, etc.

The municipal center, building, once renewed and modernized, will offer a safe social environment for communication with and within the children, as well as a place for measures against the modern societal negatives to be employed. The number of children and students who will benefit from the renovated building of the center is estimated of over 5400. Building area is 575 m2 and the total area is 1725 m2. Since the area of the building is less than 1000 square meters, an energy audit has not been performed so far. Consequently, such is planned to be commissioned within the framework of the project so the building would achieve good standing of energy consumption in accordance with the requirements of the Energy Efficiency Act.

Project Title	Repair, modernization, introduction of energy-saving measures and creation of accessible environment in the House of Culture "Emmanuel Manolov" incl. development of adjacent areas
Sector	buildings
Reference to strategic document:	Municipal Development Plan (2005-2013)
Expected implementation timeframe (from-to)	2014 - 2015
Estimated project investment costs	3.000.000,00 Euro
Expected sources of financing	Operational Program "Regional Development"
Expected energy savings (MWh/a)/ expected renewable energy production as an outcome of project actions (MWh/a)	1536,265 MWh/a
Expected CO_2 reduction of project actions (t/a)	3147,80 t/a

Brief description of the project key actions

House of Culture "Emmanuel Manolov" is among the most significant developments in the cultural infrastructure of the city and the need for major repair and modernization of the building has been identified before. Construction of the building was completed in 1964, turning it intone of the most significant architecture achievement in Gabrovo Municipality. Located in the very center of Gabrovo and surrounded by hill, it creates an impressive visual effect.

House of Culture "Emmanuel Manolov" is one of the landmarks of Gabrovo and is a center of arts and culture. It hosts various cultural shows (opera, symphony, ballet, musical and dance performances, theaters, guest orchestras, etc. The building is a public municipal property with built up area - 2060 m2 built-up area - 6 015 m2.

Heating system of the building does not function and this is a major problem for the full exploitation of the building. An energy audit of the building has indicated serious violations of sanitary - hygienic standards for thermal comfort. Expected results of the intervention should include energy saving measures and provision of accessible architectural environment. There is also a need for upgrading and modernization of audiovisual equipment and facilities. The project should provide the necessary home remodelation and renovation of all rooms, including the stages and the main audience hall, with a view to modern requirements to such type of sites.

Municipality of Burgas – The City of Burgas

Bulgaria

Contact data:

Country	Bulgaria
City/Municipality	Municipality of Burgas
Address	26 Alexandrovska Street, 8000 Burgas, Bulgaria
Phone	+ 359 56/907 270
Web address	http://www.burgas.bg
Contact person	Atanaska Nikolova
Position	Deputy mayor "European policies, environement"
E-mail adresa	a.nikolova@burgas.bg
Key facts about the municipality	
Population	200 271 inhabitants
Area	253,644 km^2
Key strategic documents	The Municipal Strategy for Sustainable Energy Development (2011-2020) Local Sustainable Action Plan –SEAP (2011-2013) http://www.sustainable-now.eu/fileadmin/template/projects/sustainable_now/files/Summary_Burgas_LEAP_Final_EN_01.pdf

Short description of the municipality and its strategic framework for EE and RE

The city of Burgas is the fourth-largest city in Bulgaria. It is located in the western part of the Burgas Bay, surrounded by three lakes. Burgas has the biggest port in Bulgaria and international airport. Beaches, bio-climate and forest resources, mineral waters, curative mud and protected natural territories, combined with exceptionally various cultural placard, are potential for development of all contemporary forms of tourism in the Municipality of Burgas: sea, ecological, spa, cultural, religious, festival, congress, etc

Sustainable development is one of the main priorities of the Municipality that has signed the Covenant of Mayors, a "mainstream European movement involving local and regional authorities, voluntarily committing to increase energy efficiency and use of renewable energy sources on their territories. The municipality implements EU sustainable environmental policy in connection to reduction of CO2 emissions and waters and soils pollution, improvement of air quality and wastes management, introduction of energy efficiency measures and stimulating public ecological behavior. BURGAS MUNICIPALITY STRATEGY FOR SUSTAINABLE ENERGY DEVELOPMENT 2011 - 2020" and "ACTION PLAN 2011 – 2013 had been adopted by the Municipal Council. Burgas Municipality has a significant experience in implementation of energy efficiency measures and renewable energy technologies in public buildings, sustainable transport and environmental protection.

Name of the project	**"Bicycle city- a model of modern urban mobility"**
Field	Sustainable urban mobility and energy-efficient alternative transport modes
Connection with strategic document	PRIORITY 2: DEPELOPMENT OF SYSTEMS FOR SUSTAINABLE URBAN MOBILITY Specific objective 2.3.:Promote alternative modes and a new behavioral approach for urban mobility
Expected time for completion of the project (from – to)	01.03.2012-01.08.2013
Estimated value of the project	97.617,00 Euro
Expected source of financing	The Small Grants Programme of the Global Environment Facility
Expected energy savings (MWh/a) / Expected production of renewable energy as the result of the project activities (MWh/a)	N/A
Expected reduction of CO2 emission as the result of the project activities (t/a)	The project promotes and supports energy efficient, low-carbon transport at community level and is calculated to reduce the CO2 emissions by 500 tons on a yearly basis. In the long term the project will assist the fight against climate change through expansion, upgrade and multiplication of good practice for the use of bicycle as a means of daily transport in urban environments.

Short description of key project activities

The project "Bicycle city - a model of modern urban mobility" introduces the first Bulgarian public rent-a-bike system. The system encompasses 12 rent-a-bike stations hosting a total of 120 bicycles located within various urban zones and residential areas. The project promotes and supports energy efficient, low-carbon transport at community level and is calculated to save 500 tons of CO2 emissions a year. In the long term the project will assist the fight against climate change through expansion, upgrade and multiplication of good practice for the use of bicycle as a means of daily transport. Through the introduction of the rent-a-bike service the pilot system encourages bicycle use not only for sport and leisure, but also for daily transportation .Providing safe, easy, fast, inexpensive, green and energy-efficient transport mode further enhances intermodality and accessibility of central administrative and recreational city areas from peripheral and residential zones, while simultaneously works toward improving climate and environmental conditions in the city. The project aims to promote and establish cycling as an urban public transport mode preferred by all and integrated in the transport scheme of the city.The software of the system provides an easy and fast access to it for tourists as well.This contributes directly to the promotion and support of energy efficient, low carbon public cycling transport which drops the number of car users, reduces the CO2 emissions by 500 tons on a yearly basis, alleviates the problems with traffic congestion and parking in central areas, improves accessibility, comfort and quality of transport services in the city. The project is part of Municipality's consecutive policy of reducing carbon dioxide emissions through the introduction of measures for energy savings in the private and public sector, deployment of renewable energy technologies and development of infrastructure, contributing to the use of alternative forms of transport.

Project Title	**PassREg**
Sector	(buildings, local district heating/cooling, CHPs, land use planning, public procurement of products and services, working with citizens and stakeholders)
Reference to strategic document:	Municipal Regional Plan for Sustainable Development 2007-2013
Expected implementation timeframe (from-to)	May 2012 – May 2015
Estimated project investment costs	50.000,00 Euro
Expected sources of financing	EU programme IEE
Expected energy savings (MWh/a)/ expected renewable energy production as an outcome of project actions (MWh/a)	
Expected CO2 reduction of project actions (t/a)	

Brief description of the project key actions

PassREg aims to trigger the successful implementation of Nearly Zero Energy Buildings (NZEBs) throughout the EU, using Passive House supplied as much as possible by renewable energies as the foundation.

PassREg Background

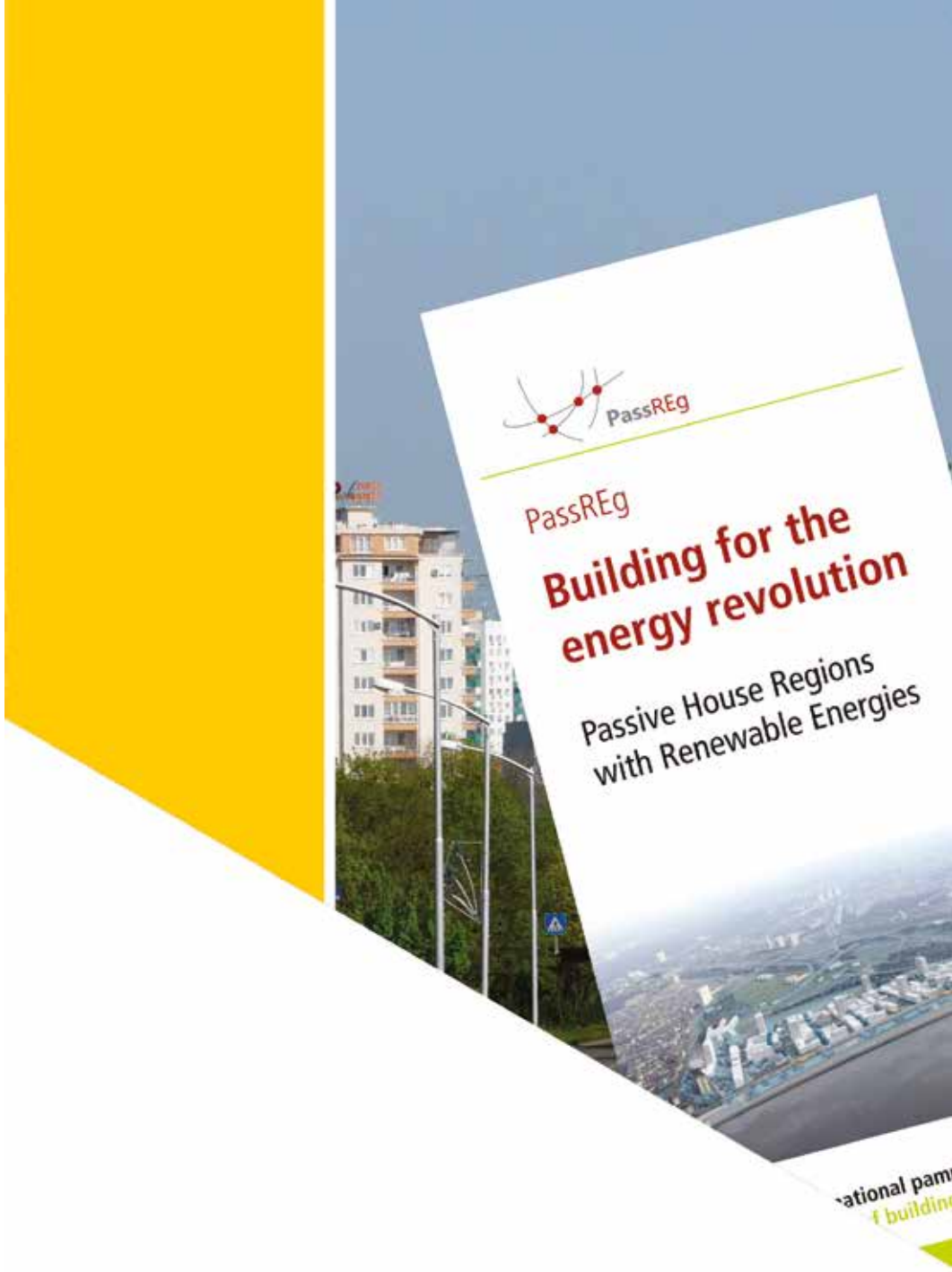
Several European municipalities/regions are already committed to energy efficient Passive House principles (dictating maximum heating and cooling demands of 15 kWh/(m^2a) each in new builds) and to covering the very low remaining energy demand in these buildings, to a significant extent and where logical, by energy from renewable energy sources. Along with other best practice examples, the experiences from these front runner regions, or PassREgs, will help pave the way for other EU regions to achieve the targets set out in the EU's Energy Performance in Buildings Directive (EPBD) by 2020.

PassREg Methodology

This project is thus based on European regions/municipalities that either are already PassREg regions or are striving to become such regions. Through PassREg, the front runner regions that have already implemented successful, cost effective strategies will be optimized and made visible. Based on the lessons learnt within the project, useful parts of their models, the mechanisms in place promoting and supporting the implementation of PassREg concepts, will be adapted and implemented in the aspiring regions, less advanced partner regions that are striving to become front runners. Beacon projects, real construction and refurbishment projects built in accordance with Passive House and supplied by renewable energy where sensible, will round out the project, providing concrete case studies that will shed light on how each model promotes progress. Regions associated with consortium partners not yet fully ready to commit to a model but often with a beacon project already also contribute to the development of project goals.

To facilitate EU-wide uptake, infrastructure will be strengthened by supporting the availability of qualified materials, products and professionals on regional markets and by optimizing existing Passive House building and component certification criteria for application in various EU climate zones. The experiences taken from participating regions along with lessons learnt from the project's beacons will figure into a set of solutions that will make best practice accessible across the EU.

Supported by newly strengthened infrastructure, the optimized existing and new front runner regions and the resulting set of solutions will serve to advance the uptake and large-scale creation and optimization of further PassREgs throughout the rest of Europe well in line with the EU's 2020 goal.



Chepelare
Bulgaria

Contact details

Country	Bulgaria
City/Municipality	City municipality Chepelare
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Web address	http://www.chepelare.org
Contact Name	Todor Bozoukov
Position	Mayor
Email	mail@chepelare.bg
Key facts about city/municipality	
Population	7762 inhabitants
Geographic data	375 km^2
Key Strategic Documents	Development strategy of city municipality of Chepelare (2007-2013), http://chepelare.org/?page=pages&pid=4

Brief Description of Municipality and strategic framework for EE and RE

The Municipality of Chepelare has a total population of around 7762 people with 5 486 in the city itself and the rest spread out amongst 10 smaller surrounding villages. It is located 230 kilometers from the capital of Bulgaria , Sofia , 80 kilometers from Plovdiv (the second largest city in Bulgaria) and 22 kilometers from the district center of Smolyan. The average elevation of the area is 1200 meters above sea level. The territory of the municipality covers 375 square kilometers of which 73% are forests, 14% are flatlands and meadows and 11% is agricultural land. On the remaining 2% of the land are located 10 habitable places. The ratio of the population that lives in Chepelare itself to the villages is 65:35 and thousands of tourists from across Bulgaria and abroad visit the area during the winter and summer each year. Climate wise Chepelare is one of the sunniest cities in Bulgaria with 270 sunny days a year and an abundance of snow in the winter. The area gets between 30 and 80 centimeters of snow annually which tends to remain for 80 to 100 days.

Project Title	**Street lightening in Chepelare and Pamporovo, Municipality of Chepelare**
Sector	Public lighting
Reference to strategic document:	Development strategy of city municipality of Chepelare (2007-2013), part 2.4, Area: Energy infrastructure, ICT and Environment;
Expected implementation timeframe (from-to)	12 motnhs
Estimated project investment costs	219.907,30 Euro
Expected sources of financing	Kozloduy International Decommissioning Support Fund, Operation 5: High-priority projects for energy efficiency for municipal street lighting.
Expected energy savings (MWh/a)/ expected renewable energy production as an outcome of project actions (MWh/a)	1,27 KWh_{el} / year / € Saved / produced electricity per unit invested grant, calculated for the same services
Expected CO2 reduction of project actions (t/a)	0,87 CO_2 / year / € Reduced CO2 emission per unit invested grant

Brief description of the project key actions

The main purpose of the project is realization of a package of technical measures that reduce the costs of the municipality for electricity of the street lightening.

Energy efficiency audit of Municipality of Chepelare is based on optimization of the work of the street lightening in the municipality and includes replacement of the existing street lightening with high pressure sodium lamps (hpsl) and high pressure mercury lamps (hpml) with new energy efficient LED lightening systems, as in this way the power is reduced to realize energy savings and the quality of public lightening is improved.

The aim is the reconstructed lightening to obtain high positive score, to have good vision, contributing to the development of the municipality in new way, making the most of the good European practices in the construction and operation of public lightening.

In the past few years LEDs developed and continue to develop. From device of indication in electronics they transformed in source of light with the greatest potential for development in the next years. Almost at all the engineering lighting forums (exhibitions, international conferences and seminars) are presented street and park lightings, designed on the base of LEDs. No doubt that the main light source, used in street lightening, will be the LEDs.

With the introduction of LEDs to the street lightening are opened new opportunities and are created preconditions for realization of ideas that till the present moment with the conventional light technique were impossible to achieve technical – economic indicators that are significantly better than those of the conventional street lightening.

70W sodium lamps are replaced with 24 W LED modules. In this situation the losses in throttles decrease from 14 W to 3 W.

Project Title	**Municipal Children's complex - Chepelare**
Sector	Municipal buildings
Reference to strategic document:	Development strategy of city municipality of Chepelare (2007-2013), part 2.4, Area: Energy infrastructure, ICT and Environment;
Expected implementation timeframe (from-to)	4 months
Estimated project investment costs	144.155,60 Euro
Expected sources of financing	Kozloduy International Decommissioning Support Fund, Operation 3: high-priority project facility for energy efficiency for municipal buildings for the rest of the municipalities in the country
Expected energy savings (MWh/a)/ expected renewable energy production as an outcome of project actions (MWh/a)	1,31 KWh_{th} / year / € Saved/produced heat energy per unit invested grant, calculated for the same services / production units
Expected CO2 reduction of project actions (t/a)	2,70 CO_2 / year / € Reduced CO2 emission per unit invested grant

Brief description of the project key actions

Municipal Children Complex - Chepelare (MCC), under the existing regulation, is servicing section in the municipal education system with main function – rationalization and organization of the children's spare time.

Purpose of the project proposal is to increase the energy efficiency of the building of MCC. In this way will be achieved ecological impact by reducing the total annual energy consumption and the amount of evolved carbon dioxide and will be created more favorable conditions for the education of the children and of the students, visiting MCC.

Description of the measures for the project:

The realized energy investigation of municipal children's complex – Chepelare, shows that at the present condition of the building and the heating system, the required sanitary-hygiene standards for thermal comfort aren't provided. For this purpose will be applied the following energy saving measures:

- Changing of the energy source;
- Insulation of exterior walls;
- Insulation of roof;
- Changing of woodwork.

Scope of the project:

1. Replacing the energy carrier and boiler installation;
2. Renovation of the façade and roof of the MCC building
3. Replacement of windows

The City of Opatija
Croatia

Contact details

Country	Croatia
City/Municipality	City of Opatija
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Contact Name	Tomica Štivić, dipl.ing.arh
Position	Senior Advisor for physical planning and development project support
Email	tomica.stivic@opatija.hr
Key facts about city/municipality	
Population	11.759 inhabitants
Geographic data	Primorsko goranska County, 67,20 km2, South-west from City of Rijeka
Key Strategic Documents	1. Amendments to the Spatial Plan of the City of Opatija Settlement (SN PGŽ 56/2012) 2. Amendments to the Spatial Plan of the City of Opatija Settlement (SN PGŽ 56/2012) 3. Amendments to the Urban Plan of the Ičići Settlement (SN PGŽ 17/2013) 4. Urban plan of the Ika – Oprič Settlement (SN PGŽ 12/2011)

Brief Description of Municipality and strategic framework for EE and RE

All city projects geared towards renewable energy and energy efficiency, by selection of natural materials and using of nature power. City of Opatija wants to consolidate the city based on the principles of sustainable urbanism and architecture to stand side by side with world-wide cities whose projects follow the trend of turning back to nature and its preservation which has been adopted by Sustainable Energy Action Plan (SEAP) as a part of the Covenant of Mayors initiative.

Project Title	Sports - Recreation Center Triestina
Sector	buildings, equipment/facilities, land use planning
Reference to strategic document:	Amendments to the Urban Plan of the Ičići Settlement (SN PGŽ 17/2013)
Estimated project investment costs	300.000.000,00 KN ≈ 39.474.000,00 Euro
Expected sources of financing	EU funds (75%), local budget (25%)

Brief description of the project key actions

Sports center Triestina involves construction of a new tourist complex with prominent supporting facilities (car camping, aqua park, sports and recreation) and mostly green space.
The objectives of the project are primarily support to year-round operation of Opatija Riviera, developing facilities for tourists and residents, and generate new jobs.

Project Title	Port upgrade
Sector	(buildings, transport, land use planning)
Reference to strategic document:	Zoning plan of the settlement has defined port as a port open to the public with county importance (Amendments to the Spatial Plan of the City of Opatija Settlement (SN PGŽ 56/2012))
Expected sources of financing	25 % local budget + 75% EU funds

Brief description of the project key actions

With this project city will gets new port more integrated into the urban city center with a clear orientation towards their users. The project seeks excellent design and the preservation of existing and creation of new vistas characteristic for the City of Opatija. The new port will enable the expansion of tourist offer and increase capacity to accommodate vessels since nautical tourism in increasing both worldwide and in Croatia.

Project Title	**Design of Ika port**
Sector	transport, land use planning
Reference to strategic document:	City physical plan defines port as aport of local importance, Urban plan of the Ika – Oprič Settlement (SN PGŽ 12/2011)
Estimated project investment costs	212.000 €
Expected sources of financing	Port authority of City of Opatija, City of Lovran and Municipality Moscenicka Draga, Primorsko goranska County and City of Opatija

Brief description of the project key actions

This project will redevelop a port Ika and related walkways. This will bring new, well-deserved shine at the fishing village near Opatija while the primary project goal is design of Ika center, where main square and kids playground has already been design.

Project Title	**Movable covering and reconstruction of summer stage**
Sector	buildings, land use planning
Reference to strategic document:	Zoning plan of the settlement defines summer stage as a cultural building and described by certain spatial indicators (Urban plan of Ika – Oprič Settlement (SN PGŽ 12/2011))
Estimated project investment costs	5 000 000 €
Expected sources of financing	25 % local budget + 75% EU funds

Brief description of the project key actions

With this project city will get movable covering for extremely high quality existing locations that, with the necessary reconstruction, should raise the quality of events and allow functional use throughout the year regardless of weather conditions. Rich touristic offer throughout the entire year ensures the investment returning, which is attractive to potential investors and concessionaires.

Project Title	Reconstruction of Slatina beach
Sector	(buildings, equipment/facilities, land use planning
Reference to strategic document:	Amendments to the Spatial Plan of the City of Opatija Settlement (SN PGŽ 56/2012))
Expected implementation timeframe (from-to)	2014.
Estimated project investment costs	20.000.000,00 Euro
Expected sources of financing	EU funds (75%), local budget (25%)

Brief description of the project key actions

Slatina beach reconstruction project aim to revitalize part of the city, consolidate city center and extend tourist season. The project includes design, reconstruction and expansion of the resort, redesign and construction of new commercial facilities and design public spaces.

Project Title	House of Art
Sector	buildings, land use planning
Reference to strategic document:	Zoning plan of the settlement defines zone that is designed to construction of the house of art and describes certain physical parameters , Amendments to the Spatial Plan of the City of Opatija Settlement (SN PGŽ 56/2012)
Estimated project investment costs	6.600.000,00 Euro
Expected sources of financing	25 % local budget + 75% EU funds

Brief description of the project key actions

This project will ensure facility that will complement the cultural - congress offer of the city and create new micro-center in the city center. With a large multipurpose room, a theater hall and other ancillary facilities cultural and tourist center guarantees superb space for new and return of the biggest cultural – congress events that were once the main city feature.

Project Title	Kindergarten Punta Kolova
Sector	buildings
Reference to strategic document:	Amendments to the Spatial Plan of the City Opatija Settlement (SN PGŽ 56/2012)
Expected implementation timeframe (from-to)	2014.
Estimated project investment costs	3.940.000,00 Euro
Expected sources of financing	Local budget, Italian Union

Brief description of the project key actions

Construction of a new kindergarten will solve the long-term needs for kindergarten facilities. Kindergarten will be able to accommodate 199 children in 12 educational groups, including several groups on Italian language.
Kindergarten building will be sustainable, ecologically viable structures partially with a green roof and solar panels. It will have an eco lighting, the ability to collect rainwater and will be built from natural materials.

Project Title	Reconstruction of Lido - Angiolina beach
Sector	(buildings, equipment/facilities, land use planning
Reference to strategic document:	Amendments to the Spatial Plan of the City of Opatija Settlement (SN PGŽ 56/2012)
Expected implementation timeframe (from-to)	2014.
Estimated project investment costs	5.500.000,00 Euro
Expected sources of financing	EU funds (75%), local budget (25%)

Brief description of the project key actions

Lido and Angiolina beach reconstruction project aim to revitalize part of the city, consolidate city center and extend tourist season. The project includes design, reconstruction modeled on historic bath that was there once and expansion of the resort, redesign and construction of new commercial facilities and design public spaces.

Crikvenica Municipality
Croatia

Contact details

Country	Croatia
City/Municipality	Crikvenica
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Web address	www.crikvenica.hr
Contact Name	Damir Rukavina, dipl. Ing.
Position	Mayor
Email	damir.rukavina@crikvenica.hr
Key facts about city/municipality	
Population	11500 inhabitants
Geographic data	58 km2, County of Primorje-Gorski Kotar
Key Strategic Documents	http://www.porin.hr/strateski-razvoj/razvojna-strategija-pgz http://www.porin.hr/strateski-razvoj/glavni-plan-razvoja-turizma-pgz http://www.porin.hr/strateski-razvoj/akcijski-plan-razvoja-turizma-pgz

Brief Description of Municipality and strategic framework for EE and RE

Crikvenica is located on the northern section of the Croatian side of the Adriatic Sea. It is the administrative, cultural and tourist center of the territory, encompassing the settlements of Jadranovo, Dramalj, Crikvenica and Selce. This year, Crikvenica celebrates the 125th anniversary of organized tourism, which is the main economic activity. The Town Administration invests significant amount of financial resources into capital projects, communal infrastructure, balanced development of all the settlements. Upholding sustainable development principles has been a priority in the town policy, which is also reflected in the fact that Crikvenica received many awards for preservation of the environment, and health tourism is the base of tourism development.

Reconstruction of the main town square, the Stjepan Radić Square is the largest investment in the history of the town (KN27 million). The first stage of the construction works will be finalized at the beginning of May, and Stage 2 which follows includes setting of the public lighting system, in accordance with sustainable development principles. Increased use of renewable energy sources and energy efficiency are areas in which the Town plans to invest significantly in the future, in accordance with regional development strategies.

Project Title	**Reconstruction of the Stjepan Radić Square in Crikvenica – Stage 2**
Sector	buildings, equipment/facilities, public procurement of products and services
Expected implementation timeframe (from-to)	Beginning of works May of 2012, end of the first stage May of 2013. Beginning of the 2nd stage (arrangement of the Park) autumn of 2013
Estimated project investment costs	Total investment in the arrangement of the Square KN 27.000.000,00
Expected sources of financing	Budget of the Town of Crikvenica
Expected energy savings (MWh/a)/ expected renewable energy production as an outcome of project actions (MWh/a)	All the lighting on the Square (which was outdated) will be substituted by LED-lights. Except for standing lighting, ambient lighting will also be set up under the benches and by the side of the road. Indirect lighting is combined on a large part of the square area.

Brief description of the project key actions

The main area of the Stjepan Radić Square is arranged according to the obtained project documentation, with a completely new mode of transport, paving, lighting and urban equipment. The second stage is arrangement of the Park palih za domovinu, also with new lighting, new green spaces, etc. The third stage is building of a pavillion at the edge of the park which is planned as a multi-functional space.

The city of Dubrovnik
Croatia

Contact details

Country	Croatia
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Contact Name	Maja Brzić
Position	Senior expert for public lighting
Email	mbrzic@dubrovnik.hr
Key facts about city/municipality	
Population	42641 inhabitants
Geographic data	Dubrovnik-Neretva county, 21.35km2, south
Key Strategic Documents	Sustainable energy management in buildings (SGE) Study of public lighting year 2013

Brief Description of Municipality and strategic framework for EE and RE

Dubrovnik aims to achieve high results in sustainable energy management, it connects with scientists and experts from all around the world to exchange their knowledge, experience and skills in order to improve on these achievements in the field of sustainable energy, water and environmental systems.

This conference deals with themes with an accent on sustainable energy, energy efficiency, renewable energy... all the facts which are familiar to our society and which, so far, are successfully implemented in many projects in Dubrovnik. We strive to learn new skills and technologies to achieve more efficient energy generation and consumption, but with special emphasis on environmental.

So far, we have implemented many projects dealing with energy efficiency in public lighting (as major energy consumer of 3MW installed power) and renewable energy (solar public lighting), pilot project of solar cooling etc. City of Dubrovnik also subsidizes local people (80 households) in the use of solar collectors for hot water, in cooperation with the Fund for Environmental Protection and Energy Efficiency (FZOEU) in total amount of 50% of investment.

Project Title	**Energy efficiency in public lighting**
Sector	Communal services
Reference to strategic document:	Study of public lighting of the old city core (2006.) Lighting project according to the Study (1st phase implemented in 2009.) Study of public lighting – year 2013 Reconstruction of public lighting (application to the FZOEU)
Expected implementation timeframe (from-to)	Depending of financial structure within our local community 2013 - 2016
Estimated project investment costs	4.260.725,00 Kn (approximately 570.000,00 euro)
Expected sources of financing	EU funds, FZOEU, own resources
Expected energy savings (MWh/a)/ expected renewable energy production as an outcome of project actions (MWh/a)	Will be noted in study of public lighting
Expected CO2 reduction of project actions (t/a)	Will be noted in study of public lighting

Brief description of the project key actions

The main goal is to reduce energy consumption and emission of CO, CO2, SO2, NOx, so as to decrease light pollution.

Project will include replacement of inefficient light sources, luminaries, poles and bad installations.

All luminaries will be made in cut-off technology, all mercury lamps will be replaced with efficient LED or high pressure sodium, installed power will be decreased for more than 50 % what will have an effect on lower energy consumption and emission of greenhouse gases.

In aesthetic way, we will have modern lighting with modern shapes that will contribute to general appearance of the city.

The city of Koprivnica
Croatia

Contact details

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City/Municipality	Koprivnica
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Contact Name	Mario Perkovic
Position	Head of section
Email	mario.perkovic@koprivnica.hr
Key facts about city/municipality	
Population	33.700 inhabitants
Geographic data	90,94 km^2, Koprivnica-Križevci county, northern Croatia
Key Strategic Documents	Sustainable Energy Action Plan – SEAP (2011 - 2020) Spatial Plan for the City of Koprivnica

Project Title	**Renovation of the university campus into Zero CO2 emission complex**
Sector	buildings, electricity production
Reference to strategic document:	Sustainable Energy Action Plan – SEAP Urban Development Plan (UDP) – in preparation
Expected implementation time-frame (from-to)	2013. - 2020.
Estimated project investment costs	50.000.000,00 kn (cca 6.568.000,00 Euro)
Expected energy savings (MWh/a)/ expected renewable energy production as an outcome of project actions (MWh/a)	5.711 MWh
Expected CO2 reduction of project actions (t/a)	1.153,6 t

Brief description of the project key actions

The University campus is designed as a zero CO2 emission facility. The project comprises converting the existing buildings into passive and producing sustainable mobility plan to ensure zero-emission transport of people and goods to and within the campus. Planned steps of the program include the modification of the external envelope of buildings, reconstruction of roofs and floors, heating and cooling systems as well as introduction of innovative transport services. Vision of Zero CO2 University Campus (University North)

- University North offering innovative research programs and study programs in English language
- Establishment of the Technology – innovation center, Center for competence of the food products and Center of competence for sustainable transport planning
- Development of sustainable mobility plan of the new university campus area
- Introduction of clean vehicles and innovative transport solutions for people and freight
- Development of infrastructure for electric vehicles
- Campus bicycle system development
- Regional promotion of the Zero CO2 emission model
- Creation of new sustainable living culture for the „Campus population"
- Construction of low-energy houses in accord with City of Koprivnica housing and energy policies
- Water and wastewater management

The city of Križevci
Croatia

Contact details

Country	Croatia
City/Municipality	City of Križevci
Address	Ivana Zakmardija Dijankovečkog 12
Telephone	+385 48 628 942
Web address	www.krizevci.hr
Contact Name	Ljiljana Stojsavljević-Križan
Position	Senior adviser for public procurement and energy efficiency
Email	ljiljana.krizan@krizevci.hr
Key facts about city/municipality	
Population	22.324 inhabitanst
Geographic data	Koprivničko-križevačka County, 263,72 km2
Key Strategic Documents	Sustianiable Energy Action Plan – SEAP (2012-2020) http://krizevci.hr/images/stories/energija/seap_krizevci.pdf http://www.krizevci.hr/index.php?option=com_content&view=article&id=3727&Itemid=165 http://www.krizevci.hr/index.php?option=com_content&view=article&id=3100&Itemid=96

Brief Description of Municipality and strategic framework for EE and RE

City Križevci joined Covenant of Mayors initiative in 2011. City Council adopted an Sustianiable Energy Action Plan (SEAP) in 2012. SEAP activities will reduce CO2 emissions by 20.8% by 2020. year. The city has established Energy Office, who manages activities related to renewable energy and the implementation of energy efficiency measures. Overall activities of the Energy Office are focused on the replacement of the entire public city lighting, on the preparation of the development and feasibility studies of public building heating system on geothermal energy, co-financing of solar collectors for hot water to residential buidlings, on educatcn of citizens on the implementation of energy efficiency measures through city Energy Days, on implemention of Engage campaigns by setting up posters with citizens declaration to save energy on a certain way, etc. When designing new public buildings, as well as two school sports halls, in the project task is determined to be low-energy buildings with min. 50% of energy use from renewable sources. Also the reconstruction of buildings owned by the city use EE measures to improve their energy rating.

Project Title	**Reconstruction of former Military house into city library "Franjo Marković" i multimedia center**
Reference to strategic document:	Sustianiable Energy Action Plan – SEAP (2012-2020)
Expected implementation timeframe (from-to)	2011. – 2014.
Estimated project investment costs	1,12 mil euros (VAT included)
Expected sources of financing	Local budget
Expected energy savings (MWh/a)/ expected renewable energy production as an outcome of project actions (MWh/a)	212.161,26 kWh
Expected CO2 reduction of project actions (t/a)	42,65 tCO2/god

Brief description of the project key actions

By City Council decision from 08.07.2010. , the building Military House has been given for reconstruction for the purpose to become a Public Library "Franjo Marković" and for the establishment of the scientific department with a media center for the students and citizens. Following the completion of the procurement procedure for the procurement of design services, main project and detailed design have been developed. Since the building was built in 1963 energy efficiency measures in the building envelope will achieve significant savings in both energy demand for heating, as well as the amount of CO2 emitted into the atmosphere. Energy audit has been performed for the existing buildings and energy certificate with energy grade F. After the reconstruction of the building will be in energy grade C. The construction company has been selected at public tender and framework agreement signed at 4 years. Reconstruction works started in 2011 and completion is expected in 2014.

The city of Osijek
Croatia

Contact details

Country	Croatia
City/Municipality	City of Osijek
Address	Kuhačeva 9, 31000 Osijek, CROATIA
Telephone	+385 31 229 229
Web address	www.osijek.hr
Contact Name	Milan Kamenko
Position	Head of the Department of communal utility, housing, traffic and environmental protection
Email	Milan.kamenko@osijek.hr
Key facts about city/municipality	
Population	107000 inhabitants
Geographic data	Osijek-Baranja County, area in km2, eastern position
Key Strategic Documents	Sustianiable Energy Action Plan – SEAP (2012-2020) www.osijek.hr

Brief Description of Municipality and strategic framework for EE and RE

Covenant of Mayors signatory. SEAP in development.

Project Title	**Intelligent Energy Europe – "GREETED – GREEn Tenders for Efficiency Development"**
Sector	public procurement of products and services
Reference to strategic document:	SEAP
Expected implementation timeframe (from-to)	June 2014 – June 2017
Estimated project investment costs	N/A Regarding that the call for proposals is still opened and the project is still in the making.
Expected sources of financing	IEE funds – 75% , City budget – 25%
Expected energy savings (MWh/a)/ expected renewable energy production as an outcome of project actions (MWh/a)	N/A
Expected CO2 reduction of project actions (t/a)	N/A Regarding that the call for proposals is still opened and the project is still in the making.

Brief description of the project key actions

City of Osijek participates as a partner to lead beneficiary Scuola Superiore Sant'Anna, Pisa, Italy, on this project.

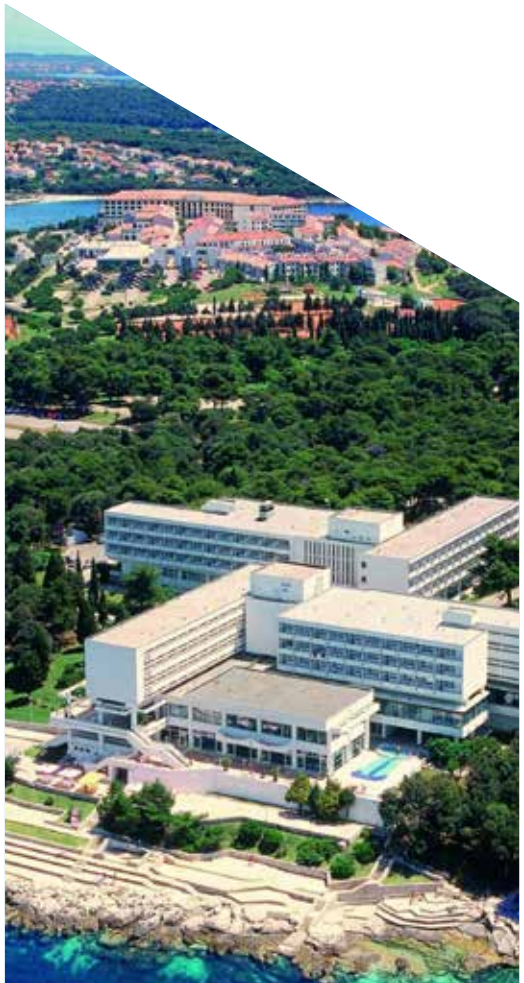
The main objectives of the project are:

- To share knowledge on the best practices in field of energy-efficiency in GPP;
- To identify the main barriers to a large scale diffusion of such best practices;
- To propose a minimum set of energy-efficiency requirements to be integrated in GPP tools;
- To train competent authorities on the adoption of such tools;
- To guide competent authorities in the adoption of such tools.

City of Osijek participates as a partner to lead beneficiary Scuola Superiore Sant'Anna, Pisa, Italy, on this project.

The city of Pula - Pola
Croatia

GRAD PULA
CITTÀ DI POLA



Contact details

Country	Croatia
City/Municipality	The City of Pula-Pola
Address	Forum 1, 52 100 Pula, Croatia
Telephone	+385 52 371 710
Web address	www.pula.hr
Contact Name	Kristina Fedel Timovski
Position	Head of the Department of Public Relations, International Cooperation and EU Policies
Email	kristina.fedel@pula.hr, international@pula.hr
Key facts about city/municipality	
Population	58 000 inhabitants
Geographic data	Istrian region, 51.65 km2, located in the western part of the country on the southern end of the Istrian peninsula
Key Strategic Documents	Regional development strategy (2011-2013) http://www.istra-istria.hr/index.php?id=2944 Local development strategy (2009-2015) http://www.pula.hr/fileadmin/sadrzaji/dokumenti/Gradska_Uprava/Upravni_odjeli/Strategija_razvoja_grada_Pule_29_11_2010.pdf

Brief Description of Municipality and strategic framework for EE and RE

The City of Pula is a unit of local self-government in Croatia. It is governed by the mayor and two deputy mayors. The representative body is the City Council with 26 councilors. Administrative bodies of the City of Pula are administrative departments and City services established for the performance of activities in the self-governing domain of the City. Currently, there are 7 administrative departments. The City of Pula has at moment 169 employees, 96 have some degree of university education. The staff is well trained and involved in permanent education for generation and implementation of international projects.

The City_SEC project aims at conducting an energy baseline assessment and developing Sustainable Energy Action Plans (SEAP) for 44 municipalities, thus helping them to become Sustainable Energy Communities. The 44 municipalities involved will be supported by the Regional Development Agencies and Regional Energy agencies involved in the project to sign up to the Covenant of Mayors (CoM) initiative and to develop actions that will go beyond the 20-20-20 EU energy targets.

Project Title	**MOVESMART**
Sector	Transport
Reference to strategic document:	SEAP- Sustainable Energy Action Plan 2011-2031 / Decision issued by the Mayor, 08 May, 2013 http://ec.europa.eu/clima/policies/package/index_en.htm target 20-20-20 European Commission
Expected implementation timeframe (from-to)	May, 2013 – May, 2016
Estimated project investment costs	Complete Project: 3.251.800 € City of Pula: 175.360 €
Expected sources of financing	European Commission Funds from the City budget
Expected energy savings (MWh/a)/ expected renewable energy production as an outcome of project actions (MWh/a)	Since this is a research type of project, the pilot project that will be implemented in the city of Pula, will offer a theoretical percentage of energy savings that will be further developed in the future.
Expected CO2 reduction of project actions (t/a)	The pilot project will offer a theoretical percentage of the expected CO2 reduction.

Brief description of the project key actions

MOVESMART addresses the problem of providing time-dependent route planning profiles in large-scale urban-traffic networks by integrating the use public transport, supporting electro mobility and car-sharing/-pooling, exploiting an extensive ad hoc traffic monitoring infrastructure and a traffic prediction mechanism for foreseen future incidents, based on a novel crowd-sourcing platform. This exploitation of fixed and ad hoc sources of real-time traffic sensing information provides proper alerts for emergent (either reported, or predicted) incidents to the involved end users and appropriate contingency plans for the predicted/reported disruptions. It also maintains the appropriate traffic-information data structures kept in the Urban Traffic Knowledge Base. MOVESMART's goal is to be able to respond in real-time mobility –on-demand queries for efficient multi-modal route planning, both time-dependent, sensitive to aperiodic incidents (such as car accidents, sudden weather conditions, etc.) and forecasts provided by a Traffic Prediction Module, so that robustness and / or recoverability of the proposed route plans against reported but unforeseen disruptions is guaranteed.

Within MOVESMART, two representative pilot cases will be deployed for assessing the impact of the proposed new personal mobility paradigm, and to showcase its operation in real urban environments: (a) in the City of Vitoria-Gasteiz, European Green Capital 2012, a pedestrian-scale compact city, and (b) in the city of Pula, a historical small city and tourist asset. These cities will provide the required local traffic data and urban infrastructure that will be used as a basis for running the crowd-sourcing schema for the collection of real-time user generated data, hence realising the MOVESMART paradigm. Prior to the pilots a methodology will be devised for evaluating the needs and impacts of the implementation of a Mobility on Demand system in an urban area Based on this methodology, the expected improvement on the quality of the provided personal mobility services will be evaluated on both cities. Additional information will be gathered in order to measure user experience before and after the introduction of the MOVESMART mobility paradigm.

The city of Vukovar
Croatia

Contact details

Country	Croatia
City/Municipality	Vukovar
Address	Dr. Franje Tuđmana 1, 32000 Vukovar
Telephone	+385 32 456 501
Web address	www.vukovar.hr
Contact Name	Neven Genčić, Tihomir Kedmenec
Position	Senior Associate
Email	neven.genčić@vukovar.hr; tihomir.kedmenec@vukovar.hr .
Key facts about city/municipality	
Population	29.000 inhabitants
Geographic area (in km2)	100,26 km2

Project Title	**RES use, Energy efficiency in building**
Sector (buildings, equipment/facilities, transport, local electricity production, local district heating/cooling, CHPs, land use planning, public procurement of products and services, working with citizens and stakeholders)	Buildings
Implementation (Start and end time)	2013.-2020.
Estimated project investment costs	500.000,00 Euro
Sources of financings	Local budget, extra-budgetary funds
Expected energy savings of project actions (MWh/a)	500 MWh/a
Expected renewable energy production of project actions (MWh/a)	100 MWh/a
Expected CO2 reduction of project actions (t/a)	260t/a

Brief description of the project key actions

Modernisation of public lighting

RES use – solar collectors and photovoltaic panels

Improvement of buildings energy efficiency – improvement of building envelope and joinery

The city of Žabok
Croatia

Contact details

Country	Croatia
City/Municipality	Zabok
Address	Zabok, Zivtov trg 10
Telephone	+385 49 587 777
Web address	www.zabok.hr
Contact Name	Kruno Čačko
Position	Employee
Email	kruno@zabok.hr
Key facts about city/municipality	
Population	9133 inhabitants
Geographic data	Krapinsko-zagorska county, 34,41 km2, NW of Croatia
Key Strategic Documents	http://www.zabok.hr/?LanguageID=-1&ParentID=0&FlashID=13300&SubContentID=14349 http://www.zabok.hr/?LanguageID=-1&ParentID=13287&FlashID=13302&SubContentID=14428 http://www.zabok.hr/?LanguageID=-1&ParentID=13287&FlashID=13300&SubContentID=14350 http://www.zabok.hr/?LanguageID=-1&ParentID=13287&FlashID=13300&SubContentID=14429

Brief Description of Municipality and strategic framework for EE and RE

The City of Žabok is situated in the north-west region of Croatia, in the Krapinsko-zagorska county. The main advantage of the city of Žabok is connectivity – thru the territory of the city passes one main highway (A2 Zagreb-Macelj) and many state roads; the city has a railroad intersection (it connects Zagreb, Zaprešić with three destinations – Krapina, Donja Stubica, Varaždin (onwards to the Republic of Hungary). The city of Žabok has formed an economic zone with area of some 170 ha. In the economic zone there are currently 72 active companies with approximately 1750 employees. Of more current infrastructural developments, the city has developed and prepared, a long side with the Krapinsko-zagorska county, the local airport for small planes and aircrafts making the city of Žabok reachable even by air.

Project Title	**Energy efficiency in final energy consumpton**
Sector	Increase energy efficiency in housing sector in the County
Reference to strategic document:	City budget
Expected implementation timeframe (from-to)	2013

Brief description of the project key actions

Building sector spent 42% of total energy consumption in Croatia. According to the national indicators about 60% are related to space heating, while the energy consumption of electrical appliances and lighting takes about 15%.
Summary of the energy efficincy measures and actions in household sectore:

- Co-financing installation of solar collectors and photovoltaic pannels
- Co-financing replacment of heater fuel / old wood stoves with pellet stoves,
- Co-financing heat pumps
- Co-financing reconstruction of the building envelope
- Co-financing reconstruction of joinery

Brod – Posavina County
Croatia

Contact details

Country	Republic of Croatia
City/Municipality	Brod-Posavina county
Address	Petra Krešimira IV, br 1, Slavonski Brod
Telephone	+385 35 443 126
Web address	www.bpz.hr
Contact Name	Miroslav Jarić
Position	Head of the Department of Economy and Environmental Protection
Email	komunalno@bpz.hr
Key facts about city/municipality	
Population	158.559 inhabitants
Geographic data	Located in the southern part of the Slavonia plain, Brod-Posavina county is spatially elongated and is composed of three landforms: hills, plateaus and plains. It stretches on 2034 km2 (3.59% of the total Croatian surface) and is located at the intersection of two main motorways: intercontinental that runs west-east and connects Western Europe with Middle East and the interregional highway which runs from north to south and connects the, Eastern and Central Europe with the Adriatic.
Key Strategic Documents	Croatian energy development strategy (National Gazette No.130/09) http://narodne-novine.nn.hr/clanci/sluzbeni/2009_10_130_3192.html ZUKE - Law on energy efficiency (National Gazette No.152/08 i 55/12) County development strategy 2011 – 2013 Goal 2. – Environmental protection as a basis for sustainable development and sustainable economy Priority 2 – Improved use of renewable energy sources and enhanced energy efficiency measured http://www.bpz.hr/_Data/Files/%C5%BDRS%20BP%C5%BD.pdf

Brief Description of Municipality and strategic framework for EE and RE

The county has included EE and RE in its development strategy, setting development of RES as one of its key priorities. The County has just initiated a program of instigating use of renewable energy systems in households. For this, the County has ensured 1.800.000,00 Kn, and the Fund for energy efficiency co-financed the project with 1.200.000,00 Kn. The county has expressed interest in promoting EE measures even before it became the law. Even before ZUKE was published in the National Gazzete in 2009, the County signed the Energy charter in UNDP's national program called 'Sustainable energy management in cities and counties'.

Currently, the County is preparing its first energy three-year program.

Project Title	**Solar schools**
Sector	localized electricity production, cooperation with citizens and stakeholders
Reference to strategic document:	ZUKE – Croatian energy law and (National Gazette No.152/08 and 55/12) Croatian Energy Strategy (National Gazette No.130/09)
Expected implementation timeframe (from-to)	2013-2015
Estimated project investment costs	1.300.000 Euro
Expected sources of financing	Private
expected renewable energy production as an outcome of project actions (MWh/a)	1,1 MW/h/a
Expected CO2 reduction of project actions (t/a)	25780

Brief description of the project key actions

As a part of the project "Solar school roofs" PV power plants of 30 kWp each will be built on 22 elementary and middle schools, as well as two administrative buildings in Brod-Posavina county. Installed electric power will total 900 kW and it will be the largest installation in Croatia installed on school facilities. All schools will also have a water heating system installed, each 6 kWp. Technical School in Slavonski Brod will also have a newly built Centre of renewable energy. The Center will be equipped with examples of renewable energy sources applicable to buildings and examples of energy efficiency measures in buildings.

The project is being implemented in collaboration with a skilled company that has expertise in energy efficiency and EU project preparation, so one of the benefits of the project will be a free realization of detailed energy audits and energy certification on all buildings. The audit will be a good basis to determine which EE measures to apply, and it will serve as a solid preparation for buildings' energy reconstruction. The county has already nominated the project for the reconstruction of school facilities by the principles of energy efficiency for EU structural programs.

The ultimate goal of the project is for all the schools participating in the project to achieve a B energy class and to use all the energy from the RES at the spot. Long term project vision is to install PV power plants and thermal systems on every school-roof in Brod-Posavina county.

Brdovec Municipality
Croatia

Contact details

Country	Croatia
City/Municipality	Municipality Brdovec
Address	Trg dr. Franje Tuđmana 1, Brdovec
Telephone	+385 1 3310 350
Web address	www.brdovec.hr
Contact Name	Alen Prelec
Position	Mayor of Brdovec Municipality
Email	nacelnik@brdovec.hr
Key facts about city/municipality	
Population	11.143 inhabitants
Geographic data	Area: 37,27 km^2. The municipality Brdovec is located in the North West part of Zagreb County.
Key Strategic Documents	Municipality Brdovec development strategy for the period 2013-2020 http://www.brdovec.hr/vazni_dokumenti

Brief Description of Municipality and strategic framework for EE and RE

Municipality Brdovec development strategy for the period 2013-2020 plans to implement 17 projects in municipal development (paving roads, building sidewalks, etc.), implementation of energy efficiency measures in buildings owned by the municipality, systematic implementation of measures for waste management, measures to increase economic competitiveness, promote tourism and recognition of our region.

However, currently the most important and most expensive project is the completion of the sewage discharge throughout the municipality, which is in progress, and the biggest project setting up an energy efficient lighting throughout municipality.

Moreover, Municipality Brdovec has signed Covenant of Mayors with the purpose of achieving the objectives set by 2020, concerning the energy efficiency increase to reduce CO2 emissions by at least 20% through the implementation of Sustainable Energy Action Plan (SEAP).

Project Title	**Completion of construction of sewage discharge in the whole municipality**
Sector	Waste water equipment/facilities
Reference to strategic document :	Development Strategy of Brdovec Municipaliy (2013-2020)
Expected implementation timeframe (from-to)	1984.-2020.
Expected sources of financing	Municipality Brdovec, Croatian waters Ltd, EU funds

Brief description of the project key actions

The project started in 1984 and Municipality Brdovec is constructing wastewater sewage in separate project units. This extensive project has been divided into the construction of "south of the railroad" and "north of the railroad." Construction of south of the railway project is currently in progress, while the northern part is not currently implemented. Due to financial factors, simultaneous work and progress throughout the municipality has been disabled. From a total of 104 km of sewerage network and 3.000 household connections, until 31st December, 2012 has been built 33 km of sewerage network and 812 house connections.

Project Title	**Energy efficent public lighting**
Sector	Energy efficent public lighting
Reference to strategic document:	Study of reconstruction of public lighting in Municipality Brdovec, 2012.
Expected implementation timeframe (from-to)	2015. – 2018.
Estimated project investment costs	1.500.000,00 euro
Expected sources of financing	15% Municipality Brdovec, 85% EU fund
Expected energy savings (MWh/a)/ expected renewable energy production as an outcome of project actions (MWh/a)	Energy savings 65%, maintenance savings 100%.

Brief description of the project key actions

The purpose and objectives of the project are: energy-efficient energy use, decreasing energy consumption and environmental protection. Implementation of quality optics luminaire enhances the brightness and reduce light pollution.

Modernization of existing public lighting envisage installation of LED lighting by reducing individual lamps installed capacity and establishing a new regime of automatic control with reduced power after a certain time.

The result is a safer traffic on the roads due to the proper set of lamps that emit custom brightness of the light. Savings in maintenance of public lighting is 100% since LED lighting lifetime duration does not require any maintenance (current maintenance costs are around 27.000 euro per year).

In Brdovec municipality there are 1966 lamps with 30 years old installed technology. To a large extent they have a low level of IP protection under the defilement of the environment, optics lights are largely low grade efficiency or are outdated.

According to a Study of reconstruction of public lighting replacement of old lighting lamps with LED lamps, which are organic, have a high degree of IP protection, modern and efficient light source and require minimal maintenance and support step-regulation.

Zadar County
Croatia

Contact details

Country	Croatia
City/Municipality	Zadar County
Address	Božidara Petranovića 8, 23 000 Zadar
Telephone	+385 23 350 356
Web address	www.zadarska-zupanija.hr
Contact Name	Antonela Zrilić Vulić , Master of landscape architecture engineering
Position	Expert advisor for environmental protectiona and nature conservation
Email	prostorno-mateja@zadarska-zupanija.hr
Key facts about city/municipality	
Population	179.186 inhabitants
Geographic data	7.276,23 km2, coastal county situated in northern Dalmatia
Key Strategic Documents	http://www.zadarska-zupanija.hr/dokumenti/raz.pdf http://www.zadarska-zupanija.hr/images/stories/dokumenti/Program_EnU_Zadarska_zupanija.pdf

Brief Description of Municipality and strategic framework for EE and RE

Zadar County is one of seven coastal counties of Croatia and is a leader in this group with its 17 inhabited islands, populated by about 20.000 people. Zadar County is administratively divided in 6 cities and 28 municipalities, but over 40% of its population lives in Zadar. Zadar County in its scope performs matters of local (regional) importance, especially those relating to: education, health, social welfare, agriculture, economic and tourism development, regional development, planning and environment. It employs 108 employees, mostly highly educated except for auxiliary staff.

Zadar County is implementing national Energy efficiency project aiming at at removing barriers for the implementation of economically feasible, energy efficient technologies and measures in residential and public sectors in Croatia, with the final goal to reduce energy consumption and the associated greenhouse gases, as well as rising public awareness about efficient use of energy. Important role of the Project is directed to demand-side market transformation and development of Energy Efficiency (EE) segment of the market related to availability of EE products and development of local capacity for EE services, including new "green" jobs. It is also implementing "Systematic Energy Management project" (SEM Project), which encourages implementation of EE and systematic energy management in all public buildings at the local and regional level.

Project Title	**Energy efficiency program in final energy consumpton in Zadar county (2012 – 2014)**
Sector	Increase of energy efficinency measures in industry sector in the county
Reference to strategic document:	Energy efficiency program in final energy consumpton in Zadar county (2012 – 2014) http://www.zadarska-zupanija.hr/images/stories/dokumenti/Program_EnU_Zadarska_zupanija.pdf
Expected implementation timeframe (from-to)	2012 – 2014
Expected sources of financing	County budget, National budegt, Fund for environmental protection and energy efficiency, Ministry of economy, Commercial Banks, IPA program, Program TAM BAS/EBRD
Expected energy savings (MWh/a)/ expected renewable energy production as an outcome of project actions (MWh/a)	6,93%

Brief description of the project key actions

Energy Efficiency Programs are very important because they weak links between economic growth and energy consumption growth. Active participation of cities and counties in the implementation of energy efficiency in their own facilities and launch of programs to increase energy efficiency in all consumption sectors will provide positive example for efficient energy use.

The industrial sector in the total energy consumption in Zadar County contributes wiht 7%. Main objective of planned measures for the industry sector in Zadar County is to increase awareness and knowledge about investment opportunities in energy efficiency, including demo projects, training and education, and ultimately encourage investments. The aim is to contribute to the improvement of energy efficiency in the commercial sector, which is in accordance with the National Energy Efficiency Action Plan.

Summary of the energy efficiency measures and actions in the industrial sector in Zadar County:

- Energy efficiency improves competitiveness of the economy
- Industrial Energy Efficiency Network
- Demonstration projects
- Training and Education
- Commercial loans
- Voluntary agreements with industry

Project Title	**Energy efficiency program in final energy consumpton in Zadar county**
Sector	Increase of energy efficiency in transport sector in the County
Reference to strategic document:	Energy efficiency program in final energy consumpton in Zadar county (2012 – 2014) http://www.zadarska-zupanija.hr/images/stories/dokumenti/Program_EnU_Zadarska_zupanija.pdf
Expected implementation timeframe (from-to)	2013 –till the end of 2013 year
Expected sources of financing	County budget, National budegt, Fund for environmental protection and energy efficiency, Ministry of economy, Ministry of maritime affairs, transport and infrastructure, Ministry of science, education and sports
Expected energy savings (MWh/a)/ expected renewable energy production as an outcome of project actions (MWh/a)	4,83%

Brief description of the project key actions

According to available data, the transport sector in the total energy consumption in Zadar County accounts for 50%, with over 94% of consumption in the road transport sub-sector, while the rest belong to rail and maritime transport. Summary of the energy efficiency measures and actions in the transport sector in Zadar County:

- Filling stations for electric bikes
- Taxing of high traffic flow and congestion,
- Reduce energy consumption by improving the efficiency of fuel utilization on the vechicle,
- Combined energy and transport research and development programs,
- The study focused on smart and cleaner vehicles and use of research results,
- Promotional campaign for cleaner driving,
- Promoting commodity (use of other modes of transportation)
- Promote the use of public transport,
- Promote the use of cleaner cars (along with providing financial support)
- Raising user awareness about the impact of transport on the environment,
- Boosting investment in idistribution of alternative fuels infrastructure

Project Title	**Energy efficiency program in final energy consumpton in Zadar county**
Sector	Increase energy efficiency in housing sector in the County
Reference to strategic document:	Energy efficiency program in final energy consumpton in Zadar county (2012 – 2014) http://www.zadarska-zupanija.hr/images/stories/dokumenti/Program_EnU_Zadarska_zupanija.pdf
Expected implementation timeframe (from-to)	2012 -2014
Expected sources of financing	County budget, National budegt, Fund for environmental protection and energy efficiency, Ministry of economy, Ministry of construction and physcial planning, Own households sources
Expected energy savings (MWh/a)/ expected renewable energy production as an outcome of project actions (MWh/a)	9,46%

Brief description of the project key actions

Household sector spent 62% of total energy consumption of the Zadar County, and a similar proportion applies to the entire Republic of Croatia. In Zadar County there are no precise data on the structure of the households by energy consumption purpose, but according to the national indicators about 60% are related to space heating, while the energy consumption of electrical appliances and lighting takes about 15%.

Summary of the energy efficincy measures and actions to household sector in Zadar County:

- Co-financing installation of solar collectors,
- Co-financing replacment of heater fuel / old wood stoves with pellet stoves,
- Co-financing heat pumps,
- Co-financing reconstruction of the building envelope in households
- Co-financing reconstruction of joinery in households
- Building regulations and application,
- Information campaigns,
- Energy labeling programs,
- Demonstration projects,
- Network of EE info centers
- Metering and infomative accounts,
- Grants and loans,
- Commercial loans

Project Title	**Energy efficiency program in final energy consumpton in Zadar county**
Sector	Increase energy efficiency in commercial sector in Zadar County
Reference to strategic document:	Energy efficiency program in final energy consumpton in Zadar county (2012 – 2014) http://www.zadarska-zupanija.hr/images/stories/dokumenti/Program_EnU_Zadarska_zupanija.pdf
Expected implementation timeframe (from-to)	2012 - 2014
Expected sources of financing	County budget, National budegt, Fund for environmental protection and energy efficiency, Ministry of economy, Ministry of construction and physcial planning, Own sources

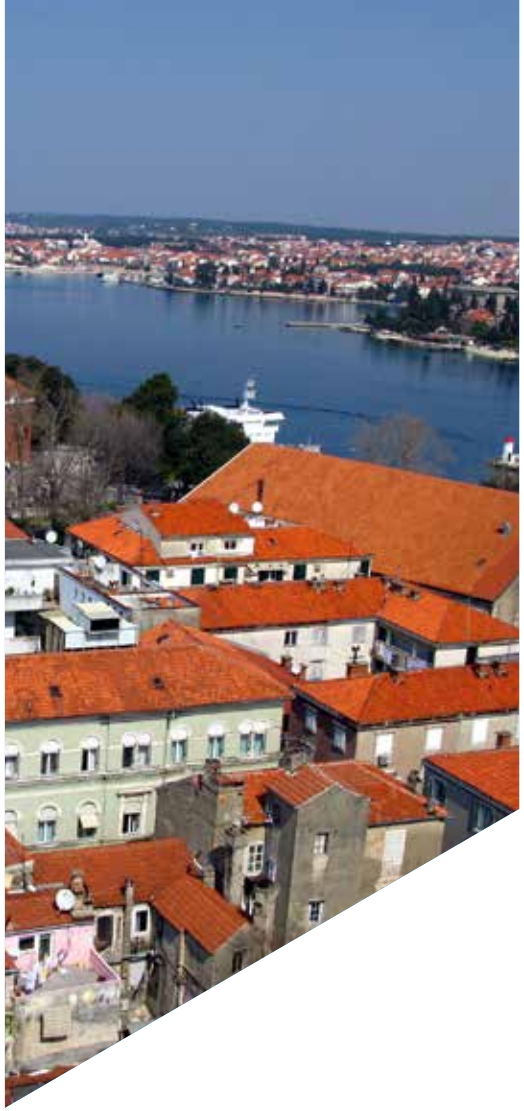
Brief description of the project key actions

Service sector in Zadar County accounts for about 22% of the total energy consumption. Service sector consists of two different parts, namely the commercial and public services. For the entire Republic of Croatia and the Zadar County there are no separate data on energy consumption for these two parts, and for this reason the service sector is considered as a whole.

Summary of the energy efficiency measures and actions in service sector in Zadar County:

- Installation of solar panels on public buildings
- Reconstruction of the building envelop and carpentry in public buildings
- Reconstruction of the heating system and replacement of energy source in public buildings
- Energy auditing of public institutions,
- Solar roofs in county public institutions
- Energy efficiency in schools
- Knowledge for savings project
- Energy days in the County,
- Energy Management in Public Buildings,
- Green energy for Zadar County,
- Encouraging reconstruction of building envelop in commercial sector,
- Encouraging the use of renewable energy sources in commercial sector,
- Building Codes and Enforcement,
- Training and Education
- Demonstration projects,
- Information campaigns,
- Sustainable Energy Management in cities and counties,
- 'Bringing your own house in order' project
- Sustainable Energy Management in commercial sector,
- Subsidies for investments
- Loans,
- Green public procurement

Project Title	**Sustainable Energy Mangement (SEM) in county public instituions (impelementation of renewable energy sources)**
Sector	Increase energy efficincy through the implementation of renewable energy sources
Reference to strategic document:	County Development Strategy (2011-2013)
Expected implementation timeframe (from-to)	5 years
Estimated project investment costs	A) Public institutions: cca 12 millon EUR • SEM Hospitals (3): cca 2 millon EUR • Development of energy audit and technical documentation: cca 300.000 EUR • Investment: cca 1.7 millon EUR • SEM Schols (48): cca 8 millon EUR • Development of energy audit and technical documentation: cca 1.7 millon EUR • Investment: cca 6.3 millon EUR • Other public institutions (6): cca 2 millon EUR • Development of energy audit and technical documentation: cca 400.000 EUR • Investment: cca 1.6 millon EUR B) Energy Management system: cca 400.000 EUR Investment: cca 12.4 millon EUR
Expected sources of financing	County budget, EU funds, own sources of public institutions, other sources.
Expected energy savings (MWh/a)/ expected renewable energy production as an outcome of project actions (MWh/a)	As we do not have the data on the expected energy savings for all 57 institutions as an example we give the expected energy savings in three hospitals and 20 schools in Zadar County as follows: A) Reduction of energy consumption in hospitals in Zadar County is estimated at 25-30% of the total energy needs (annual savings around 100-150 kWh/m2) B) Estimated savings in 12 primary schools and 8 secondary schools is 100.000 euros.
Expected CO2 reduction of project actions (t/a)	Estimated savings in 12 primary schools and 8 secondary schools is 510.66 t CO2



Brief description of the project key actions

The main objective of the SEM program is to develop and implement a model of continuous and systematic energy management in county public institutions. The most important results of these actions are energy efficiency increase, diversification of energy sources, introduction of new energy sources and renewable energy sources, reduction of energy consumption in public institution and systematic resource management at the local and regional level. In addition to decresed energy consumption and saving money, the aim is to directly reduce greenhouse gas emissions, which contribute to global warming phenomenon.

1. Development of building's energy audit for all county public institutions

- Insight into energy consumption and efficiency use
- Proposal of possible improvement energy efficiency measures with the financial analysis of necessary investment and potential savings
- Identification of current inefficient use of energy in order to change behavior and achieve savings
- Increasing awareness of economical and rational use of energy
- Reducing energy consumption and hence monthly costs

2. Preparation of technical project documentation for 57 public institutions (hospitals, schoold, other)

- Preparation of technical project documentation and bill of quantities for necessary equipment and works (civil works, installation and other works).

3. Reconsruction of public institutions

- Procurement of equipment, Equipment installation and system adjustment, preparation of documentation required for obtaining the necessary permits, certificates and implementation of the necessary tests, on behalf of the institution for obtaining a usage permit,
- Determination of savings that can realistically be achieved in energy consumption and reduce costs for heating and hot water in the reference consumption
- Staff training in the use of new installed equipment and in behavior in accordance with the requirements of achieving the anticipated energy savings.

Severin Municipality
Croatia

Contact details

Country	CROATIA
City/Municipality	MUNICIPALITY SEVERIN
Address	Severin 137, Severin 43 274
Telephone	+385 43 889 010
Web address	www.severin.hr
Contact Name	DIJANA TURNIŠKI
Position	Head of unified administrative office
Email	procelnica@severin.hr
Key facts about city/municipality	
Population	904 inhabitants
Geographic data	Municipality Severin covers 2.591 hectares of high-quality agricultural land. Area of the municipality includes the lower Highlands of Bilogora Mountain suitable for growing fruits and vines. Economic development of Severin today dependents primarily on agriculture and small businesses. Development and modernization of the village and the economy itself causing the application of more modern technologies of agricultural production and encourage intensive farming cultures. On agricultural land next to the main crops of corn, wheat and soybeans are grown, a number of vegetable crops, kale, cabbage, cauliflower, peppers, tomatoes, watermelon. Particularly significant is the cultivation of mushrooms with modern technology in greenhouses.
Key Strategic Documents	Spatial Plan (2013) , Local development strategy plan (www.severin.hr)

Brief Description of Municipality and strategic framework for EE and RE

Municipality have certain tourism potentials (wine road, bike routes, hiking) and insufficiently used business zone (20 ha).All building lots in the zone were sold but due to the economic crisis and complete discontinuation of investments only two entrepreneurs started production.One part of agricultural land is still not in use.Close to the business area and the settlement are planned highway that would get better transport links and better conditions for entrepreneurs and farmers.

Severin Municipality was established in 1997. In its 14 years of existence, the municipality has continually worked to create better living conditions for its residents.

Special attention is given to the quality of life of the population. By that we mean the level of construction of infrastructure (gas, water, sewer, roads)Water supply was established in 2011 In 2012, In 2013 we have prepare project documentation for sewer and storm water drainage.

Project Title	**sewer and storm water drainage**
Sector	infrastructure
Expected implementation timeframe (from-to)	2014-2020
Estimated project investment costs	2.000.000,00 Euro
Expected sources of financing	EU funds

Brief description of the project key actions

Through the project will be implemented in the construction of the sewer length of approximately 12 000 meters with a connection on the existing wastewater treatment plant

Objective of the project is to improve the quality of life for the inhabitants of the village, creating conditions that contribute to development of new business and tourism activities; reducing environmental pollution areas, development of social infrastructure, and the establishment of an supportive social and development environment.

Project Title	**MultifunKcional social-business building**
Sector	Business and social infrastructure
Reference to strategic document :	Local development strategy plan (www.severin.hr)
Expected implementation timeframe (from-to)	2014-2020
Estimated project investment costs	500.000,00 Euro
Expected sources of financing	EU funds, national funds
Expected energy savings (MWh/a)/ expected renewable energy production as an outcome of project actions (MWh/a)	no cost estimate / project documentation is under construction

Brief description of the project key actions

Through the project we will built multi-functional building with a clear purpose: separate areas for public services for pre-school - for entrepreneurs and businesses in the development and for social-life-INFO-club. The purpose is to improve public services by local government.

Purpose of a preschool is a creation of the conditions for children's playroom.

Purpose of office space will be for the new entrepreneurs who will provide services that are not offered in this area. Info club would provide a range of information senior citizens who are unable to use the internet. The info-youth club would be able to develop creative potential and certainly would, through his actions have become one of the major stakeholders in the formation of further development of the local community. Demographic indicators show an increase of depopulation, and we believe that the improvement of pre-school could help reduce depopulation.

The City of Pazin
Croatia

Contact details

Country	CROATIA
City/Municipality	CITY OF PAZIN
Address	DRUŽBE SV. ĆIRILA I METODA 10, 52 000 PAZIN
Telephone	+385 52 695 095
Web address	www.pazin.hr
Contact Name	LUANA BENAŽIĆ
Position	Senior Associate for Planning
Email	luana.benazic@pazin.hr
Key facts about city/municipality	
Population	8630 inhabitants
Geographic data	ISTRIA; 137,23 km2; Central Istria – Coastal Croatia
Key Strategic Documents	Istria County Development Strategy (2011-2013) http://www.istra-istria.hr/index.php?id=2950

Brief Description of Municipality and strategic framework for EE and RE

City of Pazin is Energy Charter signatory, which means that it has energy management systems (EMS) in place. EE info gallery has been opened, which contains informative educational posters and brochures on energy efficiency projects and best practices and where citizens can be informed how and where to apply energy efficiency improvement measures. Also in 2011t two information panels (Energy efficiency bilbord displays) in the inner city has been set, with useful tips about how to wisely use and save energy with the primary purpose to educate citizens about energy efficiency. Moreover, city is a EMIS (Energy Management Information System) user since its inception in 2008. Grad Pazin is also active in promoting the use of renewable energy sources in a manner that, in cooperation with the Fund for Environmental Protection and Energy Efficiency co-financing project that foster renewable energy use in households in the City of Pazin. It is also a signatory of "Covenant of Mayors" initiative.

Project Title	**Construction of cogeneration plant for centralized heat supply of the City**
Sector	(buildings, equipment/facilities, transport, local electricity production, local district heating/cooling, CHPs, land use planning, public procurement of products and services, working with citizens and stakeholders)
Reference to strategic document:	Istria County Development Strategy, paragraph 6, measure 1.10.3. Use of renewable energy sources
Expected implementation timeframe (from-to)	2014. – 2016.
Estimated project investment costs	7.000.000,00 Euro

Brief description of the project key actions

The project includes construction of a cogeneration plant for centralized heat supply of the City of Pazin. So far a study "Analysis of the heat consumption of City of Pazin and the choice of heating medium" has been created. Further steps include preliminary sizing and development of Feasibility study/Cost-benefit analysis for the construction of district heating network and site selection.

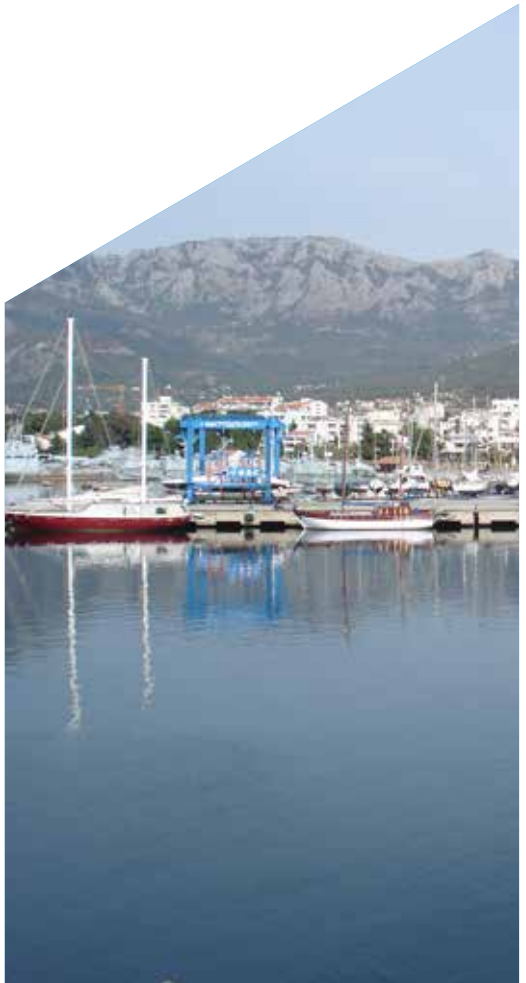
Bar
Montenegro

Contact details

Country	Montenegro
City/Municipality	Bar
Address	Bulevar Revolucije 1
Telephone	+382 30 301 401
Web address	www.bar.me
Contact Name	Žarko Pavićević
Position	Mayor
Email	predsjednik@bar.me
Key facts about city/municipality	
Population	42.048 inhabitants
Geographic data	Area 505 km2, situated in the costal region of the country with total length of coast of 46 km
Key Strategic Documents	The relevant strategic document at local level: Program of Energy Efficiency Improvement for period 2013-2015

Brief Description of Municipality and strategic framework for EE and RE

The Municipality of Bar created "The reference book on legislative framework in the field of energy efficiency" as an important input useful for all interested parties who would like to receive more information about EU and national legislation concerning the field of energy efficiency. The Reference book gives a comprehensive overview on status in EU and Montenegro. Tasks that are concerned on establishment of an information system for monitoring of energy consumption in public buildings in the Municipality of Bar together with creation of Inventory and Catalogue of the public buildings give a very useful database for future analyzing, controlling and monitoring of energy consumption. Bides that the Municipality developed first "Program of Energy Efficiency Improvement for period 2013-2015" and this document is the first municipal Program such kind developed in Montenegro as strategic framework for EE at local level. This document presents estimation of measures for energy savings and enforcement of local energy policy for the next three years. All these achievements had been done through international project of transnational cooperation "Mediterranean Building Rethinking for Energy Efficiency Improvement" (MARIE) through MED Program, funded by IPA EU fund.



Project Title	**Improvement of Energy Efficiency through an Inter-Municipal Management Network**
Sector	Buildings energy adaption, equipment/facilities, public procurement of products and services, working with citizens and stakeholders
Reference to strategic document:	Local energy plans and Programs of Energy Efficiency Improvement
Expected implementation timeframe (from-to)	June 2013 – December 2014
Estimated project investment costs	642.000,00 Euro
Expected sources of financing	EU/IPA and municipal budget

Kula Municipality
Serbia

Contact details

Country	Serbia
City/Municipality	Kula
Address	Association for Renewable Energy Sources within the Secondary Technical School "Mihajlo Pupin" Kula, 14. Laze Kostica st. ZIP 25230 Kula
Telephone	+381 (0)25 51 00 054
Web address	www.stsmihajlopupin.edu.rs
Contact Name	Marjan Ivanov, technical science specialist
Position	Managing board president , Energy Manager
Email	društvo.oie@gmail.com
Key facts about municipality	
Population	43162 inhabitants
Geographic data	481 km2

Municipality and strategic framework for EE and RE

The favourable position of the Municipality of Kula, just 132 kilometres from Belgrade and 66 kilometres from the Hungarian border, coupled with its more than 40,000 hectares of arable land and several industrial zones, ensure this municipality is attractive to foreign investors operating in numerous fields.

The Municipality of Kula has recognised the significance of strategic planning and compiled numerous policy documents that represent a prerequisite for the development of the municipality.

Thanks to its natural characteristics of soil, climate and water resources, the Municipality of Kula has great potential in the agricultural sector, which is not yet fully exploited.

Sustainable Development Strategy of Kula Municipality 2009. – 2013. defines the objective of energy efficiency and reducing energy consumption:

Reduce energy consumption of budget users and public companies

Planned activities are:

- Well insulated buildings
- Replacement of existing windows double glazed windows good insulating properties
- Replace existing lighting inside and outside of buildings with energy-saving bulbs
- Reduce damage to the furnace: Good maintenance of furnaces / Timely repairs / Modernize technology
- Professional choose suppliers
- Establish normative procedures, the responsible user incentives and penalties for irresponsible
- Feasibility Study on Renewable Energy
- Develop support measures and subsidies in the use of renewable energy

Project Title	**„Expert lectures for pupils of 8th grade elementary school from Vrbas municipality about environmental protection by renewable energy source usage“**
Sector	ENERGY – RENEWABLE ENERGY SOURCES AND ENVIRONMENTAL PROTECTION
Reference to strategic document:	Sustainable Development Strategy of Kula Municipality 2009. – 2013. Objective: Reduce energy consumption of budget users and public companies
Expected implementation timeframe (from-to)	Scholar 2013/2014 season (September 2013 – June 2014.)
Estimated project investment costs	4000,00 Euro
Expected sources of financing	Donor
Expected energy savings (MWh/a)/ expected renewable energy production as an outcome of project actions (MWh/a)	By the end of project, students will gain new knowledge about renewable energy sources, preparing grounds to have potential energents, present in Vojvodina in sufficient quantities, be perceived in much more practical manner. Students will be informed about good practice case studies from the region, but also about experiences of countries with higher level of RES usage than we are. Project implementers, technical and biology teachers in all target schools, will be present on lectures and also expand their knowledge about RES and use it to pass that knowledge to following generations of students. Project implementers – lecturers will be able to use equipment provided by this project for other activities and projects related to environmental protection. - We need to purchase one LCD projector, and it will be bought by the society internal resources - Planned number of classes is 48, with gross amount of 1400 RSD per class - Transportation is needed for lecturers from Kula to schools, 24 times per 2 classes, approx. 900 km - 700 flyers are planned to be printed - Minor fees are foreseen for the project implementers

Brief description of the project key actions

In this project we planned to organize lectures in all Vrbas municipality elementary schools. Main topic would be environmental protection, with emphasis on possibilities of renewable energy sources usage.

By RES promotion we want to raise awareness among scholars about raising air pollution and need of carbon dioxide levels reduction, also possibilities of new emery sources as well as need of rational usage of traditional energy sources – Energy Efficiency.

The project will be implemented in all elementary schools of Vrbas municipality, preferably in technical education or biology cabinets, within 3 months, depending on funds availability. Project supposes to be carried out during 2013/2014 scholar season. Target group of this project are all 8th grade elementary school students in Vrbas municipality (600) and their teachers (30).

Expected results: Raised awareness of students and teachers of Vrbas municipality about environmental protection and advantages of renewable energy sources usage. Encouragement of RES usage, contribution to ecology education, and empowerment of public awareness on the subject.

Students and teachers of schools covered by the project (total of 24 classes in primary schools, a total of 600 students and 30 teachers) will be educated about the importance of renewable energy sources: solar energy, wind energy, geothermal energy and biomass in order to preserve our planet.

Project Title	**Financial and technical assistance to the Society in applying new technologies in student education**
Sector	ENERGY – RENEWABLE ENERGY SOURCES AND ENVIRONMENTAL PROTECTION
Reference to strategic document:	Sustainable Development Strategy of Kula Municipality 2009. – 2013. - education Objective: Adapt and equip school facilities to improve the quality of education and pupils' standards
Expected implementation timeframe (from-to)	Scholar 2013/2014 season (September 2013 – June 2014.)
Estimated project investment costs	1.766.850.00 RSD ≈ 15.635,85 Euro
Expected sources of financing	Donor

Brief description of the project key actions

Education of students and citizens in the field of new technologies:

secondary school students in the area of electrical engineering, 250 students at the technical school "Mihajlo Pupin" – Kula, and Students of "Mihajlo Pupin" secondary school of the following profiles:

Computer technician, Automation technician and Technician in energetic.

These technical achievements can be also presented to other similar schools in Vojvodina.

Students of vocational schools in the field of electrical engineering.

Poor technical conditions for presenting and adopting of new knowledge and skills in computer application in automatic control systems.

The project gives Vrbas Municiplity the opportunity of equipping with new technical means and adopting new technologies.
- Equipment purchase
- Organizing lectures
- Application of new ideas
- Preparation and equipment purchase: 2 months
- Equipment installation and training preparation: 1 month
- Project implementation – lectures: 3 months

Project Title	Rehabilitation and thermal protection of school building
Sector	buildings, and increasing of the energy efficiency of the building
Reference to strategic document:	Sustainable Development Strategy of Kula Municipality 2009. – 2013. - education Objective: Adapt and equip school facilities to improve the quality of education and pupils' standards
Expected implementation timeframe (from-to)	Depending on funding, project can be implemented within 12 months.
Estimated project investment costs	26.013.205,34 RSD ≈ 230.226,00 EUR VAT excluded
Expected sources of financing	Provide funding with the project and with the participation of local government
Expected energy savings (MWh/a)/ expected renewable energy production as an outcome of project actions (MWh/a)	Saving in energy per hour Q save per hour = Q old – Q new = 244153 W Saving in energy per day Q save per day = Q old – Q new = 189045x15=3.662.295W Saving in energy per season Q=(Q save per day x 205x(tp-ts))/(tp-tsr)=320.065.305,00W - Thermal energy saving is calculated via oil quantity saved: Financial 28000 x 83RSD/kg=2.324.000,00 RSD/year
Expected CO2 reduction of project actions (t/a)	55

Brief description of the project key actions

Window replacement and mounting of thermal insulation on outer walls and covering of flat roof with tin and it's insulation in order to reduce cost of heating/cooling and electric energy – Enhanced energy efficiency of the building, extended building usage period, as well as improved comfort in the facility.

Phase 1: Window replacement and thermal insulation

Phase 2: Sloped roof thermal insulation / new building

Phase 3: Flat roof reconstruction / old building

Project Title	Energy efficiency building reconstruction – Outer joinery replacement in elementary schools in Kula and Crvenka
Sector	(Equipment for buildings, transport, energy production at the local level, central heating / cooling, education in the field of EE / renewable energy, the use of bio-fuels, etc.)
Reference to strategic document:	Sustainable Development Strategy of Kula Municipality 2009. – 2013. Objective: Reduce energy consumption of budget users and public companies
Expected implementation timeframe (from-to)	During 2013
Estimated project investment costs	14.407.820,67 RSD ≈ 126.000,00 Euro
Expected energy savings (MWh/a)/ expected renewable energy production as an outcome of project actions (MWh/a)	Thermal energy saving during one season is 191.569.536 W
Expected CO2 reduction of project actions (t/a)	Reduced harmful gasses emission approx 52.000 (t/a)

Brief description of the project key actions

By replacing the old worn out wooden and metal joinery which had long expired exploitation period, with new PVC ones with much better physical properties than the existing, school can more effectively be heated with the existing heating system and achieve cost savings in the amount of fuel consumption for heating system.

Phase 1: Careful disassembling of existing wooden windows, with tin lids.

Phase 2: Careful disassembling of metal gates and doors.

Phase 3: Material purchase, production and mounting of PVC windows made of 5 chamber profiles, strengthened with zinc plated steel profiles

Phase 4: Material purchase, production and mounting of entry doors. Student entry (POS -3) and windshield (POS -17)

Phase 5: Material purchase, production and mounting of main entry gate (POS -16) and stairways gates (POS – 13)

Phase 6: Material purchase, production and mounting of internal, windshield doors. Wings are based on pendulum joints (POS -18 and 19)

Phase 7: Material purchase, production and mounting of window drips, after windows were mounted.

Phase 8: Material purchase, production and repair of walls, inner side

Phase 9: Material purchase, production and repair of walls, outer side

Phase 10: Mounting, use and dismounting of scaffolding, fences etc.

Phase 11: Unforeseen works (5% of previously listed ones)

Paraćin Municipality
Serbia

Contact data:

Country	Serbia
City/Municipality	Paraćin
Address	Tome Zivanovića 10, 35250 Paraćin, Srbija
Phone	+381 35 569 590
Web address	http://www.paracin.rs
Contact person	Jugoslav Nikolic
Position	Energy manager
E-mail adresa	Jugoslav_nikolic@paracin.rs
Key facts about the municipality	
Population	58301 inhabitants
Area	541,70 km2
Key strategic documents	Sustainable Development Strategy (2008-2017)

Short description of the municipality and its strategic framework for EE and RE

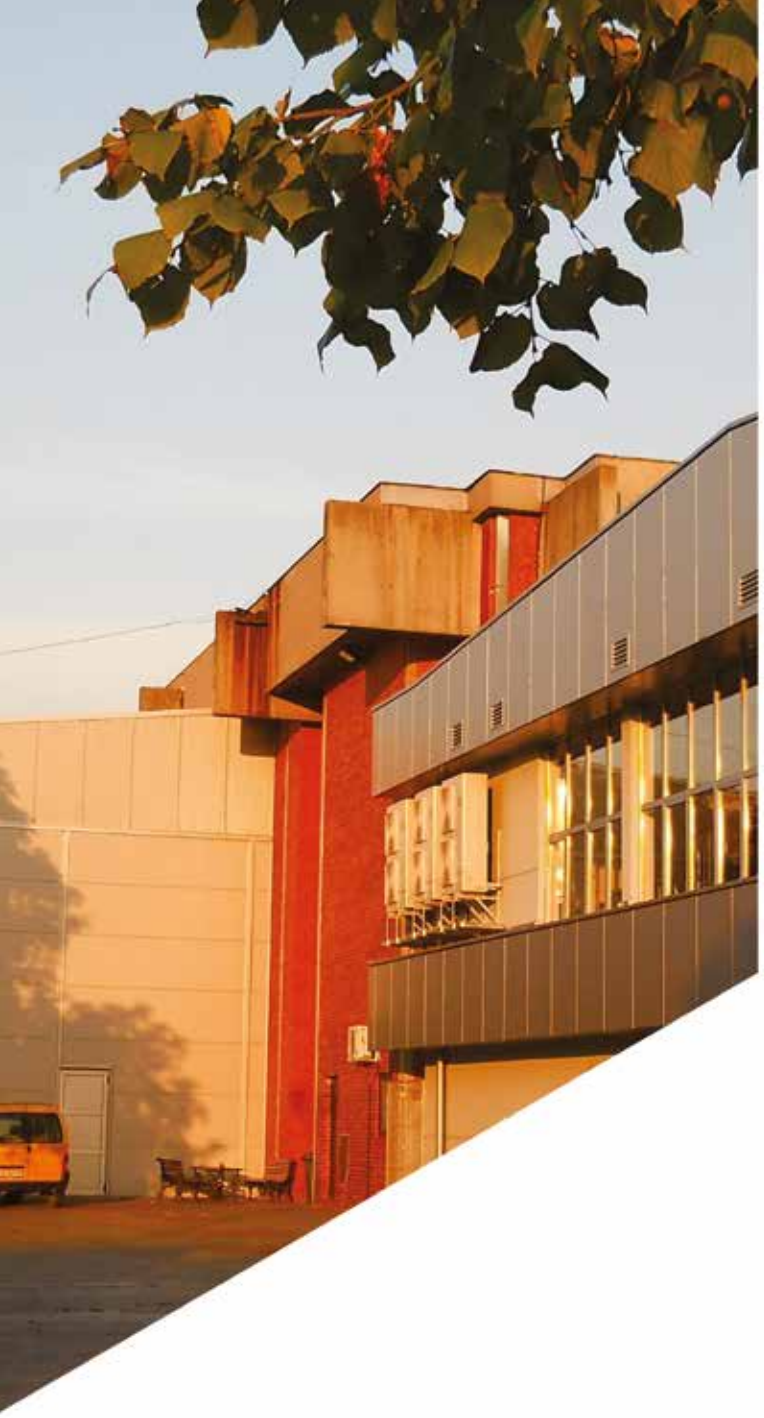
The municipality of Paraćin is located in the heart of Serbia, 156km south of the capital Belgrade, on one of the most important routes in Europe – corridor X. Paraćin is part of Šumadija and Pomoravlje region and it is part of Pomoravlje district. The town itself is situated 3,5km off the right bank of the Morava river, with the river Crnica flowing through the town.

Paraćin is industrial centre with many decades of glass, fabric and candy production.

The municipality of Paraćin includes 33 settlements in the area of 541.7km2. Population of the municipality, according to 2002 census, is 58,301.

Having in mind the experiences of the developed countries, as well as the specific framework of authority of the municipalities in Serbia, the municipality has made set of priorities in energy policy, which are starting point for the development of strategic documents in this field:

- Secure optimal and safe distribution of energy on the territory of the municipality;
- Reduce energy consumption by reducing municipal expenditures for energy, while reaching and maintaining comfort in public edifices;
- Reduce expenditures of public communal enterprises, while reaching and maintaining quality of the communal services;
- Introduction of the renewable sources of energy, with maximum use of local sources;
- Creating possibilities to wider population for use of different sources of energy;
- Reduce negative impacts of energy production on environment.



Name of the project	**Heating System Reconstruction in the Sport and Recreational Centre "7 Juli" using Solar Collectors**
Field	Renewable sources, heating - local district heating/cooling
Connection with strategic document	Sustainable Development Strategy (2008-2017)
Estimated project investment costs	151.200,00 Euro
Expected source of financing	Donor

Short description of key project activities

The sports dome, which is part of Sport and Recreational Centre "7 juli", has 2 indoor pools heated by electric boilers. Electricity expenditures are very high, as the pools are provided by great deal of heated water all year long.

Based on the strategic orientation of the municipality, to replace classic with renewable sources of energy wherever this is possible, the idea to heat the water for the pools using solar energy was developed.

Solar heating is fully usable during the summer months, although in spring in autumn there are satisfactory levels of insolation. This fact makes it possible to decrease the expenditures for electricity. If there were average savings of 80% in the summer months, that makes annual savings of 35-40%.

The project proposal was highly praised by German organization for technical cooperation (GIZ), which provided 3000 EUR grant (70% of the needed funds), for financing the development of the main project and technical control. The project documentation was completed in January 2010.

The project includes public procurement process for selecting the constructor for distribution and installment of needed equipment, procurement of necessary equipment according to main project specifications, construction, installment, trying out the installed system and introduction of the new system.

Name of the project	**Public lighting reconstruction in Municipality of Paraćin**
Field	Renewable sources, public lighting
Connection with strategic document	Sustainable Development Strategy (2008-2017)
Estimated project investment costs	800.000,00 Euro
Expected source of financing	Donor

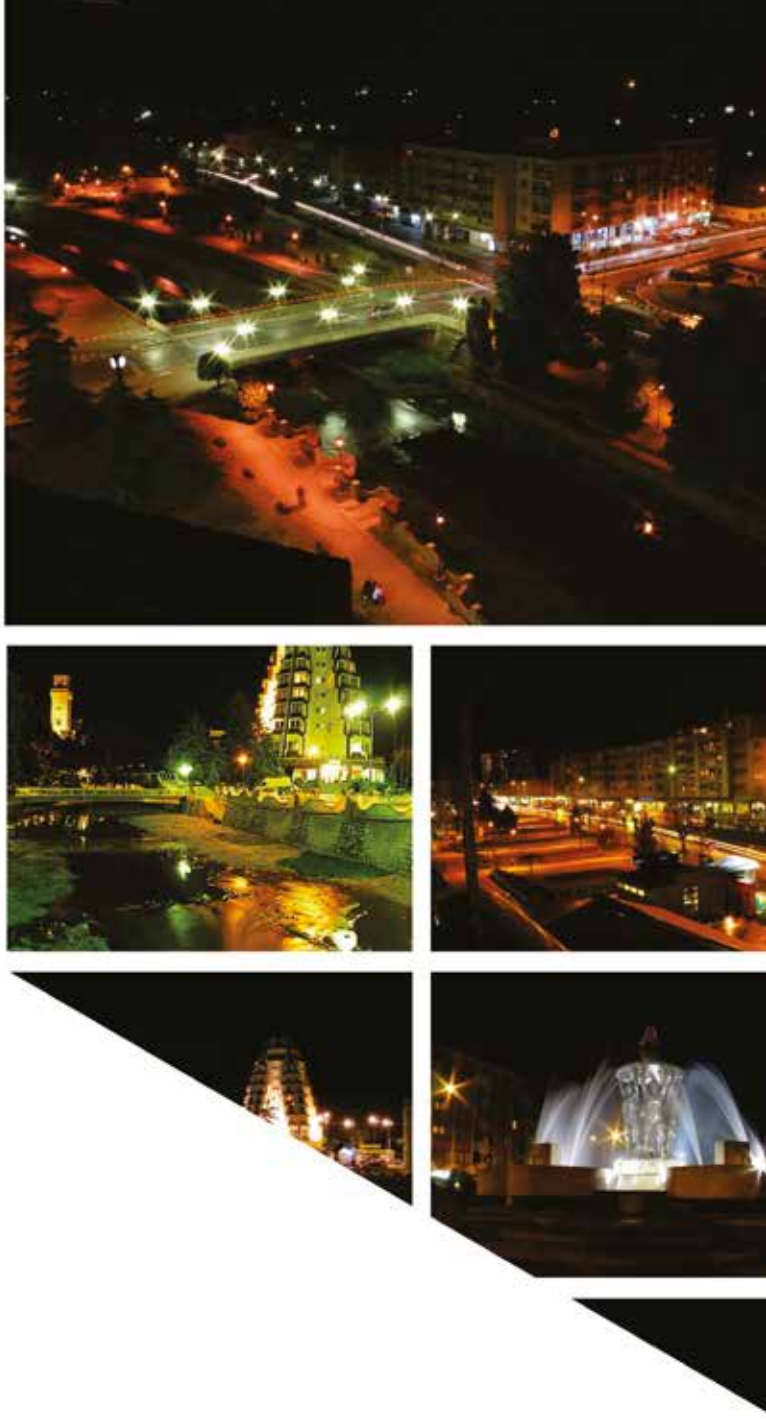
Short description of key project activities

The prerequisite for the introduction of new modern technology to monitor and manage such a system is that, first of all, the old mercury vapor lamps replace with sodium ones, to make the system more energy efficient and to reduce consumption, and maintenance costs.

Modern technologies allow complete automation of the system and the ability to manage the system remotely , monitor consumption, exclusion and inclusion, increase or decrease the brightness, and so on. Using new technologies, especially the use of GSM network and GPRS devices, it is possible to solve all the above-mentioned shortcomings of the system and significantly simplify system management, and reduce the financial costs.

It is estimated that the realization of this project would save 35-40% of the funds, which is not negligible, because it is a huge system, which expands each year, in line with the increasing demands and needs of citizens, in order to increase the overall comfort and living conditions for citizens of Paracin.

The project proposal is highly rated by the German Technical Cooperation GTZ, which approved the donation of 3.500,00 €, which is 70% of the funds needed for financing the main project and technical control. Project documentation was completed in January 2010.



Aleksinac Municipality
Serbia

Contact details

Country	Serbia
City/Municipality	Municipality of Aleksinac
Address	Knjaza Milosa 169, 18220 Aleksinac
Telephone	+381 18/809-001, +3810 18/809-021
Web address	www.aleksinac.org
Contact Name	Vesna Radivojevic
Position	Chief of Inspection Service
Email	radivojevicv@yahoo.com
Key facts about city/municipality	
Population	51,863 (According to 2011 census)
Geographic data	Nisava District, covers an are aof 707km2, South eastern part of the Republic of Serbia
Key Strategic Documents	Sustainable Development Strategy of Aleksinac Municipality (2010 - 2020) http://www.aleksinac.org/index.php/strategije-razvoja/strategija-odrzivog-razvoja , http://www.aleksinac.org/index.php/strategije-razvoja/leap

Brief Description of Municipality and strategic framework for EE and RE

The Municipality of Aleksinac is located in the Ništava District (South Eastern part of the Republic of Serbia). According to 2011 census, the town has a population of 17,978 inhabitants, while the municipality has 51,863. The town is situated close to important traffic routes: international railway route North-South and the E-75 highway that connects Europe with Southern Europe and the Near and Middle East, in Asia. At only 3 km from the city center, in Zitkovac, is the railway station "Aleksinac" and at about 30 miles an International airport "Constantine the Great" in Nis.

Project Title	**Detailed study of energy efficiency and building energy passport**
Sector	Buildings
Reference to strategic document:	Sustainable Development Strategy of Aleksinac Municipality (2010 - 2020) (http://www.aleksinac.org/index.php/strategije-razvoja/strategija-odrzivog-razvoja , http://www.aleksinac.org/index.php/strategije-razvoja/leap)
Expected implementation timeframe (from-to)	2014-2015
Estimated project investment costs	Assessment of investment is not made(about 250.000-300.000euro for all objects)
Expected sources of financing	A municipal budget, EU Funds, Relevant Ministry
Expected energy savings (MWh/a)/ expected renewable energy production as an outcome of project actions (MWh/a)	Estimated annual energy saving - 220 MWh/a Estimated production from renewable sources - 20MWh/a
Expected CO2 reduction of project actions (t/a)	39t/a

Brief description of the project key actions

The project involves the implementation of energy efficiency measures in 5 buildings at the territory of the municipality Aleksinac which had previously Detailed study of energy efficiency and Energy passports. Those are residential facilities for individual and collective housing. Proposed measures for energy recovery facility claddings (thermal insulation of walls, roofs, and replacing windows) rehabilitation of the heating system and the use of solar energy for hot water.

Project Title	**Energy Efficiency in Buildings**
Sector	buildings, equipment/facilities
Reference to strategic document:	Sustainable Development Strategy of Aleksinac Municipality (2010 - 2020) http://www.aleksinac.org/index.php/strategije-razvoja/strategija-odrzivog-razvoja, http://www.aleksinac.org/index.php/strategije-razvoja/leap
Expected implementation timeframe (from-to)	2014-2015
Estimated project investment costs	Assessment of investment is not made (about 250.000-300.000 euro for all objects)
Expected sources of financing	A municipal budget, EU Funds, Relevant Ministry
Expected energy savings (MWh/a)/ expected renewable energy production as an outcome of project actions (MWh/a)	Estimated annual energy saving - 220 MWh/a Estimated production from renewable sources - 20MWh/a
Expected CO2 reduction of project actions (t/a)	39t/a

Brief description of the project key actions

The project foresees the implementation of energy efficiency measures in the building of Municipal Administration Aleksinac. Proposed measures for energy recovery facility claddings (thermal insulation of walls, roofs, replacing windows).

Pantelej Municipality
The City of Niš
Serbia

Contact data:

Country	Serbia
City/Municipality	City municipality Pantelej
Address	Gutenbergova 4a, 18000 Niš
Phone	+381 18 201 280
Web address	http://www.pantelej.org.rs
Contact person	Sladjana Ilić
Position	Project manager
E-mail adresa	isladjana@gu.ni.rs
Key facts about the municipality	
Population	53,486 inhabitants
Area	142 km^2
Key strategic documents	Sustainable development strategy of the city municipality of Pantelej (2011-2015), http//www.pantelej.org.rs

Short description of the municipality and its strategic framework for EE and RE

City municipality of Pantelej is located in south-eastern Serbia, in Nišava district. It was founded in 2004, as one of five city municipalities of the city of Niš. Pantelej is mostly rural municiaplity in which agriculture is the dominant industry, which all together give great potential for rural toursim. Pantelej encompasses 12 villages, located in the hilly and mountainous region, with almost 3,500 households. Local population is mostly involved in agriculture, horticulture, wine production and farming. The municipality has adopted Sustainable development strategy.

Project Title	Public lights using wind and solar energy
Field	Public lighting
Connection with strategic document	Sustainable development strategy of the city municipality of Pantelej, part 2.7, Area: Environmental protection
Expected time for completion of the project (from – to)	15 months
Estimated value of the project	300.000,00 EUR
Expected source of financing	IPA funds, funds of the Ministries of the Republic of Serbia
Expected energy savings (MWh/a) / Expected production of renewable energy as the result of the project activities (MWh/a)	4KWh/m2 is daily mean insulation of the territory of Niš and that is the parameter used for calculating energy efficiency. Rough estimate is 100,000 KWh/a
Expected reduction of CO2 emission as the result of the project activities (t/a)	Cca 1 kg CO2/, 100 t/a. High reduction of electricity use and emission of CO2 (proportional to produced energy)

Short description of key project activities

The project "Public lights using solar and wind energy on the location of Sombor boulevard-Medijana boulevard-Matejevac interchange" provides contemporary solutions in the use of alternative sources of energy. By preliminary architectural solution the lights posts will be constructed in the middle of the boulevard, with lights on both lanes or on side of lanes, depending on the final project. The light posts should fit in with architectural and ambient surrounding. The use of alternative sources of energy demands that the light posts be adopted these applications. The distance between light posts will be 35-40m, which makes a total of 100 light posts (the height of the light posts will be 7-8m).

Having in mind all of the aspects of implementation of advanced solutions in the field of public lighting, the system will have two modules per light post with lights of 60-120W power (high-efficiency LED lights). Each of the light posts would have PV solar collector and micro wind generator, as optional backup energy source. Two systems of lighting are combined into one (if there is no wind the batteries are supplied by solar energy and vice versa). The lamp is projected to maximize the efficient use of the produced energy, with energy efficient light bulbs and is activated automatically in the case there is no wind or solar energy sources. The energy is 100% clean and free. Total installed power of the system would be 30-40kW. The project would be realized through smart system managed and supervised in real time.

The scope of the project includes the following activities:

- Development of concept solution and basic engineering;
- Procurement of equipment and distribution of materials to be installed (distribution and installation of light posts is not included);
- Electric construction works;
- Technical monitoring of installment;
- Introduction and start of work of the new system.

Goals: implementation of advanced technologies in the field of public lights, improvement of energy efficiency by using alternative sources of energy, raising the level of ecological standards, reduction of communal waste (mercury based lights are accounting 70% of all public lighting systems in Serbia)

Ćuprija Municipality
Serbia

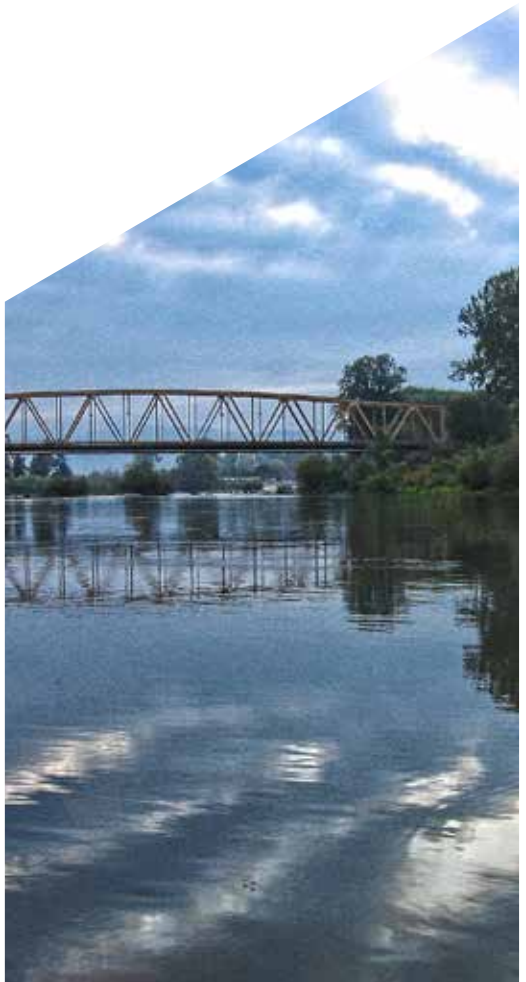
Contact Data:

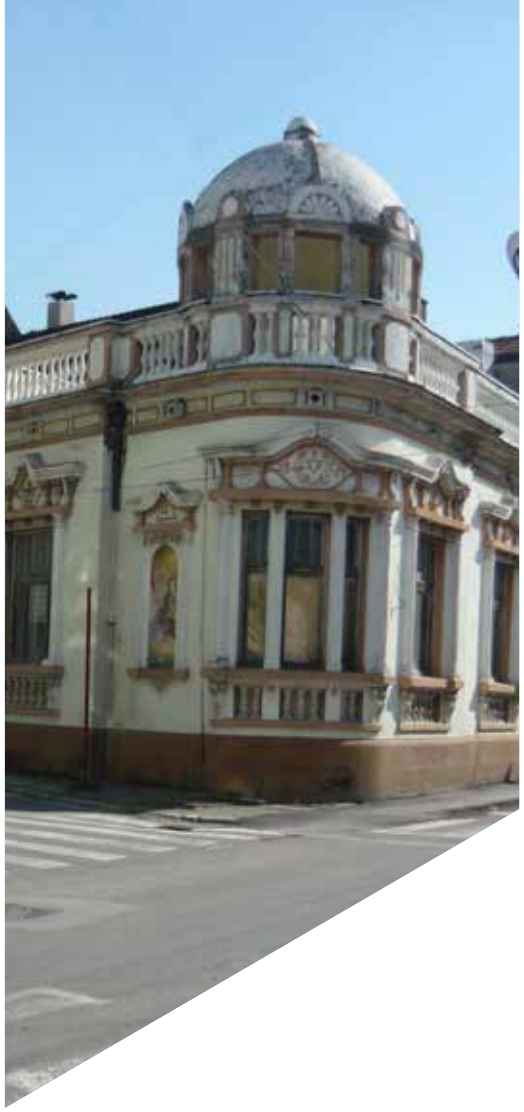
Country	Serbia
City/Municipality	Ćuprija
Address	13. Oktobra 7 35230 Ćuprija
Phone	+381 35 8470248 ext. 111
Web address	http://www.cuprija.rs
Contact person	Željko Dželatović
Position	Higher expert associate in local government
E-mail address	ipsluzba@cuprija.rs
Key facts about the municipality	
Population	30.020 inhabitants
Area	287 km^2
Key strategic documents	Sustainable Development Strategy of the Municipality of Ćuprija (2010-2015) dokuments

Short description of the municipality and its strategic framework for EE and RE

The Municipality of Ćuprija is attractive location for investors, offering positive business climate and well-used strategic position, with possibilities for development of food processing and production industry, tourism and services in transportation sector. The municipality has developed communal and urban infrastructure, based on energy efficiency and „green" policy, as well as with agriculture accustomed to the demands of the market. The municipality is musical education, sports and healthcare centre with active participation of citizens in social protection.

One of the priorities of the Sustainable Development Strategy 2010-2015 is to develop local infrastructure while respecting the principles of sustainability, energy efficiency and environmental protection. Strategic goal is to improve communal services in accordance with principles of environmental protection, as well as to improve energy efficiency. Operative goal is to improve energy efficiency through reconstruction of public lights system (2,000 lights) and introduction of gas heating in 5 public buildings.





Project Title	**Project of reconstruction of public lights system on the territory of the municipality of Ćuprija – Second phase**
Field	Public lights
Connection with strategic documents	Operative goal in Sustainable Development Strategy 2010-2015: to improve energy efficiency through reconstruction of public lights system (2000 lights), "Decision on increasing energy efficiency of public and interior lighting on the territory of the municipality of Ćuprija", adopted on 18th April 2012 by the municipal assembly of Ćuprija.
Expected time for completion of the project (from – to)	Start of the project – Upon funds are provided End of the project – 4 months after the start of the project
Estimated value of the project	≈ 120.000,00 euro
Expected source of financing	Municipal budget of Ćuprija, Budget fund of the Republic of Serbia for the improvement of the energy efficiency, private partner financing
Expected energy savings (MWh/a) / Expected production of renewable energy as the result of the project activities (MWh/a)	311, 42 MWh (311.416,60 kWh) annual savings of electricity
Expected reduction of CO2 emission as the result of the project activities (t/a)	249,13 t at annual level

Short description of key project activities

The project for reconstruction of public lighting of the municipality of Ćuprija, developed by public enterprise "Construction and development directorate" of the municipality of Ćuprija, which has in its scope of work the maintenance of public lighting, aims to reconstruct the public lighting on the territory of the municipality (except the lighting in public parks and decorative lighting). 3324 public lights will be replaced with more efficient lights based on the high-pressured sodium sources of lights.

In the first phase of the reconstruction first 748 with energy efficient sources of light.

Second phase of the project includes procurement and instalment of another 1044 lights, with 285 of those being sodium based with 150W power and 759 with based on the high-pressured sodium of 70W power. By this all of the lights will replace old ones based on mercury having 250W and 125W power. This will ensure energy savings of 42.4%, by reducing power of sources of light and reducing the maintenance costs because new sources of light will have the 3 longer usage span. The project also ensures the environmental protection by reducing CO2 emission.

Effects of the project: annual savings because of the reduction of the electric energy use will be 17.168,00 euros and maintenance savings will be 3.410,00 euros annually – a total of 20.758,00 euros.

The payback period of the investment is shorter than 6 years and it could be even shorter with the increase of price of electricity.

Project Title	**Adaptation of interior lights in "ADA" Ćuprija sport dome**
Field	Buildings – interior lights
Connection with strategic document	"Decision on increasing energy efficiency of public and interior lighting on the territory of the municipality of Ćuprija", adopted on 18th April 2012 by the municipal assembly of Ćuprija.
Expected time for completion of the project (from – to)	Start of the project – Upon funds are provided End of the project – 1 month after start of the project
Estimated value of the project	≈ 20.000,00 euro
Expected source of financing	Municipal budget of Ćuprija, Budget fund of the Republic of Serbia for the improvement of the energy efficiency, private partner financing
Expected energy savings (MWh/a) / Expected production of renewable energy as the result of the project activities (MWh/a)	≈ 76,95 MWh (76.948,8 kWh) annual savings of electricity
Expected reduction of CO2 emission as the result of the project activities (t/a)	≈ 61,6 t annually

Short description of key project activities

After completion of the project 56 reflectors with sources of light based on high pressure mercury will be replaced with 66 energy efficient reflectors based on metal-halogen. The power of mercury reflectors is 1000W and the new reflectors have power of 426W, which means that reduction of installed power of light from 56kW to 28.12kW will provide electricity savings of 49.8%.

This project would also provide complete replacement of electric equipment of the switchboard. This would increase reliability of the system, simplify starting and make it easier to manage and turn on only some lights. In the end, this would again bring saving of electricity because lights will be used upon need, which is now not the case.

Effects of the project: annual savings of electricity and used power would be ≈ 6.214,00 euros.

Payback period is 3 years and savings are even greater having in mind that metal-halogen lights last much longer than mercury lights. Project also helps environmental protection and reduces emission of CO2.

This project, along with project for reconstruction of public lights on the territory of the municipality of Ćuprija, all the energy efficiency measures of the municipal "Decision on increasing energy efficiency of public and interior lighting on the territory of the municipality of Ćuprija", adopted on 18th April 2012 by the municipal assembly of Ćuprija, are applied.

Project Title	**Project for heating sanitary water with solar energy in kindergarten Leptirić (Butterfly)**
Field	Renewable Energy Sources – Solar Energy
Connection with strategic document	Sustainable Development Strategy of the Municipality of Ćuprija (2010-2015)
Expected time for completion of the project (from – to)	Start of the project – Upon funds are provided End of the project – 5 month after start of the project
Estimated value of the project	≈ 28. 500,00 euro
Expected source of financing	Municipal budget of Ćuprija, Budget fund of the Republic of Serbia for the improvement of the energy efficiency, private partner financing
Expected energy savings (MWh/a) / Expected production of renewable energy as the result of the project activities (MWh/a)	24,98 MWh (24.980 kWh) annual savings of electricity
Expected reduction of CO2 emission as the result of the project activities (t/a)	16,6 t annually

Short description of key project activities

Kindergarten "Leptirić" is part of the pre-school institution "Dečija radost" in Ćuprija. In kindergarten building is kitchen which prepares 1500 meals daily for children from 6 kindergartens in Ćuprija municipality. The current system for sanitary hot water with electricity is energy, environmental and economically inefficient (electricity consumption in the reference 2010th was 62 460 kWh, while the 50 tones of CO2 is emitted in atmosphere per year). For all of the above kindergarten "Leptirić" needs new system for preparation of sanitary hot water.

Planned solar system consists of two parts, the east and west wing of the building with 8 solar panels with one boiler of 1,000 liters and a boiler of 2,000 liters each.

Technical characteristics of equipment:

- projected number of solar panels = 16
- The number of solar water heaters = 4 (2 per 1000 liters and 2000 liters per 2)
- Gross area of solar collectors = 40.32 m2
- Solar collector aperture area = 37.28 m2
- installed power of solar collectors = 28.2 kW

This project is done by two companies: "Viessmann Srbija", which finished techno-economic analysis and local Government of Ćuprija Municipality.

Vrbas
Serbia

Contact details

Country	Serbia
City/Municipality	Municipality of Vrbas
Address	MaršalaTita 89
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Contact Name	Nikola Vujović
Position	Energy Manager
Email	nikola.vujovic@dirvrbas.co.rs
Key facts about city/municipality	
Population	42.092 inhabitants
Geographic data	142 km2
Key Strategic Documents	Energy Strategy of the Municipality of Vrbas (2013 – 2020)

Brief Description of Municipality and strategic framework for EE and RE

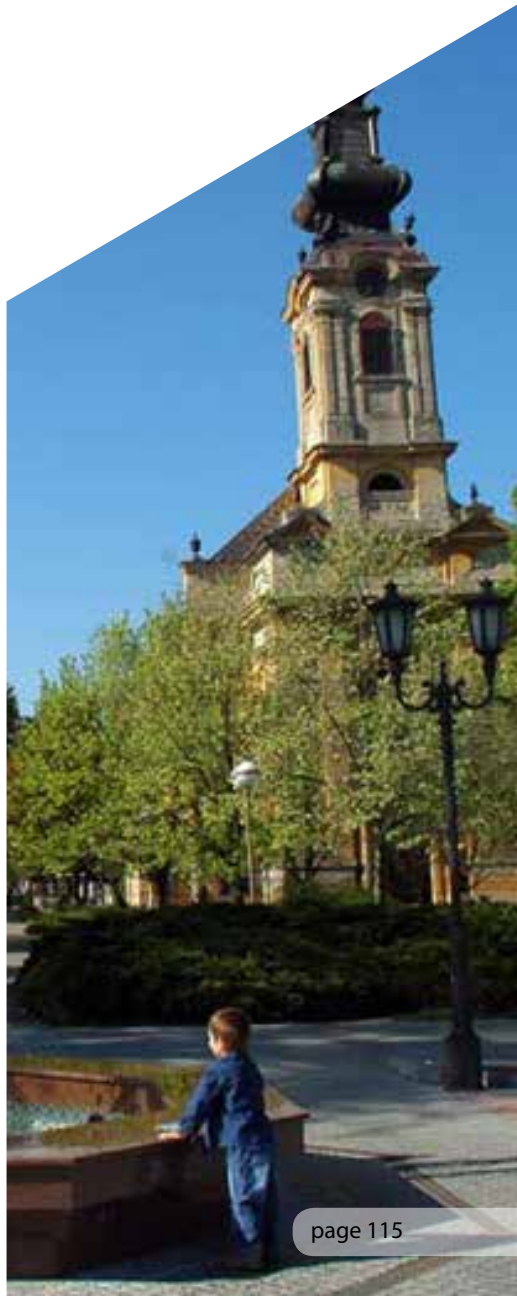
Municipality of Vrbas is situated in the Autonomous Province of Vojvodina, on the crossing section between Central and Southern region of Bačka, and it falls under administrative competence of Southern Bačka district. In 2011 the city had a total population of 24,112, while the municipality had 42,092. It is located along the route of Veliki Bački kanal (The Great Canal of Bačka) which is core part of the Danube-Tisa-Danube hydro system. Apart from Vrbas, the administrative centre, following settlements also form the municipality: Bačko Dobro Polje, Zmajevo, Kucura, Ravno Selo, Savino Selo and Kosančić.

Municipality of Vrbas is one of the first municipalities in Serbia that realized the significance and role of energy management and started with continuous monitoring of energy consumption, the implementation of energy efficiency, renewable energy and environmentally friendly fuels for buildings owned by the municipality.

With continuous engagement of energy management we want to achieve direct the energy and financial savings, reduce harmful impact on the environment, implement active policies and raise the level of responsibility and awareness concerning energy saving among citizens of the Municipality of Vrbas.

By establishing the Office of Energy Management, our Municipality is starting the process of sustainable energy development and environmental protection. World, including the European Union and Serbia and all its citizens are faced with uncertainty concerning the future caused by climate change.

Action plans from Energy Strategy are based on the initiation, promotion and creation of appropriate programs, plans, decisions and guidelines for the construction of low energy buildings in the municipality of Vrbas, rational use of energy in final energy consumption, conservation and enhancement of the environment ,while supporting economic and industrial development, increasing the standard of living and with this, the sustainable development of the Vrbas Municipality to the benefit the of all our citizens and future generations.



Project Title	Reconstruction of street lighting in the municipality of Vrbas
Sector	Public lighting
Reference to strategic document:	Energy Strategy of the Municipality of Vrbas (2013 – 2020)
Expected implementation timeframe (from-to)	6 months
Estimated project investment costs	800.000,00 Euro
Expected sources of financing	ESCO (energy performance contracting), IPA funds, funds of the Ministries of the Republic of Serbia
Expected energy savings (MWh/a)/ expected renewable energy production as an outcome of project actions (MWh/a)	Rough estimate is 1,500,000 kWh/a
Expected CO2 reduction of project actions (t/a)	1200 t/a

Brief description of the project key actions

Major problems of the town are dark streets, blinking light and failures of luminaries. The new lighting system will guarantee an optimal lighting of roads, pedestrian zones, pavements, squares and parks. As a consequence, the new lighting system will contribute to the unique atmosphere of the town at night as well as to the improvement of the safety of roads in the town. At the same time the new lighting will also play a significant role in the decrease of crime rate in the town.

The investments for the renovation of the street lighting system will also substantially save the operating costs in the future. Apart from the general consumption of electric energy the susceptibility to failure of the public lighting shall be decreased as well.

Financial and other aspects should be taken into account, too, while deciding about the renovation of the street lighting. Reduction of energy consumption is one of the features of a reliable approach and a step forward towards the life in a healthy environment for future generations.

Aim of this technical solution is to replace all mercury lamps with new energy-efficient high-pressure sodium lamps and the introduction of a central unit for continuous regulation of the luminous flux that allows an additional energy saving. With this are expected significant energy savings in public lighting within municipality of Vrbas. Most of the lights in the Municipality of Vrbas are energy inefficient and outdated mercury based lamps.

In the municipality of Vrbas there are 2896 mercury lamps, and 2098 pcs. of 125W, 611 pcs. of 250W and 187 pcs. of 400W. All mercury vapor lamps should be replaced by sodium lamps with bulbs 70W and 150W.

Based on the feasibility study done by the Energy management team of Municipality of Vrbas it is proved that the introduction of a central unit for continuous regulation of the luminous flux can reduce energy consumption up to 30%. This analysis was conducted according to the current situation, i.e. without replacement of mercury lamps. Since the replacement by sodium lamps can reduce installed capacity by 40 to 60%, it was concluded that the total saving of 70% can be achieved.

Vladičin Han Municipality
Serbia

Contact details

Country	Serbia
City/Municipality	Vladicin Han
Address	Str. Svetosavska 1, 17510 Vladicin Han, Serbia
Telephone	+381 17 473 401, +381 17 473 073
Web address	www.vladicinhan.org.rs
Contact Name	Zoran Stojanovic,
Position	Vicemajor of Municipality Vladicin Han
Email	fiducija@gmail.com, info@vladicinhan.org.rs
Key facts about city/municipality	
Population	23000 inhabitants
Geographic data	area of 366 km^2, Pcinja district, Southern Serbia
Key Strategic Documents	Sustainable Development Strategy of Vladicin Han, Spatial Plan of Vladicin Han, Detailed regulation plan

Brief Description of Municipality and strategic framework for EE and RE

Vladichin Han municipality is actively working on environmental conservation and sustainable management of natural resources, creating the balance between the use of renewable energy, sustainable management of natural resources and environmental protection.

In order to develop the economy of the Municipality Vladicin Han it was planned to implement two key projects. The first is the Feasibility Study on the possibilities of eco-briquetting, which would be operated as a public-private partnership, with the term from 2013 – 2017, the estimated value of which is 1,000,000.00 RSD, and which is financed by the municipality with 10% of its own funds and which aimed to get the strategy document. The second project is the development and operation of briquette-pellets from wood waste, which also served as a public-private partnership, with the term from 2013-2017. The total value of the project is 10,000,000.00 RSD and is to be funded by the investor completely.

Project Title	**Feasibility study on the possibilities of eco briquetting (project No 3.3.1.1)** **Construction of mini-plant for the production of briquettes / pellets from wood waste (project No 3.3.1.3)**
Sector	Buildings, equipment/facilities, local district heating/cooling, Using existing biomass from forestry and agriculture
Reference to strategic document:	Sustainable Development Strategy of Vladicin Han (2013-2018), (project No 3.3.1.1 and project No 3.3.1.3)
Expected implementation timeframe (from-to)	2013 - 2017
Estimated project investment costs	project No 3.3.1.1 10.000,00 Euros project No 3.3.1.3 100.000,00 euros
Expected sources of financing	project No 3.3.1.1 Municipality Vladicin Han 10% Investor 90% project No 3.3.1.3 Investor 100%
Expected energy savings (MWh/a)/ expected renewable energy production as an outcome of project actions (MWh/a)	Exact data we'll have in a feasibility study
Expected CO2 reduction of project actions (t/a)	Exact data we'll have in a feasibility study

Brief description of the project key actions

The reason for proposing these projects is a good raw material base, which is located in the Municipality of Vladicin Han, as well as the opportunity to engage skilled workers in the production on the premises. A special feature is a good transport infrastructure, which puts the advantages of Vladicin Han over other municipalities in Serbia with similar resources. Feasibility study is a basic requirement for further action, despite the potential for the analysis of this economic activity would provide guidance on the location and number of new briquetting plant to sustained economic development.

Making mini-plant for the production of briquettes in the range of Vladicin Han is important for maximum utilization of wood resources and the wood treatment in the saw mills in the area. What is also significant and connected to this area is the existence of the trend in the input energy to replace firewood pellet both in the European Union and in Serbia. And because of the growth of this market it is expected to encounter significant business results in this area. In order to further attract investors in the field of the Municipality Vladicin Han the location for the construction of new plants was chosen and there is participating in retraining workers.

Zvezdara Municipality
The City of Belgrade
Serbia

Contact details

Country	Serbia
City/Municipality	City of Belgrade - Municipality of Zvezdara
Address	Belgrade, Bulevar kralja Aleksandra 77
Telephone	+381 11 2422 122
Web address	www.zvezdara.com
Contact Name	Edip Šerifov
Position	President of City Municipality
Email	info@zvezdara.org.rs
Key facts about city/municipality	
Population	about 166 000 inhabitants
Geographic data	Zvezdara is a part of City of Belgrade, which is capital of Serbia. It covers an area of 32 km2.
Key Strategic Documents	Strategic Development Plan of Municipality of Zvezdara 2010-2015 (http://www.zvezdara.org.rs/download/Zvezdara-Stratplanrazvoja.pdf) Social Welfare Development Strategy 2011-2015 (http://www.zvezdara.org.rs/download/Zvezdara-Strategijasoczastite.pdf) Development Strategy of City of Belgrade (http://www.beograd.rs/download.php/documents/SRGBpredlog.pdf)

Brief Description of Municipality and strategic framework for EE and RE

At the level of the Republic of Serbia, and thus the Municipality of Zvezdara, awareness of importance of renewable energy and energy efficiency principles is at a very low level. Working Group on Environmental Protection has recognized this problem and as a result of their work defined a number of projects in these areas, in order to educate citizens and business about the importance of these two concepts and prepare the ground for their implementation in practice.

Determining the amount and composition of waste that is produced in a particular area of collecting is particularly important for making strategic decisions on the final disposal in an environmentally sound manner and to the principles of sustainable development.

The next logical step is to develop programs and incentives for primary waste selection, and finally, the last element in the chain, raising awareness about the importance of recycling and concrete incentives for recycling activities. Saying "the waste material in the wrong place" should be initial and final thought when approaching the problems of waste management.

Zvezdara City Municipality, as an urban city environment with a very large population and densely populated, can cope with the problem of accumulated waste only with a strategic approach to planning and systematic work. There are many problems in the field: notably the low awareness about waste separation and recycling and environmental protection in general, a number of illegal dumps and also the issue of jurisdiction of the municipality in this area.

Project Title	**Solar collectors in Sports Center "Olimp" (Municipality of Zvezdara)**
Sector	Renewable energy
Reference to strategic document:	Strategic Development Plan of Municipality of Zvezdara 2010-2015
Expected implementation timeframe (from-to)	Project implemented in November 2012.
Estimated project investment costs	Project cost were around 145.000,00 Euro
Expected sources of financing	Project was funded by European Energy Efficiency Fund.
Expected energy savings (MWh/a)/ expected renewable energy production as an outcome of project actions (MWh/a)	Savings from solar collectors are 3,5 MWh/a per month (15% of monthly energy use)

Brief description of the project key actions

Setting of collectors provides energy savings on heating hot water for users of the Centre in the locker room. Domestic water will be heated in this way every year from March till November.

Swimming pool water in this sports center will be also heated from solar energy that this collectors provide, and the swimming pool season at the center can start earlier in the May every year.

Project Title	**Urban pockets of Belgrade**
Sector	Land use planning, ecology
Reference to strategic document:	Strategic Development Plan of Municipality of Zvezdara 2010-2015
Expected implementation timeframe (from-to)	Project started in 2012
Expected sources of financing	Budget of Municipality of Zvezdara

Brief description of the project key actions

The main goals of project are improvement of the quality of life of the urban population, raising awareness of their role in preserving the environment and improving the activation of local communities to address environmental issues, as well as the promotion of landscape architecture as a profession of the future.

The specific objectives of the project "Urban pockets of Belgrade" are:
1 - improve hygiene standards and eco-social functions of public green areas,
2 - information and direct involvement of citizens in the protection and development of the natural environment and
3 - engagement and recognition of young professionals in the field of landscape architecture-Youth of the Association of Landscape Architects, who participate in the project in collaboration with the Association of Belgrade Flower Festival

nexpo

NALAS International Municipal Fair

where ideas come to meet

Company Profiles

Strawberry Energy
Serbia

Contact details

Organisation Name	**Strawberry Energy**
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Web address	www.senergy.rs
Organisation type	Small and Medium-sized Enterprise (SME)
Contact Name	Bojana Borković
Position	Sales Director
Email	bojana@senergy.rs

Description of your company

Strawberry energy is a young Serbian company motivated by a simple vision: making renewable energy sources more accessible to all people. Through everyday use of our devices that are powered by renewable energy sources, we are giving a chance to each individual in community to learn, realize and understand the idea of clean, green technologies and to contribute to making the world a better place. We have invented the world's first public solar charger called Strawberry Tree, and for this innovation won the first award in the consuming category at the EU Sustainable Energy Week 2011 in Brussels.

Your company expertise

- Research and development in to more applicable use of renewable energy sources
- Engineering and technical consulting
- R&D
- Production and sale of solar devices
- Education about renewable energy

Your company products/services

Strawberry Tree is a socially-oriented, 100% green solar-based charger for mobile devices and Wi-Fi station which is permanently installed in the squares, streets, cafes, parks, etc. By harnessing the energy of the Sun, it enables passers-by to charge their mobile devices for free when they need it most – far from home and with an empty battery. As the energy is being stored in rechargeable batteries, it does not even need fine weather to be useful.

Through solving a citizen's problem with the use of solar energy, Strawberry Tree introduces users with the benefits they could have of these clean technologies. Strawberry Tree is also an urban gathering place which provides comfort and social connectedness to users, energy power savings for municipalities and companies, as well as an innovative ad-platform for advertisers.

Strawberry Mini is smaller portable solar charger for mobile devices which can be easily transported due to the wheels built in. With the aim of educating users, it has a touch screen where people can play eco games and read interesting facts from the fields of renewable energy sources and environmental protection. Considering its flexibility, it is perfectly suitable for events, fairs, festivals and other forms of manifestations.

Inteligentna Energija
Croatia

Contact details

Organisation Name	**Inteligentna Energija**
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Description of your company

Inteligentna Energija is SME business network which will, with their creative approach, contribute to strengthening of RES industry and energy efficiency.

Role and goal of Inteligentna Energija cluster is to provide complete support for investors in implementation of overall solutions, ensuring quality and sustainability of electricity production from RES, through their knowledge of actual technology.

Your company expertise

In line with major activities in energy sector and positive market trends in RES and energy efficiency, cluster will produce solutions and systems which ensure economical growth as well as energy savings in communities while taking care of environment.

Cluster Inteligentna Energija is capable of animating and establishing creative partnership between enterpreneurs, scientists and business institutions with following results:

- creating business ventures and technological solutions,
- development, production and delivering of RES systems and plants,
- transfer of experince and knowledge,
- business support between domestic energy market and investors,
- creating reliable and open foundations for cluster expansion.

Your company products/services

1. Hydro energy (small hydro power plants)
2. Solar energy (PV plants and thermal systems)
3. Energy efficiency (heat pumps)
4. Communication (data center)

LIBUSOFT CICOM
Croatia

Contact details

Organisation Name	**LIBUSOFT CICOM Ltd.**
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Organisation type	Small and Medium-sized Enterprise (SME)
Contact Name	Marko Ignjatović
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Description of your company

LibuSoft d.o.o. (founded in 1993.) and Cicom d.o.o. (founded in 1992.) have together started the company Libusoft Cicom d.o.o. in 1997.

Primary activities of Libusoft Cicom (short LC) are development, sale and support for accounting applications for five groups of users:

- local government
- budget users
- utility companies
- property management companies
- SMB companies

Every day our applications use: 10 regional districts, 75 cities, 135 municipalities, 400 budget users, 45 utility companies, 58 property management companies and etc.

Your company expertise

We offer software solutions and consulting services in managing real estate, finances, business process in local government units and utility companies.

Your company products/services

During 20 years of the company's development, LC has created great number of application that together make SPI® - SUSTAV POSLOVNIH INFORMACIJA (ERP - Business Information System).

Telektra
Croatia

Contact details

Organisation Name	**Telektra d.o.o.**
Address	Industrijska cesta 15
Telephone	+385 1 2050 666
Web address	www.telektra.hr
Organisation type	Small and Medium-sized Enterprise (SME)
Contact Name	Miran Kovaček
Position	General Manager
Email	telektra@zg.t-com.hr

Description of your company

TELEKTRA d.o.o. has been founded in year 1985 on a private initiative of it´s owner Mr. Miran Kovaček, and since then, it has been continuously in progress.
TELEKTRA d.o.o. has successfully implemented and certificated System of quality management in accordance to International Standard ISO 9001:2008 on 04th of April, 2003.

15.04.2008., The Ministry of Environmental Protection, Physical Planning and Construction

issued to TELEKTRA d.o.o. PERMISSION (class: UP/I-360-02/08-04/246) for performance of construction and/or construction of particular construction works.

TELEKTRA d.o.o. has obtained the ENERGY CERTIFICATE in accordance with Directive 2002/91/EC of 18.10.2011 for its business building.

Your company expertise

Our basic activities are:

1. dealership, distribution and sale of lighting fixtures of established European producers
   Telektra's goal is to provide the best service with sales of lighting fixtures of reputable European lighting producers and to satisfy the widest range of clients. Our focus aims towards interior and exterior illumination. We are also trying to provide optimal solution in illumination of public spaces and buildings, homes and private areas.
2. lighting design
   We recognize and respect demands of investor by offering him lighting fixtures of top European producers with our own lighting solutions and lighting projects.
   Our lighting design team is constantly improving professionally in order to solve tasks which are required by our associates: architects, interior designers and designers of electrical installation.
3. installation of electrical wiring and fittings
   Within the electrical installation process, we follow your investment from beginning until the final steps. Our team of competent electrical installers is managed by high quality engineers in Electrical contractor's office. We are fully equipped with all necessary machinery, tools, technical support and whole fleet of vehicles. We are proactive in following technical innovation in order to perform our work with highest possible quality
4. construction

Your company products/services

Since 1990 TELEKTRA d.o.o. is an exclusive representative and distributor of lighting fixtures in Croatia, for reputable European lighting producers: Disano, Fosnova, Prisma, Egoluce, Molto Luce, Tal, Lts , Zumtobel, Leucos, Luxit, Spittler, Tobias Grau, Buck , Fagerhult.

Also, from 2010 Telektra d.o.o. is an project partner with BEGA GROUP and PANZERI

HEP ESCO
Croatia

HEP ESCO d.o.o.

Contact details

Organisation Name	**HEP ESCO Ltd**
Address	Ulica grada Vukovara 37, 10000 Zagreb, Croatia
Telephone	+385 163 21 920
Web address	www.hep.hr/esco
Organisation type	Small and Medium-sized Enterprise (SME)
Contact Name	Vlasta Zanki, PhD
Position	Managing director
Email	vlasta.zanki@hep.hr

Description of your company

HEP ESCO is an energy service-providing company which develops, executes and finances energy efficiency projects on a commercial basis.

The service includes project development in the manner that savings in energy costs and maintenance are used to achieve the return of investment.

Projects include energy efficient modernization, reconstruction and refurbishment of existing plants and facilities including installation of renewable energy sources.

From 2003 when it was established, HEP ESCO managed more than 100 energy efficiency projects in the areas of public lighting, buildings, industry and energy supply systems.

In addition to projects implemented in Croatia and the region, HEP ESCO has participated several EU funded projects (CIP – IEE, CIP- ICT, FP7).

Your company expertise

ESCO project includes development, implementation and financing to improve energy efficiency and reduce operation and maintenance costs.

The aim of the project is to reduce energy and maintenance cost by installing new and more efficient equipment and optimizing energy systems, which ensures investment repayment through savings in the period of 5 or 8 years, depending on client and project.

The risk of savings being achieved can be assumed by HEP ESCO by giving guarantees to the client in accordance with the international protocol.

After the investment is repaid, HEP ESCO withdraws from the project and passes all benefits to the client.

Energy management for bigger clients includes supervision and management of energy systems. This includes on line monitoring of energy consumption and savings through optimal power system operation.

HELB
Croatia

Contact details

Organisation Name	**HELB ltd. for production, installation & servicing of electrical equipment**
Address	CROATIA, Dugo Selo, Slavka Kolara 4
Telephone	+385 1 2781 440
Web address	www.helb.hr
Organisation type	Small and Medium-sized Enterprise (SME)
Contact Name	M.Sc. Hrvoje Lovrić, dipl. ing., MBA
Position	Manager for renewable energy sources, energy efficiency and marketing
Email	Hrvoje.lovric@helb.hr; helb@helb.hr

Description of your company

HELB ltd. is a privately owned electrical engineering company with over 100 employees. Since 1990 the company has worked in the energy industry, primarily with the state-owned companies from INA (Oil Company) and HEP (Croatian Electrical Company) Group. With this continuous investment in people and with the trend of employment in times of economic crisis HELB has created motivated, innovative and team-work oriented employees. With more than 3.000 references, HELB has done projects all around globe in countries such as: Albania, Argentina, Bangladesh, Egypt, Germany, Italy, Iraq, Libiya, Montenegro, Russia, Slovenia, USA.

Your company expertise

Energy efficiency and Renewable energy sources

Energy audits and energy certification – number 1 in Croatia!

HELB d.o.o. occupies a convincing first place in the Republic of Croatia in the number of the procedures for the energy certification of buildings. Boredom is HELB d.o.o. 120 issued energy certificates covering it over 280,000 m2. Reference: energy certificates numerous kindergartens, schools, courts, gyms, hotels, spas, museums, and are among the largest contracts: HP Hrvatska pošta d.d., Croatia osiguranje d.d., City of Zagreb.

3MW of solar power plants

In the area of renewable energy sources, HELB deals with design, construction, installation, testing and commissioning of solar power plants. So far, the HELB contracted construction nearly 3 MW solar power plants across the Croatia.

Renewable energy sources: wind energy, water power

Placing a number of poles for the measurement of wind across the Croatia, HELB has laid the foundation for the exploitation of wind energy in the Republic of Croatia. On the largest Croatian wind power plant Vrataruša, near Senj, it is the holder of the entire electro energetic segment of the project. Even richer experience the company has gained in the modernization, maintenance and testing of hydropower plants in Croatia, in the region, and beyond.

Your company products/services

Our main services include installation, on-site testing, total preventive maintenance, and retrofitting of electrical equipment and switchgears for Power, Manufacturing/Processing and Construction industries.
For switchgear projects we are typically engaged as a main contractor or a subcontractor.

Power Industry

Our electrical services - installation, on-site testing and commissioning, and the maintenance of electrical equipment for the generation, transmission and distribution of electric energy include the following:

- high voltage equipment up to 400kV
- medium voltage equipment up to 38kV
- power transformers
- bus bars up to 400kV
- low voltage AC/DC switchgears
- batteries and charges
- protective relays and measuring equipment
- control equipment
- telecommunication equipment
- cable trays and low, medium and high voltage cables
- ground systems
- surge systems

We specialize in RENEWABLE ENERGY PROJECTS such as solar energy, wind energy, water power, geothermal energy and biomass.

Manufacturing/Processing Industry

Our services include the supply, installation, testing, and commissioning of electrical devices, equipment and substations.

Maintenance, Retrofitting & Repairs

We offer maintenance, retrofitting and repair of electrical equipment

Production

In our production area we produce different kinds of low voltage switchgears.

All our products are made in accordance with IEC regulations and international standards.

Contact details

Organisation Name	**Centre for Renewable Energy Sources and Power Quality – CRESPQ**
Address	Trg Dositeja Obradovića 6, 21000 Novi Sad, Serbia
Telephone	+381 21 485 25 03
Web address	www.crespq.ftn.uns.ac.rs
Organisation type	Organizational unit of the Faculty of Technical Sciences - Centre
Contact Name	Bane Popadić
Position	Associate
Email	banep@uns.ac.rs

Description of your company

Centre is an organizational unit of the Faculty of Technical Sciences. Being a part of an institution like Faculty of Technical Sciences, CRESPQ found its place providing professional assistance at any phase of project design/realization or power quality analysis. Having gathered a great amount of experiences and knowledge in the area of Renewable energy and Power quality, CRESPQ finds it important to actively encourage the education of different target groups within the research field covered by the centre.

Your company expertise

Centre has a wide range of services including complete technical documentation development in accordance with legislation and technical recommendations of Republic of Serbia, consulting services, techno-economical analysis, project supervision, measurement and performance analysis, power quality metering etc. Centre personnel posses all the obligatory personal licenses issued by the relevant institutions (Serbian Chamber of Engineers).

CRESPQ held a number of lectures to the students from the local university as well as to other visiting students from all around the Europe (as cooperation with student organizations). Centre is always open to holding a lecture upon invitation on the topics covered by the centre. Alongside educating the students, centre finds it very important to educate the future and current investors, about the opportunities and possible obstacles regarding the investment in the renewable energy sector in Republic of Serbia. Any number of topics can be covered ranging from the regulation and legislation to the current state of the technology.

Being a licensed software user centre can provide lectures regarding the use of WAsP, PVSyst and Caddy ++ software. Centre can also provide the practical knowledge on utilizing any number of hardware currently in the possession of the CRESPQ.

CRESPQ

Centre for RES and Power Quality

Serbia

Your company products/services

1. Development of renewable energy sector within Serbia
2. Raising the awareness of the community about the benefits of renewable energy and technologies
3. Measurements and gathering of information on solar energy potential
4. Measurements and gathering of information on wind energy potential
5. Measurements and gathering of information on small hydro potential
6. Design, development and grid integration of small and large renewable energy systems
7. Renewable system performance measurement and analysis
8. Control methodology and related topics for power grid with distributed energy sources
9. Power quality analysis
10. Renewable energy strategy development
11. Supervision and consulting
12. Techno-economical investment analysis
13. Research and development in the rising field of electric transportation technologies

Centar Pasivna Kuća

(Centre Passive House)

Serbia

Contact details

Organisation Name	**Centar Pasivna Kuća**
Address	Majevička 6, 21000 Novi Sad
Telephone	+381 60 32 30 766
Web address	www.pasivnakuca.rs
Organisation type	NGO
Contact Name	Goran Todorović
Position	President
Email	goran@pasivnakuca.rs

Description of your company

The main objectives of the organization are: promoting low-energy and passive house standards, improving existing buildings and reconstructing low-energy and passive house standards, as well as advising professionals and educating the general public.

As part of our mission we actively co-operate with similar local and regional institutions and organizations, makers of building and technical equipment and third parties involved with energy efficiency in the building sector.

We are an open type organization which promotes the awareness of energy efficiency and its application in the field of architecture, civil engineering and social development.

Your company expertise

Energy Efficiency in buildings

Energy Action Plans for municipalities

Your company products/services

1. Education in the field of the Energy Efficiency (EE)
2. Consultancy for municipalities in Sustainable Energy Action Plans (SEAP).
3. Creating hub of stakeholders in the field of EE in Serbia

CEDEF Central European Development Forum
Serbia

Contact details

Organisation Name	**Central European Development Forum, CEDEF**
Address	Žorža Klemensoa 13, 11000 Belgrade, Serbia
Telephone	+381 62 50 57 50
Web address	http://www.cedeforum.org/
Organisation type	NGO
Contact Name	Vesna G. Marković,
Position	Project Manager
Email	vgm@cedeforum.org,

Description of your company

Central European Development Forum (CEDEF) is an independent, non-governmental organization established in 2003. CEDEF's goal is to develop cooperation between regions in Europe, and promote balanced development across Central and South-eastern Europe. We advocate and promote European values and civilization standards of the 21st century, specifically applied to the development of the concept of the regions in Europe.

CEDEF's mission is to foster and develop cooperation between regions in Europe, and promote sustainable and balanced development across Central and South-eastern Europe. We advocate and promote European values and civilization standards of the 21st century, specifically applied to the sustainable development of the concept of the regions in Europe. We believe that sustainable regional development throughout Central Europe as well as more intensive economic and cultural cooperation can directly contribute to higher quality of life and faster and better integration of Central and Southeastern economic area in the EU.

Your company expertise

1. Energy Efficiency
2. Central European Free Trade Agreement (CEFTA)
3. Sustainable Development

Your company products/services

The education of regulators, policy implementators and energy managers in utilities and companies is an important segment of CEDEF work. By working in concert with the ministries, universities, cities, media and the industry we believe that can develop energy policies and solutions which best meet the needs of citizens and the economy, whilst minimizing damage to the environment.

Energy Concept
Serbia

ENERGYCONCEPT

Contact details

Organisation Name	**Energy Concept d.o.o.**
Address	Sarajevska 39, 11000 Belgrade
Telephone	+381 60 323 07 66
Web address	www.energyconcept.rs
Organisation type	Company
Contact Name	Goran Todorović
Position	Director
Email	goran@energyconcept.rs

Description of your company

Energy concept is a design-consulting firm that develops modern energy concepts in existing and new buildings. We offer complete solutions for energy savings in buildings, aimed at reducing long-term consumption and energy costs while increasing quality of life and level of comfort.

Your company expertise

Energy Efficiency in buildings

Your company products/services

1. Energy audits
2. Energy elaborates
3. Energy passports
4. Consultancy in EE
5. Projects in EE

ENERGO – MAKS
Slovenia

Contact details

Organisation Name	**ENERGO – MAKS d.o.o.**
Address	Zgornja Pristava 26, 3210 Slovenske Konjice
Telephone	+386 41 69 67 91
Web address	www.energo-maks.si
Organisation type	d.o.o.
Contact Name	Small and Medium-sized Enterprise (SME)
Position	Engineer
Email	ksenija@energo-maks.si

Description of your company

ENERGO - MAKS d.o.o. is a company which is engaged in demolition work, civil engineering and photovoltaics. The company has acquired the powers Slovenian Chamber of Engineers for the responsible governance works, and professional supervision of the construction of all types of buildings. The company also offers services in research and development in the field of construction.

The company's vision is to remain a high-quality, reliable, innovative and environmentally friendly provider of construction services. In the field of renewable energy, the company will follow the law and energy policy of the European Union.

Your company expertise

Company ENERGO-MAX d.o.o. deals with good governance of construction work.

Means of controlling the complex, less demanding and simple structures.

For the implementation of good governance and control we have gained professional examinations construction field and we are registered in the Directory of Slovenian Chamber of Engineers:
- Mag. Ksenija Golob univ.dipl.gosp.inž., IZS G-2895
- Marko Davorin Kokol univ.dipl.gosp.inž., IZS G-3351

The company participates in interdisciplinary teams. It also deals with the preparation of EU projects in the field of construction and energy sectors.

Areas of research are also evident in the personal bibliographies COBISS (articles, conference papers, final reports, studies, conceptual design, elaborations, and other works).

The company cooperates with a partner company MAK. Partnership company providing services to road freight. It offers services of soils, rocks, rubble, metal and wood.

Your company products/services

PROJECT MANAGEMENT INVESTMENTS - OPERATIONAL PLANNING

- Demolition work.
- Civil engineering works.
- Earthworks (excavation, earthworks, planning and consolidation).
- Drilling for pilots fi 40 cm, depth up to 5 m.
- Transport of soils, rocks, rubble, metal and wood.
- Layout of the surroundings.
- Investment and scheduled maintenance.
- Installation of solar energy facilities (solar panels).
- Conducting energy audits.
- Conducting EE project through Energy Performance Contracting in buildings.
- Conducting EE project through Energy Performance Contracting in public lighting.
- Construction supervision for demanding, less demanding and simple structures.
- Responsible for the management of complex, less demanding and simple structures.
- Planning the quality of investment projects.
- Design risk management of investment projects.

MARKETING INVESTMENT MANAGEMENT - TECHNICAL AND ECONOMIC PLANNING

- Consulting and planning of in the construction sector.
- Technical solutions and optimization of investment projects.
- forward planning and economic investment projects.
- Solving marketing aspects of the management of investment projects in building.
- Resource Planning project - the processes of supply of goods and services.

RESEARCH AND DEVELOPMENT IN CONSTRUCTION

- Research and development in the construction sector.
- Assist in the development of new technologies, performance materials and products.
- Technical and financial analysis the cycle construction of a building.

energo maks d.o.o.

Kirka Suri
Serbia

Contact details

Organisation Name	**Kirka Suri Ltd.**
Address	Miodraga Petrovića 15, 11210 Belgrade, Serbia
Telephone	+381 11 2711 503, 2711 440
Web address	www.kirka-suri.com
Organisation type	Small and Medium-sized Enterprise (SME)
Contact Name	Sinisa Janjusevic
Position	Commercial director
Email	sinisaj@kirka-suri.com

Description of your company

"KIRKA-SURI" is most estimated factory of boilers and boiler plants in Serbia. It was founded in 1989. Today, it is the factory with 80 employees, 10 quality engineers, and 5000 m^2 of business space.

Over 2000 boiler plants are made in more than 20 years in Serbia and abroad. Boiler plants made by "KIRKA-SURI" company are equipped with "turnkey" system.

Quality of our products is proven with certificates: ISO 9001, ISO 14001, EN3834, CE, GOST-R Russian and Ucrainian certificates, as well as with satisfaction of our investors.

Your company expertise

As a company with more than 20 years of experience in field of producing energy as well as saving energy and energy efficiency, we can offer our services from feasibility studies, design solutions, solving problems with energy consumption in different kind on industries and tailor-made solutions in biomass/waste to energy field.

Your company products/services

We are specialized in boilers fired by different types of biomass and bio waste, like, sawdust, wood chips, bark, fruit pits and pomace, coffee husk as well as agricultural biomass, wheat and soybean straw, sunflower hulls, corn cobs,… Also we have done a lot of projects for boilers fired by fossil fuels, like natural gas, heavy and light oil and coal, for district heating systems all over Serbia.

SAVABIEN
Serbia

Contact details

Organisation Name	**SAVABIEN Ltd.**
Address	Vojvodjanska 394A, 11271-Belgrade, Serbia
Telephone	+381 11 2266 150
Web address	www.savabien.rs
Organisation type	Small and Medium-sized Enterprise (SME)
Contact Name	Boris Dinic
Position	General Manager
Email	boris@savabien.co.rs , office@savabien.co.rs

Description of your company

SAVABIEN was founded in 2006, with its headquarters located in Vojvodjanska Street number 394A in Belgrade. Ongoing investments in software solutions and the latest manufacturing technologies, as well as two modern factories covering 10,000 m2, make SAVABIEN one of the leading companies in the field of processing glass and aluminium in the region.

We operate professionally, responsibly and with respect for partners and employees. Not only do we respect the differences and feel responsible for all the employees, but we also develop the working environment and mutual trust. The Company continuously invest into working space and maintains constant care of environmental protection.

Your company expertise

Insulating Glass Units, Safety glass, Aluminium carpentry (doors, windows, facades and interior), Design& Project Engeenering and R&D

SAVABIEN serves almost a 300 companies in dozens of countries and other stakeholders. We are partner with investors, architects and designers, manufacturers of energy efficient systems and financial providers to create solutions that touch people around the world.

From insulated glass to safety glass, and aluminium carpentry - breadth is a hallmark of SAVABIEN. But as much as customers value SAVABIEN's breadth of offerings, you also turn to us for expertise and knowledge that cuts across our global businesses.

Core competencies

These are the core competencies you'll find throughout SAVABIEN:

- Applied the concept of turn-key
- Installation and execution of works in construction
- Independent and autonomous provider of products, works and services
- Specific processing requirements and in glass and aluminium joinery
- Quality systems and standards (ISO 9001:2008, ISO 14001:2005, OHSAS 18001:2008)
- Insulating glass units meet DIN EN 1279-2 and DIN EN 1279-3 by IFT Rosenheim and CEKAL requirements

Deep knowledge and thought leadership within these competencies has come from deliberate investments over time, and has forged a strong competitive advantage we can share with our customers.

Your company products/services

Plant Surčin – Glass products

- Thermal insulating glass units (IGU)
- Laminated glass
- Sandblasted glass
- Drilled and polished glass
- Tempered glass

Plant Indjija – Aluminium products

- Aluminum carpentry (doors, windows, facade elements, interior elements)
- Other elements (shutters, blinds, etc.)

Services

- By the turnkey system Designing, Production, Transport and Installation in construction
- Specific processing requirements in glass, aluminium and PVC joinery

Termo Gas
Serbia

Contact details

Organisation Name	**Termo Gas**
Address	Senta, Glavni trg 6., 24400 Serbia
Telephone	+ 381 24 814 306, +381 61 15 00 124
Web address	www.termo-gas.rs
Organisation type	Limited Partnership Society
Contact Name	Šeregi Oskar, Engeenir
Position	Marketing Director
Email	termo-gas@sksyu.net

Description of your company

The company was founded by Šeregi family in Senta. With few short brakes, the firm has been working since 1989. Since 2003 we have expended our business to use of solar energy. Today, there is a growing need for the use of alternative sources of energy, in out case it is solar energy. We are one of the first to realize the importance of it and the opportunities of the emerging markets, as we became one of the first companies to install solar systems.

Our scope of work is mainly focused on the projection of solar systems for the production of hot sanitary water and the use of solar energy for heating, as well as photovoltaic systems for charging. Our partners in Solar system are Sonnenkraft-Austrija and Enertec-Slovenija.

Your company expertise

Our company projects, constructs and maintains solar systems for hot water production (hot sanitary water, heating systems, heating water for the pools). Besides thermal facilities, we also project and do complete construction of photovoltaic systems with access to distributive grid, under special offer prices – FEED-IN tariff.

Your company products/services

1. SONNENKRAFT Compact E systems with 300-100 l enameled water heaters for hot water in family houses, hotels, pansions, hospitals, geriatric institutions, schools, etc.
2. SONNENKRAFT Comfort E and Comfort E plus systems for hot water (with fresh water module – outer plate changer) as additional sourceof heating in family houses, hotels, pansions, hospitals, geriatric institutions, schools, etc.
3. SONNENKRAFT Solar and heating pump sol+, combination of solar facility with heat pump (air-water COP=4), which can meet 100% of the demands (heating and process water).
4. Photovoltaic systems with access to distributive grid underspecial offer prices –FEED-IN tariff (projection, construction, maintenance and assistance for obtaining licence of official producer of electricity in Serbia).

PLANETARIS
Croatia

PLANETARIS
Cjelovita rješenja za uštedu energije

Contact details

Organisation Name	**PLANETARIS Ltd.**
Address	Vlaška 58, Zagreb, Croatia
Telephone	+385 1 4550440
Web address	www.planetaris.com
Organisation type	Small and Medium-sized Enterprise (SME)
Contact Name	Natko Bilić
Position	General manager
Email	info@planetaris.com

Description of your company

PLANETARIS develops innovative energy solutions designed to achieve long term energy savings and energy cost reduction for building owners and to enhance the quality and comfort of building occupancy.

PLANETARIS solutions are created both for the existing buildings and new constructions for residential, public, commercial or industrial purposes.

In energy renovation of the existing buildings, PLANETARIS solutions cover a range of services: from energy audits, developing of projects and funding schemes to project implementation and long term consulting support. In constructions of new nearly zero energy buildings, PLANETARIS provides advice for investors and designers by developing energy concepts, from the initial idea to the final phase of project documentation.

Your company expertise

PLANETARIS solutions are based on multidisciplinary engineering-oriented approach and consider the possibilities of energy savings by looking in to the building's energy costs throughout its lifetime. This encompasses energy for heating, energy for hot water, cooling, ventilation, air-conditioning, lights and on-site energy production.

PLANETARIS is a reliable partner pursuing the highest professional standards. Our expertise include dealing with energy, architecture, construction, mechanical engineering, electrical engineering, finance and legal issues, and our team has accumulated experience from organizing and managing more than 200 energy efficiency and renewable energy projects performed in Croatia, in the Region and in the EU.

Your company products/services

PLANETARIS energy savings solutions include:

1. Energy audits and issuance of energy certificates;
2. Preparation and management of building energy renovation projects;
3. Developing innovative energy concepts for new buildings with emphasize on nearly zero energy buildings concept;
4. Financial consulting with regard to investment in energy saving projects;
5. ESCO services;
6. Consulting and education on energy savings for the public sector, financial institutions and designers;
7. Developing strategic and planning documents in energy efficiency for cities and counties.

In energy renovation of the existing buildings, PLANETARIS solutions cover a range of services: from energy audits, developing of projects and funding schemes to project implementation and long term consulting support. In constructions of new nearly zero energy buildings, PLANETARIS provides advice for investors and designers by developing energy concepts, from the initial idea to the final phase of project documentation.

SEVA Energie AG
Germany

Contact details

Organisation Name	**SEVA Energie AG**
Address	Europa-Allee 14, 49685 Emstek, GERMANY
Telephone	+ 49 4473 92810
Web address	www.seva.de
Organisation type	AG
Contact Name	Theodor Sommer
Position	Sales International
Email	info@seva.de

Description of your company

SEVA Energie AG specializes in the conception, production and installation of highly efficient solutions for the decentralized generation of electricity and heat via combined heat and power (CHP). The company headquarters in Emstek Lower Saxony can produce more than 300 CHP units per year where 186 of the 230 employees are situated.

With the know-how of more than 30 years of experience and one of the world's leading manufacturers of cogeneration units, the company has already installed more than 1500 CHP facilities in power from 50kW to 4 MW and run on natural gas, biogas or a variety of other gases.

Your company expertise

Beyond the standard products SEVA Energie AG offers products for gas cleaning, gas transport efficiency-enhancing solutions for based electrical generation, for cooling (absorption chillers) and steam as complete system in conjunction with a CHP plant.

With a precise construction of standardized components and high-quality materials, SEVA Energie AG achieves excellent degrees of efficiency and plant availability of more than 95%. The understanding of service is a logical extension of the products and a 24/7 and 365 day service ensures the reliability of SEVA technology and availability to customers.

SEVA Energie AG has supplied most continents of the world with CHP units and has a huge service network such as in Italy, Hungary, Poland, UK, Canada, Japan, Australia and the Russian Federation. Recently, SEVA Energie AG has successfully been issued with an order to supply CHP units to one of England's largest Biogas plants. This 5 MW system will be in operation in 2014 and is to be a showcase in Biogas technology.

Your company products/services

SEVA Energie AG engages in developing, planning, producing, building, and installing co-generation sets and standby generation sets in industry and agriculture sectors. It provides plant oil aggregates, biogas plants, network replacement units, and container concept sets. The company also provides components for energy conversion; and measuring and control, process-orientated data processing, electronic and heating, medium-voltage connection and biogas, and plant oil conditioning technologies. SEVA Energie AG also produce gas cleaning systems, cooling systems, heating systems and emergency flares. It serves biogas plants, plant oil units, sewage purification plants, and hospitals.

Duboš Gradnja
Croatia

DUBOŠ GRADNJA

Contact details

Organisation Name	**DUBOŠ GRADNJA Ltd.**
Address	HR-10 020 ZAGREB Rudeška 240
Telephone	+385 98 13 66 972
Web address	www.dubos.hr
Organisation type	Design and Consulting company
Contact Name	Željko Duboš
Position	director
Email	zeljko.dubos@dubos.hr

Description of your company

Company is specialized in electrical design, control system design, public lighting design and energy efficiency with highlight on green technologies.

As well it's authorised to perform energy audits and issue energy certificates of simple and complex buildings.

Since establishing it was involved in design of large hospitals, shopping malls and other public and private buildings

Your company expertise

Plenty executed projects in field of building and industrial control.

We developed projects based on green technologies including solar, geothermal and biomass energy application and their integration in existing power system.

A large number of performed energy audits and issued energy certificates of commercial buildings, municipal buildings and other public buildings

Company works on public lighting auditing, and provides to owners energy efficient solutions in lighting sources replacement, energy distribution savings and energy savings caused by control system implementation based on EN13201

Strong control background based on the owner experience with leading world control companies gained on projects worldwide

Your company products/services

1. Building energy assessment / energy audits and certificates
2. Public lighting energy assessment / audits
3. Energy savings studies
4. Green technology projects
5. Electrical and control systems design
6. Public lighting design

BALKANIKA ENERGY CONSORTIUM

Bulgaria

Contact details

Organisation Name	**BALKANIKA ENERGY CONSORTIUM**
Address	1680 Sofia, Bulgaria, blv. "Bulgaria" 88, fl.1, office 9-10.
Telephone	+359 2 4653291; +359 893 388 408
Web address	www.balkanikaenergy.eu
Organisation type	Small and Medium-sized Enterprise (SME)
Contact Name	Alex Vodenicharov
Position	Technical Manager
Email	office@balkanikaenergy.eu

Description of your company

The company is focused in execution of EPC contracts in the field of:

1. Energy efficiency in houses.
2. Energy efficiency in industry.
3. New installation for production of energy from fossil, renewable and alternative energy sources – power, hot water, steam, cold and etc.
4. Installation for recycling and production of energy from Municipality Solid Waste and other waste streams.

Your company expertise

The company have more than 50 qualified experts in design, project management, installing and civil works, as well as permitting to execute energy audits, designs, construction and service works from the relevant state institutions.

In project executions Balkanika Energy works closely and takes expertise from partners, such as: VIESSMANN, CLAYTON OF BELGIUM, GE, SIEMENS, UNICONFORT, SPILLING, HOVAL, MHG, WEISHAUPT and many more companies worldwide.

Your company products/services

1. Energy auditing.
2. Field surveys.
3. Feasibility studies.
4. Conceptual Engineering and Designing
5. Execution Designing
6. Business Planning
7. Deliveries and Procurements.
8. Installing and Civil Works.
9. Project Management.

Feman
Serbia

Contact details

Organisation Name	**Feman – factory of cable accessories**
Address	35000 Jagodina, Vihorska 1, Serbia
Telephone	+381 35 230 000
Web address	www.feman.net
Organisation type	Company
Contact Name	Kovačević Dejan
Position	El. engineer
Email	dejan.kovacevic@feman.co.rs

Description of your company

Feman is the largest manufacturer of cable accessories, electrical tools and wiring equipment, lighting, polyester metering cubicles in the Balkans. The company has been operating since 1985, has over 200 employees', and a wide range of over 1,500 high-quality products.

On a total area of 10 000 m^2, these products are manufactured in modern facilities: construction and development, foundries, smithies, extrusion, injection and molding of plastics, milling and sawmilling, painting, galvanizing, tool and assembly.

Our motto is "Quality First", as evidenced by a number of awards and recognitions from local and international fairs.

Your company expertise

The adoption of new products, their development and continuous improvement is led by a group of experts from various fields. All products are manufactured in accordance with JUS, IEC, VDE and NFC standards, and the company has been ISO 9001 certified since 1996. We also have the GOST certificate for the Russian market.

All our products are subjected to examination and testing, and a certain number of each batch is tested in our laboratory to ensure that the consumer gets the high quality and reliable product that is quick and easy to install. Thanks to the high quality that has become synonymous with Feman products, our sales network covers all 5 continents, and so our product found customers in remote Australia.

Your company products/services

In the field of RES and EE

1. Solar collectors
2. Heat pump (water-water, water-to-air)
3. Heating systems for greenhouses
4. Fancollers for wall and ceiling
5. Polyester modular measuring cubicles
6. Street LED lamps
7. Installation accessories

PLAN - NET
Slovenia

Contact details

Organisation Name	**PLAN-NET Ltd.**
Address	Kamnik pod Krimom 8 b, 1352 Preserje, SLOVENIA
Telephone	+386 1 363 3131
Web address	www.plan-net.si
Organisation type	Ltd.
Contact Name	Dunja Labović
Position	mag. sale
Email	dunja@plan-net.si

Description of your company

The company is specialized in photovoltaics and solar power installations. Plan-net d.o.o. offer comprehensive solutions including preparation, delivery, installation and finishing work. It is the leading manufacturer of high quality solar power plants in Slovenia, Croatia and Serbia and cooperation with innovative and reliable business partners has enabled them to achieve continual growth in product development and business excellence. The company takes great pride in their years of experience, their own heavy machinery, top technological solutions, high efficiency levels and revenues, as well as in their satisfied investors. They only use the highest quality components and employ highly qualified and responsible staff with extensive experience of maximizing the productivity of solar power plants. Plan-net Ltd. can guarantee high quality with their ISO 9001:2008 accreditation, membership of the PV Cycle (only Slovenian, Croatian and Serbian company) and ZSFI and an Excellent SME certificate.

Your company expertise

Supplier of renewable energy/energy efficiency technologies, service in RE/EE equipment disposal, service and installation of renewable energy/energy efficient technologies (solar energy), renewable energy/energy efficiency consultant and manufacturing.

For the construction of our SPPs, we use high quality Upsolar modules, the latest Schletter and Mecosun substructures and the leading SMA and Aros inverters.

High quality solar power plant parts coupled with a responsible and highly qualified workforce of experts deliver solar power plants with the highest yield to our customers. Some of the companies that put their trust in us were Omahen Transport, BTC, Krka, Loterija Slovenije, Sintal, and Mercator. More inThrough its Electric Vehicle and Charging Station divisions, Plan-net is also involved in the sale of electric scooters and cars, and charging stations respectively. The Plan-net Group of companies is renowned for its complete, high-quality and fast service, as well as for their involvement in the realisation of a global change in attitude out of respect for nature.

Along with building SPPs, we also offer:

- Design and execution of electrical installations - PLAN-NET
- UPS devices- PLAN-NET
- Electric vehicles - PLAN-NETEV
- Charging stations - PLAN-NETPP
- Air-conditioning- PLAN-NET

Your company products/services

1) electrical installation services,
2) manufacture and distribution of UPS units,
3) construction,
4) installation and service of solar power plants,
5) distribution of electrical vehicles,
6) construction of charging stations and distribution of air conditioning devices.

ALFA – GAS TERM
Serbia

Contact details

Organisation Name	**ALFA – GAS TERM**
Address	BLOK 6B Br.8. 25230 - Kula, Serbia
Telephone	+381 25 72 01 23
Organisation type	Ltd.
Contact Name	Novković Ljubomir

Description of your company

Our company's main activity is projecting and implementing of thermoenergetic, gas and heating facilities.

Your company products/services

Heat pump installation:

- water – water
- air – water
- geothermal probes
- photovoltiac panel installation
- gas installations
- thermoenergetic installations (boilers, heaters, gas pipelines etc.)

Serbian National Biomass Association - SERBIO

Serbia

Contact details

Organisation Name	**Serbian National Biomass Association SERBIO**
Address	Trg Oslobodjenja 19, 19250 Majdanpek, Serbia
Telephone	+381 62 553 089
Web address	www.serbio.rs
Organisation type	Association Consisting of Civil Associations and Companies
Contact Name	Vojislav Milijić
Position	President
Email	vojislav.milijic@serbio.rs

Description of your company

SERBIO vision is to contribute to sustainable development of bioenergy sector in Serbia, and mission is energy efficient Serbia with sustainable share of biomass in energy account. SERBIO goals are: development of market and favorable business environment for bioenergy sector in Serbia; increase of information about possibilities for biomass utilization; public-private partnership promotion; improvement of knowledge, research and development of renewable energy sector in Serbia.

Your company expertise

Lobbying, policy development, event management, consulting services for our members and non members, issuing of publication, marketing

Your company products/services

Lobbying, policy development, event management, consulting services for our members and non members, issuing of publication, marketing

MODUL E3
Croatia

Contact details

Organisation Name	**MODUL E3 d.o.o. (MODUL E3 Ltd.)**
Address	Mladice 14, HR-10090 Zagreb, Croatia
Telephone	+385 1 3450 530; +385 91 763 3236
Web address	www.modul-e3.hr
Organisation type	Small and Medium-sized Enterprise (SME)
Contact Name	Marko Zlonoga
Position	Partner Architect, Director
Email	marko.zlonoga@zg.t-com.hr

Description of your company

Engineering office MODUL E3 (Module E3) is focused on the production of all types of architectural projects, from small to large scale with an emphasis on energy efficiency and environmental friendliness of buildings.

Office Name "Module E3" represents the energy space module (module = absolute value), with three E symbolically represent: energy, efficiency and ecology. Three also stands for three-dimensional space ("E on the third") and the space or dealing with the space through the architectural design is our core business.

Our preferred mode of work is to use the space and energy in space maximally efficient and environmentally responsible.

Your company expertise

In all projects, we strive, in cooperation with investors, looking at their needs, to implement architectural solutions based on energy efficiency with using renewable energy sources. Selected models ultimately result in significant savings of a financial nature, and additional marketing and environmental effects.

In this regard, we support the client from the first idea and concept to commissioning of the building in use.

We did projects for different cities in Croatia, government institutions, privately owned companies and private investors. Projects vary in size and are geographically widespread throughout the Croatian territory.
From the previous three years of work here mentioned are some projects in which we were able to implement energy efficiency: design of new school and sports hall in Samobor, design of a police station in Cetingrad, private low-energy family houses and projects in existing buildings in order to improve energy efficiency. So far we have carried out more than 70 energy audits and certified more than 350.000 m2 of buildings across the Croatia and those numbers are growing every day.

Your company products/services

1. Architectural Design

The main activity of the office is making all kinds of architectural projects. We have with this office, and with work done with previous employers, quite the experience in the design of the tasks from small to large scale (from the interior to the development of urban plans).

While designing we provide engineering support to the investor through all stages of the project: from the first feasibility study and analysis of possible solutions, development of these through development projects in all phases (preliminary, main, execution) to obtaining the necessary permits, the design supervision, consulting, and support after putting the building into use.

In the design process we work with renowned colleagues - colleagues designers/engineers: construction, mechanical engineering, electrical engineering and other professions that make the team who can offer quality solutions for every project.

2. Energy Audits and Energy certification of buildings

The Office is authorized to conduct energy audits of residential and nonresidential buildings with a simple and complex technical system and for energy certification of residential and nonresidential buildings with simple and complex technical systems.

We produce also projects for reconstruction and renovation of existing buildings in order to improve energy efficiency.

BIOENERGY POINT
Serbia

Contact details

Organisation Name	**BIOENERGY POINT Ltd.**
Address	Serbia, Belgrade, 6/I Francuska St.
Telephone	+381 11 303 86 00
Web address	www.bioenergy-point.com
Organisation type	Company
Contact Name	Marina Ivanović
Position	Marketing Manager
Email	marina@bioenergy-point.rs

Description of your company

BIOENERGY POINT d.o.o., established in 2007, is the biggest producer of wood pellets in Serbia, and among the biggest in South-East Europe, with the production capacity of cca 40,000 tons per year. Its production plant is situated in heavily forested region of Eastern Serbia, in town of Boljevac, 200km to the South-East of Belgrade.

Your company expertise

Wood pellets production, wood processing

Your company products/services

Bioenergy Point produces wood pellets – a standardized ecological biofuel (DIN 51731 standard) produced in controlled conditions from virgin beechwood; it is used for stoves, heating boilers as well as the fuel for fireplaces.

Agenor Automatika
Croatia

Contact details

Organisation Name	**Agenor automatika Ltd.**
Address	M. Grahalića 1, HR-52440 Poreč, Croatia
Telephone	+385 52 427 520
Web address	http://agenor.hr
Organisation type	Small and Medium-sized Enterprise (SME)
Contact Name	Emil Prpić
Position	Technical Consultant
Email	emil.prpic@agenor.hr

Description of your company

Agenor Automation LLC is a company specialized in industrial and building automation, and has been active on the market since 2001, with a mission to improve the building and industrial sectors by offering complete solutions and supreme service in the automation domain. By constant development, innovation and professional improvement, we position ourselves as a relevant player, dictating the quality standards on the market. Our position is built on excellence, and our knowledge contributes to the molding of an energy efficient future on which our clients and all society can thrive.

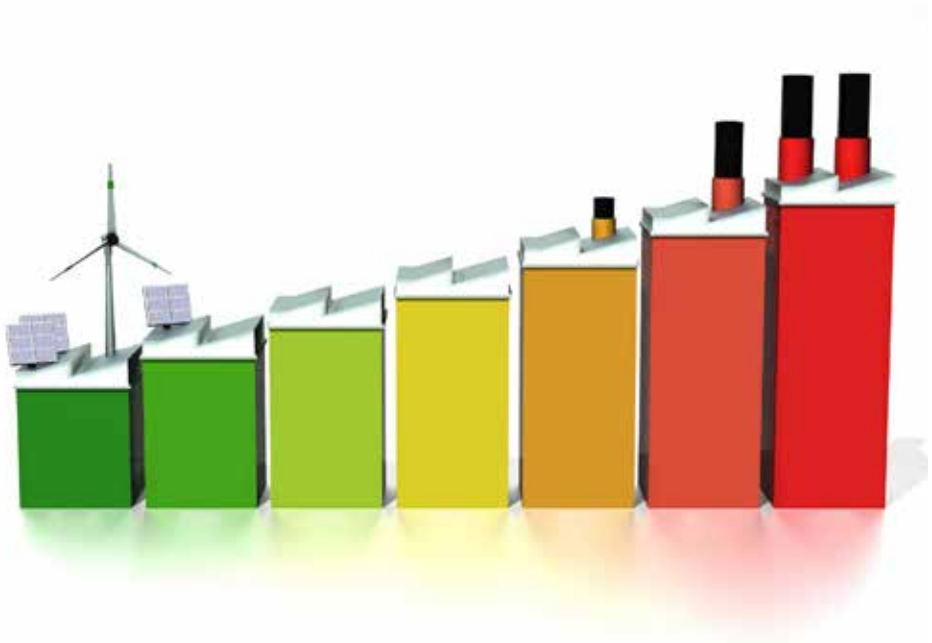
Your company expertise

Automation, intelligent distributed control systems, electrical engineering, PLC and other automation systems programming, automated systems commissioning, specialist engineer supervision.

Your company products/services

1. Retrofit automation of existing facilities or automation of greenfield projects
2. Automatic control, central and/or remote monitoring and management systems design
3. Low voltage electrical systems design (basic & detailed)
4. Electrical and automation engineering in industry, buildings and public infrastructure
5. Automation software development
6. Automation systems commissioning
7. Electrical supervision of mounting & installation works
8. Turnkey automation projects delivery

ELMA KURTALJ
Croatia



Contact details

Organisation Name	**ELMA KURTALJ Ltd.**
Address	Ivana Matetića Ronjgova 117, 10000 Zagreb
Telephone	+385 1 3035 555
Web address	www.elma.hr
Organisation type	Small and Medium-sized Enterprise (SME)
Contact Name	Ninoslav Kurtalj
Position	Managing director
Email	elma@elma.hr

Description of your company

ELMA Kurtalj Ltd. through its activities, offers project deployment, consulting, and comprehensive manufacturing service for all instrument/electrical/communication systems including; Hardware electric, IP communication infrastructure and Control infrastructure as: control panels, mimics, and test panels, motor control, switchgear, hazardous area equipment, PLC/DDC and HMI based control systems. We deliver systems and services in the field of industrial automation and building automation, as well data & voice communication infrastructure. We cover all aspects of Instrumentation, SCADA automation, BA Security, CCTV, Access control, lighting, HVAC, Energy management, building energy certificate and network infrastructure, as well Data Centre integration from grounding to automation.

Your company expertise

Building automation and integration system, Software development in BEMS and HVAC system, Energy audit and building energy system analysis, Implementation of on-grid and off grid solar system, ICT and smart grid system, Designing and deployment of electrical system and consultation service.

Your company products/services

ELMA Kurtalj ltd (ELMA) is Croatian company who works also on international market.

As consultants and specialist we evaluate the condition, identifying priority area and their solution for infrastructure for further detailed investigation. Besides consulting, we perform delivery of General Electrical engineering, Industrial automation and BA systems (building automation) as turnkey contractor, furthermore the same we perform in area of passive data communications infrastructure, as well active and wireless infrastructure. The company has strong R&D for building automation software and was recognized by Industry association Lonmark international with Product of the year 2009 for its automation platform Brightcore which is highly specialised for automation of multi-building infrastructure. The company works mostly in Croatia, whereas its software products are available globally. Its BACnet Lookout product is daily downloaded from Brightcore site worldwide (http://www.brightcore.biz).

Our service energy efficiently project could start from conducting a detailed energy system analyze in different sectors such as industries, commercial and residential buildings ,analysis of energy consumption situation ,assessment of renewable energy sources implementation such as geothermal energy, solar hot water system and photovoltaic system, as well as giving and providing ICT for energy efficiency and BMS solution for better and more efficient management of building infrastructure based on our Smart City Framework concept compliant to valid EN norms like EN 14908.

Eltec Petrol
Croatia

Contact details

Organisation Name	**Eltec Petrol Ltd.**
Address	Vranovina 30, 10000 Zagreb, Croatia
Telephone	+385 1 3834 503
Web address	www.eltec-petrol.hr
Organisation type	SME (small and medium enterprise)
Contact Name	Branimir Šteko
Position	General Manager
Email	branimir.steko@eltec-petrol.hr

Description of your company

Eltec Petrol Group provides energy and water services reducing the consumption of energy, water, costs and pollution in the areas of district energy systems, water distribution system, effective lighting systems and energy management of buildings service.

Focused on the future, we are improving our existing systems, developing high quality products and services and combining scientific achievements and the needs of our customers.

A clear business strategy and high quality products and services approach according to client's needs are assuming Eltec Petrol as leading provider of complete solutions in South Eastern Europe.

Our 70 experienced, competent, highly trained and motivated employees are covering mechanical and electro engineering, ICT, mechatronics, finance and legal affairs. Teamwork, innovativeness and specialization guarantee top quality for provided products and services.

Your company expertise

Comprehensive solutions for economic planning, construction, renovation and management of district energy systems, water distribution systems, effective lighting systems and energy management of buildings are our focus.

Business sectors are:

1. District energy,
2. Water distribution system,
3. Effective lighting systems,
4. Energy management of buildings service

Reference selection are:

- Cogeneration in industry Unior
- Industrial Lighting Acroni
- Industrial treatment plant Papirnica Vevče
- Industrial treatment plant Ravne
- Small treatment plant (67 BP)
- Kranj municipal buildings (14 buildings)
- Swimming pool Kranj
- Sports facilities Celje (2 areas)
- University of Maribor (33 faculty and gym)
- Maribor municipality (4 schools and kindergartens), Kapor Municipality (28 subjects)
- Public Lighting (Municipalities : Gorje, Bled, Kopar, Mengeš, Litij)
- District energy (HEP Toplinarstvo Zagreb, Energetika Ljubljana, Beogradske elektrane, Energetika Maribor, Komunala Velenje, PE Energetika, Centralno grijanje Tuzla, Kopar, Piran, Jesenice, Kranj, Celje, Murska Sobota, . . .)
  - 33 district heating distributors
  - 9100 heat substations
  - 29 SCADA system
  - 200 objects in SCADA systems
  - 22 of the technical and economic optimization of the plant
  - total power consumption of over 7500 MW
  - biomass
  - cogeneration
- Technical and economic optimization of water supply system Kranj
- Technical and economic optimization of water supply system Velenje

Your company products/services

Eltec Petrol is the leading ESCO company (Energy Service Company) in the region that performs energy contracting projects.

The projects are implemented by a number of contracting models:

- Energy performance contract (EPC)
- Energy Supply Contract (ESC)
- Energy Contracting in the public sector (PPP)

Our solutions are designed with products:

- The ELTEC TERMIS technical and economic optimization of district heating systems
- The ELTEC AQUIS technical and economic optimization of water distribution systems
- The ELTEC EnergyWatch comprehensive energy and water supervision and analysis (static, dynamic)
- The ELTEC SCADA, other producers Supervisory Control And Data Acquisition
- The ELTEC TP-06 – TP-09 PLC electronic regulators, other regulators
- Compact and home heating substations
- Wide range equipment from other manufacturers

Energo
Croatia

Contact details

Organisation Name	**Energo Ltd.**
Address	Dolac 14, 51000 Rijeka, Croatia
Telephone	+385 51 353 006
Web address	www.energo.hr
Organisation type	Small and Medium-sized Enterprise (SME)
Contact Name	Ratko Kogoj
Position	Energy Economics
Email	ratko.kogoj@energo.hr

Description of your company

1. Share Capital: 30.000.000 EUR
2. Employees: 149
3. Customers: 20.802 Gas customers and 10.010 District Heating customers
4. History: 160 years of experience in production and distribution of Gas.
5. Ownership: City of Rijeka 56,90%, Amga Udine (IT) 34%, Croplin 9,10%

Your company expertise

Production, distribution and supply of heating energy and mixed gas, distribution and supply of natural gas. Public lighting construction and maintenance. Energy efficiency consultants, energy audits and energy certificates for buildings and public lighting.

Your company products/services

1. Natural Gas
2. Mixed Gas
3. Heating energy
4. Public lighting construction and maintenance
5. Energy audits
6. Energy certificates for buildings

ISKRA SISTEMI
Slovenia

Contact details

Organisation Name	**ISKRA SISTEMI d.d.**
Address	Ljubljanska cesta 24a, 4000 Kranj, SLOVENIA
Telephone	+386 31 306 763
Web address	www.iskrasistemi.si
Organisation type	d.d.
Contact Name	Egon Dobre
Position	Area sales manager
Email	egon.dobre@iskra-mis.si

Description of your company

Iskra Sistemi is a global provider of industrial solutions and electro-technical products. The company is the largest national company in the fields of process automation, communications and security systems for power distribution, transmission, networking, power line communications, railway and road traffic and software solutions in the field of energy sector.

With over 65 years of experience with the most demanding industrial projects, Iskra Sistemi today comprises a unique combination of comprehensive engineering knowledge, innovative bleeding-edge technologies and outstanding business excellence that enable them to globally provide and deploy a broad range of effective solutions, tailored to fit their customers needs.

Your company expertise

Supplier of RE/EE technologies (solar energy, windpower), service in RE/EE equipment disposal, smart Grid and AMI/AMR infrastructure, energy efficiency in building sciences and public lighting and manufacturing.

Your company products/services

Iskra Sistemi produces:

1) power capacitors,
2) capacitors for use in electronics,
3) radio interference suppression components,
4) switchgears,
5) electrical measuring instruments,
6) batteries,
7) antennas,
8) cores, potentiometers and services in the fields of galvanization,
9) tool shop,
10) electrical measuring laboratory and management,
11) maintenance of buildings.

Iskra
Iskra Sistemi

RADAL
Croatia

Contact details

Organisation Name	**RADAL Ltd.**
Address	D.Šćitara 5, 51000 Rijeka, Hrvatska
Telephone	+385 51 625 468; +385 98 559 501
Web address	/
Organisation type	Agency
Contact Name	Aleksandra Đorić-Kosanović
Position	Director, projektant/ energetski certifikator
Email	radal@ri.t-com.

Your company products/services

1. building technical documentation
2. energy certification of buildings

SOLVIS
Croatia

Contact details

Organisation Name	**SOLVIS Ltd.**
Address	Gospodarska zona Brezje bb
Telephone	+385 262 250
Web address	www.solvis.hr
Organisation type	Small and Medium-sized Enterprise (SME)
Contact Name	Jasmina Novak
Position	Project Manager
Email	info@solvis.hr

Description of your company

SOLVIS is a photovoltaic modules producer based in Croatia, City of Varazdin in Europe, with very good traffic connection to Western and Eastern Europe.

Company currently has 80 employees, with the production capacity of 2 x 25 MW a year.

The production capacity is easily expandable as SOLVIS has sufficient surface to double its capacity within few months.

Since establishment in 2009, Solvis is continuously making an effort to keep its position in the photovoltaic sector by regular investments in the quality of its products.

Your company expertise

Production is based on strict quality control criteria and the usage of top quality raw materials obtained from the leading producers in the world. Our products have a ten-year warranty on quality and a 25-year limited warranty on output power.

Recently we become member of the SuperBrand organisation with recognizable logo and export to international markets contributes to the strengthening of the company and its image.

High efficiency and application of quality, tested and certified raw materials, high output power, exceptional durability in difficult working conditions, as well as lifelong electric stability are the basic features and properties of Solvis products.

Zumtobel licht
Croatia

Contact details

Organisation Name	**Zumtobel licht Ltd.**
Address	Radnička cesta 80, 10000 Zagreb
Telephone	+385 1 6404 080
Web address	www.zumtobel.hr
Organisation type	Company
Contact Name	Vlatka Đurić
Position	Marketing manager
Email	Vlatka.duric@zumtobel.com

Description of your company

Zumtobel Licht is internationally leading supplier of integral lighting solutions for professional indoor and outdoor building lighting applications.

Your company expertise

Zumtobel has been developing innovative, custom lighting solutions that meet extremely exacting requirements in terms of ergonomics, economic efficiency and environmental compatibility and also deliver aesthetic added value.

Your company products/services

As an innovation leader, Zumtobel supplies an extensive range of premium luminaires and lighting control systems for various professional building lighting application areas:

1. Offices and Communication
2. Education and Science
3. Presentation and Retail
4. Hotel and Wellness
5. Art and Culture
6. Health and Care
7. Industry and Engineering
8. Facades and architecture

Savjet za zelenu gradnju u Hrvatskoj

(Green Building Council of Croatia)

Croatia

Contact details

Organisation Name	**Savjet za zelenu gradnju u Hrvatskoj/ Green building council of Croatia**
Address	Ilica 42, 10000 Zagreb
Telephone	+385 984 00 287
Web address	www.gbccroatia.org
Organisation type	Non profit organization
Contact Name	Snježana Turalija
Position	Director executive
Email	snjezana.turalija@gbccroatia.org; dubravka.nizetic@gbccroatia.org

Description of your company

Green building council of Croatia has 3 employees and 11 members of the board. We are founded in 2009 in Zagreb. Our members are the greatest companies from construction industry on the market together with other successful members. Together we are almost 100 professionals working together.

Your company expertise

Our expertise is to foster collaboration between all sectors of the property and construction industry, government. Academic institutions, and all other stakeholders.

Together we are organizing seminars, educational programmes, symposiums and other education services. The vision is to ensure that real estate stakeholders in Croatia create a sustainable built environment by influencing the way the urban environment is designed, developed, constructed, occupied and maintained

Your company products/services

1. Green building professional program – year programme
2. Green labos workshops – quartile programme
3. Symposiums – monthly events
4. Creating new programmes with our task forces from our member companies

ECO CONSULTING
Slovenia

Contact details

Organisation Name	**ECO CONSULTING Ltd.**
Address	Tesovnikova ulica 21a, 1000 Ljubljana, SLOVENIA
Telephone	+386 41 703 442
Web address	www.eco-con.si
Organisation type	Ltd.
Contact Name	Aleš Šaver
Position	President
Email	asaver@eco-con.si

Description of your company

Eco Consulting is a private consulting company. The company strive for quality work, progress and education of their employees. Eco Consulting employs highly qualified counsellors with knowledge in the field of economy, engineering, geo-technology and organisation science. Their main clients are local communities, which wants to make strategy development for their region, and companies, which wants to reduce their energy consumption, and wants to direct in efficient, more competitive and environmental friendly business. The company cooperates with the most important service users: Ministry of the Economy, Ministry of the Environment and Spatial Planning, Energy Agency of the Republic of Slovenia.

Your company expertise

Main fields of work in Eco Consulting are energy, environment and economy. The company provide strategic development consultations and advice on administrative procedures and in obtaining environmental approvals as well as organizing seminars and workshops, also in the field of environmental protection. With diverse skills and experience the company can execute quality and client adjusted projects. The company's fields of expertise are service and installation of renewable energy/energy efficient technologies (bio-energy), engagement in energy audits and renewable energy/ energy efficiency consultant.

Your company products/services

The company offer a wide aspect of services in the field of energy, environment and economy, analysis, counselling and feasibility studies on the field of energy, environment or economy and financial, legal and realization activities connected with power supply.

METREL
Slovenia

Contact details

Organisation Name	**METREL d.d.**
Address	Ljubljanska cesta 77, 1354 Horjul, SLOVENIA
Telephone	+386 41 686 671
Web address	www.metrel.si
Organisation type	d.d.
Contact Name	Blaž Godina
Position	Product Manager
Email	blaz.godina@metrel.si

Description of your company

Metrel UK Ltd. is a recognised supplier in the measurement and testing industry through the design and manufacture of advanced and innovative test and measurement solutions. Metrel UK Ltd. is one of the UK's leading manufacturers and suppliers of high quality electrical measurement and test instruments.

Your company expertise

Manufacture of products for solar energy, smart grid or AMI/AMR infrastructure, energy efficiency in building sciences and public lighting, electrical installations, machines and appliances safety control and electrical power quality. Expert in measurement and testing industry.

Your company products/services

1) continuity testers,
2) voltage testers,
3) current meters,
4) devices for testing the polarity,
5) digital voltmeters,
6) equipment for electrical testing/safety testing of equipment and systems,
7) insulation monitoring equipment,
8) testers,
9) devices for testing insulation resistance,
10) meter testing devices,
11) power measuring instruments,
12) taching systems and learning systems,
13) temperature monitoring devices,
14) testing equipment for electrical installations,
15) voltmeters, ammeters and other electrical devices.

PETROL
Slovenia

Contact details

Organisation Name	**PETROL d.d.**
Address	Dunajska cesta 50, 1527 Ljubljana, SLOVENIA
Telephone	+386 41 730 790
Web address	www.petrol.si
Organisation type	d.d.
Contact Name	Miha Valentinčić
Position	Head of Strategic Development
Email	miha.valentincic@petrol.si

Description of your company

Petrol, the leading Slovenian energy company, is the principal strategic supplier of oil and other energy products to the Slovenian market. Through an extensive distribution network of proprietary service stations, Petrol provides drivers on Slovenia's roads and highways with a broad range of automotive goods and services and a wide selection of household and food products and other merchandise. The core area of operations of the Petrol Group is oil trading activities. Petrol's principal competitive advantage over potential competitors is its extensive network of 348 modern service stations in Slovenia and abroad.

Your company expertise

Supplier of renewable energy/energy efficiency technologies, service in RE/EE equipment disposal, service and installation of renewable energy/energy efficient technologies such as solar energy, windpower, bio-energy, hydropower and geothermal energy, engagement in energy audits, engagement in ESCO, renewable energy/energy efficiency consultant, green building design and construction, research, development and manufacturing, energy efficiency in building sciences and public lighting and research of alternative fuel vehicles.

Your company products/services

1) full-service energy supply,
2) distribution and trade of gas and oil,
3) construction of gas stations,
4) construction,
5) installation and service of public buildings and lighting which use RE and EE technologies,
6) distribution of heat and electricity.

ZARJA KOVIS
Slovenia

Contact details

Organisation Name	**ZARJA KOVIS Ltd.**	
Address	Molkova pot 5, 1241 Kamnik, SLOVENIA	
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Web address		
Organisation type	Ltd.	
Contact Name	Ivan Hribar;	Rudi Magajna
Position	ing., director;	executive director
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Description of your company

Zarja Kovis Ltd. has over twenty years of experience in dealing with the planning and execution of major and minor energy systems, production of metal constructions and engineering. The company is expert in the field of energy, mechanical and electrical installations. Flexible, professionally trained and well-rehearsed team of employees forms the foundation of a company built on knowledge and experience and innovative solutions, which is often rewarded by the expert public.

Your company expertise

Supplier of renewable energy/energy efficiency technologies, service in RE/EE equipment disposal, service and installation of renewable energy/energy efficient technologies such as solar energy, bio-energy and geothermal energy, engagement in energy audits, engagement in ESCO, renewable energy/energy efficiency consultant and manufacturing.

Your company products/services

1) construction,
2) installation and service of energy systems (heating, cooling, gas installations, heating systems using biomass energy),
3) engineering,
4) metal and glass manufacture,
5) RE/EE consultant services.

German ProfEC GmbH
Germany

German | ProfEC
professional energy and environmental consultancy

Contact details

Organisation Name	**German ProfEC GmbH**
Address	Südring 13 26125 Oldenburg
Telephone	04421 209089-0
Web address	www.german-profec.com
Organisation type	Small and Medium-sized Enterprise (SME)
Contact Name	Andreas Jansen
Position	General Director
Email	a.jansen@german-profec.com

Description of your company

"Sustainability is an essential aspect for a more balanced distribution of prosperity and welfare as thereby social, economic and ecological aspects are considered appropriately and harmonized with each other." The enterprise German ProfEC GmbH was established with the goal to offer result-oriented services within the field of sustainable power generation, energy efficiency and environmental protection. One our primary objective is to deliver result-oriented services within the ranges of the sustainable power generation, energy efficiency and environmental protection.

German ProfEC GmbH therefore offers a variety of general advisory services, which are essential components of most sustainable energy projects. German ProfEC is specialized in international project consultation, planning and realization of renewable energy projects and sustainable development projects. Our target markets are developing and threshold countries, whose needs for (sustainable) energy supply and environmental protection are enormous. Often however these markets and economies are seen as niche markets due to size and economic strength.

The methods of analysis procedures that are applied by German ProfEC, refer, if possible, to latest international and national standards and knowledge, in order to appropriately serve also the highest requirement of our customers in the field of technical management, financial management, financing & investment, policy, industry and science.

With our services we address are locally, regionally, national as well as internationally customers as:

- Project developers
- Banks, Financers or investors
- Local, regional, national or international governments and NGOs
- International development organizations
- Education institutions and government offices with education or training requirements regarding energy, environment and sustainability.

Your company expertise

Among others:

- Development of a 150MW wind farm portfolio in Honduras (2012-ongoing).
- 10-day study tour for 6 Engineers from North Korea to Mongolia, getting educated on off-grid energy efficiency and rural electrification technologies (UNDP, 2012)
- Design Optimization of Small Wind Energy Converters and improvement of the Manufacturing Process incl. preparation for ISO certification (UNDP, 2012)
- Design of a bankable wind measurement campaign at 8 sites in Honduras, procurement and installation of the equipment, data capturing, evaluation and bankable reporting (Nordex AG, 2012)
- Bankable Wind Farm Energy Yield Prognosis for three a wind farm scenarios in El Salvador (GIZ, 2011-2012)
- 2-week capacity building and software courses on IEC and MEASNET conform wind measurements and wind resource assessments in DPRK (UNDP, 2011)
- Development of a 350MW wind farm portfolio in Honduras (2009-2012), transferred in 2012 to a German wind turbine manufacturer.
- 2-week capacity building on small wind turbine design optimization and production in DPRK (UNDP, 2011)
- 2-week training towards about 65 engineers, consultants, scientists and project developers on wind energy and engineering matters, focus on IEC and MEASNET conform wind measurements (GIZ Viet Nam, 2011).
- Design and installation of a bankable wind measurement campaign at a site in Viet Nam, organization of the equipment procurement, commissioning, training of local staff and wind data evaluation and reporting (WPD VNam Energy, 2011)
- Wind Farm project Due Diligence and Project Management Plan for a wind farm project planning in El Salvador (GIZ, 2011)
- Development of a GIS embedded national wind map and wind planning steering tool in Tunisia (GIZ, 2011)
- Development of a 160MW wind farm portfolio in Peru (2011-ongoing).
- Consulting provided to the wind farm operators on Nevis Island and to grid operator on St. Kitts and on Nevis Islands with regards to wind energy penetration levels and integration (OAS, 2009-2010)
- Development of the National Energy Policy and Sustainable Energy Action Plans (NAMA) in Antigua & Barbuda, St. Kitts and Nevis and St. Lucia (OAS, 2009-2010)
- Design of wind measurement campaign at 10 sites in Afghanistan, organization of the equipment procurement tender and general program advice and support (2010, GTZ).
- Training and education to local engineers on bankable wind measurements, O&M of measurement stations, data access and interpretation in Afghanistan, (2011, GIZ).
- Development of a Feasibility Study for a 60 and 120 MW wind farm scenario in Tunisia in order to autonomously generate wind energy for large consumer groups (2010-2011, GTZ).
- Site assessments and business development for 3 wind farm projects in Peru (2010; Ferrostaal).
- Development of Wind Farm Feasibility Studies for 10 wind farm sites in Honduras (2009-2012, Eólicos R4E).
- Development of Wind Farm Pre-Feasibility Studies for 8 wind farm sites in Honduras (2008-2010, Eólicos R4E).
- Development of Wind Farm Pre-Feasibility Studies for two wind farm sites in Mongolia (2010, GTZ/KfW).
- Wind Farm Site Assessments for two wind farm sites in Mongolia, design of the wind measurement equipment and campaign, bankable supervision of two wind measurement unit installations (2010, GTZ).
- 2-week intensive training course held on the following subjects: bankable wind measurement unit installation and operation (incl. site assessment and O&M), bankable wind measurement data evaluation and interpretation, project development, GIS software development and Wind-Map for wind energy planning to engineers, scientists, Government officials and private company engineers in Mongolia, (2010, GIZ).
- Wind Resource Maps calculations for two areas in Honduras (2009, R4E).

And many more.

Your company products/services

We act as gateway between investor, creditors, beneficiaries, policy makers and other groups of interests or parties with interest in renewable energy projects. We thereby offer experience, access and know-how concerning essential and relevant questions regarding sustainable energy, energy efficiency and environmental protection. Within the course of our work we make use of our technical, financial, social and organizational expert knowledge, as well as from our experiences and access to the European market in connection with our world-wide competence network.

Further business fields are the supply of services and consultation concerning energy, environment and sustainability, including the planning and the design of projects and/or power generating installations. Furthermore our services cover monitoring and management, quality control and aftercare of renewable energy projects and installations.

German ProfEC is specialized in international project consultation, planning and realization of renewable energy projects and sustainable development projects.

Our core activities are

- Consultation
- Project analyses and assays
- Project management
- Project development and implementation
- Gold Standard Clean Development Mechanism (CDM) consulting, emission trading and maximization of benefits
- Agency
- Bankable Project Due Diligence
- Bankable Energy Yield Prognoses and Feasibility Studies
- Financial agency, investor presentation production and introductions to investors
- Accompany of the implementation until commissioning
- Negotiation support and advice (e.g. PPA negotiations etc)
- Business development services
- Financial operation and
- Technical operation of projects

German ProfEC offers basic data, expertise and know-how for customers, who require an optimal assessment, in order to base on this their decision regarding investments and actions within the range of renewable energies, energy efficiency as well as sustainable development.

THERMICON GmbH
Germany

Contact details

Organisation Name	**THERMICON GmbH**
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Organisation type	GmbH
Contact Name	Dipl.- Ing. Okan Kaya
Position	General Manager (CEO)
Email	info@thermicon.de

Description of your company

POLY CALOGRAPH® DP PLUS – Exhaust gas heat recovery, that makes sense!

We use the full heat of condensation and convert losses into profits!

In the sector of exhaust gas heat recovery, the THERMICON GmbH presents a patented system. Using this technique can achieve savings of 25 to 35 percent of fuel input and CO_2 emissions.

Here the latent heat of condensation (calorific value) is made usable. This energy is normally lost and supplied with its contaminants to the environment.

Your company expertise

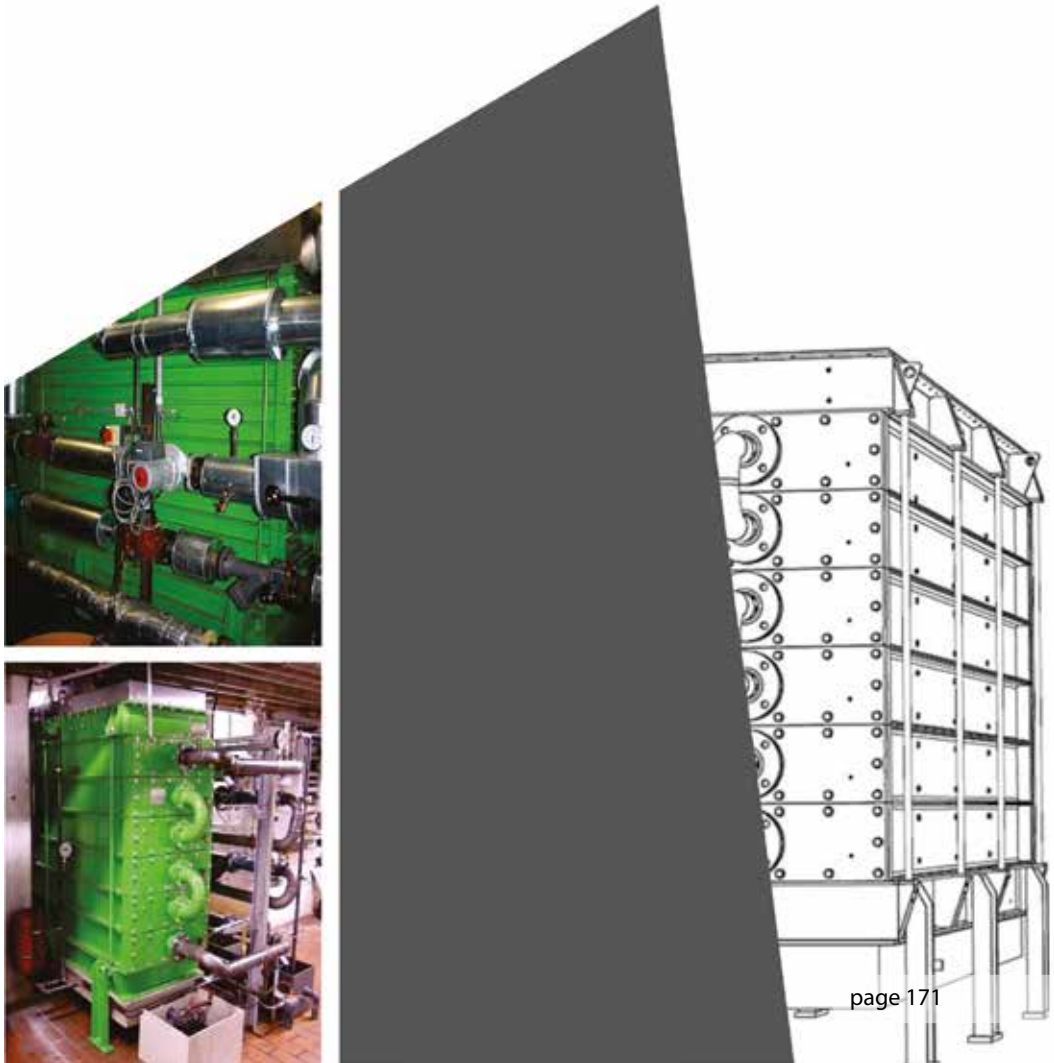
It is our philosophy - not to provide a lot of energy, but save a lot of energy!

The system is modular so that multiple circuits can be operated with different temperature levels, i.e. heating, domestic hot water, underfloor heating and ventilation systems can be heated via exhaust. The exhaust gases of about 250 ° C are cooled to 20 ° C for this purpose. This is only possible when graphite is used as the material of the heat exchange surfaces. The graphite tubes are corrosion resistant, have an unlimited life and better heat transfer than steel. The system provides the shortest payback periods and is used for example in hospitals, swimming pools and industrial. There are more than 100 reference projects throughout Germany. Scientific studies and research confirms the excellent results and efficiency of this technology.

Your company products/services

An extension and uniqueness of our technology allows to produce all domestic hot water in the houses with the POLY CALOGRAPH ® DP PLUS without Legionella bacteria, at no additional energy cost. Our patented layer memory makes it possible to use the entire latent heat from the exhaust gas, both in winter and in summer. The possibility of the prevention of Legionella with the otherwise lost exhaust heat is the first time for sure.

THERMICON
Energie- und Umwelttechnologien



VERYSOL GmbH
Germany

Contact details

Organisation Name	**VERYSOL GmbH**
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Organisation type	GmbH, privately owned
Contact Name	Christof Henz
Position	CEO
Email	c.henz@verysol.eu

Description of your company

VERYSOL GmbH is a German manufacturer of Solar Street Lights with LED Technology and an integrator of solar and renewable energy solutions. Specializing in the various applications of Solar Photovoltaic Systems, our team of internationally renowned engineers and dedicated researchers offer several renewable energy solutions for utility, domestic and commercial clients.

We consistently strive to maintain our commitment to the development & fabrication of finished products that are aesthetically pleasing, functional, Eco-Friendly and built to last.

Your company expertise

In 2010 started VERYSOL to test the Solar Street Light Systems in Germany, Nigeria and other parts of the world until today without failures, while gaining more knowledge by monitoring and enhancing the installations together with experienced partners in the field of renewable energies.

Your company products/services

VERYSOL uses high quality components made in Germany and the US, which guarantee a long and satisfying performance in all systems.

The lamp head, invented by VERYSOL, has unique features that with many advantages against comparable products. The Performance regarding light emission, light distribution and service life makes the Solar LED Street Light reliable in all environments, from snow and ice in Germany to extensive heat in Nigeria.

For persons living outside the typical electrical grid or with power interruptions, using a generator for electrical power, means listening to the engine run and having a lot of pollution many hours a day and seeing a lot of wasted energy when power usage is low. VERYSOL's Solar Power Systems can replace any power source and also supplement the generator or Grid-Power supply, if they are insufficient or too expensive to power the loads.

A-TRON Blockheizkraftwerke GmbH

Germany

Contact details

Organisation Name	**A-TRON Blockheizkraftwerke**
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Organisation type	GmbH
Contact Name	J. STEINERT
Position	
Email	j.steinert@a-tron.de

Description of your company

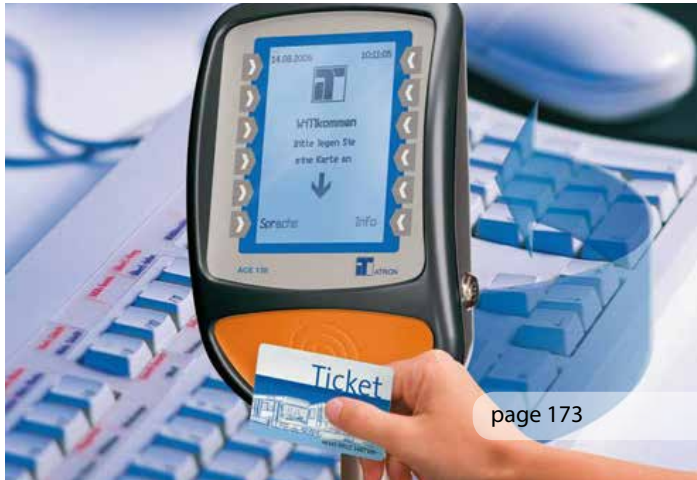
The A-TRON Blockheizkraftwerke GmbH is a company in a growing market with excellent prospects and ethical standards. Experts estimate that with CHP only a quarter of Germany's electricity needs can be satisfied, providing that technology must be used economically. With A-TRON micro-CHP this vision gives a clear view of realization in the field of real estate objects of medium size.

Your company expertise

Energy efficiency in building sciences (electricity generation from renewable energy), CHP (combined heat and power) and technology (steam, hot water and cold water supply).

Your company products/services

1) Electric power plants, in particular combined heat and power stations,
2) Power-heat cogeneration apparatus and internal combustion engines coupled with electricity generators for generating electrical energy,
3) Reserve electrical power supply apparatus,
4) Accessories for installations for generating electrical energy, in particular control apparatus for machines and motors,
5) Current generators,
6) Internal combustion engines and parts included in this class.
7) Heating installations for solid,
8) Liquid or gaseous fuels, in particular internal combustion engines coupled with heat exchangers for generating thermal energy,
9) Installations for generating thermal energy.



Bilfinger SE
Germany

Contact details

Organisation Name	**Bilfinger SE**
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Description of your company

Bilfinger brings together two complementary characteristics: engineering competence and service mentality. For industrial companies, the energy sector and users of real estate and infrastructure, the company is setting standards with its performance in countries throughout the world. High quality, technological competence and extensive experience are the foundations of its success.

Your company expertise

With the comprehensive technological expertise and experience of its more than 67,000 employees, the company offers customized services for industrial facilities, power plants, real estate and infrastructure. The company's fields of expertise are energy efficiency and engineering in building sciences and public lighting, urban development, urban planning and urban architecture and alternative fuel vehicles.

Your company products/services

1. boilers,
2. components and equipment for biomass systems,
3. engineering services (plant engineering),
4. civil engineering,
5. electrical engineering,
6. automotive,
7. aviation,
8. marine,
9. IT
10. facility management for urban infrastructure,
11. financing for city development,
12. urban building infrastructure and urban transport solutions.

Energy Efficiency in Industrial Processes ASBL (EEIP)

Belgium

Contact details

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Organisation type	Not-for profit
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Position	Business Director
Email	Juergen.ritzek@ee-ip.org

Description of your company

Energy Efficiency in Industrial Processes (EEIP) is a not-for-profit technology-neutral cross-sectoral organisation launched at the European Commission in April 2011.

EEIP is the biggest B2P ("business to policy") platform for industrial energy efficiency worldwide. Since 2011, we have grown to more than 30,000 members and these include representatives of energy users, service and equipment providers, financing sector, consultancies, SMEs and experts working in industrial energy efficiency. Our membership is personal and free. Our goal is to support the functioning of industrial energy efficiency markets, by ensuring direct engagement between industrial energy users and suppliers, connecting with financing sector, and advocating effective business-minded EU energy and industrial policy.

Your company expertise

EEIP is the key multi-stakeholder organisation in industrial energy efficiency market. We are content partners of Hannover Messe (Global Business & Markets and Industrial GreenTec) and produce the biggest distribution energy efficiency magazine in Europe. Our growth and engagement on industrial energy efficiency has been recognised by the EU Commission with nomination as one of the best Sustainable Energy communication initiatives on 2012 in Europe.

Your company products/services

In 2013, EEIP has launched www.EnergyPages.org , a unique business tool developed together with industrial and financial companies (partners of EEIP) – a specialized business directory with marketing support. Using social media channels, a web portal, newsletter and print magazine, EnergyPages "connects" business and drives demand for industrial energy efficiency.

ENERGY EFFICIENCY
in Industrial Processes

Dürr Systems GmbH
Germany

Contact details

Organisation Name	**Dürr Systems GmbH**
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Organisation type	GmbH
Contact Name	THOMAS SCHUMACHER
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Email	thomas.schumacher@durr.com

Description of your company

Dürr is one of the world's leading suppliers of products, systems, and services, mainly for automobile manufacturing. The company's range of products and services covers important stages of vehicle production. As a systems supplier, they plan and build complete paint shops and final assembly facilities. They also deliver cleaning and filtration systems for the manufacture of engine and transmission components as well as balancing systems and products for the final vehicle assembly. Their environmental technologies deal with procedures to improve energy efficiency and the exhaust air purification.

Your company expertise

Energy efficiency/building sciences. Dürr is one of the world's leading suppliers of products, systems, and services, mainly for automobile manufacturing.

Your company products/services

- Aircraft
- Application technologies
- Balancing and filling
- Cleaning
- Environment
- Paint systems
- Services and solutions

They offer their customers: planning, inspection, maintenance and repair services as well as modification and revamp measures, training courses and sales of spare parts.

GES Deutschland GmbH

Germany

GLOBAL ENERGY SERVICES

Contact details

Organisation Name	**GES Deutschland GmbH**
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Organisation type	GmbH
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Email	jlsevillano@services-ges.com

Description of your company

GES is the global market leader in construction and services for the wind and solar industry with over 4000 employees. The company provides services in the whole value chain (from Engineering to O&M). GES has more than 30 years of experience and an unmatched record of renewable projects around the world.

Your company expertise

GES is proud to be a trusted partner for many of the world's leading utilities, wind turbine and solar manufacturers as well as investors and developers. As the leading construction and services provider for renewables their ambition is to support their customers all the way and set the standard for their sector. The company continuously strive to deliver the same high quality services and secure success for their customers all over the world.

Your company products/services

1) full-scale service in the onshore wind sector (from BoP to Assembly to O&M),
2) assembly and O&M services in the offshore wind sector,
3) electrical-mechanical installation,
4) control systems and integral maintenance services for the solar sector,
5) engineering, assembly,
6) commissioning,
7) start-up,
8) maintenance services to the petrochemical and energy sectors.

LaTherm GmbH
Germany

Contact details

Organisation Name	**LaTherm GmbH**
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Organisation type	GmbH
Contact Name	Volker Peindl
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Email	volker.peindl@latherm.de

Description of your company

LaTherm turns waste heat into useful heat. A total of 2.5 MWh of unused heat generated by chemical plants, steelworks, aluminum smelters, waste incineration plants, biogas plants, or landfill gas plants can be stored in the sodium acetate within their containers. With their patented technology, costumers can save up to 90% CO_2, 120t per container and year. Sodium acetate is a harmless food additive, hence their containers can be used anywhere, even in residential areas. Their way of supplying eco-friendly heat was awarded multiple times and received backing from the German ministry for the Environment.

Your company expertise

The company's fields of expertise are smart grid or AMI/AMR infrastructure and energy efficiency in building sciences. LaTherm is a supplier for RE from heat storage container. Heat is transported from sources of waste heat to large heat consumers such as public swimming pools, schools, hospitals, administration buildings, factories and commercial entities.

Your company products/services

1) boilers,
2) heat storage containers,
3) electrical devices for heat monitoring.

Schnell Motoren AG
Germany

Contact details

Organisation Name	**Schnell Motoren AG**
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Telephone	+49 75 209661813
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Organisation type	AG
Contact Name	Sebastian Baumann
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Email	s.baumann@schnellmoto.de

Description of your company

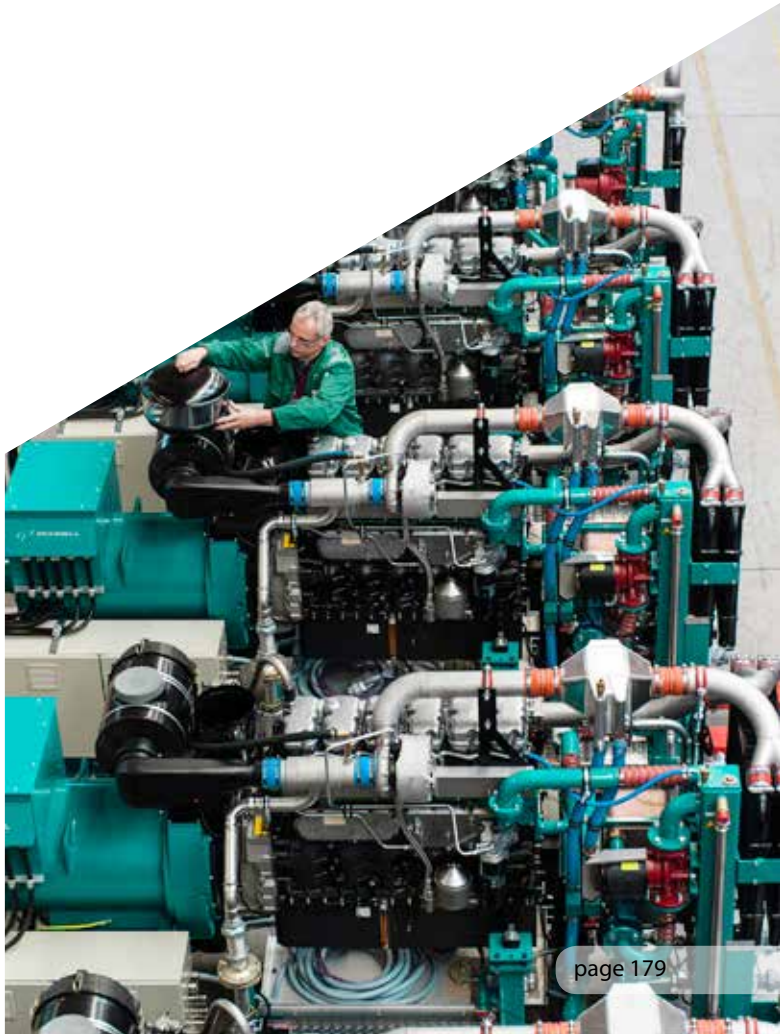
SCHNELL Motoren AG is the leading manufacturer worldwide of dual fuel CHP units for biogas plants. The SCHNELL dual fuel engines based on diesel engine technology generate energy from weak gas with an electrical power range from 30 kW to 1.6 MW. They aim to further increase energy efficiency, to save feedstock and to increase energy yields sustainably.

Your company expertise

Bio-energy (eg, wood pellets, crops, waste, and their derivatives).

Your company products/services

1) combined heat and power units for generating energy from lean gases such as biogas, landfill gas and sewage gas,
2) biomass power plant: energy generation from solid biomass, such as wood, dried digested residue and sewage sludge.
3) supplier of renewable energy/energy efficiency technologies,
4) service in EE/RE equipment disposal,
5) service and installation of EE/RE efficient technologies,
6) service company engaged in energy audits.



SRU Solar AG
Germany

Contact details

Organisation Name	**SRU Solar AG**
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Contact Name	Norman Weiss
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Email	n.weiss@sru-solar.de

Description of your company

The company offers consultation, planning, installation and assembly of photovoltaic systems. Beside this successful concept and years of experience, Sru-solar also offers support structure planning, consultation on energy policy, roof installations and electrical assemblies as well as advice on financial issues and profitability analysis. Including the business fields of solar heating, heat pumps and biomass, they cover most of the total areas of renewable energies. Numerous references provide the reliability that is so important in this sector. Competence, marketability and customized product solutions make them and their associate company the partners appreciated by customers all over the world.

Your company expertise

Specialized in the planning and installation of photovoltaic and solar thermal systems.

Your company products/services

1) autonomous photovoltaic systems,
2) charging technology,
3) electric filling stations,
4) complete photovoltaic technology systems,
5) photovoltaic electricity generation,
6) complete solar heat engineering systems,
7) consultancy and planning for mains operation for electricity,
8) gas and water,
9) energy efficiency drives and mobility,
10) solar heaters for buildings,
11) system solutions for energy-efficient production processes and production plants,
12) smart efficiency,
13) urban building infrastructures.

SUNfarming GmbH
Germany

Contact details

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Contact Name	ERIK ACKNER,
Position	Project Manager
Email	e.ackner@sunfarming.de

Description of your company

SUNfarming GmbH was established in 2004 with the intention of bundling solar module enquiries from various investors. In the years that followed SUNfarming established itself as an independent project developer for capital investors as well as a wholesaler for quality components.

Your company expertise

Solar energy (including photovoltaic and thermal), bio-energy (eg, wood pellets, crops, waste, and their derivatives), energy efficiency / building sciences, energy storage (inc. fuel cells) and alternative fuel vehicles (inc. infrastructure and components).

Your company products/services

1. location search and assessment,
2. technical support in the yield-oriented configuration of the plant,
3. commercial and technical advice on the selection and purchasing of components,
4. selection of the contracting company,
5. construction monitoring on the construction site itself,
6. visual inspection of all plant components,
7. measurements via random sampling,
8. regular reports of construction progress including notification regarding defects,
9. EEG-conform recording of start-up for presentation to the electricity utility and final acceptance of the project with the contractor including list of defects.

Vestas Wind Systems
Germany

Contact details

Organisation Name	**Vestas Wind Systems**
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Web address	www.vestas.com
Organisation type	A/S
Contact Name	ALESSANDRO BRACCO
Position	Business Development Manager
Email	vpinvestor@vp.dk

Description of your company

For more than 30 years, Vestas has operated in the field of wind power. During the first quarter of 2012 Vestas passed 50 GW of installed capacity, thereby consolidating its position as the world's leading manufacturer of wind power solutions. With installations in over 70 countries, Vestas is by far the most global wind turbine manufacturer. In the years ahead, when wind will come to represent a growing proportion of the combined energy supply, Vestas must consolidate its position as the leading brand in renewable energy in a market characterised by ever-growing competition.

Your company expertise

Vestas Wind Systems A/S is a manufacturer, seller, installer, and servicer of wind turbines.

Your company products/services

1. Wind project planning – planning phase is crucial, Vestas has in depth expertise to plan for a reliable, successful project, delivered on time and budget
2. Procurement – broad product portfolio, ideal turbines for all sites and conditions
3. Construction – working closely with their customers to supply, install and balance the plant according to the specific profile of their project
4. Operation and services – controlling and maintaining the plant to the highest possible standards
5. Power plant optimisation – with predictive and preventive services techniques, they reduce downtime and optimise yield for Vestas turbines worldwide

WPD EUROPE
Germany

Contact details

Organisation Name	**WPD EUROPE**
Address	Kurfurstenalle 23a, 28211 Bremen, Germany
Telephone	+49 42 11 686 64 44
Web address	www.wpd.de
Organisation type	GmbH
Contact Name	Antje Blankemeyer
Position	Project Manager
Email	a.blankemeyer@wpd.de

Description of your company

WPD is Germany's leading planner and operator of wind energy projects, offering all services as tailored concepts from a single source. In the offshore sector, the company is one of Europe's leading developers. Business fields have been added systematically, so that WPD is now able to cover the entire value-added chain from planning through to operation, from conception to technical implementation, from the green field to turnkey systems and their management. The company is technically mature and economically successful, including in the areas of repowering and maintenance.

Your company expertise

Windpower and solar energy, concentration on windpower.
Operating power plants, Marketing and selling power, Financing/investing in power plants, Designing power plants Building and testing power plants.

Your company products/services

1. full-scale service in the onshore wind sector (from BoP to Assembly to O&M),
2. assembly and O&M services in the offshore wind sector,
3. electrical-mechanical installation,
4. control systems and integral maintenance services for the solar sector,
5. engineering,
6. assembly,
7. commissioning,
8. start-up,
9. maintenance services,
10. supplier of renewable energy/energy efficiency technologies,
11. service and installation of EE/RE efficient technologies.

IQ Consulting
Croatia

Contact details

Organisation Name	**IQ Ltd.**
Address	Pavla Hatza 2, Zagreb, Croatia
Telephone	+385 98 313 861
Web address	www.iqconsulting.hr
Organisation type	Small and Medium-sized Enterprise (SME)
Contact Name	Ivana Ostoic
Position	CEO
Email	Ivana.ostoic@iqconsulting.hr

Description of your company

IQ is a consultancy firm based in Croatia, which offers services to clients and investors interested in renewable energy, energy efficiency, energy and environmental management as well as in strategy development, sustainable/green business development and implementation.

IQ offers services to assist companies, banks, insurance companies and investors in identifying opportunities in the Western Balkans as well as developing specific sustainable strategy.

Its consultants bring with them a strong track record of accomplishments in the region and around the world that will allow IQ to provide top-level services in a number of areas.

Your company expertise

IQ can provide your organisation assistance in:

1. Identifying projects which may be of interest for investment – e.g. increasing deal flow for banks or helping investors identify projects locally.
2. Carrying out technical and economic analysis for project developers which will be sufficient for applications for obtaining permits and increasing the probability of obtaining finance.
3. Developing applications for project developers for technical assistance grants/concessionary loans.
4. Preparing financial and technical analysis (energy/ environmental audits and assessments, feasibility studies) on specific projects for investors and/or banks.
5. Identifying additional sources of financing via equity financing, via loans or via business partnerships.
6. Identifying materials and/or assisting with procurement of machinery for projects.
7. Programmatic planning and preparation of project analysis/ proposals for international funders.

About NALAS

The Network of Associations of Local Government Authorities (NALAS) brings together 16 Associations which represent roughly 9000 local authorities, directly elected by more than 80 million citizens of this region.

NALAS promotes the process of decentralisation, contributes to the reconciliation and stabilisation process in the region and henceforth contributes to the process of the European integration of the whole region.

NALAS initiates and carries out regional initiatives for its members and helps the associations to become viable representatives of local authorities vis-a-vis central government.

NALAS provides services to local governments for the benefit of the citizens in the region, through its Knowledge Centre for local government development in South-East Europe, recognised among all relevant stakeholders.

NALAS was created in 2001 following the first Forum of Cities and Regions of South-East Europe (Skopje, November 2000), organised by the Congress of Local and Regional Authorities of the Council of Europe. The Network was established under the auspices of the Stability Pact for South Eastern Europe and the Council of Europe. During the first years, NALAS functioned as an informal organisation with regular meetings, seminars and training programmes. In July 2005 NALAS became an officially registered association with its seat in Strasbourg. The NALAS Secretariat was established in March 2007.

For more information about NALAS: www.nalas.eu

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