Intelligent Energy Europe

CALL FOR PROPOSALS 2009

Promotion / Dissemination Projects: SAVE, ALTENER, STEER and INTEGRATED INITIATIVES

[CIP-IEE-PROMO-P]

Part B – Detailed description of the action

Full title of the action:	**Energy Saving Outdoor Lighting**
Action Acronym:	**ESOLi**
Co-ordinator (organisation, address)	**Berliner Energieagentur GmbH** **Französische Straße 23**

[Call Identifier: CIP-IEE-2009]

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1. Summary

(a) Abstract

This project aims to increase the awareness of intelligent street lighting and accelerate the use of the technologies across Europe. Project partners plan to assess energy savings in different settings, help to coordinate procurement initiatives, speed up the development of legislation and standards, and draw up a list of customers' requirements.

The major specific objectives of the project are:

- to increase energy efficiency and to reduce CO2 emissions in outdoor lighting;
- to establish innovative financing schemes
- to transfer knowledge from experienced countries to countries with little intelligent light points;
- to establish a comprehensive network of key actors on national and European level;
- to improve the market conditions for energy service companies.

As a follow-up project from E-Street, the project aims at progressing and building upon the results of E-Street. Within the assessment of framework conditions, the state-of-affairs concerning technology, market barriers, knowledge and other general conditions will be examined and will lay the foundation for the other planned activities.

As one of the strategic objectives is to increase the number of installed intelligent light points, the promotion towards and the involvement of new end users are important tasks for the project. Appropriate information and consulting modules will be developed and implemented.

To reduce the lack of information and knowledge, trainings will be offered for the staff of street lighting operators and other relevant target groups, while at the same time the general conditions for standardisation as well as for new installations and contracts will be treated and improved towards and easier implementation of intelligent lighting systems in outdoor lighting.

(b) Major outputs and Results - including main quantitative result indicators

The most concrete outputs from the project will be numerous intelligent street lights in operation (or contracted) and hence saved energy. The increased knowledge and awareness of the intelligent outdoor lighting will be likely more important, though harder to document.

- Networking between interested municipalities, 250 involved municipalities at the end of the project
- Advice to "involved" municipalities in meetings/talks (3 to 10 municipalities per partner country, depending on country size)
- 1000 interested municipalities as workshop participants
- Assistance to municipalities to prepare tender documentations and contracts
- 400 seminar participants
- Monitoring and operation of new installations (100.000 new intelligent light points)
- Organization of 3 study visits
- Cost reduction of components for intelligent systems
- Energy savings

- A national forum for users
- further work in cooperation with CIE, CEN, Cenelec, and ISO
- Europe-wide awareness and knowledge about the intelligent outdoor lighting and about the ESOLi action

2. Overview on the state-of-the-art

a) Starting Point for ESOLI:

Energy consumption for street lighting in Europe accounts for about 60 TWh per Year. It is one important energy demanding field for municipalities and causes high costs for the public road budget. In at least one third of the existing 80 million light points old inefficient technology is installed.

This unsatisfactory status is addressed by the *Ecodesign for energy-using appliances directive*. The directive will achieve that inefficient lamps will disappear from the market during the next years. I.e. municipalities and other operators of outdoor[1] lighting are forced to review their systems in the near future.

This situation offers a great opportunity to transform the market not only in terms of more efficient lamps but also to achieve a change to best available technology i.e. to implement adaptive lighting with intelligent systems. It has to be pointed out that street lighting installations have an average lifetime of at least 20 years, with some installations have been kept going as long as 40 years or even more (exception: lamps are exchanged on a regular basis e.g. every four years). If the current opportunity will not be used, the next chance to change the market in such a high scale will be in years from now.

Additionally a new technology – LEDs – is now breaking into the market. Efficiency of LEDs has still to be improved but they can easily be combined with intelligent control. However, if they are applied without control units a major efficiency step is lost.

In order to decline the operation costs, adaptive lighting focuses on low energy consumption and at the same time high functional standards. Intelligent lighting systems reduce the energy demand and the maintenance costs for lighting, with a simultaneous improvement of traffic safety.

While the awareness of the need for increased energy efficiency is growing, the market-ready technical products are improving especially in terms of efficiency at the same time. Although intelligent lighting products are available on the market, the market for these products is not yet fully developed.

Most of the outdoor lighting in the EU is currently neither based on energy efficient technologies or on intelligent systems. As calculated within the market review of the IEE-Project *E-Street*, 63,7 % of the European energy consumption in outdoor lighting could be saved by switching to intelligent lighting systems and hence about 38 TWh could be saved by improving the outdoor lighting in Europe.

Main barriers to detain a large-scale implementation of intelligent lighting systems are:

- Availability and presence on the market
- Demand side concerns about performance and reliability of the technology (real savings, lifetime etc.)

[1] Terminology: Topic of ESOLi is energy efficient outdoor lighting, i.e. not only street lighting but also illumination, lights for parking areas etc. is considered. However main focus is on street lighting so often the word “street lighting” instead of “outdoor lighting” is used.

- Reliability of maintenance and operation (knowledge / competences of existing staff)
- Financial obstacles

As the majority of the barriers are related to the lack of information, communication and training will be an important part of the ESOLi work programme. Concerning the financial obstacles and lack of know-how in most European countries, extended involvement of ESCOs is required. This is especially relevant in the countries were market penetration of ESCOs is not fully developed, e.g. Czech Republic, Bulgaria, Slovenia etc. The ongoing IEE project BUtK shows some success here, but further development is still required.

In the last years, especially in the framework of E-Street about 20.000 intelligent light points were installed. To a great deal these installations are located in Northern Europe, in particular in Sweden, Norway and Finland.

The involvement of these countries in the ESOLi consortium allows to provide immense experience with the technology. This know-how will be transferred to the countries with currently less experience and few installations via the other partners of the consortium.

A high market impact can be assured because the total number of installed street lights in the partner countries sums up to more than 40 Mio. and key market actors like industry and operators of street lighting are involved. Many municipalities have shown their interest in the project via letters of support and dissemination as well as transferability of results is guaranteed through the involvement of energy agencies and consultants.

Furthermore, ESOLI will provide strategies to implement energy efficient street lighting not only in specific municipalities in the partner countries but will also serve as good practice guide and a blueprint for others organisations in the same countries and on a wider scale. E. g. a letter of support from Greece shows that countries not directly involved in the consortium have already been contacted and will benefit from the project.

b) Link to relevant actions:

Action plan on Energy efficiency

The Commission has adopted an Action Plan aimed at achieving a 20% reduction in energy consumption by 2020. The Action Plan includes measures to improve the energy performance of products and also services, to improve the energy consumption, to encourage and consolidate rational energy consumption behaviour and to step up international action on energy efficiency.

ESOLi will support this aims through effective actions on energy-consuming equipment and appliances, in particular energy efficient street lighting.

Eco-design directive

On of the important issues to be covered by the ESOLi project is related to the ongoing struggle for better Eco-design of the products uptaken by the intelligent street light installations. Based on the 2005/32/EC Directive the commission launched the 2008/28/EC Directive the 11.th of march 2008 (recast EuP COM(2008) 399 final) all leading to a communication (21.10.2008) for the establishment of a working plan for 2009-2011.

Among the product in focus is tertiary sector lighting products and domestic lighting products II (reflector lamps and luminiaires). The ESOLi initiative will over its comprehensive work contribute to further development of energy efficient outdoor lighting equipment relevant for further ECO-design improvements. This will cover energy consumption of several components such as stand by losses in control and ballast gears, improved lamp performance and improved reflector materials and design. All with high standard performance related to RoHS, LCC and Recycling parameters.

Directive on the promotion of end-use efficiency and energy services (ESD)

The ESOLi project will support the aims of the Directive 2006/32/EC in promoting energy efficiency and energy services in the field of lighting.

Helping the acceleration of the market for energy services is also a priority of the European Commission. The Commission's Directive on the promotion of end-use efficiency and energy services (ESD), seeks to increase energy efficiency all along the supply chain right up until the retail stage when energy is sold to the end-user. It hopes to do this by making energy services an integral part of the internal market for energy and encouraging the developments of organisations like ESCOs at national and local level. ESOLi will assist market penetration in street lighting.

In addition, the other initiatives, which are listed following, will be utilized.

E-Street

ESOLi builts on and will significantly benefit from former IEE projects especially from *E-Street*, the previous project about intelligent street lighting in Europe E-street is a network that established contact between the countries about intelligent street lighting and the result was e.g technical specification, a leaflet for management and economical tools for the purchase procedure. Another outcome from the project was an influence on the European legislation for street lighting.

The experience from E-street is that there is a lack of knowledge both nationally and in Europe about intelligent street lighting and the advantages of working with a street light strategy. In particular, a closer co-operation between experienced countries and countries those are on another development stage like new EU members from 2004-2007.

The advantages for ESOLi is that we have an established network with a mix of new participants this will make the communication and cooperation much easier so we minimize the barriers between the countries.

Two large barriers for the ESOLi project to overcome is to reach the consultants and end users which will be our mission in ESOli

ESOLI – next step to Estreet - training…

Other initiatives

The project "New GreenLight" will enable to use the experience from combining energy efficient projects in lighting with the ability to promote them on the marketing side. Projects implemented in the ESOLI_VO will be connected to the GreenLight programme. Individual municipalities will receive information on how to save energy on street lighting, but also how to use those activities with marketing and promotion information.

Experience from the New GreenLight project and the GreenLight programme will be utilised to reach optimal combination of technical activities and promotional benefits.

"BuyBright" offers and information platform and has been organising networking events in order to promote efficient lighting systems.

In the German part of EnERLIN a website for was established on which e.g. presentations of best practice examples of efficient street lighting and information on energy performance contracting can be found (in German).

ESOLI will draw on the information available on the websites of the latter two initiatives and will add specific information on intelligent solutions.

BUtK

BUtK has had the objective to remove the specific market barriers to uptake energy efficient street in municipalities from the new member states. One major task has been to establish a tendering process in Estonia, Poland and Slovenia and to get ESCOs involved in the process. ESOLi can draw upon and will benefit from the lessons learned in BUtK on obstacles and opportunities to get energy efficient street lighting on the way.

c) Link to relevant actions in/by participating countries

In the following major links from most of the countries involved are summarised. ESOLI will also be connected to relevant actions in the other countries.

Germany

In 2008/2009 the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety initiated a competition on energy efficient street lighting ("Bundeswettbewerb Energieeffiziente Stadtbeleuchtung", www.bundeswettbewerb-stadtbeleuchtung.de), aiming at the implementation of efficient technology in German municipalities to reduce energy consumption and costs. The project was carried out by Berliner Energy Agency.

As a result of the competitions a great overview about existing efficient technologies and communal concepts for efficient street lighting as well as about interested and engaged municipalities in Germany has been developed at Berlin Energy Agency. This knowledge and contacts are a very useful basis for the impacts which ESOLi aims to achieve.

Additionally in 2008 a national initiative for energy efficient lighting technologies (including street lighting) was launched. This initiative supports the costs for efficient lamps, luminaries and control of up to 25 % of the investment costs if energy consumption is reduced to at least 30 %. This initiative will help municipalities with the investment costs caused by new installations like adaptive lighting that will be initiated by ESOLi.

Czech Republic

A national survey on the technical status of the municipal street lighting has been conducted in 2008, and a more detailed research has been conducted in the Liberecko region. Efforts are being made to update these efforts with another nationwide research, which will monitor the status of the energy used by municipalities on street lighting, the technical status of the lighting and regulatory equipment, and on the managerial side of the street lighting operation.

Results from all three researches will be used to ensure the detailed knowledge about the street lighting in Czech municipalities, and to focus the project dissemination to concrete villages, towns and cities, which could benefit from the energy efficient lighting the most.

Bulgaria

Bulgaria has a National program for energy savings, which includes the improvement of the energy efficiency of outdoor lighting. In the frame of this program, a significant number of mercury lamps has been replaced with high pressure sodium lamps in street lighting. Because of the exhaustion of the classical methods for energy efficiency improvement, now it is believed that Intelligent street lighting is the next step for more energy savings, improvement of the quality of outdoor lighting and the maintenance efficiency. A few municipalities are preparing projects for Intelligent street lighting.

As in other parts of Europe, street lighting equipment is relatively old and not effective. A big part of the street lighting is designed according the old street standards and as a result a significant potential for energy savings exists. One major obstacle for Bulgarian municipalities is the lack of money. ESOLIs intention to open up the market for more ESCOs could be an option.

Italy

In Italy, several previous projects have been dealing with the implementation of energy saving in public lighting.

The project "New low energy consumption public lighting plant of reduced environmental impact in S.Marco Street – Saviore dell'Adamello village" aims at implementing a new public lighting system along for the area of Saviore dell'Adamello, along the most important provincial street of the valley; this new system aims at improving the safety conditions of the provincial street, as well as its usability; the interventions on the lighting system will also have a positive effect on the tourist activities of the valley. The main project objectives are the following: These activities will be carried on in the framework of the recent PRIC (Local Public Lighting Plan) for the improvement of the lighting points.

"Realisation of new external public lighting plants of high energy efficiency in the territory of the municipal district of Gargnano"- ERDF 2007-2013 Regional Operative Plan of Lombardy – II. Energy 2.1.2.2. The project aims at obtaining a more rational use of Energy in some areas (Muslone, Villa, Bogliaco, Villavetro, Fornico, Zuino, Navazzo, Navazzo Sasso, Musaga and Costa) of Gargnano, a very developed tourist area on the Garda Lake, the aim is also to implement the safety of plants and systems. Goals of the projects are to guarantee a proper lighting system for streets and interested areas and to reduce consumptions and lighting pollution.

ESOLI will be closely related to the two initiatives and will add significant knowledge and progress through the know-how transfer about intelligent street lighting. On the other hand, a high visibility of the project results can be achieved because of the involvement of tourist areas.

Finland

In Finland experience on adaptive road lighting with the intelligent control exists from many projects. Luminance will change in relationship to traffic volume taking into account reflection properties and condition (dry, wet, snowy) of road surface and lumen output of lamps. Energy savings will be about 35%.

Recently an ESCO-project in city of Jyväskylä has been started. The project partner SITO acts there as a lighting consultant. All luminaires with mercury lamps and old - fashioned luminaires with high-pressure sodium lamps will be replaced, in the first stage about 6000 luminaires. Furthermore intelligent control for dimming, control and administration of maintenance will be installed. Energy savings are calculated as close to 40%. The results of this project will be promoted via ESOLI.

Sweden

For one and a half year GOT has started building on a network with the SRA and Swedish Energy Agency (SEA) in Sweden. The Government of Sweden has made some strictly demands about energy efficiency the aims are an overall directive to take into consideration the eco design directive in all management.

In Sweden we have today 2.100 luminaries with intelligent street lighting but after we had our latest conference for municipalities (40) we noted an increasing engagement for intelligent street lighting. The majority of the present end users asked questions about the procedure to buy, and options for intelligent street lighting.

The Swedish Association of Local Authorities and Regions (Salar) represents the governmental, professional and employer-related interests of Sweden's 290 municipalities, 18 county councils and two regions (Västra Götaland and Skåne).

The Association strives to promote and strengthen local self-government and the development of regional and local democracy. The operations of the Association are financed by the fees paid annually by members according to their tax base.

More than 200 of Sweden's 290 municipalities are twinned with counterparts in the Baltic region and in Central and Eastern Europe.

ESOLI activities will be combined with activities on training and education about maintenance and intelligent street lighting for the municipalities in Sweden which Salar and SRA are planning together. Ingemar Johansson, Traffic Public Road Authority, Göteborg is involved and engaged in this procedure which is starting up this autumn and continues for approximately two years.

Norway

In Norway the city of Oslo has carried out or been involved in several projects within intelligent road lighting and was coordinator of the E-Street project. Another project is e.g. the energy saving project of the Norwegian Public Roads Administration 2004-2008, including many intelligent road lighting installations. This project will be followed up with a new project 2010. Oslo is especially engaged in standards and regulations and will use this knowledge in the ESOLi project.

- Revisjon of the Norwegian standard for road lighting, demanding electronic ballasts and energy saving installations
- Installation of intelligent road lighting, including 9000 luminaries in City of Oslo
- A research and development project for the development of a new luminance meter for road lighting control
- Initiator and secretary of CIE TC 4-44 for revision of CIE Publication 115 regarding adaptive road lighting. The work will now be followed up with revision of EN 13201 through CEN TC 169/226 JWG.

On the one hand this great experience will be brought into the ESOLI project via several activities. On the other hand ESOLI gives the opportunity to continue the activities especially in an European outreach. The advantage of this outreach were so positively observe in the E-street project that it has lead the City of Oslo to become one of the major initiators for ESOLI.

Slovenia

Public lighting in Slovenia consists of old and new installations. Installations, which were constructed in recent years are modern and energy efficient and part of them also comprise some elements of intelligent lighting.

In most of the cities also due to change in legisation there is a strong demand to renew installations.

The main aim is to reduce consumption of energy and also to assure appropriate visual conditions for save driving and safety of citizens.

Besides applying new modern and high quality luminaires in some new istallations also elements of intelligent lighting systems are applied, so we can get data on energy saving based on a real basis.

In the design of new installations we are trying to incorporate most of the new developments from the field of lighting, so some installations are also in operation with all the elements of intelligent lighting systems. Our goal is, to continue installation of intelligent lighting systems, therefore reducing use of energy and still assuring proper lighting conditions or required visual tasks.

The ESOLI activities like the promotion of best practice, the training activities and the involvement of ESCOs will assist in achieving this goal.

3. Objectives – Results – Impacts

a) Specific objectives of your project:

The overall objective of ESOLi is to foster the extended use of intelligent lighting systems in outdoor areas and to remove barriers for a large scale technology roll-out. Utilisation of intelligent systems will significantly increase energy efficiency in this sector since newest and best performing technologies are applied. A systemic approach to lighting taking into account the particular situation of time and date, traffic frequency, ambient conditions etc. offers the opportunity to save energy and costs in an intelligent way instead of simply turning lights on and off on a determined time schedule. Additionally light quality and traffic safety can be increased.

The most concrete deliverables from the project will be numerous intelligent street lights in operation (or contracted) and hence saved energy. The increased knowledge and awareness of the intelligent outdoor lighting will be likely more important, though harder to document. Furthermore, new standards are very important for avoiding conservative attitudes to hamper the progress.

The concrete results will not only document and demonstrate the saving potential for intelligent street lighting. It will also demonstrate new technology, metering system for opening up the electricity market, increase the cross border trade and competition, outsourcing and other efficient tools to reduce cost in design and operation, carefully handling of the PCB and mercury problem and finally demonstrate sustainable solutions for safe roads and streets for the near future.

Other specific objectives are:

- increasing the rate of implementations of best available technology and accelerating innovations in outdoor lighting by promoting new installations and therefore contributing to more intelligent light points;
- knoledge transfer from countries experienced in intelligent street lighting to countries with very little intelligent outdoor light points;
- reduction of the lack of information regarding end users, decision makers and consultants;
- establishment of a comprehensive network of key actors on national and European level to benefit from broader dissemination channels and to achieve a significant market transformation;
- improvement of market conditions for energy service companies (ESCOs) particularly for ESCOs active in new member states via the exchange of information on best practices (contracting) and via assisting municipalities in the tenders of their street lighting;
- increasing awareness on the opportunities in outdoor lighting to reduce CO_2 emissions;
- guarantee for the availability of information regarding intelligent outdoor lighting and possible benefits;
- better cost effectiveness of outdoor lighting through lower operation costs (energy and maintenance)

b) Strategic (long term) objectives of your project:

- Foster industry to develop even more intelligent solutions, components for energy efficient street lighting.
- market transformation for intelligent solutions for outdoor lighting
- Raise awareness on the opportunities in outdoor lighting to reduce CO2 emissions

- improvement of light quality in European streets / outdoor areas
- reduction of light pollution by implementing intellight control systems which allow an optimal intensity depending on the situation at each point in time
- promotion of intelligent lighting systems in municipalities and therefore development of intelligent outdoor lighting as a trend-setter which may be attractive for city marketing

c) Performance Indicators:

Specific Objective(s)	Key Outputs (incl their quantification where appropriate)	Work package(s)	Result Indicators & target for success:	Means of monitoring:
1. Increase energy efficiency and cost effectiveness via installation of intelligent light points	· Promotion of existing best practice in the participating countries · better conditions for installations of intelligent lighting systems (standards) · Documented Cost effictivness ·	WP 3 WP6 WP7 WP2	• 1000 municipalities as workshop participants • 5000 downloads of best practices • 20 % of cost reduction in intelligent components	• Documentation of installation (contracts, purchase documents) • Participant list of workshops • Cost reduction compared to costs stated in market report
2. Knowledge transfer and training	· Workshops / seminars · Study visits · International conference / workshop 4.	WP6 WP8	• 400 seminar participants • 3 study visits • Organisation of an international conference and workshop	• Participant list of seminars and workshops • Report about the study visits
3. Established network	· network meetings · workshops	WP8 WP3, WP 6	• 250 involved municipalities as members of the network •	• participation on network meetings / chats / forum
4. Improvements for ESCOs	· Contracts · Tendering manual and handbook · New installations (in total).	WP 5	• At least 100.000 new intelligent light points	• Documentation of new installed light points
Strategic (long term) Objective(s)			**Impact Indicators & Target for success:**	
1. Market transformation: intelligent solutions for outdoor lighting			• extensive market penetration of intelligent systems in street lighitng • Further cost reduction	

2. improved light quality in European streets / outdoor areas and reduction of light pollution (light as much and where it is required, not more or less)		• increased number of outdoor lighting points using adaptive regulation technology
3. intelligent outdoor lighting as trendsetter		• increased number of strongly interested municipalities

5. Target Groups and Key Actors

a) Target Group(s):

- Municipalities / Local authorities

Obviously the cities of Gothenburg and Oslo are heavily involved in the preparation of the proposal. They even have been two of the initiators of the proposal and they lead two work packages. Other municipalities / local authorities have been involved as can be seen from the letters of support. Additionally involvement is related to former and current initiatives and actions in which the partners are engaged (see also 2(c) *Link to relevant actions in/by participating countries*). In the following a few examples for the involvement are explicitly mentioned:

- in Germany input from the municipalities that took part in the competition on energy efficient street lighting was incorporated in the proposal or
- in Czech Republic the results of the inquiries in street lighting or
- in Italy the proposal has been developed together with COGEME. COGEME has 70 municipalities as stake holders
- in Norway contacts were established during the preparation even beyond the Norwegian borders to the City of London

Municipalities / local authorities will explicitly addressed by the proposed workshops and seminars carried out in ESOLi.

- Street lighting operators (incl. utilities) / ESCOs

Street lighting operators and ESCOs who offer energy services in street lighting have been involved in the preparation of the proposal as members of the consortium. Additionally e.g. in Germany input from ESCOs that took part in the competition on energy efficient street lighting (see 2(c) *Link to relevant actions in/by participating countries*) was incorporated in the proposal.

One work package is especially dedicated to this target group: work package 5 “New installation and contracts”. Also Berlin Energy Agency as coordinator has immense experience from former IEE projects on energy services not only in street lighting (BUtK) but also ClearContract, EuroContract etc.

- Energy agencies and consultants

Energy agencies and consultants are important as multipliers to get municipalities and street lighting operators interested in the topic of energy efficiency. They need to know about the possibility to save energy in street lighting.

Within the ESOLi consortium this group is especially involved in the organisation of seminars, in the promotion work package and in the dissemination of project results. Coordination is done by Berlin Energy Agency.

“External” energy agencies and consultants will be addressed via the seminars in the different work package.

b) Key Actors:

Preparation of the proposal was done in very close cooperation with the identified key actors since they are involved as partners in the consortium.

- local authorities

Local authorities are key actors since they are responsible for public outdoor lighting. They decide on the investments in this sector and therefore are essential for market transformation. Local authorities will participate in the project e.g. via presentation of best practice examples. Additionally to the municipalities within the consortium many "external" municipalities have declared their interest in taking actively part in the project. Some attached letters of support proof this interest.

- street lighting operators / ESCOs (incl. utilities)

Street lighting operators advice the local authorities on their investments (or invest themselves) in street lighting. They are mainly responsible for operation and maintenance. There knowledge and engagement in energy efficiency measures is therefore also crucial for market transformation. They

- industry

Industry is a key actor because they have to manufacture and supply the relevant components for energy efficiency. Attached letters of support show their interest in the project. They will be actively involved especially in the work packages on framework conditions, new installations and in the training. Obviously they will also promote their best practice examples together with the municipalities.

- energy agencies & consultants

Energy agencies and consultants are advisers to municipalities especially in energy efficiency measures. They act also as multipliers and will foster the uptake of efficient products for street lighting.

Additionally associations and networks of the above mentioned key actors are involved in the project in form of co-operation with the partners (e.g. Swedish Road Administration, Norwegian Road administration) or as members of the "steering group".

Overview Table:

(a) Target Group(s)	Benefit to the target group(s)
– Municipality	Cost reduction in energy and maintenance costs. Savings in CO2 Emissions. Improved quality of outdoor lighting.
– Street lighting operators / ESCO	Market access through contacts to municipalities. Promotion of their energy service product: energy performance contracting. Competitive advantage because of knowledge on best available technology. Possible cooperation with industry. Additional promotion via Energy Agencies.
– Energy agencies / consultants	Knowledge on best available technology. Better contacts to local authorities. Possibility of offer additional service (information and training)
(b) Key Actor(s)	**Benefit to your proposal / the work programme**
– Municipalities	Owner of street lighting. Key decision makers on investments in street lighting installations.
– Street lighting operators / ESCOS	Knowledge of the market. Also knowledge on current situation of installations and maintenance including existing competences of street lighting staff. Experience in implementation of the technology (obstacles and opportunities)
– industry	Necessary knowledge on best available technology, also on implementation. Knowledge on maintenance situation. Service development for intelligent street lighting because of more complex systems (not only selling but also further service is necessary)
– Energy Agencies	Well established channels to promote energy efficient technologies, contacts to municipalities, engaged in energy efficiency, experienced in European dissemination and communication
– Consultants	Contacts, experienced in project development for street lighting / energy efficient technologies

6. Community Added Value

a) European dimension:

Since ESOLi involves 14 European countries an widespread outreach is easily possible. Although municipalities and energy agencies act on a local/regional level, the exchange of information beyond national borders is essential if a market transformation in street lighting should take place.

ESOLI is mainly set up with key actors working in the field of street lighting and energy efficiency in an European dimension like industry, street lighting operators and energy agencies. In addition, the framework conditions like standards, regulation and legislation for these key actors are set in a European framework.

The combination of municipal partners with industry within the consortium gives an European outreach and impact beyond national borders. Since street lighting is a public task, measures to increase energy efficiency here complements activities of sustainable communities with positive effect on their goals.

b) Geographical outreach:

In the consortium of this action 14 European countries from all directions are represented, 5 from the new member states. In these countries promotion and training activities and new installations will take place which gives already a very wide outreach. Different levels of initial positions and capability for new installations are covered by the partners.

Additionally parties from the UK, Greece and France have shown their interest in form of letters of support or in becoming a member of the steering group.

c) Transferability:

Since different levels of initial positions and capability for new installations are covered by the partners, a high potential for transferability to other member states is given. In addition, street lighting technology is “international” and not limited by national conditions, so it can easily be adapted.

Relevant European associations are involved as partners or have already been (and will be) contacted during proposal preparation (European Lamp Companies Federation, CELMA, Luci, Fedarene etc.). They are willing to disseminate the project results among their great number of members.

Transferability will also be guaranteed because most project results and documents will be available on the website in the 14 partner countries languages incl. English.

7. Composition and Rationale for the Consortium

6.1 List of Participants:

Partic N°	Participant name	Participant short name	Country code	Main Role in Consortium
CO 1	Berliner Energieagentur	BEA	DE	Coordinator. Leader WP 1 and WP 9. Promotion, Dissemination, training, Contracts
CB 2	Black Sea Regional Energy Center	BSREC	BG	Leader WP 5 "New installation and contracts". Promotion, Dissemination, contracts, knowledge building
CB 3	Ekodoma	Ekodoma	LT	Promotion, Dissemination Knowledge building
CB 4	European Lamp Companies Federation	ELC		Leader of WP 6 "Training of maintenance staff". Market assessment, promotion, Dissemination, training, technical know-how
CB 5	ELTODO	ELTODO	CZ	Best practice, training, technical know-how
CB 6	Gruppo Impresa Finance Srl	GIF	I	Leader WP 8 "Communication" Promotion, Dissemination
CB 7	City of Gothenburg	GOT	S	Leader WP 3 "Promotion of intelligent street lighting". Best practice, training, technical know-how
CB 8	Javna Rzsvetljava	JR	SLO	Best practice, training, technical know-how
CB 9	The Polish National Energy Conservation Agency	KAPE	PL	Leader WP 2 "Involving new end users". Promotion, Dissemination, training Know-ledge building.
CB 10	Luminext	Luminext	NL	Leader WP 2 "Framework conditions". Market assessment, training, technical know-how
CB 11	Agency for Road and Transport, City of Oslo	OSLO	NO	Leader WP 7 "Regulation". Best practice, training, technical know-how.
CB 12	Spanish Society of Electical constructions	SECE	SP	Best practice, training, technical know-how
CB 13	Selc Ireland Limited	SELC	IR	Market assessment, training, technical know-how
CB 14	SEVEn, The Energy Efficiency Center	SEVEn	CZ	Dissemination / Involvement of new endusers. Knowledge building
CB 15	SITO Oy	SITO	FIN	Regulation; Best practice, technical know-how
CB 16	Building and Civil	ZRMK	SLO	Promotion, Dissemination

	Engineering Institute ZRMK			Knowledge building

6.2 Rationale for the composition of the consortium:

The consortium members all have demonstrated within previous projects a high level of expertise in the sector of lighting and energy efficiency. Within the consortium, the main expertises and experiences are well distributed. The partners will share their experiences with each other as much as possible and necessary.

Many of the partners have already been cooperating in other IEE projects, a big part of the consortium consists of the previous members of the E-Street project.

As the consortium includes partners of inexperienced countries in terms of intelligent outdoor lighting as well as partners of more experiences countries or regions, the consortium will be able to exchange experience and know-how and to promote the development of energy efficient outdoor lighting in the so far inexperienced countries, benefiting from the ones who are more experienced.

The consortium is very well balanced in terms of geographically outreach and different levels of experience. In addition, different kinds of partners like manufacturers, energy agencies as well as street lighting operators are contributing to ESOLi. This miscellaneous composition of the consortium guarantees, that the main key actors are either already involved or can be reached easily by the huge network of the consortium.

8. Work Programme

7.1 Introduction to the Work Programme

a) Rationale and structure of your work programme:

The proposed action is separated in the following four major phases. The first three steps are related to training issues:

1. Information

Since one of the major barriers for intelligent street lighting is presence on the market and demand side concerns about performance and reliability of the technology this lack of information is addressed via the first two work packages. Work package 2: Assessment of Framework conditions will give information on current improvement of technology solutions as well as information on existing contracts and street lighting personnel. Work package 3: Promotion of intelligent street lighting will give detailed information on existing intelligent street light systems – best practice.

2. Advice

In work package 4 Involving new end users advice is given to end users to get them further engaged in intelligent street lighting systems.

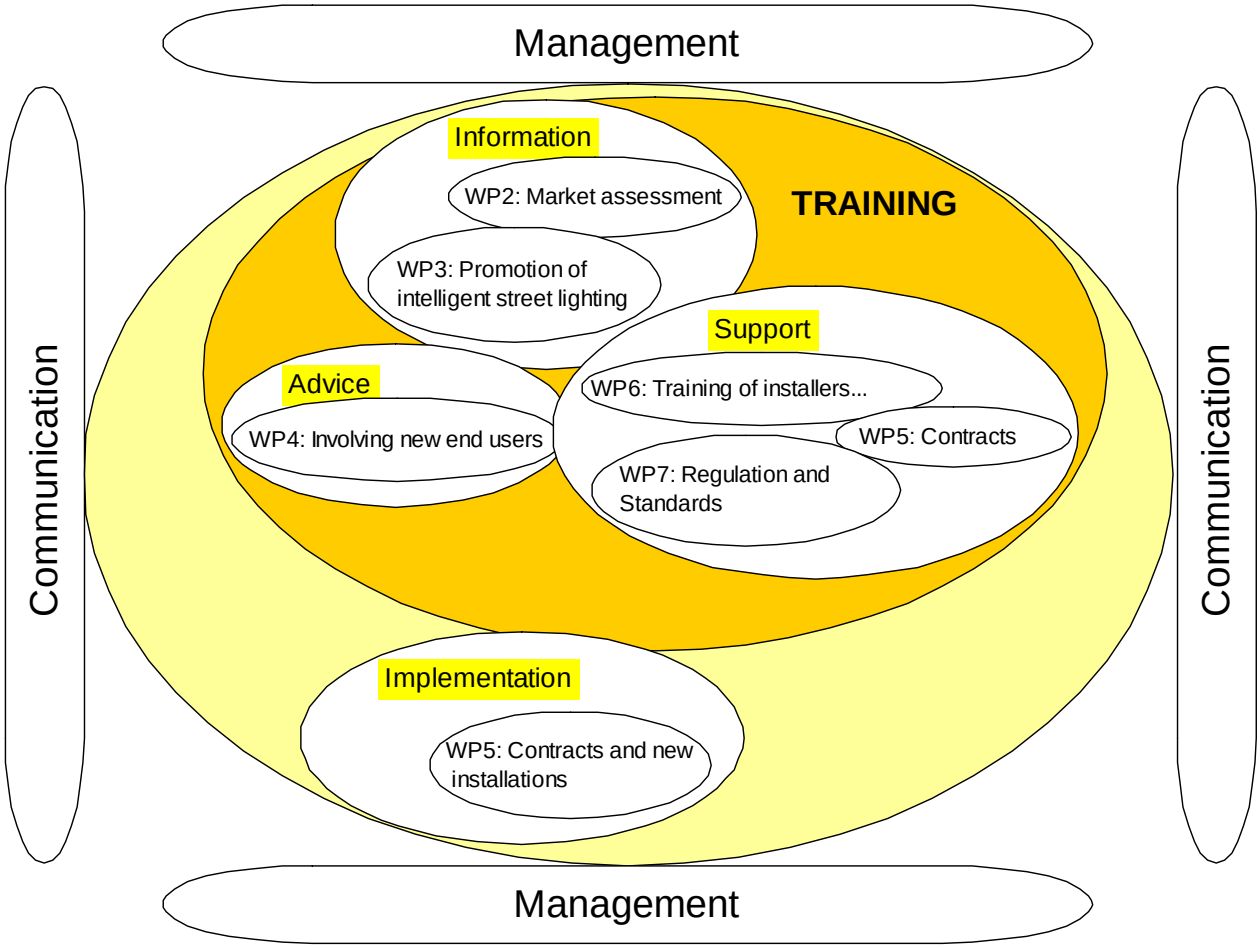
3. Support

The part about contracts in work package 5 supports end users in developing good contracts while work package 6 is dedicated to the training of maintenance staff. Work package 7 on regulation and standards completes the support in terms of these issues.

4. Implementation

The part new installations in work package 5 will boost new installations of intelligent light points.

b) Flow chart of your work programme:



7.2 Work Packages

7.2.1 Work Package 1: Management

N° of work package: 1	Management
Duration in months: 36	BEA

I. Description of the work:

a) Overview of the Work package:

BEA as the coordinator will apply its extensive experience in managing international projects. BEA will ensure effective project management through the establishment of appropriate management mechanisms, including working procedures, detailed timetables and communication. All project control and monitoring systems will be set up to ensure the successful running and completion of the project on time and within the set budget.

BEA will manage the project according to the following aims:

- To ensure the project is completed on time and to budget
- To co-ordinate the project effectively (with clear communication of partners' responsibilities and expected contributions) and efficiently (with appropriate communication channels and the cost-efficient use of meetings)
- To provide leadership and quality control
- To ensure close co-ordination with the EC to make sure that the project contributes to both the Commission's and the stakeholders' needs and overall EC and EACI objectives

BEA ensures good project management, following the rules defined by the Commission as well as BEA's own quality standards.

Regarding the high number of participants, it's necessary to establish communication patterns. BEA will arrange to keep all the participants informed and on track about the state of affairs throughout the duration of the project. BEA will suggest different instruments to ensure a continuous communication. These instruments will be discussed during the kick of meeting with the partners.

In addition to the members of the consortium, several organisations, who are interested in advising, supporting or organising events according to the project, will be established as an observer group. The members of this group will be involved in different work packages to generate additional benefits for the project.

b) Description of the tasks:

1. Project initialisation
2. Establishment of a project steering group (PSG), composed by the project co-ordinator and selected partners; organisation of PSG meetings / phone conferences if necessary ad hoc
3. Establishment of basic rules for co-operation among the project partners and definition of project conventions, documentation procedures, decision-making schemes and control procedures
4. Organisation of 7 meetings, agenda and the minutes published on the project web-site
5. Project final meeting; to the final meeting, also members of the observer group will be invited
6. Reporting to the EC / EACI
7. Financial management

IIa. Outputs of this work package:

The outcome of this work package is the effective implementation, monitoring and reporting of the project ESOLi.

IIb. Deliverable of this work package:

D1.1 Kick off meeting and summary

D1.2 5 Project Meetings and summaries

D1.3 Final meeting and summary

D1.4 List of the members of the observer group (month 6)

D1.5 List of the members of the steering group (month 2)

D1.6 Project progress report (every six months)

D1.7 Interim project report

D1.8 Final project report

III. Distribution of the tasks to each partner (Award criterion 5):

Partner organisation	Task(s) for this partner organisation	Related to Task N°
BEA	WP leader: overall coordination Preparation and invitation for the project meetings Financial management Reporting to the EC / EACI	All
All Partners	participating in project meetings; support BEA with reporting to EACI	All
GIF	Host of one Project meeting	5
GOT	Host of one Project meeting	5
JR	Host of one Project meeting	5
OSLO	Host of one Project meeting	5
SECE	Host of one Project meeting	5

Major other specific costs:
No major other specific costs.

Major subcontracts:
No subcontractors.

The subcontractors identified / to be identified were / will be selected following the provisions of Article II.9 of the Grant Agreement on competitive grounds on the basis of best value for money.

7.2.2 Work Package 2: Assessment of framework conditions

N° of work package: 2	Assessment of framework conditions
Duration in months: 8	Luminext

I. Description of the work:

a) Overview of the Work package:

The relatively new market for systems that reduce energy in outdoor lighting is evolving fast. The work package will summaries in brief the status of technical methods, solutions, standards and future developments determining the status quo for manufacturers, consultants, project companies and end-users. As a preparation for the work packages 5 and 6 it will also report on the current framework conditions in street lighting contracts and education of street lighting staff. A very important part will also be current costs and payback periods.

The first action is to research within the ESOLI group using both questionnaires and interviews what part of the market is represented and what additional research needs to be done. In addition members of the observer group will give input. The assessment of what needs to be investigated further will be done inside the work group by regular review meetings as well as inside the ESOLI group during the

normal planned meetings. This way we will see continues improvement of the outcome and the underlying documents.

b) Description of the tasks:

1. Information on technical solutions and new developments

With regards to the different methods that can be used to save energy in outdoor lighting there is a wide range of options. The report will summaries shortly the existing technical solutions and focuses on new developments. Different levels of solutions are briefly described and placed in the right context based on actual situation, requirements, financial implications and geographical area. Availability and planning is of importance here because the market needs solutions in the foreseeable future. Included in the report is the economical setting, i.e. what are the costs and payback periods at the present stage. It is assumed that costs will decrease during the project duration (see performance indicators).

2. Reporting on framework conditions

The report will investigate if and how end-users have changed and amended the internal policies to be able to manage the new solutions. End-users are grouped into four categories: Road authorities, Cities, Provinces, private companies providing services to the previous.

2.1. Workforce

Important for the market uptake is also the assessment of the current situation concerning the present workforce. The report will summaries the staff competences currently existing.

2.2. Contracts

Additionally the present conditions for operation and maintenance in term of contractual obligations are assessed and described.

2.3. External support - Consultants

Consultants are starting to focus more and more on this topic and are evolving into a role where the energy consumption is equally important as the lighting system itself. What is the knowledge level at the consultants on the solutions found in the initial research? What are the solutions they think are most beneficial in the context of the situation and how do they perceive the developments in this market, are important questions. Consultants link the available solutions to the end-users and should therefore be a key driver in future development.

2.4. Project companies

Project companies typically have to work with what they can buy and combine these products. For some of the solutions available today we have tuned a regular street light project into an automation project. It is interesting to know what this part of the market experiences in this industry since it will have a large impact on future development and their knowledge level.

IIa. Outputs (apart from deliverables):

IIb. Deliverable(s):

D2.1. Report on the market and framework conditions in English (month 8)

D2.2. Short review of report at the end of the project (month 33)

III. Distribution of the tasks to each partner (Award criterion 5):

Partner	Task(s) of this partner organisation	Related to Task N°
BEA	Input on existing contracts and consultants knowledge	2.2, 2.3
BSREC	Input on existing contracts and consultants knowledge	2.2, 2.3
Ekodoma	Input on existing contracts and consultants knowledge	2.2, 2.3
ELC	Input on technical solutions, economics	1
ELTODO	Input on technical solutions, workforce, contracts	1, 2.1, 2.2,2.3
GIF	Input on technical solutions, work force, existing contracts (subcontractor)	1, 2.1,2.2
GOT	Input on technical solutions, workforce, contracts	1, 2.1, 2.2,2.3
JR	Input on technical solutions, workforce, contracts	1, 2.1, 2.2,2.3
KAPE	Input on existing contracts and consultants knowledge	2.2, 2.3
Luminext	Work package leader. Input on technical solutions, economics, consultants and project companies	1, 2.3, 2.4
OSLO	Input on technical solutions, workforce, contracts	1, 2.1, 2.2,2.3
SECE	Input on technical solutions, economics	1
SELC	Input on technical solutions, economics	1
SEVEn	Input on existing contracts and consultants knowledge	2.2, 2.3
SITO	Input on technical solutions, consultants and project companies	2.3, 2.4
ZRMK	Input on existing contracts and consultants knowledge	2.2, 2.3

Major other specific costs:

Major subcontracts:

- Major subcontracts: PL – Subcontractor – POLLIGHTING , Polish Association of Lighting Equipment Association - expert case study - € 2000,-
- Major subcontracts: IT Cogeme Servizi Territoriale – case study on monopoly situation and its influence on the market - € 5000

Mandatory phrase to keep: The subcontractors identified / to be identified were / will be selected following the provisions of Article II.9 of the Grant Agreement on competitive grounds on the basis of best value for money.

7.2.3 Work Package 3: Promotion of intelligent street lighting

N° of work package: 3	Promotion of intelligent street lighting
Duration in months: 18	City of Gothenburg

I. Description of the work:

a) Overview of the Work package:

Work package 3 addresses the existing lack of information on intelligent solutions for street lighting. The purpose is to communicate the opportunities that open up by the use of adaptive lighting to more relevant people, i.e. municipalities, street lighting operators, energy agencies and consultants and to raise their interest. In particular, the developed documents and workshops carried out will provide general information on energy efficient lighting, on realistic energy and costs savings, lifetime of components, investment costs, complexity of systems etc. This will be done by detailed reporting on already existing best practice examples of successful implementation of intelligent street lighting. The target group for this work package is groups involved in the decision of street lighting. In comparison to the work package 6 in which training on technical details is accomplished the know-how delivered in work package 3 addresses not only technical staff of local authorities but also Mayors, environmental department staff, municipal energy consultants, management of street lighting operators etc.

b) Description of the tasks:

1. Common templates for best practice reporting

The task will be to define two common templates for best practice examples of intelligent street lighting which includes all available relevant information. The templates will be short enough to ensure an easy access to the relevant information. The templates are built on the templates developed in former projects like *E-Street* and *Enlight*. Focus is laid on the lessening of the above mentioned concerns of end users (municipalities, street lighting companies).

1.1. Text template

This template will highlight the key topics of the particular example on a first page (including a picture/photo) and give more detailed information on the following (1 or 2) pages.

1.2. Template for slides

This template consists of two slides per example and will highlight the key topics of the particular example on a first slide (including a picture/photo) and give some more information on the following slide.

2. Catalogue of best practice examples

Available information on existing successful examples of intelligent street lighting will be gathered and summarised in the templates developed in task 1. The consortium can provide e.g. detailed data of intelligent systems from Oslo, Gothenburg, Helsinki, Prague and Ljubljana. Data from other already existing examples in the partner countries and beyond are gathered and incorporated in the catalogue. If necessary monitoring of additional project examples can be accomplished to extend the best practice database. The catalogue will be available as download at the website and will be distributed at the ESOLi seminars and at other events.

3. National workshops on intelligent street lighting

For international promotion see work package 8, task 8.3

The presentations prepared in this work package will be in English. Each partner can use these presentations and translate it into national language. The workshops will have three parts: general information as introduction, best practice examples and information about financial support and contracting. Depending on the size of the country between 30 and 60 participants per workshop are expected. In each partner country two promotion workshops will be held.

3.1. Preparation of general information on intelligent street lighting

As an introduction to each workshop a presentation that gives an overview on the possibilities of intelligent street lighting will prepared as well as general information on financial support and contracting.

3.2. Preparation of presentations of best practice examples

From the best practice catalogue 6 best practice examples are selected and detailed power point presentations of these examples will be prepared. The selection will contain different levels of intelligent lighting, i.e. more simple examples that only apply dimming on a time schedule will be included as well as very sophisticated examples with weather and luminous density sensor application to control luminous density levels.

3.3. Organisation, promotion and carrying out of national workshops

Promotion for the workshops will be done via municipal networks and associations as well as via energy agencies (e.g. members of the "observer group" and co-operation partners of the consortium)

IIa. Outputs (apart from deliverables):

O4. Projects of adaptive street lighting and new technology with options that take into consideration the development stage of the actual country to lower the costs for end users. Field trial and evaluation of new technology that fulfils directives from EU

- Networking between interested municipalities
- Contacts to municipalities with concrete interest in lighting project development
- The increased level of overall knowledge about intelligent lighting systems will result in more implementation projects and therefore in more intelligent light points.

IIb. Deliverable(s):

The intermediate results from projects with new lighting technology will be documented electronically for easy exchange of information in the ESOLi group during the time of the project.

D3.1. Catalogue of best practice examples

D3.2. Presentations for workshops in English

D3.3. National workshops to promote energy efficient intelligent street lighting (2 x 14 workshops, participation of about 1000 municipalities)

III. Distribution of the tasks to each partner (Award criterion 5):

Partner	Task(s) of this partner organisation	Related to Task N°

BEA	Best practice, presentations, national workshops	2, 3
BSREC	National workshops	3
Ekodoma	National workshops	3
ELC	Best practice, presentations, support national workshops	2,3
ELTODO	Best practice, support national workshops	2,3
GIF	Best practice, presentations, national workshops	2, 3
GOT	Work package leader, templates, best practice, presentations, national workshops	1,2,3
JR	Best practice, support national workshops	2,3
KAPE	Best practice, presentations, national workshops	2, 3
Luminext	Best practice, national workshops	2, 3
OSLO	Best practice, presentations, national workshops	2, 3
SECE	Best practice, presentations, national workshops	2, 3
SELC	Best practice, presentations, national workshops	2, 3
SEVEn	Best practice, presentations, national workshops	2, 3
SITO	Best practice, national workshops	2, 3
ZRMK	Presentations, national workshops	2,3

Major other specific costs:

Major subcontracts:

Mandatory phrase to keep: The subcontractors identified / to be identified were / will be selected following the provisions of Article II.9 of the Grant Agreement on competitive grounds on the basis of best value for money.

7.2.4 Work Package 4: Involving new end users

N° of work package: 4	Involving new end users
Duration in months: 20	KAPE

I. Description of the work:

a) Overview of the Work package:

The objective of this work package is to get new end users, i.e. municipalities street lighting operators, involved in energy efficient and intelligent street lighting. In this context "involving" means that they are beyond general interest and have concrete plans and questions about possible implementation of intelligent solutions. Comprehensive advice on specific topic will be given. This will be accomplished via a tool that will enable the local administration to evaluate the energy efficiency of their lighting projects compared to the different variants of technical design and via meetings/talks with interested parties. The tool will be provided on the website.

b) Description of the tasks:

1. Benchmarking tool

1.1. Development of the benchmarking tool

The tool will be based on the outcome and the feedback from the E-street project (excel worksheet for evaluation of economic efficiency of street lighting modernization) and the previous work packages 2 and 3. It will enable the local administration to evaluate the energy efficiency of their lighting projects compared to the different variants of technical design. As a result the variant of optimized energy consumption and PBP can be chosen.

1.2. Pre-test of the new configuration (3 - 5 pilot projects)

The objective of this task is to test the configuration of the benchmarking tool before making it available across the Partners countries. The tool will be tested by 3 - 5 pilot lighting projects. All partners will be involved in identifying and recruiting the pilot lighting modernization projects.

1.3. Modification based on feedback from pre-test and finalisation

The tests made by 3 - 5 pilot projects, the benchmarking application will be modified and the final e-benchmarking tool developed.

1.4. Preparation of the guidebook for end-users

A methodological guide for institutional partners, staff and decision makers of local administration will be created. The guide will include support on subject like how to use the benchmarking tool & the economic requirements and practical data of street & road lighting design. The aim is to make the IT tool attractive for as many actors as possible within the target group. The guides will be translated into Partners languages and implemented into the benchmarking application of adaptive outdoor lighting.

(Tools and components applicable to Windows platform. Delphi 2009 or C++Builder 2009)

2. Specific advice to end users

2.1. Case study to show how to develop an energy efficient lighting project

To give end users a deeper insight in how to develop an energy efficient lighting project a case study on a city district or a small town is prepared which shows clearly the steps to be accomplished. In this case study the benchmark tool is applied.

2.2. Talks / meetings with end users

As a result of work package 3 contacts to interested end users who want to get more specific know-how and do have concrete plans where established. Talks/meetings on specific issues will be offered to these municipalities/street lighting operators. They will be encouraged to use the benchmark tool to compare energy efficiency and economical benefits in their outdoor lighting modernization projects. They will be informed about the training possibilities established in ESOLi (work package 5 and 6).

IIa. Outputs (apart from deliverables):

- Tailor-made possibility to compare "conventional" solutions with intelligent solutions in terms of energy consumption, pay back period, etc.
- Advice to "involved" municipalities in meetings/talks (3 to 10 municipalities per partner country, depending on country size)
- At the end of this phase lighting projects will be chosen at the partners countries for the next step – investment and installation.

IIb. Deliverable(s):

D4.1. Benchmarking tool (available in English and partners languages)

D4.2. Guidebook for end-user

D4.3. Case study of part of city or small town

D4.4. Documentation of talks with involved end users

III. Distribution of the tasks to each partner (Award criterion 5):

Partner	Task(s) of this partner organisation	Related to Task N°
BEA	Support on tool modification and guidebook, development of case study, advice to end users	1, 2
BSREC	Support on tool modification, advice to end users	1,2
Ekodoma	Support on tool modification, advice to end users	1,2
ELC	Support on tool modification and guidebook, development of case study	1,2
ELTODO	Support on tool modification and guidebook, development of case study	1,2
GIF	Advice to end users Subcontractor: Cogeme support for guidebook, case study	1,2
GOT	Support on tool modification, development of case study, advice to end users	1,2
JR	Support on tool modification and guidebook,	1,2

	development of case study	
KAPE	Work package leader. All tasks	1,2
Luminext	Support on tool modification, development of case study	1,2
OSLO	Support on tool modification, development of case study	1,2
SECE	Support on tool modification, development of case study	1,2
SELC	Support on tool modification, development of case study	1,2
SEVEn	Support on tool modification, advice to end users	1,2
SITO	Support on tool modification, development of case study	1,2
ZRMK	Support on tool modification, advice to end users	1,2

Major other specific costs:
KAPE: Purchase of the. € 2500,-

Major subcontracts:

- PL – Subcontractor – TBD - € 3000,-
- I – Subcontractor Cogeme 2000 €

Mandatory phrase to keep: The subcontractors identified / to be identified were / will be selected following the provisions of Article II.9 of the Grant Agreement on competitive grounds on the basis of best value for money.

7.2.5 Work Package 5: New installations and contracts

N° of work package: 5	New installations and contracts
Duration in months: X	BSREC

I. Description of the work:

a) Overview of the Work package:

Street lighting has many important functions and assignments in the dynamic life of a contemporary city, e.g. the provision of safety traffic and safety for pedestrians, cope with increasing traffic capacity of the street net, creation of comfort and esthetic night picture of the settlements, quality improvement of street lighting. The solution of these tasks has to fulfill the very important requirements of decreasing electricity consumption and maintenance costs, limitation of light pollution etc. “Classical” street lighting realizations and the “classical” methods for its maintenance have practically exhausted their potential to achieve this requirements. Obviously new means, new organization and finance structures are necessary for further increasing of the street lighting efficiency.

As a result of the previous work packages municipalities and street lighting operators/ESCOs will look forward to develop lighting projects with intelligent solutions. Beside assistance on the technical part of new installations this work package will offer support in financial and contractual issues.

- Assistance to the municipalities to prepare new organization structures and appropriate tenders
- Assistance to ESCOs in taking part in the tendering process
- Assistance for the operation of the new lighting system execution.

b) Description of the tasks:

1. Financing schemes

Street lighting systems have a high potential of energy savings and contracting is the possibility to realize this potential.

A road map should be given an overview and checklists of the different finance possibilities for concrete projects - including contracting. So it will create the conditions for preparing of new installations.

2. Preparing new installations

In adaptive street lighting installations new structures and functions are applied and for these reasons its design requires new knowledge and abilities. One of the tasks of WP5 is the preparation of instructions for the planning and design of adaptive street lighting.

The following will be provided from other work packages:

- Information of designers, investors and municipalities about the new standard for adaptive street lighting (see also work package 7)
- A catalogue of model designs of realized adaptive street lighting installations (best practice, work package 3);

A road map to get new installations going will be set up including:

- To exchange experience with our partners, who has designed yet such installations;
- Coordination the work of designers, contractors, investors and executors in new installations.
- Advice and coordination of municipality and executor during contract fulfilment.
- Organization of the monitoring of the new installations.
- Preparation of technical and economical documentation for the new installed light points.
- Provide information on funding and third party finance schemes
- (In each partner country) investigation of funding programmes on regional and national level
- Develop solutions if long-term contracts with electricity suppliers (without use of intelligent systems) exist

3. Tenders and contracts

Tenders and contracting with adaptive lighting will differ from conventional lighting operation contracts. Since the new systems are more complex the development of high quality tenders are essential to avoid problems in operation of the system. Detailed recommendations with the conditions for participation in tenders for the new installations of adaptive street lighting will be developed and model tender documents will be prepared including.

- System design (overall architecture, equipment control, network);

- Design procedure (project requirements, quality assurance and control requirements).
- Technical documentation;
- Maintenance requirements;
- Training design and implementation.
- Control of all stages of the project and implementation

4. Involving ESCOs

Concerning contracting, it has to be taken into account, that a higher level of documentation is necessary and also possible by the implementation of intelligent systems. Street lighting systems have a high potential of energy savings and contracting is the possibility to realize this potential.

Definitely a unification of the tender documents is advisable for the better access to declared tenders of all potential candidates from all over the European Union. A competently composed tender documentation is a precondition for correctly prepared project and quality realization of the new street lighting installation. In the tender documentation should be formulated the following important requirements about:

5. New installations within the consortium

New technologies, products and systems will be tested on road segment scale by consortium members to evaluate profitability, energy use, operational reliability, maintenance routines and life cycle costs. Test results will be disseminated. Positive results will lead to large scale implementation.

The following types of technologies will be evaluated by the Swedish partner for possible testing:

Light sources adapted for reduced electric consumption

- Light emitting diode (LED) street lighting
- Light emitting diodes (LEDs) substituting outdated light sources in existing luminaries

Induction lighting:

- (Ceramic metal halide lighting)
- Long life high pressure natrium (HPS) lighting:
- Plasma lighting

Adaptive street lighting systems

- Intelligent city lighting system
- Light and presence sensor
- Radio communication for street lighting
- Bus stops in remote locations

6. New “external” installations

With the above described assistance and with the preparation of the previous work packages municipalities in all partner countries will install new intelligent light points.

A high interest and boost of investment is assumed which should add up to be at least about 100.000 new intelligent light points until the end of project duration.

IIa. Outputs (apart from deliverables):

- better coordination of the work of designers, contractors, investors, and executors.
- Assistance to municipalities to prepare tender documentations
- Assistance to municipalities to contracts
- Knowledge in the municipalities concerning finance and funding programmes
- Monitoring and operation of new installations

IIb. Deliverable(s):

D5.1. Handbook for innovative financing scheme for street lighting (including contracting)

D5.2. Test manual for projects with new lighting technology

D5.3. Model test report for projects with new lighting technology

D5.4. Model maintenance plan

D5.5. Technical and economical documentation for the new installed light points

D5.6. Tendering handbook and tender manual for street lighting

D5.7. At least 100.000 installed and documentation new intelligent light points

III. Distribution of the tasks to each partner (Award criterion 5):

Partner	Task(s) of this partner organisation	Related to Task N°
BEA	Tendering process, foster new installations	
BSREC	Tendering process, foster new installations	
Ekodoma	Tendering process, foster new installations	
ELC	Tendering process, assist in new installation	
ELTODO	Assisting in new installations	
GIF	Tendering process, foster new installations	
GOT	Development of maintenance plan and test manual, implementation and test of new installations	
JR	Assisting in new installations	
KAPE	Tendering process, foster new installations	
Luminext	Assisting in new installations	
OSLO	Assisting in new installations	
SECE	Assisting in new installations	
SELC	Assisting in new installations	
SEVEn	Tendering process, foster new installations	
SITO	Assisting in new installations	
ZRMK	Tendering process, foster new installations	

Major other specific costs:

Major subcontracts:

Mandatory phrase to keep: The subcontractors identified / to be identified were / will be selected following the provisions of Article II.9 of the Grant Agreement on competitive grounds on the basis of best value for money.

7.2.6 Work Package 6: Training of street lighting personnel

N° of work package: 6	Training of street lighting personnel
Duration in months: 26	ELC

I. Description of the work:

a) Overview of the Work package:

While the previous work packages 3, 4 and 5 provided information and education on the benefits of efficient street lighting, on tools for calculation of the benefits and on project development also in terms of contracts to key actors. Work package 6 is focused on training of technical staff to support the implementation of new installations from the side of the "workforce".

Since street lighting technicians with knowledge on energy efficiency measures are essential to achieve energy savings in this sector, main goal of this work package is to provide this knowledge to them. Although the awareness about the necessity of such measures has been growing during the last years, training schemes of vocational training for street lighting personnel have only slowly adapted to this situation. As a result, personnel show reluctance in the uptake of such "new" measures in their every day work, i.e. also in their choice of equipment. In addition, planning, installation, maintenance and monitoring of adaptive street lighting are more complex than the work with conventional systems.

The present work package will define which specific skills are required from technical staff to achieve more efficiency in outdoor lighting. Which skills are already there has already been assessed in work package 2. Further information on additional requirements on the national level can build on the inquiry in work package 4 – "assessment of national/regional specific obstacles".

Training schemes for these specific skills will be developed to "complete" existing training seminars. The training schemes will be divided into separate modules which can be adapted/combined according to particular seminars.

The modules will be translated into national languages of the partner countries.

Seminars will be hold in close cooperation with organisations of vocational training, i.e. the training modules will be incorporation in existing seminars on street lighting. Contacts to such organisations are well established since most of the project partners are regularly lecturer in such seminars. In general these seminars are organised as one or two day seminars. Organisation and promotion of the seminars are usually accomplished by the organising institution and financially covered by the fees that will be charged by the organiser.

Additionally specific seminars on adaptive lighting and intelligent systems will be organised and carried out. These specific seminars focus on "on-site" training and demonstration and will be performed in the cities/towns where intelligent systems are already installed. Seminar lecturers will either be consortium members or members of the steering group.

The training modules will draw on existing materials provided by the project partners (industry partners, street lighting operators, energy agencies) and from former projects (see chapter 2b))

For continuous improvement of the training seminars feedback forms for participants will be distributed at the seminars.

To foster exchange of experience and practice beyond borders one international training event for installers/maintenance staff will be organised in the framework of an international trade fare, namely

the “Light and building” in Frankfurt in 2012. Seminar lecturers will either be consortium members or members of the steering group.

c) Description of the tasks:

1. Definition of required skills for planning, installation, maintenance and monitoring of

1.1. energy efficient street lighting

1.2. adaptive lighting and intelligent systems

2. Development of training schemes

2.1. Based on the outcome of task 1 a scheme for training modules is developed. This scheme includes at least:

- module on efficient lamps and luminaires (optics)
- module on efficient luminaires (electronics)
- module on control and communication
- module on advanced intelligent solutions

3. National trainings in cooperation with organisations of vocational training

3.1. Coordination of ESOLi involvement with organisers

3.2. Coordination of training modules with existing seminar content

3.3. Support in seminar organisation

3.4. Active participation in the seminars (about one per partner country, about 20 participants)

4. National organisation of on-site trainings

On-site training will be carried out in cooperation with the operators of the street lighting systems documented within the good practice database (output of WP 3).

4.1. Coordination with street lighting operators

4.2. Creation of mailing lists of relevant multipliers and potential participants, coordination with other events

4.3. Decision on training scheme / modules and lecturers

4.4. Technical organisation of seminars (venue etc.)

4.5. Announcement of seminars together with strategic partners

4.6. Carrying out the seminars (one seminar per partner country, about 30 participants)

4.7. Evaluation and – if applicable – improvement for the next seminar

5. International training event

5.1. Coordination with trade fair organisers

5.2. Development of an additional module on international issues of street lighting

5.3. International promotion in addition to the trade fair promotion (via consortium members, steering group, additional multipliers)

6. Evaluation report of seminars including recommendations about future development

IIa. Outputs (apart from deliverables):

- About 500 street lighting technicians educated on energy efficiency measures, adaptive lighting and intelligent systems
- Practical experience for street lighting technicians with intelligent systems
- Feedback from the workforce on the topic
- The increased level of knowledge about intelligent lighting systems will result in more implementation projects and therefore to more intelligent light points.

IIb. Deliverable(s):

D6.1 Summary of required skills

D6.2 Training schemes and modules

D6.3 Training seminars in cooperation with external organisations

D6.4 On-site training seminars

D6.5 International training seminar (Light and Building 2012)

D6.6 Evaluation report of the seminars

III. Distribution of the tasks to each partner (Award criterion 5):

Partner	Task(s) of this partner organisation	Related to Task N°
BEA	Training schemes, Seminar organisation and presentations, evaluation report	Task 2,3,4,5,6
BSREC	Training schemes, Seminar organisation	Task 2,3,4
Ekodoma	Training schemes, Seminar organisation	Task 2,3,4
ELC	WP Leader, seminar organisation, evaluation report ELC members: Skill definition, module development, seminar presentations	All tasks
ELTODO	Skill definition, module development, on-site training	Task 1,2,4
GIF	Training schemes, seminar organisation Subcontractor COGEME: skill definition,	Task 2,3,4
GOT	Skill definition, module development, on-site training	Task 1,2,4,5
JR	Skill definition, module development, on-site training	Task 1,2,4
KAPE	Modules, Seminar organisation	Task 2,3,4
Luminext	Skill definition, module development, on-site training, seminar presentations	Task 2,3,4,5

OSLO	Skill definition, module development, on-site training, seminar presentations	Task 2,3,4,5
SECE	Skill definition, module development, on-site training,	Task 2,3,4
SELC	Skill definition, module development, on-site training, seminar presentations	Task 2,3,4
SEVEn	Training schemes, seminar organisation	Task 2,3,4
SITO	Skill definition, module development, on-site training, seminar presentations	Task 2,3,4
ZRMK	Training schemes, seminar organisation	Task 2,3,4

Major other specific costs:

Additionally to the experts within the consortium, external experts will be involved for training. Travel costs for these experts sum up to approximately 2.000 EUR

Major subcontracts:

Cogeme € 2000 Technical support concerning the development of national training schmes

Mandatory phrase to keep: The subcontractors identified / to be identified were / will be selected following the provisions of Article II.9 of the Grant Agreement on competitive grounds on the basis of best value for money.

7.2.7 Work Package 7: Standardisation & Regulation

N° of work package: 7	Standardisation & Regulation
Duration in months: 20	City of Oslo

I. Description of the work:

d) Overview of the Work package:

The E-street project showed that the technique for intelligent road lighting is available and that the potential for energy saving is large. But experience shows that today the end users will hardly benefit from the energy savings due to the regulations and utilities use of their monopole. To increase the use of energy saving in road lighting this WP will focus on regulations and attitudes that can promote the use of intelligent road lighting systems.

This WP will focus on Smart Metering and how it can contribute to increase the use of intelligent road lighting. The end users must have the opportunity to trade energy and communication in a free marked.

A possible obstacle against the use of intelligent road lighting is the fear of more road accidents when the lighting level is reduced. To show the consequences of dimming the lighting level, the WP will focus on knowledge about the relationship between lighting level and accidents.

A new CIE / ISO standard revised CIE 115 has been developed, which will specify which level of light on the roads, one can regulate between.

Both in Norway, England and most European countries the road lighting installations are (built) integrated in one grid with different owners related to a common cabinet. The road light facility is built as an integrated network. This means that one has several owners in the same network and this make the metering of energy more complicated.

Metering of power consumption in such systems has to be made in the luminaries. Our Work package will refer to the EU-Article 12 of Directive 2006/32/EC, A Smart metering Directive. For example, now several countries, among them Norway, will create new rules based on the work of CEN about smart metering.

Our WP will use examples from the demonstration plant in the E-street to show that the technique is available using newly developed equipment to meter energy consumption in the luminaries.

The WP will focus on that the affect in the earnings of making investment in dynamic lighting does not disappear in increased profits to the utilities due to the expensive methods of metering energy.

Moreover, the WP will make the initiative to create a forum to share information and praxis for the implications of this both at national and international level.

The goal is to achieve an acceleration process of the use of dynamic lighting, so that one can achieve the goals of energy savings and efficiency, as the E-street project has documented the potential for.

Moreover, the project could also help to communicate with the CEN and the National public authorities on the demand for need adaptation of special guidelines in metering energy for road and streetlight.

The WP will provide the correct training though testing, and collect and collect know –how from different countries.

The involvement of intelligent lighting systems in the relevant standards will make it possible to meet the minimum value of power, which is required by the standard subject to the situation on the particular road.

Furthermore, the standards should include requirements on the technology in terms of compatibility in order to solve interface problems. The introduction of standard products is desirable. The reduction of this market barrier would lead to simplified possibility of combining components and therefore to more practical implementation projects. The possibility to combine different components and technologies shell support a lowering of prices on the market. The final goal is to archive more energy efficient, intelligent light points.

7. Description of the tasks:

- Cooperation with standardisation associations.

7.1. Carry out workshops within energy efficient road lighting

7.2. Communicate with national and international institutions about regulations that prevent increased use of intelligent road lighting.

- Mediate to reduce problems with obstacles for intelligent lighting.

7.3. Exchange experiences considering equipment and constructions.

7.4. Study existing technologies and price levels.

7.5. Make visible results from studies of relationship between lighting level and traffic safety.

These focused tasks are important to communicate knowledge and make adaptations of regulations and standards for road lighting.

The partners involved have already a wide network of contact points within the several organisations and working groups. These will be used in the work.

IIa. Outputs (apart from deliverables):

- A national forum for users.
- Knowledge about the effect on accidents of reducing or increasing the lighting level.
- Prepare for more widely use of intelligent road lighting by making the energy savings visible for the end users.
- Tasks for further work in cooperation with CIE, CEN, Cenelec, and ISO.

- Solid topics and issues to mediate contrary point of views of net utility and street lighting operator (access to grid etc)

IIb. Deliverable(s):

D7.1 Workshops

D7.2 Report on the relationship between lighting level and traffic safety

D7.3 Report on the monopole situation

D7.4 Report on the need for change in regulations

D7.5 Comprehensive work package report

III. Distribution of the tasks to each partner (Award criterion 5):

Partner	Task(s) of this partner organisation	Related to Task N°
All partners	Input on national issues about regulation and standards, support in preparing reports	
OSLO	Work package leader, workshops, preparation of reports	

Major other specific costs:

Major subcontracts:

Mandatory phrase to keep: The subcontractors identified / to be identified were / will be selected following the provisions of Article II.9 of the Grant Agreement on competitive grounds on the basis of best value for money.

7.2.8 Work Package 8: Communication

N° of work package: 8	Communication
Duration in months: 36	GIF

I. Description of the work:

b) Overview of the Work package:

In the context of work package 8, a broad set of activities to promote the project among the relevant target groups and key actors will be performed. These activities will raise awareness of the concept, the benefits and the implementation conditions of intelligent outdoor lighting and should motivate key actors, decision makers and other stakeholders to become involved in that topic. According to these aims, one concrete statement among the overall messages will be the importance of raising energy efficiency and reducing CO_2 emissions. The overall objectives of the communication and dissemination are to support the market liberalisation by influencing the end users' choices as well as to use the multiplier effect of the project and the network of the consortium members.

As the dissemination activities accompany the work packages 2-7 to raise the awareness and to address the target groups, their tasks belong to the major contributions to the success of these work packages as well as of the whole action.

The activities have to be adapted to the defined target groups on national and European level. As they will be carried on during the whole project life, stakeholders and target groups will be constantly updated and informed on the project progresses.

The main dissemination activities are the establishment of a European project website plus additional sub-sites in national language, publications in the partner languages and presentations of the project on various national and international events, mailings, newsletters, press and media work. These activities are aiming at providing constant information about the ESOLi project progress and results.

According to the target groups, different events will be organised, e.g. an international conference and study visits in more experienced countries, where intelligent outdoor lighting has already been installed. The national workshops, which will be organised in the framework of the work packages 3-6 will as well contribute to the dissemination.

In order to reach a broader target group and in addition to the self organised events, other relevant events on national and European level will be attended by partners of ESOLi.

c) Description of the tasks:

1. European project website

1.1. establishment of a European website including contents

1.2. regular updating

2. National sites on the European project website

2.1. translation of general information about the project in national language

2.2. add country specific contents

2.3. regular updating

3. International conference

3.1. organisation of a conference at the international trade fair "Light&Building" in Frankfurt (Germany) in 2012

The long-term aim is to establish a conference about intelligent outdoor lighting at a jour-fix at the "Light&Building"

4. European events

4.1. attending the Sustainable Energy Week (February 2011)

4.2. attending the European Week of Cities and Regions (October 2011)

4.3. attending other European events which are relevant for the project

5. National events

5.1. attending national events and contacting the target groups

5.2. promotion of intelligent outdoor lighting and ESOLi on country specific level (participating actively to at least one regular national event of each involved country)

Additionally, in the framework of the workshops of WP 3 and 6 results of the project will be disseminated.

6. Study visits

6.1. offering study visits in selected partner countries for target group representatives in order to transfer experience from countries experienced in intelligent outdoor lighting to countries with very little intelligent outdoor lighting points

6.2. application of interested representatives during the workshops (WP 6); selection of the participants by the WP leader

7. Press and Media coverage

7.1. identification of the most important sectoral channels (magazines, newsletters, websites)

7.2. publication of 6 informative articles in English during the project (at least every 6 months) (Months 7, 13, 19, 25, 31, 36).

7.3. publication of articles in national languages, using national channels (6 per country)

7.4. press releases will be issued at the launch of the project at European and national levels; for the international conferences and during the main European week events; some "extra" press releases

7.5. reports on local / regional TV

7.6. designing and establishing of a newsletter in English and all national languages of the project partners

8. Development of project materials

8.1. development of a project design

8.2. creation of print layout of flyer, poster, brochures, leaflets, etc. to be used by all the project partners for national materials

8.3. development of contents for all materials which are used on European level to present the project

9. Collection of letters of agreement

9.1. Letters of agreement from all of those who are interested in joining the observer group (e.g. manufacturers, associations, stakeholders) with the aim of a wide based dissemination and increasing know how transfer between all the partners

IIa. Outputs (apart from deliverables):

- An excellent communication inside the consortium;
- An excellent communication between the consortium, the target groups and the key actors by establishing and making use of networks
- The promotional message diffused in EU countries;
- Increased number of stakeholders and target group representatives interested seriously in intelligent outdoor lighting;
- Europe-wide awareness and knowledge about the ESOLi action and about intelligent outdoor lighting;

IIb. Deliverable(s):

D8.1 Communication plan (month 6)

D8.2 Central project website in English (month 2)

D8.3 National project sub-sites (in national languages) (month 6)

D8.4 One international conference (April 2012)

D8.5 Presentations of the ESOLi project on 1 national event per partner country in minimum

D8.6 Documentation of 3 study visits (month 36)

D8.7 Newsletter (months 7, 13, 19, 25, 31, 36).

D8.8 press review (36th month)

D8.9 at least 10 letters of agreement from the members of the observer group (36th month)

III. Distribution of the tasks to each partner (Award criterion 5):

Partner	Task(s) of this partner organisation	Related to Task N°
GIF	establishment and regular updating of European website	all
	Organisation of an international conference	3
	organisation of the study visits	6
	Identification of the most important media channels	7
	Identification of the most important media channels	7
	development of design, layout and contents for general project materials	8
	summarizing the letters of agreement	9
BEA	press release	7
all partners	support for European website (national aspects)	1
	translation of general contents and regular updating of national websites	2
	attendance in national events and international conference	3–5
	translation and dissemination of the newsletters and articles	7
	publication of articles	7
	printing and dissemination of materials on European as well as on national level	8

Major other specific costs:

Major subcontracts:

The subcontractors identified / to be identified were / will be selected following the provisions of Article II.9 of the Grant Agreement on competitive grounds on the basis of best value for money.

7.2.9 Work Package 9: IEE Dissemination Acitivities

N° of work package: 9	IEE Dissemination Acitivities
Duration in months: 36	BEA

I. Description of the work:

c) Overview of the Work package:

The work package covers resources to contribute, upon request by the EACI, to common dissemination activities to increase synergies between, and the visibility of IEE-supported projects.

d) Description of the tasks:

1. Creation and regular update of your project information for IEE online information systems (according to your reporting schedule).
2. Contribution, upon request by the EACI, to the development of additional information material (Intelligent Energy News Review, videos, images etc.) in the quality and form specified.
3. Participation and/or contribution, to information and dissemination events (contractors' workshops, conferences, briefing days, exhibitions, etc.) related to the IEE or other relevant EU programmes.

II.a. Outputs of this work package

- Delivering of contributions to the IEE online information systems
- Participation in information and dissemination events, such as contractor's workshops, conferences
- Delivery of common presentation material and media tools

II.b. Deliverable(s) of this work package

1. Creation and regular update of the project information.
2. Inputs to additional common information material related to IEE actions, such as articles for newsletters, posters, interviews, visuals.
3. Project presentations and background material presented at information and dissemination events including feedback analysis thereof.

III. Role and contribution (tasks) of each partner in this work package (Award criterion 5):

Partner	Task(s) of this partner organisation	Related to Task N°
BEA	All tasks	All tasks

7.3 Overview of Deliverables

Work Package	Deliverable N°	Deliverable name [a)]	Type of deliverable [b)]	Format [c]	Language(s) [d)]	Target group [e)]	Lead participant [f)]	Dissemi-nation level [g)]	Month of completion [h)]
WP1	D1.1	Kick off meeting and summary	Report	electronic paper	English	EACI	BEA	PU	2
	D1.2	5 Project Meetings and summaries	Report	electronic paper	English	EACI	BEA	PU	7, 13, 19, 25, 31
	D1.3	Final meeting and summary	Report	electronic paper	English	EACI	BEA	PU	36
	D1.4	List of members of the observer group	List	electronic paper	English	EACI	BEA	PU	6
	D1.5	List of members of the steering group	List	electronic paper	English	EACI	BEA	PU	3
WP2	D2.1	report on market and framework conditions	report	electronic (downloadable)20 page report	English	partners, street lighting operators, energy agencies and consultants	Luminext	PU	8
	D2.2	review of the report on market and framework conditions	report	electronic (downloadable) 20 page report ("update" of D2.1)	English	partners, street lighting operators, energy agencies and consultants	Luminext	PU	33
WP3	D3.1	Best practice catalogue	paper	electronic (downloadable) at least 20 pages (10 best practice á 2 pages)	English	local authorities, street lighting operators	GOT	PU	9
	D3.2	Presentations for workshops	presentations	electronic (downloadable) 6 presentations on best practices	English	partners	GOT	PU	11
	D3.3	National promotion workshops	event	2 nationa workshops in each partner country (= 28 workshops). 30 to 60 participants depending on size of the country	14 partner languages	municipalities street lighting operators, energy agencies and consultants	GOT	PU	13, 20
WP4	D4.1	Benchmarking tool	Tool	electronic	English and partners languages	municipalities street lighting operators, energy agencies and consultants	KAPE	PU	10
	D4.2	Guidebook for end-user	paper	electronic (downloadable)	14 partner languages	municipalities street lighting operators, energy	KAPE	PU	10

						agencies and consultants			
	D4.3	Case study of part of city or small town	paper	electronic (downloadable)	English	municipalities street lighting operators, energy agencies and consultants	KAPE	PU	10
	D4.4	Documentation of talks with involved users	Report	electronic (downloadable)	English	consortium	KAPE	PU	21
WP5	D5.1	Handbook for innovative financing schemes	paper	electronic (downloadable)	partner languages	municipalities street lighting operators, energy agencies and consultants	BSREC	PU	15
	D5.2	Test manuel for projects with lighting technology	Tool	electronic (downloadable)	partner languages	municipalities street lighting operators, energy agencies and consultants	BSREC	PU	15
	D5.3	Model test report for projects with new lighting technology	Report	electronic (downloadable)	English	municipalities street lighting operators, energy agencies and consultants	BSREC	PU	20
	D5.4	Model maintenance plan	Tool	electronic (downloadable)	partner languages	municipalities street lighting operators, energy agencies and consultants	BSREC	PU	20
	D5.5	Technical and economical documentation for the new installed light points	paper	electronic (downloadable)	English	municipalities street lighting operators, energy agencies and consultants	BSREC	PU	20
	D5.6	Tendering handbook and tender manual for street lighting	paper	electronic (downloadable)	partner languages	municipalities street lighting operators, energy agencies and consultants	BSREC	PU	20
	D5.7	At least 100.000 installed and documentation new intelligent light points	installations				BSREC	PU	36
WP6	D6.1	Summary of required skills	paper	electronic (downloadable) about 5 pages	partner languages	local authorities, street lighting operators	ELC	PU	10
	D6.2	Taining schemes incl. Modules	paper	electronic (downloadable) about 10 pages	partner languages	partners, training organisations	ELC	PU	10
	D6.3	Training seminars (external organisation)	seminar	lectures in 1 or 2 day seminars (at least 1 per partner country = 14)	partner languages	local authorities (technical staff), street lighting operators	ELC	PU	30
	D6.4	On-site training seminars	seminar	lectures and practical training in 1 or 2 day seminars (at least 1 per partner country = 14)	partner languages	local authorities (technical staff), street lighting operators	GOT	PU	30

	D6.5	international training seminar	seminar	1 day seminar	English	local authorities (technical staff), street lighting operators	ELC	PU	25
	D6.6	Evaluation report (seminars)	report	electronic (downloadable) 30 pages	English	partners	BEA	PU	33
WP7	D7.1	Dokumentation of Workshop	paper	electronic (downloadable)	English	local authorities, street lighting operators	City of Oslo	PU	36
	D7.2	Comprehensive work package report	Report	electronic (downloadable)	English	consortium	City of Oslo	PU	10
	D7.3	Report on the relationship between lighting level and traffic safety	Report	electronic (downloadable)	English	municipalities, street lighting operators, energy agencies and consultants	City of Oslo	PU	19
	D7.4	Report on the monopole situation	Report	electronic (downloadable)	English	consortium	City of Oslo	PU	19
	D7.5	Report on the need for change in regulations	Report	electronic (downloadable)	English		City of Oslo	PU	36
WP8	D8.1	Communication plan	report	electronic (downloadable)	English	partners	GIF	PU	6
	D8.2	Central project website	website	electronic	English	municipalities, street lighting operators, energy agencies and consultants	GIF	PU	2
	D8.3	national project sub-sites	sub-sites	electronic	national languages	municipalities, street lighting operators, energy agencies and consultants	GIF	PU	6
	D8.4	one international conference	conference	conference (day, 200 participants) & electronic papers	English	municipalities, street lighting operators, energy agencies and consultants	GIF	PU	13
	D8.5	presentations of the ESOLi project on 1 national event per partner country in minimum	presentation	electronic (at least 1 per partner country) (downloadable)	English or national language	municipalities, street lighting operators, energy agencies and consultants	GIF	PU	36
	D8.5	Documentation of 3 study visits	report	electronic (5 pages per study visit)	English	municipalities, street lighting operators, energy agencies and consultants	GIF	PU	36
	D8.6	Newsletter	newsletter	electronic (at least 2 pages; downloadable and dissemination by email)	English	municipalities, street lighting operators, energy agencies and consultants	GIF	PU	7, 13, 19, 25, 31, 36
	D.8.7	press review	press review	electronic (downloadable)	English	municipalities, street lighting operators, energy agencies and consultants	GIF	PU	36

	D8.8	project materials (flyer, brochures or posters, etc.)	information material	electronic and printed (at least 1000 pieces)	English	municipalities, street lighting operators, energy agencies and consultants	GIF	PU	6
	D8.9	at least 10 letters of agreement from the members of the observer group	list of the letters	electronic	English	municipalities, street lighting operators, energy agencies and consultants	GIF	PU	36

a) Please use the same deliverable name as indicated in the work package descriptions in section 6.2. The deliverable name should be self-explanatory.

b) The type of deliverable could be: a publication (flyer/brochure/working paper/paper/article/press release/slides/Cd-rom),website/webtool, etc.

c) The format could be: printed and/or electronic (downloadable), the approx. number of pages / number to be printed of a publication

d) Please specify each languages in which your deliverable will be available - indicating ‘all’ or ‘national’ is not sufficient.

e) Please indicate the specific target group for each deliverable. The target groups indicated should be consistent with section 4. Indicating 'all' is not sufficient.

f) Name the participant of your consortium who will lead the preparation of the deliverable.

g) Please indicate the dissemination level using one of the following codes:

PU = Public, to be freely disseminated, e.g. via the project website

CO = Confidential, only for members of the consortium including the Commission/EACI Services (only in exceptional cases)

h) Month in which the deliverables will be actually completed (not the submission to the EACI services). Month 1 marks the start of the project, and all deadlines should be relative to this starting date.

i) Each IEE project must produce a (Final) Publishable Report. Its form and shape can vary depending on the nature of the project. It must be delivered to the EACI with the Final Report.

7.4 Schedule

(Template for a 30-months-project - Please adapt as appropriate)

Project phase / Duration of the project (in months)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38
Work package 1: Management																																						
Work package 2: Review of framework conditions																																						
Work package 3: Promotion of intelligent street lighting																																						
Work package 3 - Task 3.1, 3.2 Best practice examples																																						
Work package 3 - Task 3.3 presentations and workshops																																						
Work package 4: Involving new end users																																						
Work package 4 - Task 4.1 Benchmark tool																																						
Work package 4 - Task 4.2 Advice to end users																																						
Work package 5: New installations and contracts																																						
Work package 6: Training of street lighting personnel																																						
Work package 6 - Task 6.1.and 6.2 (Preparation)																																						
Work package 6 - Task 6.3. to 6.5 (Seminars)																																						
Work package 6 - Task 6.6. (Evaluation)																																						
Work package 7: Standardisation and regulation																																						
Work package 8: Communication																																						
Development of a communication plan																																						
maintenance of the website, including national sub-website (tasks 1, 2)																																						
international conference (task 3)																																						
publications (task 7)																																						
development of project materials (task 8)																																						
Work package 9: IEE Dissemination Activities																																						
Project meetings a)		KO					PM2						PM3						PM4						PM5						PM6						PM7	
Project reports to EACI b)										PR									IR								PR										FR
Project Information Sheet & Slides to EACI		X								X									X										X								
Project Webpage/site creation and update						X																																
Project deliverables d)		D1.1	D1.5 D8.2			D1.4 D8.1 D8.3 D8.8	D1.2 D1.6 D8.6	D2.1	D3.1	D4.1 D4.2 D4.3 D6.1 D6.2 D7.2	D3.2		D1.2 D1.6 D3.3 D8.4 D8.6		D5.1				D1.2 D1.6 D7.3 D7.4 D8.6	D3.3 D5.2 D5.3 D5.4	D4.4				D1.2 D1.6 D6.5 D8.6					D6.3 D6.4 D9.1 D9.2 D9.3	D1.2 D1.6 D8.6		D2.2 D6.6			D1.3 D1.8 D5.6 D7.5 D8.5 D8.6 D8.7 D8.9		

a) It is recommended to hold project meetings every 6 months. A kick-off meeting should take place in the first 1-2 month(s). A final meeting should be foreseen.

b) According to the model grant agreement the minimum number of reports to EACI:

- 1-2 progress reports (PR; number of PR depending on the project duration).

- 1 interim report (IR – technical and financial),
- 1 final report (FR – technical and financial) at the end of the project, including a final publishable report.

Please be aware that submission deadlines for the three types of reports have to be indicated in this time schedule, whereas the period covered is fixed in the grant agreement (PR/IR within 1 month after the end of the period, FR at the latest 2 months after the end of the period). The submission deadline of the interim report is to be proposed by the contractors, bearing in mind that it should represent a substantial advancement of the works performed. It is recommended to set the end of the interim period when about 50-60% of the works will have been accomplished.

Examples of submission deadlines (depending on the duration of the project):

24-months-project [month]: PR: 7; IR: 14 / 30-months-project [month]: PR: 10; IR: 19 / 36-months-project [month]: PR: 10, 28; IR: 19

c) The Final Report will be due at the latest 2 months after the end of the project (in this 30 month example: at the end of month 32). Only cost related to the preparation of the Final Report and to an audit certificate (where applicable) are eligible during these 2 months. Note: the Final Report can of course be submitted at the end of the project also.

d) Please ensure that the deadlines indicated in the List of Deliverables and the Schedule are consistent.

Note: for complex work packages, or work packages lasting over a longer period: please break them down at the level of tasks (see here in the example of Work Package 3)

9. Co-financing sources

Participant	Co-financing source	Comments / Justifications*
CO 1	ELC, Philips, ZVEI	A letter of support from ELC and Philips Germany is already attached to the proposal. BEA has already been in contact with ZVEI who are interested in supporting the project.
CB 2	Own resources	BSREC has ambitions to become one of the leading consultants in Bulgaria and the Black Sea region in the fields of energy efficiency and renewable energy. Lighting, i.e. intelligent street lighting, is among the key interests of the Centre. In this relation, the BSREC benefits from the project are twofold: (i) networking with municipalities and other key market stakeholders; and (ii) the project will contribute to the development of the market of intelligent street lighting, thus opening more business opportunities.
CB 3	Own resources	
CB 4	Own resources	
CB 5	Public funding Private funding Own financing	Preliminary contacts for co-financing have been established with BEMA (Būvniecības, enerģētikas un mājokļu valsts aģentūras) and the Ministry of Economy. Ekodoma will apply for co-financing from these institutions. As well as Riga municipality and Jelgava municipality have shown interest in the action. Eventually Ekodoma guarantees co-finance for this project from its own sources.
CB 6	Own resources	
CB 7	Own resources	
CB 8	Funds from the municipality of Ljubljana and own resources	
CB 9	Own resources	
CB 10	Own resources	
CB 11	Own resources	
CB 12	Own resources	
CB 13	Own resources	
CB 14	Efekt 2010 programme	SEVEn will submit an application to the Ministry of Industry and Trade of the Czech Republic within its annual Efekt programme.
CB 15	Ministry of Transport, Finnish Highway Administration and industry Own resources	SITO will apply for co-funding for a relevant call by the Ministry of Transport, Finnish Highway Administration and industry, but is also motivated to co-finance the project with its own resources.
CB 16	Slovenian Ministry of Environment and Spatial	ZRMK will apply for co-funding if and when a relevant call is launched by the Slovenian Ministry of Environment and Spatial

	Planning or own resources	Planning. However, ZRMK is strongly motivated to co-finance this IEE action also solely with own resources because it corresponds to company's regular activities in the field of energy efficiency and environmental protection, past and present work with local authorities and governmental ministries and bodies in Slovenia, and the role and mission as a company devoted to sustainable actions.

- Confirmation of this funding or letters of intent of funding may be attached to the proposal, but are not mandatory at proposal stage.
- Confirmation of this funding or letters of intent of funding may be attached to the proposal, but are not mandatory at proposal stage.

10. Overview of Letters of support (optional)

	Organisation	Comments
1	**Bright Thinking by ideelic, Sweden**	
2	**Bulgarian Energy Efficiency Agency (EEA), Bulgaria**	Government body, responsible for the implementation of the energy efficiency policy in Bulgaria
3	**City of London, United Kingdom**	
4	**COGEME S.p.A., Italy**	
5	**Enova SF, Norway**	Letter of Interest from ENOVA
5	**Enova SF, Norway**	Letter of Support concerning Co-financing für the City of Oslo
6	**European Lamp companies Federation (ELC)**	Association of European lamp manufacturer. The members account for 95% of total European lamp production.
7	**Lighting Engineering Society of Slovenia, Slovenia**	
8	**LumenRadio, Sweden**	Is involved in the development of next generation best-of-class wireless technology for the lighting industry.
9	**Municipality of Berlingo, Italy**	
10	**Municipality of Cazzago San Martino, Italy**	
11	**Municipality of Erbusco, Italy**	
12	**Municipality of Kamnik, Slovenia**	
13	**Municipality of Ljubljana, Slovenia**	
14	**Municipality of Maclodio, Italy**	
15	**Municipality of Maribor, Slovenia**	
16	**Municipality of Paderno Franciacorta, Italy**	

17	**Municipality of Pivka, Slovenia**	
18	**Municipality of Rovato, Italy**	
19	**Municipality of Skedsmo, Norway**	
20	**Municipality of Smolyan, Bulgaria**	
21	**Municipality of Torbole Casaglia, Italy**	
22	**Municipality of Varna, Bulgaria**	
23	**Municipality of Velenje, Slovenia**	
24	**Municipality of Vransko, Slovenia**	
25	**Nemko AS**	
26	**Philips, Finland**	
27	**Philips, Germany**	
28	**Pure Parish Council, Latvia**	
29	**Rysåsen Fastighets AB, Company of the Framtiden Group, Sweden**	
30	**Sinhro Ltd., Latvia**	**Working with electromechanical services, energy services, automatic micro processor control systems, lightning and surge protection**
31	**STILVI Lighting Ltd., Greece**	
32	**STREETLIGHT.VISION, France**	**European leading software provider for Energy Saving application on Streetlight networks and Infrastructure**
33	**Stadwerke Konstanz**	**Company responsible for street lighting in the cities of Konstanz, Germany**
34	**swb Beleuchtung GmbH, Germany**	**Company responsible for street lighting in the cities of Bremen and Kiel, Germany**
35	**Ulichno Osvetlenie JSC, Bulgaria**	**Company, which is responsible for street lighting in Sofia (Bulgaria)**

11. Description of each participant

10.1 Berliner Energieagentur GmbH

(a) Description of the organisation (maximum 1/2 page per organisation)

Berliner Energieagentur GmbH (BEA), founded in 1992 by the State of Berlin, is an enterprise in the sense of a public-private-partnership and has four shareholders: the State of Berlin, the Federal owned development bank KfW and the local utilities Vattenfall Europe and GASAG. BEA is a consulting firm, with the principal subjects of rational use of energy, promotion of combined heat and power systems, and use of renewable energies. BEA also realises model contracting projects as energy service company (ESCO) at its own risk. The task of BEA is the determination and active detection of

energy saving potentials in industry and commerce, service companies, housing agencies and public institutions. In this respect, the agency is mediator between energy policy and energy economics, and acts on the one hand as regional energy agency with main activities in Berlin, on the other hand as partner or co-ordinator in national and international projects ever since its foundation. BEA is located in Berlin and has currently a staff of 45. BEA is member of the European Network of Energy Agencies FEDARENE as well as the European Council for an Energy Efficient Economy, eceee. The Managing Director of BEA, Michael Geißler, is the General Secretary of FEDARENE. Furthermore the BEA keeps close co-operation with other regional energy agencies and is associated to the Society of Regional Energy Agencies of Germany called "Verein der Energieagenturen Deutschlands – EAD e. V.

(b) Relevant experience of the key personnel proposed to work on this project

Organisation:	Berliner Energieagentur GmbH				
Name :	Piller	**First Name:**	Sabine	**Nationality:**	DE
Qualification:	Dipl.-Ing. / Electric Engineering				
Staff category*:	Senior Expert				
Short description of work experience, relevant to the proposal:**	Main activities on behalf of BEA: Project Manager in the field of energy efficient street lighting and rational use of energy by order of the Federal Ministry of Environment, Nature Conversation and Nuclear Safety Coordination and implementation of EU projects related to rational energy use and energy efficient lighting. Project leader of regional projects focusing on user motivation and training for energy saving. Projects management on promoting energy performance contracting in industry and commerce. Lectors on energy efficient lighting. Former work experience: Project management of regional and European Projects on energy efficiency (lighting, server, household devices, etc.)				

*: e.g. Senior expert, Expert, Junior Expert / **: 1 paragraph per person

Organisation:	Berliner Energieagentur GmbH				
Name :	Kallmann	**First Name:**	Kerstin	**Nationality:**	DE
Qualification:	Dipl. Ing. Energy and Process Engineering				
Staff category*:	Senior Expert				
Short description of work experience, relevant to the proposal:**	Extensive project management experience in the field of consultation of tertiary sector for energy efficiency, of information and consultation campaigns with the focus on procurement and efficient appliances, policy consultation for climate protection strategies Development of the concept for a German Climate Protection Agency on behalf of the Federal Environmental Agency in cooperation with the German association of energy agencies (eaD) (2000). Project manager in the project EIE/05/176 ENERLIN – in cooperation with the Federal Ministry for environment, the European Lamp Companies Federation, TRILUX, euroLux and NUON Stadtlicht (2006 – 2009) www.enerlin.enea.it) Project manager in the project EIE 4.1031/Z/01-024/2001 Energy Labels – making a greener choice in cooperation with the Senate of Berlin (2003 –				

	2005) www.energy-labels.de)

*: e.g. Senior expert, Expert, Junior Expert / **: 1 paragraph per person

Organisation:	Berliner Energieagentur GmbH				
Name :	Hannemann	**First Name:**	Michael	**Nationality:**	DE
Qualification:	Dipl.-Ing. / Electric Engineering				
Staff category*:	Expert				
Short description of work experience, relevant to the proposal:**	Project management in the field of energy efficient street lighting and rational use of energy by order of the Federal Ministry of Environment, Nature Conversation and Nuclear Safety Planning Engineer in the field of high and medium voltage for electric supply companies and industrial clients				

*: e.g. Senior expert, Expert, Junior Expert/ **: 1 paragraph per person

Organisation:	Berliner Energieagentur GmbH				
Name :	Zumbusch	**First Name:**	Mechthild	**Nationality:**	DE
Qualification:	Dipl.-Ing.				
Staff category*:	Expert				
Short description of work experience, relevant to the proposal:**	Project manager of national campaign "Energiesparende Beleuchtung" (energyefficient lightning) which was initialized in the context of the EU-Project EnERLIn. Main focuses of the experience are planning, coordination and implementation of best-practice examples about energy efficient lighting systems in Germany. Project manager for GreenLight and GreenBuilding				

*: e.g. Senior expert, Expert, Junior Expert / **: 1 paragraph per person

Organisation:	Berliner Energieagentur GmbH				
Name :	Lüdecke	**First Name:**	Beate	**Nationality:**	DE
Qualification:	Dipl.-Wirtschafts-Ing. FH (industrial engineering)				
Staff category*:	Consultant for renewable energy				
Short description of work experience, relevant to the proposal:**	MS Lüdecke has acquired a profound knowledge in the fields of consulting on application possibilities and dissemination of thermal solar energy. She is an expert of life cycle assessment and CO_2-studies as well as a consultant on application of renewable energy and on state-of-the-art study and assessment of the waste treatment systems.				

*: e.g. Senior expert, Expert, Junior Expert / **: 1 paragraph per person

a) List of most relevant projects

Project (not more than 5 items per organisation)	**European, national or local/regional**	**Year of finalisation**	**Budget involved for your organisation**	**Website**

National competition "Energy Efficient Street Lightning" on behalf of Federal environmental Ministry (BMU)	national	2009	380.000 €	http://www.bundeswettbewerb-stadtbeleuchtung.de
EuropeaN Efficient Residential Lighting INitiative **(ENERLIN)** Co-beneficary Promotion campaign to increase the number of CFLs per household	European	2009	70.130 €	www.energiesparende-beleuchtung.de www.enerlin.enea.it
National Contact **GreenLight** Voluntary programme whereby private and public organisations commit towards the European Commission to reducing their lighting energy use	European	since 2002	program without budget	http://www.eu-greenlight.org
Development of a model contract "Contracting street lighting" within **EStreet**	national	2006		http://www.e-streetlight.com
Bottom up to Kyoto **(ButK)** Initiative to overcome barriers connected to energy efficient lighting technologies and to make significant energy and cost savings	European	2009	753.942 €	http://butk.elcfed.org/index.php?page=33

10.2 The Polish National Energy Conservation Agency (KAPE)

b) Description of the organisation (maximum 1/2 page per organisation)

KAPE was established following the Parliament resolution in 1994 with the aim to serve as a national sustainable energy agency. KAPE's main activities include: consultancy for the governmental administration, local authorities and energy sector, assistance in formulation and evaluation of national and local energy strategies and plans, realization of projects in international programmes, organisation of national and international conferences, seminars and training courses, carrying out information, promotional and educational campaigns.

The majority of KAPE's activities are public service obligations due to the shareholders structure which covers: the Ministry of the Treasury, the Industrial Development Agency, the Bank of National Economy and the National Fund for Environmental Protection and Water Management. KAPE cooperates with several governmental bodies on establishing of law regulations; programs and other initiatives related to energy and energy efficiency issues in the building, industrial and energy sectors. Since 2005 KAPE is accredited by the European Commission as a mandated body and is a member of European Energy Network (EnR).

KAPE has also been a partner and project coordinator within numerous EU international and bilateral projects. In 2004 KAPE was the implementing body of the "Poland-Japan Energy Conservation Technology Centre (PJECTC)" established within the framework of bilateral Polish-Japan governmental cooperation. The general objective of the Centre is to support activities aimed at improvement of energy management and energy efficiency in the Polish industry as well as training technical staff and industrial energy managers. The PJECTC operates within the KAPE's administrative structure and will be directly involved in realisation of the proposed ENSAVE project.

At present, KAPE is involved in the process of elaboration of the law regulation implementing the directive 2006/32/EC on energy end-use efficiency and energy services and repealing Council Directive 93/76/EEC. Moreover, KAPE until Feb. 2009 was also the coordinator of the GEF/UNDP project - The Polish Energy Efficient Motor Programme (PEMP) aimed at reducing GHG emissions in Poland by increased market penetration of energy efficient motors.

(c) Relevant experience of the key personnel proposed to work on this project

Organisation:	The Polish National Energy Conservation Agency				
Name :	Skoczkowski	**First Name:**	Tadeusz	**Nationality:**	Polish
Qualification:	Prof. of the Institute of Electrical Engineering				
Staff category*:	Senior Expert				
Short description of work experience, relevant to the proposal:**	Mr Tadeusz Skoczkowski has been KAPE President since 1999. He graduated from the Silesian Technical University (STU) with a D.Sc. degree in electroheat. Moreover, he has been a professor of the Institute of Electrical Engineering since 1995 and also worked as a lecturer at the STU Department of Electrical Engineering. His wide scope of energy – related expertise includes i.a. energy efficient technologies and equipment, implementation of the EU law on energy efficiency and renewable and ecological aspects of energy consumption. His industrial experience originates i.a from working as a designer of electroheat and power electronics equipment in 15 industrial projects and as an advisor expert for Junkers GMbH in Copper Foundry Szopienice project in Poland.				

Organisation:	The Polish National Energy Conservation Agency				
Name :	Zwierchanowski	**First Name:**	Ryszard	**Nationality:**	Polish
Qualification:	M Sc engineer, Warsaw University of Technology, Precision Mechanics,				
Staff category*:	Expert				
Short description of work experience, relevant to the proposal:**	**Mr Ryszard Zwierchanowski** has been KAPE employee since 2003. He graduated from the Warsaw University of technology) with a M.Sc. degree in precision mechanics. Moreover, he has graduated of the High School of economics in Warsaw. In KAPE S.A. he was working as projects manager of E-Street, New Green Light, Proefficiency, KITH IEE projects. Currently he is involved into FinSH and E4 IEE projects as a leader on the Polish market. He has a great industrial experience working as a commercial manager in the lighting equipment manufacturers.				

Organisation:	The Polish National Energy Conservation Agency				
Name :	Węglarz	**First Name:**	Arkadiusz	**Nationality:**	Polish
Qualification:	Warsaw University of Technology, Faculty of Civil Engineering, PhD in Civil Engineering Polish Academy of Sciences & Warsaw University, Faculty of Mathematics, Postgraduate studies				
Staff category*:	Senior expert				
Short description of work experience, relevant to the proposal:**	***Arkadiusz Węglarz***: (in KAPE since 1998). He is an energy efficiency in households expert. He works as a coordinator of all realized at KAPE national and international projects. He is also a director of experts team in KAPE. He participates in various international and national programmes and take part in realizing of projects in frame of Intelligent Energy-Europe.				

Organisation:	The Polish National Energy Conservation Agency				
Name :	Tabęcki	**First Name:**	Mariusz	**Nationality:**	Polish
Qualification:	Warsaw University of Technology; Master Engineer of Electrical Engineering. Warsaw University of Technology; Up-graduated Diploma of Lighting Techniques				
Staff category*:	Senior expert				
Short description of work experience, relevant to the proposal:**	***Mariusz Tabęcki***: (in KAPE since 2003). Development and implementation of software solutions. Responsibility for working of computer network and servers in KAPE. Creation of KAPE's home website and different project websites. He participates in various international and national programmes.				

(d) List of most relevant projects

Project (not more than 5 items per organisation)	**European, national or local/regional**	**Year of finalisation**	**Budget involved for your organisation**	**Website**
▪ **E-STREET - Intelligent**	EU / Poland	2008	€ 58 100,-	www.e-streetlight.com

road and street lighting in Europe				
▪ **New GreenLight** – The European GreenLight Programme in New Member States	EU/ Poland	2008	199.360	www.eu-greenlight.org
▪ **Enerlin** – European Efficeint Residential Lighting Initiative	EU / Poland	2008	€ 98 600,-	www.enerlin.enea.it
▪ **Proefficiency –** Pro-efficient cold and lighting products	EU / Poland	2008	€ 109 900,-	www.escansa.com/proefficiency
▪ **E4 –** Energy – Efficient Elevators and Escalators	EU / Poland	ongoing	€ 102 965,-	www.e4project.eu

10.3 SEVEn

a) Description of the organisation (maximum 1/2 page per organisation)

SEVEn, The Energy Efficiency Center, Prague, is a not-for-profit consultancy company that has been operating in the Czech Republic since 1990. SEVEn´s mission is to protect the environment and support economic development by encouraging more efficient use of energy. SEVEn focuses on business development and economic and efficient energy use consultancy services. When solving the issues of projects, SEVEn uses its extensive knowledge of the transforming Central European economics together with the experience and approach of Western European countries and the USA.

In the area of lighting, household appliances and energy labels, SEVEn has been active in the promotion of energy efficient light sources efficiency aspects of proper usage since the early stages of the CFL market penetration in the Czech Republic.

Among other initiatives it established a national information and database Internet portal **www.uspornespotrebice.cz** (Efficient Appliances.cz) originally as a part of the PADE project (Pan European Database of Energy Efficient Appliances) supported by the EU. Its purpose was to provide Czech consumers with the wide information base on the energy demand and other important operational parameters of the white goods sold on the domestic market and about labelling and energy efficiency in general. The internet site is still running and promoted actively under the further projects of SEVEn on this topic, including lighting sources.

SEVEn has coordinated the New GreenLight project, focused on the promotion of the GreenLight programme in the region of Central Europe. It also served as co-beneficiary of the Enerlin project, where it focused on the promotion of quality CFLs towards the consumers.

SEVEn was also managing the ELI – Efficient Lighting Initiative which was a four-year international project headed by the International Finance Corporation (IFC) and financed by the Global Environment Fund (GEF).

b) Relevant experience of the key personnel proposed to work on this project

Organisation:	SEVEn, Středisko pro efektivní využívání energie, o.p.s.				
Name :	KRIVOŠÍK	**First Name:**	Juraj	**Nationality:**	Slovakia
Qualification:	University of Economics, Bratislava, Slovakia – Commercial Diplomacy, Dipl. Ing. University of Sheffield, United Kingdom – Energy Studies, Master of Art University of Oslo, Norway – Energy Planning and Sustainable Development course				
Staff category*:	Senior Expert, Director				
Short description of work experience, relevant to the proposal:**	***Juraj Krivošík*** at SEVEn since the year 2000. He has a long term commitment in the appliance labelling and energy efficiency issues. He coordinated the New GreenLight, ELAR and CEECAP projects, all focused on the promotion of the European Common Appliance Policy and Lighting in the region of Central Europe (20006-2008). Besides he took part on a number of projects promoting energy efficient appliances and light sources, dealing with the policy issues, dissemination activities, working with the manufacturers, retailers, state inspectorates etc. He also works on projects of economic analysis of the energy systems, the impact of subsidies and energy prices upon its consumption, areal energy concepts, and the promotion of energy efficiency. One of his key references is the collaboration on the Czech part of the Efficient Lighting Initiative (ELI) which was running between 2001 – 2003 to support wider use of energy efficient lighting technologies in households, non-residential buildings and the public lighting. In this project he was in charge of organising the media public relations campaign and to help finding economical solutions for non-residential lighting projects.				

Organisation:	SEVEn				
Name :	STAŠA	**First Name:**	Michal	**Nationality:**	Czech
Qualification:	Charles University in Prague, The Faculty of Humanities, 8, U Kříže, 158 00, Prague 5, Czech Republic, Civil Society Studies, main subjects: NGOs, sociology, public sector Czech Technical University in Prague, Faculty of Electrical Engineering, 2, Technická 2, 166 27, Prague 6, Czech Republic, Energetics, main subjects: light engineering and technology, photometric measures				
Staff category*:	Lighting specialist, Project Manager				
Short description of work experience, relevant to the proposal:**	**Michal Staša** studied energetics at the Czech Technical University in Prague. He focused his studies on light technologies and photometry. Since 2007, he has been studying Civil Society Studies at Charles University in Prague. He is active in Amnesty International Czech Republic and worked as Vice-Char, later Chair of the Board of Directors during 2007/2008. From 2005 to 2008, he worked for Trilux Czech Republic as a lighting designer providing clients with interior and exterior lighting systems. He has been working at SEVEn as a consultant since October 2008. He specializes in energy demands' reductions of lighting systems. He participated in designing of measures for the Czech National Theatre intended for energy consumption savings. He is also increasing other professional competencies in energy savings.				

c) List of most relevant projects

Project (not more than 5 items per organisation)	European, national or local/regional	Year of finalisation	Budget involved for your organisation	Website
▪ **New GreenLight** – The European GreenLight Programme in New Member States	Central Europe + Czech Republic	2008	199.360	www.eu-greenlight.org
▪ **Enerlin** – European Efficeint Residential Lighting Initiative	Czech Republic	2008	87.220	www.enerlin.enea.it
▪ **Ceecap** – Implementing EU Appliance policy in Central and Eastern Europe	Central Europe + Czech Republic	2008	216.330	www.ceecap.org

10.4 Swedish Road Administration

d) Description of the organisation (maximum 1/2 page per organisation)

The Swedish Road Administration is the national authority assigned the management of the national road network as well as the overall responsibility for the entire road transport sector. Their task is to cooperate with other actors in the sector to develop an efficient road transport system in the direction stipulated by the Swedish government and Parliament.

Sweden has some 400.000 km of roads, out of which 100.000 km is state roads managed by the SRA, 40.000 km are municipal road networks influenced by the recommendations of the SRA and 300.000 km are private roads (including village road cooperatives). The most intensive parts of the private road network are open to the public, some 70.000 km of which receive public subsidies and management aid from the SRA to the private road owners. The total road traffic work is about 70 x 10^9 vehicle km.

The number of luminaries in the Swedish road sector is estimated to be about 2,2 million, out of which in excess of 150.000 are managed by the SRA and an additional 75.000 on the national road network are owned by municipalities. The number of electric supply points to the SRA is more than 5.000. Electric consumption increased to 150 GWh p.a. in 2008.

e) Relevant experience of the key personnel proposed to work on this project

Organisation:	Swedish Road Administration				
Name :	Strid	**First Name:**	Martin	**Nationality:**	SE
Qualification:	Mr Strid has a wide experience within the field of infrastructure and sustainability. From a background in water engineering and energy conservation, he has in later years worked with sustainable development in the road transport sector and increasingly with institution building. Presently he is national coordinator for improving energy efficiency in road operations.				
Staff category*:	Subcontractor Senior Expert				
Short description of work experience, relevant to the proposal:**	Martin Strid has for more than 20 years worked with environmental issues in a variety of capacities ranging from coordination of local sustainability strategies to international project assessments, national monitoring of emissions, municipal planning, management of environmental health authority, recycling research, promotion of sustainable transports and				

	ecological education.

f) List of most relevant projects

Project (not more than 5 items per organisation)	European, national or local/regional	Year of finalisation	Budget involved for your organisation	Website
Q-city	European	2008		www.qcity.org
Spicycles	European	2009		www.spicycles.velo.info
Road management of 100.000 km national road network including in excess of 150.000 state and 75.000 municipal luminaires	National	Permanent	2.ooo.ooo.ooo € p.a.	www.vv.se
Provision and updating of the national Roads and streets design manual (VGU) including rules and recommendations for street lighting,	National	Permanent	5o.ooo €	www.vv.se
Energy efficient upgrading of existing street lighting on state road network	National	2009	5.ooo.ooo €	www.vv.se

10.5 The city of Gothenburg

(a) Description of the organisation (maximum 1/2 page per organisation)

Göteborg, Sweden's second city, was founded in 1621 by the Swedish king Gustavus Adolphus II. Over the years the city has consistently retained its international character. Shipping and trade dominated the industry in Göteborg for a long time and the city became the centre for the East India trade. Throughout the 1900s, Göteborg was dominated by a large number of successful industrial enterprises and during the 1960s the city was one of the world's largest shipbuilding and repair centers. Today Göteborg has a highly diverse industrial structure with an emphasis on transport and biomedicine.

Göteborg has a population of almost half a million. There is a distinct maritime atmosphere, with a mixture of older, well-preserved districts and exciting new developments. There is considerable emphasis on ensuring that the people in the city live in a good secure environment. The city is also a centre for major events and congresses. Interaction between the city, industry and the research/development community is a cornerstone in Göteborg's development.

If Göteborg continues developing as an attractive regional centre, a well functioning traffic environment is needed. In a living city, therefore, the different kind of traffic and transportation solutions must be a complement to one another. Street lighting is an important part to offer the inhabitants a safe environment and surroundings. The street lighting in Göteborg consists of approximately 87.300 units with 22% mercury and 65% high-pressure sodium lamps. In Sweden we have 2,2 millions luminaries with different owners like e.g the Swedish Road Administration, Traffic Public Road Authorities in different municipalities

The Swedish Road Administration is the national authority assigned the overall responsibility for the entire road transport system. Their task is to co-operate with others to develop an efficient road transport system in the direction stipulated by the Swedish government and Parliament.

(b) Relevant experience of the key personnel proposed to work on this project

Organisation:	Traffic & Public Transport Authority in Gothenburg				
Name :	Johansson	**First Name:**	Ingemar	**Nationality:**	SE
Qualification:	Ingemar Johansson has been studying for electrical engineer at high school and has some 30 years of experience of the electrical construction industry. He has been working in countries like Saudi Arabia, Syria and Egypt under a longer period during the 80´s				
Staff category*:	Work package leader				
Short description of work experience, relevant to the proposal:**	His long experience has included planning projects, investigation work, electrical construction, control and inspection in the processing industry, building industries, car industry, road and traffic system and maintenance of street lighting.				

Organisation:	Traffic & Public Transport Authority in Gothenburg				
Name :	Siewert	**First Name:**	Lena	**Nationality:**	SE
Qualification:	Ten years of dedicated expertise skills from the street lighting industry, from design to execution of projects, with focus on preventing vandalism in public spaces.				
Staff category*:	Senior Expert				
Short description of work experience, relevant to the proposal:**	Lena Siewert is experienced in all facets/phases of co-ordinating and managing complex projects of various kinds from start to the end. Competent in providing and interacting street lighting expertise in English with nearly 20 years of knowledge of managing international projects with the purpose of building and strengthen international relations.				

*: e.g. Senior expert, Expert, Junior Expert / **: 1 paragraph per person

(c) List of most relevant projects

Project (not more than 5 items per organisation)	**European, national or local/regional**	**Year of finalisation**	**Budget involved for your organisation**	**Website**
EU project “E-street”	European	2007	60.000 €	www.e-streetlight.com
Q-city	European	2008		www.qcity.org

Road management of 100.000 km national road network including in excess of 150.000 state and 75.000 municipal luminaires	National	Permanent	2.ooo.ooo.ooo € p.a.	www.vv.se
Provision and updating of the national Roads and streets design manual (VGU) including rules and recommendations for street lighting,	National	Permanent	5o.ooo €	www.vv.se
Energy efficient upgrading of existing street lighting on state road network	National	2009	5.ooo.ooo €	www.vv.se

10.6 Black Sea Energy Centre

(a) Description of the organisation (maximum 1/2 page per organisation)

The **Black Sea Energy Centre** is a non-government organization (NGO), successor of the Black Sea Regional Energy Centre. The Centre aims at developing co-operation between the countries of the Black Sea region and EU in the energy sector. Apart from its international activities, the Centre is actively involved in the Bulgarian energy sector. The Centre is occupying permanently in Sofia seven persons. Additionally, a wide network of high-level energy experts provide services to the Centre, thus enabling good co-operation between the energy market players. The Centre's activities are focused mainly in the following fields:

- Harmonization of the energy legislation with the EU one;
- Security of energy supply and promotion of utilization of renewable energy sources;
- Energy efficiency and rational use of energy;
- Networking, exchange of experience and dissemination of information.

(b) Relevant experience of the key personnel proposed to work on this project

Organisation:	Black Sea Energy Centre				
Name :	Vassilev	**First Name:**	Nikolay	**Nationality:**	Bulgarian
Qualification:	Ph.D. in Lighting Engineering, Technical University - Sofia MSc. in Electrical engineering, Technical University - Sofia				
Staff category*:	Senior expert				
Short description of work experience, relevant to the proposal:**	Nikolai Vassilev is a Professor at the Technical University of Sofia, head of Lighting Laboratory in the TU Sofia. He was a member of the team for elaborating National Program for Energy Efficient and Ecological Lighting, member of a team for international education for energy conservation, honourable president of the National Committee of Illumination. Prof. Vassilev research interests are related to energy efficient and ecological				

	lighting, optimisation of lighting equipment, design of luminaries, conservation of energy in factories. He has more than 200 publications. Prof. Vassilev has been involved in analysis of numerous street and industry lighting systems. He has been working with the BSREC since 1996.

Organisation:	Black Sea Energy Centre				
Name :	Nikolaev	**First Name:**	Angel	Nationality:	Bulgarian
Qualification:	B.Sc.MSc in Economics and Business, University of Economics – Varna MSc in Environmental Management and Policy, Lund University MSc in Energy Economics and Management, Sofia University				
Staff category:	Expert				
Short description of work experience relevant to the proposal:	Mr. Nikolaev has worked for one year at an energy audit company ECO-WAT, where he was responsible for the evaluation of energy efficiency measures. Since 2003 he is working at BSREC as an expert in energy efficiency and renewable energy. He has been involved as an expert in ten EU-funded projects (four FP6 and six EIE projects). In 2007 he was a member in the team of experts who elaborated the Updated Energy Strategy of Bulgaria.				

(c) List of most relevant projects

Project (not more than 5 items per organisation)	**European, national or local/regional**	**Year of finalisation**	**Budget involved for your organisation**	**Website**
Intelligent Road and Street Lighting in Europe (E-STREET)	European (EIE)	2008	31000 EUR	www.e-streetlight.com
Promotion of Energy Management Practices in the Textile Industries of Greece, Portugal, Spain & Bulgaria (EMS-TEXTILE)	European (EIE)	2007	78400 EUR	www.ems-textile.net
Consultancy contract for the preparation of the public building and the street lighting projects under KIDSF, Funded by EBRD, 2007-2008	National (EBRD)	2008	40000 USD	N/A

10.7 Luminext BV

a) Description of the organisation

Luminext is a market leader in Automated Outdoor Lighting Solutions. Our solutions make Lighting Systems "Dynamic" to allow for significant energy savings and the reduction of maintenance cost while improving safety and security.

We are using open technology in all our solutions allowing our customers the freedom to mix and match our systems with products from others. We work with the LonWorks® technology and developed an impressive product portfolio for outdoor lighting solutions.

d) Relevant experience of the key personnel proposed to work on this project

Organisation:	Luminext BV				
Name :	Walraven	**First Name:**	Henk	**Nationality:**	NL
Qualification:	Dipl. Ing.				
Staff category*:	Sr. Management				
Short description of work experience, relevant to the proposal:**	Henk, was been working with the outdoor lighting industry for more than 10 years mainly working on projects, products and ideas to save energy in this sector. Henk was been a contributor to the E-street project where he was one of the early partners to attend.				

*: e.g. Senior expert, Expert, Junior Expert / **: 1 paragraph per person

e) List of most relevant projects

Project (not more than 5 items per organisation)	**European, national or local/regional**	**Year of finalisation**	**Budget involved for your organisation**	**Website**
Oslo City	Norway	2006	> 500 K	www.oslo.kommune.no
Ovre Eiker	Norway	2009	> 300 K	www.ovre-eiker.kommune.no
Highway A2	Netherlands	ongoing	> 700 K	www.infra2.nl/
Gelderland province	Netherlands	ongoing	> 500 K	www.gelderland.nl/
City of Stadskanaal	Netherlands	ongoing	> 400 K	www.stadskanaal.nl/

The ongoing projects have started and will be deployed over the coming years. The budgets are just and indication of the actual value of the projects when they complete.

10.8 Javna Razsvetljava

(a) Description of the organisation

Company Javna razsvetljava d.d. is the major company in Slovenia dealing with public lighting, traffic signalling and all kinds of outdoor lighting and lighting for transport (tunnel lighting).

Scope of work is contracting, maintenance and also planning and design of outdoor lighting. Within the company we also have a daughter company in charge of financing the projects.

Company is in charge of all the major projects considering public lighting in the municipal of Ljubljana, capital of Slovenia and is also involved in a lot of projects considering road lighting at main roads and highways in Slovenia.

Our staff is well experienced and our engeneers also took part in preparation of national norms and recommendations considering road and street lighting. Our engeneers also participate in the work af international bodies dealing with public lighting.

The advantage of company is, that it is possible to provide and test new ideas in a very short time period. As we are in charge for maintenace of public lighting in Ljubljana, we can implement new technologically advanced systems on a small number of pilot projects.

During the past few years quite a number of intelligent lighting installations have been constructed, thus already giving very positive results.

In Slovenia the aim of reducing energy used for public lighting is very strong, therefore the results of the work within ESOLI project coluld be implemented in practice in a short time

(b) Relevant experience of the key personnel proposed to work on this project

Organisation:	Javna razsvetljava d.d.				
Name :	Bizjak	**First Name:**	Marko	**Nationality:**	Slovene
Qualification:	Univ. dipl. Ing. el..				
Staff category*:	Senior expert				
Short description of work experience, relevant to the proposal:**	- Project leader for main projects involving intelligent lighting systems in SLO - Senior designer for tunnel and outdoor lighting applications - Slovenian representative in CIE Div. 4 - Technical director of JR for 12 years till 2008 - Participated in E-street project				

*: e.g. Senior expert, Expert, Junior Expert / **: 1 paragraph per person

(c) List of most relevant projects

Project (not more than 5 items per organisation)	**European, national or local/regional**	**Year of finalisation**	**Budget involved for your organisation**	**Website**
E-street	EU	2008		www.e-streetlight.com
Application of intelligent lighting system at highway junctions	national	2008/2009	60 000 Eur	
Aplication of intelligent lighting system for some major roads in Ljubljana	regional	2009	75 000 Eur	

10.9 City of Oslo Agency for Road and Transport (partner)

(a) Description of the organisation

The Municipalities are responsible for day care facilities, child welfare, primary and lower secondary schools, public libraries, primary health care, financial support for welfare clients, care for the elderly and disabled, fire departments, harbours, municipal roads, water supply, sewerage, garbage collection and disposal, organisation of land use within the municipality e.g. the laying out of land for industrial or commercial use, or housing.

The City of Oslo is responsible for 65000 streetlight and 9000 of these are dimmable and run by an intelligent system.

The City has regulation regarded to that energy efficient solutions shall be chosen in new installation and by retrofitting.

City of Oslo Agency for Road and Transport will be responsible for and lead WP Regulatin/Standards and will contribute with 80% of the contribution (rest 20% by sub contractor Norwegian Public Road Administration)

(b) Relevant experience of the key personnel proposed to work on this project

Organisation:	City of Oslo				
Name :	Bjelland	**First Name:**	Eirik	**Nationality:**	Norwegian
Qualification:	Engineer				
Staff category*:	Senior expert				
Short description of work experience, relevant to the proposal:**	Project-coordinator on E-Street				

Organisation:	City of Oslo				
Name :	Kristoffersen	**First Name:**	Tom	**Nationality:**	Norwegian
Qualification:	Engineer				
Staff category*:	Senior expert				
Short description of work experience, relevant to the proposal:**	Maintenance and Operations Department – Head of Section				

(c) List of most relevant projects

Project (not more than 5 items per organisation)	**European, national or local/regional**	**Year of finalisation**	**Budget involved for your organisation**	**Website**
E-Street	European	2007		www.e-streetlight.com

TC 4-44	International	2009		www.cie.co.at
PCB energy economising project. Retrofitting old installation to 9000 dynamic streetlight	local	2008		

10.10 Norwegian Public Road Administration

(a) Description of the organisation

The Norwegian Public Roads Administration is responsible for the planning, construction and operation of the national and county road networks, vehicle inspection and requirements, driver training and licensing.

It is also authorized to grant subsidies for ferry operations. The Public Roads Administration is under the leadership of the Directorate of Public Roads, which is an autonomous agency subordinated the Ministry of Transport and Communication. The Public Roads Administration encompasses five regional offices.

(b) Relevant experience of the key personnel proposed to work on this project

Organisation:	Norwegian Public Road Administration				
Name :	Nørbech	**First Name:**	Camilla	**Nationality:**	Norwegian
Qualification:	Civil Engineer				
Staff category*:	Junior Expert				
Short description of work experience, relevant to the proposal:**	Management of a national energy saving project for the Norwegian Public Roads administration. Participating in a research and development project concerning a luminance meter.				

Organisation:	Norwegian Public Road Administration				
Name :	Wanvik	**First Name:**	Per Ole	**Nationality:**	Norwegian
Qualification:	PhD, Civil Engineer				
Staff category*:	Senior Expert				
Short description of work experience, relevant to the proposal:**	PhD on Road Lighting and Traffic safety Representing Norway in TCs within CIE and CEN regarding road and tunnel lighting. Participating in national energy saving projects within road lighting				

(c) List of most relevant projects

Project (not more than 5 items per organisation)	European, national or local/regional	Year of finalisation	Budget involved for your organisation	Website
CIE TC4-44	International	2009	Not specified	www.cie.co.at
E-street	European	2007		www.e-streetlight.com
Energy saving project of NPRA (Norwegian Public Roads Administration	National	2008		

10.11 SECE

(a) Description of the organisation

SECE (Sociedad Española de Construcciones Eléctricas) was founded in 1912 and its main activity has been always related to street lighting, from the design to the physical installation and the maintenance. Today, with more than 300000 light points maintained, we are the leaders in Catalonia and the company wants to reach all the rest of the Spanish market, where we already won our first contract this year. We are highly committed with environment and technologically specialized and focused on innovation. Our R&D department has developed a new street lighting telemanagement system based on power line communication.

(b) Relevant experience of the key personnel proposed to work on this project

Organisation:	SECE				
Name :	Francesc	**First Name:**	Pecanins	**Nationality:**	Spanish
Qualification:	Engineer				
Staff category*:	Expert				
Short description of work experience, relevant to the proposal:**	I worked in the Politechnic university of Catalonia as a Street lighting consultant , in Simon lighting (Spanish luminaire manufacturer), in GE Lighting as a technician and now in the R&D department in SECE, the main street lighting maintenance company in Catalonia, where we've developed an intelligent control system.				

*: e.g. Senior expert, Expert, Junior Expert / **: 1 paragraph per person

(c) List of most relevant projects

Project (not more than 5 items per organisation)	European, national or local/regional	Year of finalisation	Budget involved for your organisation	Website
▪				
▪				

▪				
▪				
▪				

10.12 ZRMK

(a) Description of the organisation (maximum 1/2 page per organisation)

Building and Civil Engineering Institute ZRMK, Ltd. (BCEI ZRMK), Ljubljana, Slovenia, (in Slovenian: Gradbeni inštitut ZRMK, official short name GI ZRMK) is a daughter company of ZRMK Holding jsc (est. 1949). BCEI ZRMK (est. 2003) acts as an R&D and consultancy company in the building and civil engineering sector. The company focuses several fields concerning buildings and civil engineering including RUE and RES in new construction and refurbishment, energy audits and concepts, energy-efficient and environment-conscious building materials, products, and technologies**,** and also other relevant fields: green labelling, green procurement, climate protection and sustainable development. The company is active on local, regional, national and European level. The most important national clients include Slovenian ministries, governmental Agency for Efficient Use of Energy, municipalities, construction companies, larger investors and developers, as well as individual clients facing energy related problems.

The company has been continually involved in international EIE, FP5, FP6 projects, EIE, SAVE, Altener, PHARE, EUREKA, COPERNICUS, OPET-network, COST C5 and C8, C16, C23, ECOS/OUVERTURE, INCO, THERMIE, UNDP, and other projects concerning energy, environmental, and sustainability issues.

The institute implements various promotional and educational activities and awareness-raising programmes in the above mentioned fields, and regularly organizes respective workshops, seminars, and expert meetings. The institute is responsible also for operation of the national Energy Advisory Network for households, and works in close co-operation with the Slovenian Government on drafting of various technical regulations, labelling and financial instruments (eco-loans and subsidies). The company has good contacts with professional associations and chambers as well as relevant expertise to implement the proposed action in Slovenia.

(b) Relevant experience of the key personnel proposed to work on this project

Organisation:	Building and Civil Engineering Institute ZRMK				
Name :	Tomsic	**First Name:**	Miha	**Nationality:**	Slovene
Qualification:	R&D Manager for Building Physics within the Centre for Indoor Environment, Building Physics and Energy M.Sc., Civ.Eng.				
Staff category*:	Senior expert				
Short description of work experience, relevant to the proposal:**	Mr. Miha Tomsic (1962) is an expert in the field of building physics, RES and RUE, and integration of new and innovative materials and building components for improvement of thermal performance of the building and indoor comfort. His focus of interest is energy efficient and environment friendly design and retrofit, climate protection, green labelling, green procurement, and sustainable development in general. He has 19 years of professional experience on above mentioned topics, including 7 years as a University Assistant and as an adviser to the various construction companies and architectural studios. He has comprehensive experience in the building sector (private and public buildings), LCC, energy book-keeping for				

	municipalities, state subsidies for low cost measures, drafting of various technical regulations connected to energy- and environment-conscious issues, incentives and subsidies for EE measures, and green public procurement. He co-operated in drafting the national programme on reduction of GHG emissions, National energy efficiency action plan, and Action plan for green public procurement. He has been engaged as a project manager in EU and national projects permanently since the start of his professional career.

*: e.g. Senior expert, Expert, Junior Expert / **: 1 paragraph per person

Organisation:	Building and Civil Engineering Institute ZRMK				
Name :	Sijanec Zavrl	**First Name:**	Marjana	**Nationality:**	Slovene
Qualification:	R&D Manager for Sustainable Building within the Centre for Indoor Environment, Building Physics and Energy; Member of the Management Board for R&D Ph.D., Civ.Eng.				
Staff category*:	Senior expert				
Short description of work experience, relevant to the proposal:**	Mrs.Sijanec Zavrl (1961) is an expert in the field of building physics, thermal bridges and insulation, energy efficiency in buildings, RES, and monitoring of microclimate in historic buildings. She has 24 years of professional experience in energy efficiency in buildings, promoting high-tech as well as low cost energy efficiency measures and approaches for buildings and households, climate protection, green labelling and green procurement. She works on projects on assessment of technical and economically viable energy saving potential in residential sector, incentives and subsidies for EE restoration of buildings, social aspect of human behaviour and attitude to implementation of the measures needed for sustainable building, and energy audits. She co-operates with the Ministry of the Environment and Spatial Planning on drafting of new EPBD based technical regulation on energy efficiency in buildings, mainly calculation methodology, minimum requirements and energy certification and labelling of buildings. She was involved also in the preparation of national energy programme and in strategic national plan for reduction of greenhouse gases. Special focus of her interest is also environmental assessment, LCC and sustainability. Since 1997 she has been employed also as a researcher at University in Ljubljana, Faculty for Civil Engineering and Geodesy.				

*: e.g. Senior expert, Expert, Junior Expert / **: 1 paragraph per person

Organisation:	Building and Civil Engineering Institute ZRMK				
Name :	Rakuscek	**First Name:**	Andraz	**Nationality:**	Slovene
Qualification:	Project associate in the Centre for Indoor Environment, Building Physics and Energy B.Sc., Civ.Eng.				
Staff category*:	Expert				
Short description of work experience, relevant to the proposal:**	Mr. Andraz Rakuscek (1976) is an expert in the field of energy efficient buildings. His professional field is simulation of heat flow in buildings and analysis of thermal bridges, as well as comprehensive analyses of energy indicators in new and existing buildings. He has 8 years of experiences in the aforementioned fields. He has been involved in setting minimum requirements for new EPBD based regulation and in energy certification of buildings. He is working on various EIE projects focusing renovation of existing buildings, including web site benchmarking of energy indicators.				

*: e.g. Senior expert, Expert, Junior Expert / **: 1 paragraph per person

(c) List of most relevant projects

Project (not more than 5 items per organisation)	European, national or local/regional	Year of finalisation	Budget involved for your organisation	Website
ClearSupport; Clearinghouse Facilitation – Paving way for better energy building performance in EU less developed regions	European	2009 (ongoing)	76.769 €	www.clearsupport.eu
Concerted Action EPBD II; BCEI ZRMK contactor as a national expert team by appointment of Ministry of Environment and Spatial Planning	European	2010 (ongoing)	42.702 €	www.epbd-ca.org
BuySmart, Green procurement for smart purchasing	European	2011 (ongoing)	78.730 €	www.buy-smart.info (not yet in operation)
ProEcoPolyNet; Network for promotion of RT results in the field of eco-building technologies, small polygeneration and renewable heating and cooling technologies for buildings (PEP.Net)	European	2008	75.310 €	www.proecopolynet.info
GreenLabelsPurchase	European	2008	74.396 €	www.greenlabelspurchase.net

10.13 SELC Ireland Ltd

(a) Description of the organisation (maximum 1/2 page per organisation)

SELC Ireland Limited was established in 1982 to develop a range of reliable and sophisticated Public Lighting Control Products and Accessories.

The product line currently includes a variety of photo-electronic devices used to switch the following types of lights on at Dusk and off at Dawn, depending on the prevailing light intensity: **Public Amenity, Signage, Decorative** and **External Security Lighting**.

SELC Ireland Limited has developed a range of smart **HID Electronic Smart Ballasts**, which allow engineers to interact with Lighting Installations. Communication with the Lighting Installation can be realised by using either a Radio Transceiver system, a Twisted Pair or the existing power line. When the power line is used as the communication medium, significant cost savings can be realised as no additional infrastructure is required.

This system allows full control and monitoring of the Lighting Installation utilising **Lon Works®** technology and open Lon-Talk protocols and will have many benefits for a variety of lighting applications, including:

- Remote monitoring of electrical power consumption
- Validation of correct illumination/light-intensity at each Lighting Installation
- Individual control and monitoring of each lighting point
- Remote dimming capabilities e.g. depending on amount of traffic
- Record of lamp burning hours.

Since SELC Ireland Limited entered the Public Lighting Control & Management arena, lighting engineers in a number of countries use the SELC product range as key components for the maintenance and upgrade of their Lighting Installations, resulting in a reduction in energy consumption.

All the principal designers and manufacturers of Street and Road Lighting Equipment see SELC Ireland Limited as the leader in its field.

(b) Relevant experience of the key personnel proposed to work on this project

Organisation:	SELC Ireland Ltd				
Name :	Jordan	**First Name:**	Paul	**Nationality:**	Irish
Qualification:	B.Eng (Hons) Electronic & Computer Eng.				
Staff category*:	Senior Expert				
Short description of work experience, relevant to the proposal:**	Participant in EU E-Street project Project management on a number of adaptive energy saving electronic lighting solutions throughout Europe. Market leader in new technology. SELC have supplied adaptive electronic control gear to over 30,000 outdoor lighting points in Europe. Manufacturer of electronic lighting products. Significant financial backing of our own R&D department developing new energy efficient technology Lon serving ILE Member				

*: e.g. Senior expert, Expert, Junior Expert / **: 1 paragraph per person

(c) List of most relevant projects

Project (not more than 5 items per organisation)	**European, national or local/regional**	**Year of finalisation**	**Budget involved for your organisation**	**Website**
▪ E-Street Project	European	2008		www.e-streetlight.com
▪				
▪				
▪				
▪				

10.14 SITO

(a) Description of the organisation

SITO is the third biggest consulting company in infra construction sector in Finland.

Services include planning, design, research and development on the following field of activities: roads and transport, urban planning and design, municipal engineering, landscape planning, outdoor lighting, underground spaces and tunnels, land use planning, railways, bridges and structures, geotechnics, project management and ICT services.

Department of outdoor lighting

Leading position in profession and experiences in Finland. Main activity fields: road and street lighting, city beautification, tunnel lighting, adaptive lighting with intelligent control, sport lighting, development of national code of practice for road lighting, participating in the preparation of CIE technical reports and CEN standards.

(b) Relevant experience of the key personnel proposed to work on this project

Organisation:	SITO OY (Finnish Consulting Engineers ltd)				
Name :	Hautala	**First Name:**	Pentti	**Nationality:**	FI
Qualification:	M.Sc. CE (Dipl. Ing.)				
Staff category*:	Senior Expert				
Short description of work experience, relevant to the proposal:**	Pentti Hautala has 45 years of experience in highway engineering both in the Finnish Road Administration and as a consulting engineer. He is now in the employ of SITO Oy as the head of outdoor lighting department. He has 40 years experience in the field of road, tunnel and urban lighting. His speciality is nowadays adaptive road lighting with intelligent control and consideration of relationship between changeable luminance and accident rate. He has been a key person in preparation of the national code of practise for road lighting and relevant European standards by CEN. Pentti Hautala was the director of division 4 in CIE 1999 – 2007 and acts still chairman of Technical Committee TC4-44, which is finalizing the technical report 115 “Lighting of roads for motor and pedestrian traffic”.				

(c) List of most relevant projects

Project (not more than 5 items per organisation)	**European, national or local/regional**	**Year of finalisation**	**Budget involved for your organisation**	**Website**
E-Street	European	2007	150 000 €	www.e-streetlight.com
Technical report CIE 115: 2009 Lighting for motor and pedestrian traffic. TC chairman	Worldwide	2009	50 000 €	www.cie.co.at
CEN/TC 169/226 JWG “Road lighting”	European	active	60 000 €	
FinnRa. National code of	National	2006	120 000 €	www.tiehallinto.fi/julkaisut

practice for road lighting. Author of the document.				
FinnRa. Feasibility study for rehabilitation of road lighting. Energy efficiency and savings, 230 000 luminaires	National	2009	40 000 €	

10.15 Ekodoma

a) Description of the organisation (maximum 1/2 page per organisation)

Ekodoma Limited group is an engineering consultancy practice with its permanent office in Riga, Latvia. Ekodoma operates in the Baltic countries since 1991, working towards energy efficiency, renewable energies, environment and economy.

The team consists of several specialists and pool of experts working with energy and environment audits, business plans, expertise, methodologies and follow-up activities. It has undertaken a large number of successful local and international projects on energy efficiency and energy policy, including several of the European Commission.

Ekodoma, offers project development, project management, technical supervision of projects which involve energy measures, assessment of the social impact of energy efficiency and interfaces with neighbouring environmental fields.

Following an integrated approach Ekodoma is putting strong emphasis on the economic, social, legal and administrative framework of strategies for energy efficiency and policies.

In the last years, Ekodoma has provided several services to Latvian Ministries and institutions, among all the Latvian Ministry of Environment, the Ministry of Economy, the Latvian Investment and Development Agency and the Latvian state housing agency for the implementation of national policies and transposition of European directives.

Ekodoma has an extensive network with different agencies, building cooperatives, municipalities, district heating company, utilities companies and private companies providing professional consultancy and energy services for the implementation of energy efficient measures, renewable energy projects and energy management activities and investments.

Ekodoma has been active in the promotion of efficient lighting since the early stages of development in Latvia, being the local coordinator of the ELI project (Efficient Lighting Initiative), the contact point of the Green Light program and partner in the Enerlin project. In streetlighting Ekodoma has developed the first project in Latvia in the municipality of Tukums based on a ESCO contract. Then, recently Ekodoma has development the feasibility studies for Efficient lighting project in the municipality of Riga and Jelgava.

b) Relevant experience of the key personnel proposed to work on this action

Organisation:	Ekodoma				
Name :	BLUMBERGA	**First Name:**	DAGNJA	**Nationality:**	Latvian
Qualification:	Riga Technical university, Latvia				
Staff category*:	Senior expert				
Short description of work experience,	***Mrs. Dagnija Blumberga*** (Ekodoma since 1991) has a professional experience of more than twenty years in the energy and environmental field. She started her				

relevant to the proposal:**	professional carrier as a Senior Lecturer at the Riga Technical University (RTU) and then becoming a Professor, head of Division Energy Systems and Environment. Mrs. Blumberga founded the engineering and consultancy company Ekodoma for energy and environmental issue in 1991. Mrs Blumberga started the consultancy bureau together with Mr. Veidenbergs with 2 employees and develop the organization to a well know company. Among the clients of Ekodoma are most of the Latvian biggest and several small and medium municipalities. As senior expert at Ekodoma she has been involved and managing energy savings, energy efficiency and environmental projects focusing as well as on political and administrative aspects. In the framework of the ELI (the IFC-GEF Efficient Lighting Initiative) she managed to success the fist street lighting ESCO project in Latvia, dealing with both the technical aspects and financial arrangements of the project.

Organisation:	Ekodoma				
Name :	ROCHAS	**First Name:**	CLAUDIO	**Nationality:**	Italian
Qualification:	Riga Technical university, PhD.				
Staff category*:	Senior expert				
Short description of work experience, relevant to the proposal:**	***Mr. Claudio Rochas*** (Ekodoma since 2001) as energy and environmental engineer of Ekodoma he has been involved in energy and environmental auditing programs and monitoring projects and he has worked as a project engineer and project manager on various projects. For example Mr. Rochas has been project manager for OPET Latvia (organisation for the promotion of new technologies) and then for OPET CHP/DHC cluster. He has as well as managed the SAVE DHCAN project and ALTENER RES in EU and CC – for the implementation of the Latvian activities. Lately he has been working for the following projects: New Greenlight program, ENERLIN (European Efficient Residential Lighting Initiative), EL-Tertiary (Monitoring Electricity Consumption in the Tertiary Sector), ESMA (European Smart Metering Alliance) in Latvia and SELINA for measurements of stand by losses.				

Organisation:	Ekodoma				
Name :	BULGAKOVA	**First Name:**	Julija	**Nationality:**	Latvian
Qualification:	Riga Technical University, M.Sc.				
Staff category*:	Expert				
Short description of work experience, relevant to the proposal:**	Ms. Julija Bulgakova (Ekodoma since 2006) as project manager of Ekodoma he has been working on various projects in relation to energy efficiency aspects, in particular focusing on efficient lighting, procurement, and organisation of different events (conferences, seminars, fairs, training courses etc…). For example Ms. Bulgakova has been project manager of the following projects: New Greenlight program, GreenLabelsProcurement and she is currently organising a set of training courses for the Energy and Environmental Institute in Ekodoma, where aspects of green procurement, buy smart and labelling are addressed. Ms. Bulgakova has an extensive local network with national and local authorities, organisations, agencies and companies, in particular in relation to the organisation of				

	training and energy efficient projects. She completes her curriculum with good and practical knowledge in Information Technology and communication.

c) List of most relevant projects

Project	European, national or local/regional	Year of finalisation	Budget (Eur)	Website
▪ New GreenLight	EU/Latvia	2008	68748	www.eu-greenlight.org
▪ ESMA – European smart metering alliance	EU/Latvia	2009	44224	http://www.esma-home.eu/
▪ Enerlin – European Efficient Residential Lighting Initiative	EU/Latvia	2008	66554	www.enelin.enea.it
▪ EL-Tertiary – monitoring electricity consumption in the tertiary sector	EU/Latvia	2008	42979	www.isi.fraunhofer.de/e/eng/projekte/el-tertiary/index.htm
▪ Feasibility study and development plan for efficient public lighting in the municipality of Jelgava	Latvia	2008	56900	-

10.16 GIF

(a) Description of the organisation

Gruppo Impresa Finance is a consultancy company based in the Lombardy Region in Italy. Gruppo Impresa is operative since 1990. **The mission of GRUPPO IMPRESA *FINANCE*** is to optimise their partners' financial structures, especially through the exploitation of local, regional, national and European financial instruments and granting programmes about RTD, innovation, energy efficiency, infrastructure and territorial development.

GIF offers, regarding overall project assistance, regional, national and EU project feasibility/development/management, project coordination, dissemination of results and technology transfer actions to a large variety of clients: companies (mostly SMEs but also large enterprises), public utilities, local authorities) and municipalities, universities and research centres. GIF enhanced a long experience in project management by managing a very significant number of projects in different fields and sectors. These activities are developed and implemented by a structure that includes different competences and skills; among these we developed specific capabilities on local and territorial development, including environmental protection, energy saving, new and renewable energy sources. On European level the ***EU Projects Division*** is competent for these activities.

The EU project Division develops new project ideas, identifies funding sources, as well as the most suitable subjects, stakeholders and key actors interested in European projects; networking activities and management of communication activities among different stakeholders play a relevant role. Gruppo Impresa participates directly in European project (the main focuses are territorial awareness raising, campaigning activities for and involving authorities and municipalities and as facilitator of relationships among subjects operating on the territory and contributing to the success of the dissemination and communication activities, as well as organization of a wide range of events). These activities play also a multiplier effect in terms of involving subjects which approach European funding for the first time. We have a potential wide dissemination potential, due also to our permanent

cooperation with some institutions, for example GIF works in strict collaboration with some of the local industrial association; we are also in some cases the main partner for project management and finance facilitation and for organisation of training courses, informative and communication events, knowledge transfer actions for the benefit of their associates, the local entrepreneurs. All these activities are strongly supported by the work carried in by the Media Area (our communication officer).

(b) Relevant experience of the key personnel proposed to work on this project

Organisation:	Gruppo Impresa Finance Srl				
Name :	TABLADINI	**First Name:**	Marco	**Nationality:**	Italian
Qualification:	Project financing and business advisory expert				
Staff category*:	Senior expert				
Short description of work experience, relevant to the proposal:**	Marco TABLADINI: graduated in Economy and business administration in 1994 . He is member of the Board of Directors and associate partner of Gruppo Impresa Finance S.r.l. For several years he managed the Enterprise, Food and Biotechnology Division and since 2007 he is head of the Territorial Development Division. He has been responsible for project development, financing, co-ordination and realization of hundreds of projects making use of local, regional, national and community resources. He is regularly involved in disseminating activities as conductor of courses on community programs, and is a consultant for the Industrial Association of Brescia. He collaborates in publications on project financing and regional development issues for several newspapers and professional magazines of entrepreneurial and research information.				

*: e.g. Senior expert, Expert, Junior Expert / **: 1 paragraph per person

Organisation:	Gruppo Impresa Finance Srl				
Name :	GOLDONI	**First Name:**	Barbara	**Nationality:**	Italian
Qualification:	Consultant for EU projects				
Staff category*:	expert				
Short description of work experience, relevant to the proposal:**	Barbara GOLDONI: graduated in Law with main in international compared private law and in European Law. She has more than 7 years international job experience in EU projects, in Brussels and in Austria. A combination of project management skills, especially in the field of NGOs and community-oriented activities, a strong experience in EU affairs, policies, mechanisms and decision making procedures. Since March 2006 she has been working for the EU Project Division of GIF. She is responsible for preparation, submission and follow-up of project proposals, including also budgeting and cost controlling activities. She has been regularly involved in networking and dissemination activities as project responsible for EU Projects, conferences and workshops, as well as developing EU projects.				

Organisation:	Gruppo Impresa Finance Srl				
Name :	PELLIZZARI DI MEDUNA	**First Name:**	Marco	**Nationality:**	Italian

Qualification:	Engineer; environmental quality systems expert
Staff category*:	senior expert
Short description of work experience, relevant to the proposal:**	Marco PELLIZZARI DI MEDUNA: graduated in engineering in 1994. Afterwards he completed professional courses about environmental analysis and obtained the European titles of Quality System Manager and Environment evaluator ISO 14000. He works for GIF as in-house consultant for projects and for application of quality systems in conformity to European standards. He is also an expert consultant for financial instruments, in particular in feasibility studies, project setting up and overall project management. He keeps professional trainings about Total quality, Quality Systems and certification, Instruments and statistical methods for quality control.

(c) List of most relevant projects

Project (not more than 5 items per organisation)	**European, national or local/regional**	**Year of finalisation**	**Budget million €**	**Website**
REDUBAR: Investigations targeted to the creation of legislative instruments and the reduction of administrative barriers for the use of gaseous fuels produced from renewable energy sources for heating and cooling.	European IEE	2009	1,341	www.redubar.eu
Realisation of new external public lighting plants of high energy efficiency in the territory of the municipal district of Gargnano	ERDF 2007-2013 Regional Operative Plan of Lombardy – II. Energy	2009	€ 935000.	-not requested by the program
New low energy consumption public lighting plant of reduced environmental impact in S.Marco Street – Saviore dell'Adamello village	ERDF 2007-2013 Regional Operative Plan of Lombardy – II. Energy	2009	€ 200000.	not requested by the program
Implementation of a new LED-based high energy efficient public lighting system in the Bollone district of Treviglio town	ERDF 2007-2013 Regional Operative Plan of Lombardy – II. Energy	2009	€ 431800	not requested by the program
Complete refurbishment of the public lighting plant along the internal ring of Treviglio town by positioning of high energy efficient elements	ERDF 2007-2013 Regional Operative Plan of Lombardy – II. Energy		€ 525.000.	not requested by the program

10.17 Cogeme Servizi Territoriali (Subcontractor of partner GIF Gruppo Impresa Finance)

Cogeme Servizi Territoriali, is a social utility, which gathers 70 local municipalities in the Lombardy region., it includes municipalities administrations of Brescia and Bergamo provinces, and it is related to an area of almost 400.000 inhabitants. The achieved eco certifications such as ISO 9001, ISO 14001

and Ohsas 18001 confirm Cogeme Group engagement for a territory rooted for a better service. Over the years, Cogeme has refined this role as Energy Manager, becoming strategically attentive to the modern concept of "company social responsibility" as awareness to pursue social and environment objectives other than economic ones in the area, bringing an additional value. Cogeme provides to local municipalities a public lighting service, and at the same time, Cogeme shares are entirely held by these 70 local municipalities. Therefore, .Cogeme chose to regulate these services a "in house modalities" which is a not very common procedure for Italy, and the services will be regulated by a specific convention; these new contract regulations represent a novelty for the Italian situation. Cogeme works in the contest of public and artistic lighting promoting on the territory a lighting culture defined by high quality, realized by high specialized personnel and based on innovative technologies and building techniques in harmony with the environment; Cogeme philosophy is the optimization and rationalization of electricity consumption through the utilization of lamps and devices able to project light without dispersions of light and it is specialised in the following activities:

- Engineering, checking and testing of the plants:
- Realisation of new plants;
- Ordinary maintenance;
- Extraordinary maintenance;
- Clients and end users supporting activities.

In the framework of street lighting activities Cogeme is launching within its ***PRIC (Territorial Energetic Plan)*** is developing new public intelligent lighting systems, the PRICs have been already carried out in many municipalities. Besides, the plants realised by Cogeme adopt all the technological disposals useful for reducing and optimising the energetic consumptions and are responding fit into the application criteria of the Regional Law 27 March 2000 n 17 "Urgent measures regarding energetic saving for public lighting utilization and for fighting against lighting pollution". Some of the new public lighting systems for municipalities Cogeme has been carried out, this is not a complete list.

The project activities are setting up are perfectly in line with the strategy for Territorial Energetic Plan which Cogeme is setting up and it's a new opportunity to develop innovative solution on a significant territory, experiment and implementing innovative solutions in the framework of a sustainable energetic development.

10.18 ELC

(a) Description of the organisation (maximum 1/2 page per organisation)

Created in 1985, the European Lamp Companies Federation (ELC) is both the forum and the voice of the lamp industry in Europe. It represents the leading European lamp manufacturers, which collectively directly employ 50,000 people, and account for 95 percent of total European production, with an annual turnover in Europe of €5 billion.

From the outset, ELC objectives have been to promote efficient lighting practice for a sustainable environment and the advancement of human comfort, health and safety. To this end, ELC monitors, advises and co-operates with legislative bodies in developing European Directives and Regulations relevant to the European lamp industry.

How are we organised?

- The Active members - consisting of manufacturers of light sources with European headquarters in one of the European Union or EFTA countries
- The Associated members - national or regional lighting federations, established in the European Union or one of the EFTA States
- The ELC Board - consisting of a Chairman and eight Members. This is the executive of the European Lamp Companies Federation

- The ELC Secretariat - in Brussels
- The Working Groups - which meet regularly in Brussels

Active ELC members include leading European lamp manufacturers: Philips Lighting, Osram GmbH, GE Lighting, Havells Sylvania, Aura Light, BLV Licht- und Vakuumtechnik GmbH and NARVA Lichtquellen GmbH + Co. KG. These companies account for 95% of total European lamp production. These experts will be involved for technical input in training concepts and lectures foreseen in the work programme.

(b) Relevant experience of the key personnel proposed to work on this project

Organisation:	ELC (European Lamp Companies Federation)				
Name :	Guiraud	**First Name:**	Marc	**Nationality:**	French
Qualification:	MA in EU law				
Staff category*:	Expert				
Short description of work experience, relevant to the proposal:**	Mr Guiraud has significant experience in project management. Currently he is running the day to day management of an IEE funded project in the field of efficient street lighting systems (BOTTOM UP TO KYOTO). In his other tasks at the ELC he's coordinating a network of national experts in the field of efficient lighting (ROLL OUT MEMBER STATES). In his work he's in close relationship and coordinates the work of the working groups of experts of the member companies within the ELC e.g. street lighting experts, domestic lighting, LED/Solid State Lighting				

*: e.g. Senior expert, Expert, Junior Expert / **: 1 paragraph per person

(c) List of most relevant projects

Project (not more than 5 items per organisation)	**European, national or local/regional**	**Year of finalisation**	**Budget involved for your organisation**	**Website**
Bottom Up to Kyoto (BUtK)	European	2009	264.360€	http://butk.elcfed.org/
BuyBright	European	2006		http://buybright.elcfed.org/index.php?page=21
▪				

10.19 ELTODO EG, a.s.

(a) Description of the organisation (maximum 1/2 page per organisation)

ELTODO EG, a.s. , is a private commercial organization laid down in 1991 as ELTODO spol. s.r.o. In 2001 the company merged with the renowned electrical engineering company ENERGOVOD, a.s. and consequently the parent ELTODO EG, a.s. company was established and is currently covering the whole group. The mainstay business program of the ELTODO group includes supplies of electrical installation services and comprehensive control system in fields of energetic, industry, administration and shopping centres and transport infrastructure. Historically, the initial business of ELTODO was focusing on urban traffic control systems in large cities and comprehensive deliveries of tunnel technologies.

Thanks to the biggest public private partnership project in the area of outdoor lightning for the capital of Prague, ELTODO has become one of the most important companies in the Czech Republic which has been taking care about rising technical quality and esthetical level of outdoor lightning in our cities and municipalities. The model of transferred management of public lighting by ELTODO, which has been elaborated in an impeccable way in both economic and technical terms, has also received a positive acclaim in another forty cities and municipalities in the Czech Republic and Slovakia.

Among projects of ELTODO in the area of lighting which are still in process belongs the T-POLE project. Its purpose is to develop a technology and equipment able to diagnostic erosive damage of lighting poles.
Another project is the Dynamic regulation of the road lighting in the capital of Prague.
From the most relevant project already done it is the E-Street project.

(b) Relevant experience of the key personnel proposed to work on this project

Organisation:	ELTODO EG, a.s.				
Name :	PLIŠKA	**First Name:**	ZDENĚK	**Nationality:**	Czech
Qualification:	Czech Technical University in Prague, Faculty of Transportation, Konviktská street, Prague 1, Czech Republic, Head of R&D dpt. ITS specialist				
Staff category*:	Senior Expert				
Short description of work experience, relevant to the proposal:**	Skills with project management of foreign projects and experts, knowledge of developed prototypes in ELTODO group, knowledge of EU project E-STREET				

Organisation:	ELTODO EG, a.s.

Name :	NOVOTNÝ	**First Name:**	JAN	**Nationality:**	Czech
Qualification:	Czech Technical University in Prague, Faculty of Electrical Engineering, 2, Technická 2, 166 27, Prague 6, Czech Republic, Energetics, main subjects: light engineering and technology, photometric measures				
Staff category*:	Lighting specialist, Project Manager				
Short description of work experience, relevant to the proposal:**	**Jan Novotný** studied energetics at the Czech Technical University in Prague from 2002 to 2009. He focused his studies on light technologies and photometry. Since April 2009 he is an employee of ELTODO EG, a.s. and he works as a lighting specialist				

(c) List of most relevant projects

Project (not more than 5 items per organisation)	**European, national or local/regional**	**Year of finalisation**	**Budget involved for your organisation**	**Website**
▪ **T-POLE**	Czech Republic + France	In progress	34.100,- EURO	
▪ **E-STRET**	Czech republic	2008	14.860,- EURO	
▪ **DYNAMIC REGULTION OF THE ROAD LIGHTING**	Czech Republic	In progress	40.000,- EURO	

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