THEME [ENERGY.2012.8.8.1]
[Strategic sustainable planning and screening of city plans]

Grant agreement for: Coordination and support action*

Annex I - "Description of Work"

Project acronym: PLEEC

Project full title: " Planning for energy efficient cities "

Grant agreement no: 314704

Version date: 2013-06-19

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Part A

Workplan Tables

A1:
Project summary

Project Number [1]	314704	Project Acronym [2]	PLEEC

One form per project

General information			
Project title [3]	Planning for energy efficient cities		
Starting date [4]	01/04/2013		
Duration in months [5]	36		
Call (part) identifier [6]	FP7-ENERGY-SMARTCITIES-2012		
Activity code(s) most relevant to your topic [7]	ENERGY.2012.8.8.1: Strategic sustainable planning and screening of city plans		
Free keywords [8]		city, energy, planning	

Abstract [9]

Today climate change causes serious problems to the societies worldwide and Europe starts to feel its consequences. At the same time European community is facing economical problems. One of the main producers of greenhouse gases is the non sustainable energy production and use. Therefore there is an urgent need to reduce energy use in most cost effective way.
PLEEC will gather cities with innovative planning and ambitious energy saving goals. It will identify technology, citizens' behaviors and structure driven efficiency potentials within urban planning and key city aspects. PLEEC will assess the status of energy efficiency and energy flows in the participating European middle size cities. It will improve understanding of basic conditions for energy efficiency in the cities through joint activities between city planners and researchers on technology, citizens' behavior and structures. By finding the optimal mix of all energy efficiency measures the model for strategic sustainable planning will be created together with the action plans for implementation and management. The model and the action plans will address key aspects relevant for the whole city. They will be supported by the public authorities on the highest political levels. Analysis of time line, the costs and pay-back periods will be done based on different regulatory and market conditions of the participating cities. The model will guide the cities to find the most cost effective implementation of the EU SET-Plan goals to reduce energy use in EU by 20% till 2020.

A2:
List of Beneficiaries

Project Number [1]	314704	Project Acronym [2]	PLEEC

List of Beneficiaries

No	Name	Short name	Country	Project entry month[10]	Project exit month
1	ESKILSTUNA ENERGI OCH MILJO AB	EEM	Sweden	1	36
2	ESKILSTUNA KOMMUN	ESK	Sweden	1	36
3	MAELARDALENS HOEGSKOLA	MDU	Sweden	1	36
4	CITY OF TURKU	City of Turku	Finland	1	36
5	TURUN AMMATTIKORKEAKOULU	TUAS	Finland	1	36
6	TARTU CITY	Tartu city	Estonia	1	36
7	STOKE-ON-TRENT CITY COUNCIL	SoTCC	United Kingdom	1	36
8	HOCHSCHULE FUER ANGEWANDTE WISSENSCHAFTEN	HAW	Germany	1	36
9	TECHNISCHE UNIVERSITAET WIEN	TUWIEN	Austria	1	36
10	KOBENHAVNS UNIVERSITET	UCPH	Denmark	1	36
11	TECHNISCHE UNIVERSITEIT DELFT	TU Delft	Netherlands	1	36
12	UNIVERSITY OF RUSE ANGEL KANCHEV	UNI-RUSE	Bulgaria	1	36
13	LMS IMAGINE SA	IMAGINE	France	1	36
14	ISMANIUJU TECHNOLOGIJU ASOCIACIJA SMART TECHNOLOGIES ASSOCIATION	SMARTTA	Lithuania	1	36
15	CONCELLO DE SANTIAGO DE COMPOSTELA	CSC	Spain	1	36
16	UNIVERSIDADE DE SANTIAGO DE COMPOSTELA	USC	Spain	1	36
17	JYVASKYLAN KAUPUNKI	Jyväskylä city	Finland	1	36
18	UNIVERZA V LJUBLJANI	UL	Slovenia	1	36

A3:
Budget Breakdown

Project Number [1]	314704	Project Acronym [2]	PLEEC

One Form per Project

Participant number in this project [11]	Participant short name	Ind. costs[13]	Estimated eligible costs (whole duration of the project)				Requested EU contribution
			Coordination / Support (A)	Management (B)	Other (C)	Total A+B+C	
1	EEM	F	124,800.00	392,760.00	0.00	517,560.00	467,991.00
2	ESK	F	325,400.00	5,034.00	0.00	330,434.00	296,478.65
3	MDU	T	267,638.00	5,034.00	0.00	272,672.00	243,999.20
4	City of Turku	T	197,790.00	2,412.00	0.00	200,202.00	178,838.45
5	TUAS	T	317,246.00	5,742.00	0.00	322,988.00	288,864.30
6	Tartu city	F	116,718.00	1,704.00	0.00	118,422.00	107,542.95
7	SoTCC	T	242,672.00	1,704.00	0.00	244,376.00	222,125.85
8	HAW	T	406,602.00	8,850.00	0.00	415,452.00	375,514.70
9	TUWIEN	T	290,912.00	5,742.00	0.00	296,654.00	265,383.15
10	UCPH	T	391,034.00	5,742.00	0.00	396,776.00	354,658.60
11	TU Delft	A	556,573.00	3,567.00	0.00	560,140.00	338,703.15
12	UNI-RUSE	T	54,750.00	2,412.00	0.00	57,162.00	50,969.45
13	IMAGINE	S	149,203.70	3,480.26	0.00	152,683.96	94,411.45
14	SMARTTA	T	60,030.00	2,412.00	0.00	62,442.00	56,977.45
15	CSC	T	185,934.00	2,412.00	0.00	188,346.00	168,266.85
16	USC	T	118,854.00	2,412.00	0.00	121,266.00	108,128.85
17	Jyväskylä city	F	188,082.00	2,412.00	0.00	190,494.00	170,182.15
18	UL	T	40,236.00	2,412.00	0.00	42,648.00	38,027.80
Total			4,034,474.70	456,243.26	0.00	4,490,717.96	3,827,064.00

Note that the budget mentioned in this table is the total budget requested by the Beneficiary and associated Third Parties.

*** The following funding schemes are distinguished**

Collaborative Project (if a distinction is made in the call please state which type of Collaborative project is referred to: (i) Small of medium-scale focused research project, (ii) Large-scale integrating project, (iii) Project targeted to special groups such as SMEs and other smaller actors), Network of Excellence, Coordination Action, Support Action.

1. Project number

The project number has been assigned by the Commission as the unique identifier for your project, and it cannot be changed. The project number **should appear on each page of the grant agreement preparation documents** to prevent errors during its handling.

2. Project acronym

Use the project acronym as indicated in the submitted proposal. It cannot be changed, unless agreed during the negotiations. The same acronym **should appear on each page of the grant agreement preparation documents** to prevent errors during its handling.

3. Project title

Use the title (preferably no longer than 200 characters) as indicated in the submitted proposal. Minor corrections are possible if agreed during the preparation of the grant agreement.

4. Starting date

Unless a specific (fixed) starting date is duly justified and agreed upon during the preparation of the Grant Agreement, the project will start on the first day of the month following the entry info force of the Grant Agreement (NB : entry into force = signature by the Commission). Please note that if a fixed starting date is used, you will be required to provide a detailed justification on a separate note.

5. Duration

Insert the duration of the project in full months.

6. Call (part) identifier

The Call (part) identifier is the reference number given in the call or part of the call you were addressing, as indicated in the publication of the call in the Official Journal of the European Union. You have to use the identifier given by the Commission in the letter inviting to prepare the grant agreement.

7. Activity code

Select the activity code from the drop-down menu.

8. Free keywords

Use the free keywords from your original proposal; changes and additions are possible.

9. Abstract

10. The month at which the participant joined the consortium, month 1 marking the start date of the project, and all other start dates being relative to this start date.

11. The number allocated by the Consortium to the participant for this project.

12. Include the funding % for RTD/Innovation – either 50% or 75%

13. Indirect cost model

A: Actual Costs
S: Actual Costs Simplified Method
T: Transitional Flat rate
F :Flat Rate

Workplan Tables

Project number

314704

Project title

PLEEC—Planning for energy efficient cities

Call (part) identifier

FP7-ENERGY-SMARTCITIES-2012

Funding scheme

Coordination and support action

WT1
List of work packages

Project Number [1]	314704	Project Acronym [2]	PLEEC

LIST OF WORK PACKAGES (WP)

WP Number [53]	WP Title	Type of activity [54]	Lead beneficiary number [55]	Person-months [56]	Start month [57]	End month [58]
WP 1	Coordination and management	MGT	1	36.00	1	36
WP 2	Smart City profiles	COORD	9	74.40	1	14
WP 3	Technology driven efficiency potentials	COORD	3	63.00	10	21
WP 4	Structure driven efficiency potentials	COORD	10	72.00	10	21
WP 5	Behaviour driven efficiency potentials	COORD	5	60.00	10	21
WP 6	Synergy of perspectives and action plan	COORD	2	76.00	21	36
WP 7	Dissemination	COORD	8	65.00	1	36
			Total	446.40		

WT2:
List of Deliverables

Project Number [1]	314704	Project Acronym [2]	PLEEC

List of Deliverables - to be submitted for review to EC

Delive-rable Number [61]	Deliverable Title	WP number [53]	Lead benefi-ciary number	Estimated indicative person-months	Nature [62]	Dissemi-nation level [63]	Delivery date [64]
D1.1	Progress report of the project nr. 1	1	1	18.00	R	PP	18
D1.2	Progress report of the project nr. 2	1	1	16.00	R	PP	36
D1.3	Final report	1	1	2.00	R	PU	36
D2.1	Smart City Profiles	2	9	19.00	R	PU	10
D2.2	Typology of cities	2	9	16.00	R	PU	10
D2.3	Energy smart city profiles of partner cities	2	9	33.40	R	PU	12
D2.4	Methodology for monitoring	2	9	6.00	R	PU	14
D3.1	Report on technical state-of-art innovative solutions	3	3	16.60	R	PU	21
D3.2	Case study reports	3	3	18.00	R	PU	21
D3.3	Thematic report for selected key aspects	3	3	13.00	R	PU	21
D3.4	Report on adaptation of recommendations of technical solutions for the cities	3	3	13.40	R	PU	21
D3.5	Final report of WP3	3	3	2.00	R	PU	21
D4.1	Framework for case study reports	4	10	11.00	R	PP	12
D4.2	Case study reports	4	10	30.00	R	PU	21
D4.3	Thematic report for selected key aspects	4	10	21.00	R	PU	21

WT2:
List of Deliverables

Delive-rable Number [61]	Deliverable Title	WP number [53]	Lead benefi-ciary number	Estimated indicative person-months	Nature [62]	Dissemi-nation level [63]	Delivery date [64]
D4.4	Summary report on cross-cutting key aspects and structure driven energy efficiency potentials	4	10	10.00	R	PU	21
D5.1	Case study reports	5	5	29.00	R	PU	21
D5.2	Economic impacts and eco-efficiency potential of selected Best Available Practices	5	5	8.00	R	PU	21
D5.3	Deliveries related to WSx	5	5	10.00	O	PU	12
D5.4	Deliveries related to WSy	5	5	9.00	O	PU	21
D5.5	Final report of WP5	5	5	4.00	R	PU	21
D6.1	Synergized model for planning considering energy potential of key aspects	6	2	46.00	R	PU	34
D6.2	Preliminary action Plans for cities to be presented for decision makers in the city	6	2	24.00	R	PU	34
D6.3	Strategic research agenda for energy efficiency in the cities	6	2	6.00	R	PU	34
D7.1	Communication Plan	7	8	4.00	R	PP	1
D7.2	Project design, brochure and poster	7	8	2.00	O	PP	1
D7.3	Project posters with activity focus	7	8	2.00	O	PU	36

WT2:
List of Deliverables

Delive-rable Number [61]	Deliverable Title	WP number [53]	Lead benefi-ciary number	Estimated indicative person-months	Nature [62]	Dissemi-nation level [63]	Delivery date [64]
D7.4	Website	7	8	4.75	O	PU	2
D7.5	Postcard with web-adress	7	8	0.25	O	PU	2
D7.6	Movie clips	7	8	6.00	O	PU	36
D7.7	One project blog	7	8	5.00	O	PU	1
D7.8	Facebook group	7	8	5.00	O	PU	1
D7.9	Twitter activity	7	8	5.00	O	PU	1
D7.10	Social media training	7	8	2.00	O	PP	1
D7.11	Media coverage	7	8	10.00	O	PU	36
D7.12	Dialogue forum notes	7	8	2.00	R	PU	36
D7.13	8 study visit concepts	7	8	12.00	O	PU	36
D7.14	The PLEEC declaration	7	8	3.00	O	PU	36
			Total	444.40			

WT3:
Work package description

Project Number [1]	314704	Project Acronym [2]	PLEEC

One form per Work Package

Work package number [53]	WP1	Type of activity [54]	MGT
Work package title	Coordination and management		
Start month	1		
End month	36		
Lead beneficiary number [55]	1		

Objectives

To run an efficient and effective high quality management of the PLEEC consortium.

Description of work and role of partners

The coordinator is the intermediary between the partners and the European Commission (EC) and performs all tasks assigned to it as described in the grant agreement with the EC. The coordinator will monitor compliance by the partners with their obligations. The coordinator keeps the address list of members and other contact persons updated and available.
The coordinator is also responsible for collecting, reviewing to verify consistency and submitting reports and other deliverables (including financial statements) to the EC as well as transmitting documents and information connected with the project to and between WP Leaders, as appropriate, and any other partners concerned.
The coordinator will administer the EC financial contribution and fulfill the financial tasks. The coordinator is not entitled to act or make legally binding declarations on behalf of any other partner in the consortium. A management support team will be set up for the project at EEM that will assist the project co-ordinator, the executive committee, the general assembly as well as individual consortium members in issues concerning management.
The management structure and procedures is described in section 2.1. In the project management team there will be one project co-ordinator (11 person months), one project technical officer co-leader (11 months), one financial officer (6 person months), one project secretary (8 person months) and one project process support function specialized in FP 7 project processes which is sub-contracted (corresponding to 7 person months).
The management support team works on a continuous and daily basis for the consortium.
Task 1.1 A kick off meeting (a full partner meeting, month 1) will be arranged
Task 1.2 General assembly meetings (3 planned meetings, month 9, 19 and 30)
Task 1.3 final conferences (in Brussels, month 36).
Task 1.4 The management support team supports the executive board (7 planned meetings, month 1, 8, 14, 18, 24, 29 and 35).
The management support team will handle the consortium agreement and updates. The management support team will keep a close dialogue with WP 7 on impact and dissemination.

Person-Months per Participant

Participant number [10]	Participant short name [11]	Person-months per participant
1	EEM	36.00
	Total	36.00

WT3:
Work package description

List of deliverables

Delive-rable Number [61]	Deliverable Title	Lead benefi-ciary number	Estimated indicative person-months	Nature [62]	Dissemi-nation level [63]	Delivery date [64]
D1.1	Progress report of the project nr. 1	1	18.00	R	PP	18
D1.2	Progress report of the project nr. 2	1	16.00	R	PP	36
D1.3	Final report	1	2.00	R	PU	36
		Total	36.00			

Description of deliverables

D1.1) Progress report of the project nr. 1: [month 18]

D1.2) Progress report of the project nr. 2: [month 36]

D1.3) Final report: [month 36]

Schedule of relevant Milestones

Milestone number [59]	Milestone name	Lead benefi-ciary number	Delivery date from Annex I [60]	Comments

WT3:
Work package description

Project Number [1]	314704	Project Acronym [2]	PLEEC

One form per Work Package

Work package number [53]	WP2	Type of activity [54]	COORD
Work package title	Smart City profiles		
Start month	1		
End month	14		
Lead beneficiary number [55]	9		

Objectives

The main objective of WP2 is to profile the 6 partner cities with respect to the main characteristics of a “Smart City” with special consideration of their energy efficiency and use. Based on the comprehensive and comparative evaluation the basic conditions for energy efficiency in these 6 cities will be analysed from 3 main perspectives (technology, citizens’ behavior, and structures). WP2 (1) identifies most relevant and innovative efforts in a complex socio-technical process and (2) gives an important input for the assessment of energy efficiency potentials in the consecutive WP3, 4 and 5. Finally, the smart city approach shall induce a learning process and provide the empirical base for identifying energy efficiency potentials and for discussing perspectives and visions, which will be developed in WP6 in the wider context of comparable cities.

Description of work and role of partners

Task 2.1 Collect and analyze goals, target and visions of the municipalities
At the beginning of elaborating city profiles the actual goals, targets and visions of the municipalities have to be discovered by exploring planning documents and stakeholders in charge, which has to be done in close collaboration of the researchers and the municipalities. The results of this analysis will be confronted with the individual strengths, weaknesses, opportunities and threats revealed in the city profiles. Draft profile model will be presented and discussed during WS1. (EEM, ESK, Turku city, Tartu city, SoTCC, CSC, TUWIEN).

Task 2.2 Create general profile of 6 partner cities
The general profile of the 6 partner cities will be based on the “European Smart Cities” approach (see http://www.smart-cities.eu), in which more than 70 small and medium sized European cities were characterized and ranked by 74 indicators in 6 main categories according to their ability to deal with changing global trends as demographic change or economic transformation. This ranking will be complemented with the partner cities and adapted to the main research targets of this project with respect to data availability. The result of this comparative analysis will reveal the specific strengths and weaknesses of the 6 cities and their potentials for challenging other cities in an increasing competitive situation. In addition to basic information on city profiles this approach in particular provides evidence-based learning processes within complex socio-technical processes. (ESK, Turku city, Tartu city, SoTCC, CSC, Jyvaskyla, TUWIEN, UCPH, TU Delft)

Task 2.3 Investigation of innovation processes towards an energy smart city
A main issue in these city profiles will be the investigation of community driven innovation processes towards an energy smart city. In this respect it would be highly productive to reveal how municipalities follow its specific innovation path to reach the forefront and leading edge on the road towards energy-efficient societies. From this perspective the communities should be analysed regarding their progress in this transformation process, and their specific levels of innovation potentials, capacities, challenges and restrictions. (ESK, Turku city, Tartu city, SoTCC, CSC, Jyvaskyla, TUWIEN, UCPH, TU Delft, MDU)

Task 2.4. Development of basic conditions profile in the partner cities for an energy-efficient development in future
Based on the results of these general Smart City rankings and profiles the 6 partner cities will be evaluated more specifically with respect to their conditions for an innovation driven energy-efficient future development. Based on statistic data and other information sources (questionnaires, interviews) the three main perspectives of an “Energy Smart City” (technology, citizens’ behavior, structures) will be described and compared. These three

fields, which build the backbone of analysis in this project, shall be described by indicators which are able to reveal the ability of a city to cope with new technologies and to make use of them:
• “Technology”: role of Research and Development (R&D), amount of innovation (patents), existence of research networks with special respect of technologies in energy use and production, general economic conditions (firm sizes, dominant branches,…)
• “Citizens’ behavior”: the will (open-mindedness, modernity, values, attitudes,…) and the ability (education, qualification,…) of people to agree on and make use of innovation, social conditions (human and social capital, networking,…)
• “Structures”: Decision-making structures (governance), sustainability issues in planning legislation and integrative planning, spatial conditions (urban sprawl, city sizes, transport network,…) for applying new technologies
These profiles, which will show the basic conditions in the partner cities for an energy-efficient development in future, will reveal the specific opportunities and threats, the cities will be confronted with during their innovation journey. In that individual learning process towards energy smart city the main results of this specific profiling will therefore serve as an important input for defining perspectives and visions in WP6. Furthermore, these city profiles will follow a transparent methodology which allows regular updates and can therefore be used for permanent monitoring. Final profiles and methodology will be presented and discussed during WS2. (ESK, Turku city, Tartu city, SoTCC, CSC, JVK, TUWIEN, UCPH, TU Delft, MDU, TUAS, UNI-RUSE, USC)

Person-Months per Participant

Participant number [10]	Participant short name [11]	Person-months per participant
1	EEM	2.00
2	ESK	4.00
3	MDU	7.00
4	City of Turku	4.00
5	TUAS	2.00
6	Tartu city	4.00
7	SoTCC	4.00
9	TUWIEN	24.00
10	UCPH	4.00
11	TU Delft	3.00
12	UNI-RUSE	1.00
15	CSC	4.00
16	USC	2.00
17	Jyväskylä city	4.00
18	UL	5.40
	Total	74.40

List of deliverables

Delive-rable Number [61]	Deliverable Title	Lead benefi-ciary number	Estimated indicative person-months	Nature [62]	Dissemi-nation level [63]	Delivery date [64]
D2.1	Smart City Profiles	9	19.00	R	PU	10

WT3:
Work package description

List of deliverables

Delive-rable Number [61]	Deliverable Title	Lead benefi-ciary number	Estimated indicative person-months	Nature [62]	Dissemi-nation level [63]	Delivery date [64]
D2.2	Typology of cities	9	16.00	R	PU	10
D2.3	Energy smart city profiles of partner cities	9	33.40	R	PU	12
D2.4	Methodology for monitoring	9	6.00	R	PU	14
		Total	74.40			

Description of deliverables

D2.1) Smart City Profiles: Strengths and weaknesses of the partner cities in comparison to other medium-sized cities in Europe revealing the potentials for challenging other cities in an increasing competitive situation. [month 10]

D2.2) Typology of cities: Classification of cities based on their profiles as a basis for recommendations and visions. [month 10]

D2.3) Energy smart city profiles of partner cities: Specific profiles of the 6 partner cities with respect to their conditions for an energy-efficient future development based on the three main perspectives of an “Energy Smart City” (technology, citizens" behaviour, structures), Challenges and restrictions [month 12]

D2.4) Methodology for monitoring: Based on the Energy Smart City Profiles a general methodology will be developed, which allows a permanent monitoring of the cities by a regular update of the data [month 14]

Schedule of relevant Milestones

Milestone number [59]	Milestone name	Lead benefi-ciary number	Delivery date from Annex I [60]	Comments
MS1	Delivery of data to city profile	9	4	
MS2	Energy smart city profiles of partners cities	9	12	

WT3:
Work package description

Project Number [1]	314704	Project Acronym [2]	PLEEC

One form per Work Package

Work package number [53]	WP3	Type of activity [54]	COORD
Work package title	Technology driven efficiency potentials		
Start month	10		
End month	21		
Lead beneficiary number [55]	3		

Objectives

During WP3 potentials of new technologies for smart energy systems will be identified. Industry and SMEs should take leading role in the energy efficiency work together with community authorities, representatives and stakeholders as active lead users. They have the resources and knowledge. Industry and SMEs has an obligation to create the user friendly tools to access constantly progressing techniques to improve energy efficiency within all city key aspects in the cities.

Description of work and role of partners

Task 3.1 Coordination with parallel WP4 and WP5
The coordination between the parallel work packages 3, 4 and 5 is important regarding
- involvement of stakeholders
- meetings and workshops in the cities
- outputs for WP6
This task will be worked out together with the leaders from WP3, 4, 5 and 6. Coordinator will coordinate this task. (MDU)

Task 3.2 Technical state-of-art solutions for energy efficiency and saving potentials in the cities within key aspects
Screening of state-of-art solutions will be done, for example integration of wind and solar power, solutions for waste handling and transportation, replacement of light tubes by LED in the buildings, better indoor climate control etc. (MDU, ESK, Turku city, Tartu city, SoTCC, CSC, JVK, TU Delft, MDU, UNI-RUSE, IMAGINE, SMARTTA, USC)

Task 3.3 Study cases - technique driven best practice for energy efficiency and savings. Two or three cases will be explored combining trips with the WS and one separate study trip. Separate study trip will give possibility to explore practices outside participating cities. Selected Best Available Practices from study cases will be calculated according economic impacts and eco-efficiency potential. Case study reports framework will be synchronized with WP4 and WP5.
(MDU, EEM, ESK, Turku city, Tartu city, SoTCC, CSC, JVK, UNI-RUSE, IMAGINE, SMARTTA, USC)

Task 3.4 Drive and manage a process where innovative solutions and a methodology for generating new products, solutions, services, business models, tools for authorities create incentives to change behavior and make it economically interesting to implement new solutions.
Evaluate technical solutions with respect to innovation, impacts on a large scale and systemic transition potentials, short and long term economic feasibility. The conditions for different forms of sustainable entrepreneurship, from business to community/societal forms, in terms of opportunity and conditions for driving a process of sustainable innovation.
Evaluate ideas and solutions with respect to innovation, impacts on a large scale and systemic transition potentials, short term and long term economic feasibility. The conditions for different forms of sustainable entrepreneurship, from business to community/societal forms, in terms of opportunity and conditions for driving a process of sustainable innovation.
(MDU, ESK, Turku city, Tartu city, SoTCC, CSC, JVK)

Task 3.5 New innovative solutions. Identify a number of possible technical solutions reducing the energy use within city key aspects. Some areas and technologies of interest: the information gathered through new IT-system can be analyzed using e.g. the Google algorithm and similar using Marchow chains, and by these finding relations between different performance issues or power consumption patterns in time and space identified. What are the potential technologies and what are the obstacles? These and other alternatives can be very interesting in a future energy system. Exchanges, studies and presentations on how simulation activities can contributes to smart city energy efficiency, major advantages, impacts, requirements and barriers for technical implementation in city planning. Scales from local grid to city energy networks simulation will be addressed, and real implementation capability studied.
(MDU, IMAGINE, EEM, UNI-RUSE, IMAGINE, SMARTTA, USC)

Task 3.6 Adaptation of technologies to the different cities. Based on WP2 results (city profiles) and discussions of experts from the city administration we will identify the key aspects which will be prioritized in each city. Technical conditions in the model cities are compared with respect to strengths and development tasks. (EEM, MDU, ESK, Turku city, Tartu city, SoTCC, CSC, JVK, UNI-RUSE, IMAGINE, SMARTTA, USC)

Task 3.7 Investigate how the different solutions could be implemented on a larger scale – infrastructure needs, incentives to make it interesting for customers to adopt, capital for investments, get suppliers involved etc. Study on existing capabilities on simulation activities involvement in city planning. Evaluation of different incentives for different technical solutions with respect to large scale implementation. Techno-economic recommendations to WP6. (MDU, ESK, Turku city, Tartu city, SoTCC, CSC, JVK, TU Delft, MDU, UNI-RUSE, IMAGINE, SMARTTA, USC)

Person-Months per Participant

Participant number [10]	Participant short name [11]	Person-months per participant
1	EEM	6.00
2	ESK	1.00
3	MDU	15.00
4	City of Turku	3.00
6	Tartu city	1.00
7	SoTCC	1.00
8	HAW	3.00
11	TU Delft	3.00
12	UNI-RUSE	6.00
13	IMAGINE	8.00
14	SMARTTA	8.00
15	CSC	1.00
16	USC	6.00
17	Jyväskylä city	1.00
	Total	63.00

WT3:
Work package description

List of deliverables

Delive-rable Number [61]	Deliverable Title	Lead benefi-ciary number	Estimated indicative person-months	Nature [62]	Dissemi-nation level [63]	Delivery date [64]
D3.1	Report on technical state-of-art innovative solutions	3	16.60	R	PU	21
D3.2	Case study reports	3	18.00	R	PU	21
D3.3	Thematic report for selected key aspects	3	13.00	R	PU	21
D3.4	Report on adaptation of recommendations of technical solutions for the cities	3	13.40	R	PU	21
D3.5	Final report of WP3	3	2.00	R	PU	21
		Total	63.00			

Description of deliverables

D3.1) Report on technical state-of-art innovative solutions: Report on technical state-of-art innovative solutions for energy efficiency and saving potentials in the cities within key aspects. [month 21]

D3.2) Case study reports: Case study reports. Economic impacts and eco-efficiency potential of selected Best Available Practices (BAP) [month 21]

D3.3) Thematic report for selected key aspects: Thematic reports for selected key aspects. [month 21]

D3.4) Report on adaptation of recommendations of technical solutions for the cities: Report on adaptation of recommendations of technical solutions to different conditions for the different cities [month 21]

D3.5) Final report of WP3: Final report of WP3. Techno-economic recommendations to WP6 [month 21]

Schedule of relevant Milestones

Milestone number [59]	Milestone name	Lead benefi-ciary number	Delivery date from Annex I [60]	Comments
MS3	Final report for WP3. Techno-economic recommendations to WP6	3	21	

WT3:
Work package description

Project Number [1]	314704	Project Acronym [2]	PLEEC

One form per Work Package

Work package number [53]	WP4	Type of activity [54]	COORD
Work package title	Structure driven efficiency potentials		
Start month	10		
End month	21		
Lead beneficiary number [55]	10		

Objectives

The overall objective of this WP is to identify structure driven efficiency potentials within urban planning and the 10 key aspects. We will answer how well the energy issues are integrated in the planning process and how different planning measures are integrated between each other.
The key aspects of energy efficiency will not be treated equally, but different foci will be set depending on the issues (as found in WP2) and actions taken in the model cities. The results will feed into WP6 where they will be integrated with the other perspectives on technologies (WP3) and citizen behaviour (WP5).

Description of work and role of partners

The work is structured by activities, including case studies and thematic studies (for the key aspects) were knowledge will be gathered and internal workshops and open conferences (with external participants) where knowledge will be exchanged.
In WP4 we will screen the urban setup as well as urban planning instruments (decision structure) in regards to the identified key aspects. We will review and operationalize results from previous research projects where the team was involved in (e.g. Interreg IIIB MECIBS, FP6 PLUREL, FP7 SUME).

Task 4.1: Coordination with parallel WP3 and WP5
The coordination between the parallel work packages 3, 4 and 5 is important regarding
- involvement of stakeholders
- meetings and workshops in the cities
- outputs for WP6
This task will be worked out together with the leaders from WP3, 4, 5 and 6. Coordinator will coordinate this task. (UCPH, TU Delft)

Task 4.2: Planning and organization of workshops with the model cities
WP4 is considerably based on work from and with the model cities. Besides regular communication, the exchange between the WP participants will be supported by workshops. For each city one or two workshops should be held with the following topics
- Urban planning and energy efficiency in cities
WP4-partners will discuss how urban planning structures affect energy projects in the case studies. Already identified best practices as well as structural barriers will be discussed for each model city. The structure for the case study reports will be discussed and agreed upon (Deliverable 4.1). We will also discuss the common practices and barriers as a first input to the thematic report (Deliverable 4.3).
- Joint challenges and potentials of energy efficiency regarding spatial structures and urban planning
WP4-partners we will discuss the case study reports (Deliverable 4.2) and joint challenges and potentials of energy efficiency regarding urban-regional structures and urban planning. Further, we will highlight possibilities for collaborations/clusters (Deliverable 4.3 and 4.4).
(ESK, Turku city, Tartu city, SoTCC, CSC, JVK, UCPH, TU Delft, TUAS)

Task 4.3 Identification of key aspects of energy efficiency within urban planning in each of the cities
Based on WP2 results (city profiles) and discussions of experts from the city administration we will identify the key aspects which will be prioritized in each city. The result will be a common disposition for the case study reports (Deliverable 4.1) (ESK, Turku city, Tartu city, SoTCC, CSC, JVK, UCPH, TU Delft, TUAS)

Task 4.4 Comparison of planning systems and how energy issues are addressed
Urban planning as well as the work with energy issues are very context related and case specific. This makes it necessary to review planning systems and competences as well as in the case studies to provide a common basis for a comparative discussion of good practice examples in Deliverable 4.2 (ESK, Turku city, Tartu city, SoTCC, CSC, JVK, UCPH, TU Delft, TUAS)

Task 4.5 Establishing a stakeholder platform within selected key aspects
Through the work in the previous tasks the key stakeholders in each city should be identified and reported in Deliverable 4.2. The thematic work (Deliverable 4.3) can then be supported by a stakeholder network/platform of key actors within different key aspects. (ESK, Turku city, Tartu city, SoTCC, CSC, JVK, UCPH, TU Delft, TUAS)

Task 4.6: Study of the state of urban-regional structures and urban planning regarding energy efficiency in each model city
Through Task 2-5 data will be provided to complete the case study reports (Deliverable 4.2). Each report will contain a summary of the city profile, information about the planning system, an overview on the key challenges (driving forces and obstacles of potential in the energy efficiency planning process) and if/how they are addressed, relevant stakeholders within those and good practice examples (see examples below). The reports will contain a SWOT-analysis to identify driving forces and obstacles. Besides the view on the city as a whole, the focus will be on ambitious and innovative projects embedded in comprehensive urban planning. The projects will be screened for their environmental as well as social and economic sustainability.
(ESK, Turku city, Tartu city, SoTCC, CSC, JVK, UCPH, TU Delft, TUAS)

Task 4.7 Thematic study of key aspects of energy efficiency in spatial structures and urban planning
The thematic study (Deliverable 4.3) will summarize the case study reports and supply condensed information by the key aspects regarding spatial structures and urban planning. (TU Delft, TUAS)

Task 4.8: Summary on cross-cutting key aspects and structure driven energy efficiency potentials
This final summary report (Deliverable 4.4) will synthesize the findings on structure driven energy efficiency potentials and barriers in cities and feed into WP6. (TU Delft, TUAS)

Person-Months per Participant

Participant number [10]	Participant short name [11]	Person-months per participant
2	ESK	4.00
4	City of Turku	4.00
5	TUAS	4.00
6	Tartu city	4.00
7	SoTCC	4.00
10	UCPH	23.00
11	TU Delft	21.00
15	CSC	4.00
17	Jyväskylä city	4.00
	Total	72.00

List of deliverables

Delive-rable Number [61]	Deliverable Title	Lead benefi-ciary number	Estimated indicative person-months	Nature [62]	Dissemi-nation level [63]	Delivery date [64]
D4.1	Framework for case study reports	10	11.00	R	PP	12

WT3:
Work package description

List of deliverables

Delive-rable Number [61]	Deliverable Title	Lead benefi-ciary number	Estimated indicative person-months	Nature [62]	Dissemi-nation level [63]	Delivery date [64]
D4.2	Case study reports	10	30.00	R	PU	21
D4.3	Thematic report for selected key aspects	10	21.00	R	PU	21
D4.4	Summary report on cross-cutting key aspects and structure driven energy efficiency potentials	10	10.00	R	PU	21
		Total	72.00			

Description of deliverables

D4.1) Framework for case study reports: [month 12]

D4.2) Case study reports: [month 21]

D4.3) Thematic report for selected key aspects: [month 21]

D4.4) Summary report on cross-cutting key aspects and structure driven energy efficiency potentials: Summary report on cross-cutting key aspects and structure driven energy efficiency potentials to feed into WP6 [month 21]

Schedule of relevant Milestones

Milestone number [59]	Milestone name	Lead benefi-ciary number	Delivery date from Annex I [60]	Comments
MS4	Summary report on cross-cutting key aspects and structure driven energy efficiency potentials	10	21	

WT3:
Work package description

Project Number [1]	314704	Project Acronym [2]	PLEEC

One form per Work Package

Work package number [53]	WP5	Type of activity [54]	COORD
Work package title	Behaviour driven efficiency potentials		
Start month	10		
End month	21		
Lead beneficiary number [55]	5		

Objectives

Objectives
The main objective of WP5 is to identify potential of energy use reduction from behaviour driven perspective. It will be achieved by exploitation of Best Available Practices (BAP) related to behaviour driven potential in smart energy consumption. WP5 will give input to the synergy process so it will be possible to evaluate what are the most efficient BAPs to be implemented to get a good balance between technical, structural and behavior measures.
In order to get the "biggest bang for the buck" interventions should target behaviors based on the magnitude of achievable energy reductions and the malleability of the behavior. Work here integrates existing information into an easy-to-use format, given that existing work tends to be decentralized and highly technical.
Behavior change interventions are much more effective when they target specific behaviors, rather than raising general awareness. Therefore WP5 operates with four main target groups:
a) Citizens. Key issue is to empower citizens to adopt energy efficient life forms.
b) Civil servants (workers of PLEEC partner cities). City level strategies does not yet well enough affect to daily operations among civil servants. Cities should be forerunners in eco-efficiency. Therefore we need good examples how cities can both decrease energy consumption and act as role models both for companies and citizens.
c) Representatives of private sector companies. Better awareness increases eco-efficient thinking and behavior in many sectors, e.g. repair construction, recycling and transportation.
d) Non-Governmental Organisations (NGOs). In many European countries NGOs play significant role in awareness rising in efficient energy consumption. Therefore it is cost-effective to involve NGOs both in best practice mining as well as dissemination activities. NGOs are operating in grass root level and have good connections to citizens.
WP5 share important research findings, best available practices implemented or planned in partner cities and urban environments and built dynamic new networks and collaborations. WP5 presents analyses and disseminates strategies and tools for behaviour change, community engagement and the reinvention of our cities.

Description of work and role of partners

WP5 operates with behaviour driven Best Available Practices (BAP) related to the eco-efficiency. Some BAPs are purely behaviour based solutions and some are mixture of structure or technology oriented solutions but still with strong link to behaviour aspects – two example cases are briefly presented in the end of this question box. It is important to have a holistic point of view to the main theme as well as carefully coordinate WP5 work with other WPs (especially WP3 and WP4).

Task 5.1 Best Available Practices and identified major challenges will be collected and listed based on the work carried out in WP2. In addition to input from cities, there will be BAPs from PLEEC consortium University partners. All BAPs will be pre-evaluated by the WP5 team. (TUAS, EEM, ESK, Turku city, Tartu city, SoTCC, CSC, JVK, UCPH, TU Delft, Uni-Ruse)

Task 5.2 Internal Workshop for WP5 participants. Agenda:
o Best Available Practices thematic grouping. There will be made 2 thematic groups both with 5 City key aspects in energy consumption

o selection of most interesting and ready-to-disseminate Best Available Practices
o identification of the need of additional analyses or data collection
(TUAS, EEM, ESK, Turku city, Tartu city, SoTCC, CSC, JVK, UCPH, TU Delft, Uni-Ruse)

Task 5.3 Needed additional economic evaluations and data collection for prioritized Best Available Practices will be carried out by WP5 University partners.

Task 5.4 Testing of most cost-effective Best Available Practices in participating Cities
o pilots are based on the concept of “Energy Management Program” - activity to take effective institutional and behavior change actions to reduce energy consumption. This activity can involve developing evidence-based educational and resource materials on how to bring about organizational change, as well as individual behavior change in the workplace
o concrete actions are simulations, communication campaigns etc. to test Best Available Practices in selected Cities
o actions are focused to different target groups: citizens, civil servants, companies, NGOs
(TUAS, EEM, ESK, Turku city, Tartu city, SoTCC, CSC, JVK, UCPH, TU Delft, Uni-Ruse)

Task 5.5 Identification of further research needs in behavior driven eco-efficiency in Cities. Based on City profiles and experiences from WP5 dissemination activities there will be made an analyzed list of most critical issues to be studied in the near future. Publication “Green Thoughts, Green Future” will be created and actively used as a reference material in public affairs and communication activities. This procedure arms responsible funding authorities with relevant updated information and helps them to allocate grants to cost-effective RDI operations in the field of eco-efficiency.
(TUAS, UCPH, TU Delft, Uni-Ruse)

Task 5.6 Summary of WP5 experiences to be used in WP6. Based on experiences in WP5 there will be made a study of the most cost effective BAPs. Summary includes detailed descriptions of selected BAPs as well as economic potential of implementing those either in one City or more widely in Europe.
(TUAS)

Person-Months per Participant

Participant number [10]	Participant short name [11]	Person-months per participant
1	EEM	3.00
2	ESK	4.00
4	City of Turku	3.00
5	TUAS	23.00
6	Tartu city	3.00
7	SoTCC	3.00
10	UCPH	6.00
11	TU Delft	6.00
12	UNI-RUSE	3.00
15	CSC	3.00
17	Jyväskylä city	3.00
	Total	60.00

WT3:
Work package description

List of deliverables

Delive-rable Number [61]	Deliverable Title	Lead benefi-ciary number	Estimated indicative person-months	Nature [62]	Dissemi-nation level [63]	Delivery date [64]
D5.1	Case study reports	5	29.00	R	PU	21
D5.2	Economic impacts and eco-efficiency potential of selected Best Available Practices	5	8.00	R	PU	21
D5.3	Deliveries related to WSx	5	10.00	O	PU	12
D5.4	Deliveries related to WSy	5	9.00	O	PU	21
D5.5	Final report of WP5	5	4.00	R	PU	21
		Total	60.00			

Description of deliverables

D5.1) Case study reports: List of Best Available Practices in middle seized European cities of successful actions which resulted in lower energy use by changing behavior. Matrix of challenges and Best Available Practices in target Cities [month 21]

D5.2) Economic impacts and eco-efficiency potential of selected Best Available Practices: [month 21]

D5.3) Deliveries related to WSx: [month 12]

D5.4) Deliveries related to WSy: [month 21]

D5.5) Final report of WP5: [month 21]

Schedule of relevant Milestones

Milestone number [59]	Milestone name	Lead benefi-ciary number	Delivery date from Annex I [60]	Comments
MS5	Final report of WP5	5	21	

WT3:
Work package description

Project Number [1]	314704	Project Acronym [2]	PLEEC

One form per Work Package

Work package number [53]	WP6	Type of activity [54]	COORD
Work package title	Synergy of perspectives and action plan		
Start month	21		
End month	36		
Lead beneficiary number [55]	2		

Objectives

Time for implementation! The main objective is to integrate the “sub optimized” results and deliverables from Wp 2 – Wp 5 and in a holistic way create a model for continuously energy transition of cities. Wp 6 will answer to the question what should be done in a closer time perspective as 2020 in order to fulfill EU policy visions and goals such as 20 % energy saving till 2020. The WP5 will in order to answer how it should be done create actions plans for every model city (taking into consideration the city profile delivered in WP2) including time-line, the costs and pay-back period for energy efficient city and include top level decision makers (top politicians, ceo:s in important business sectors) in order to increase the possibilities of implementation.

Description of work and role of partners

The wp6 will start by in a holistic way analyze the results and deliverables from wp3, wp 4 and wp5 where the potential for each perspectives in key aspects has been analyzed.
What is the optimal mix when choosing strategies according implementation possibilities and efficiency? Is it to explore best technique, is it to explore new structures, and is it to change behavior among citizens and institutions? The answer will probably be a mix of all three perspectives, in what scale depending on the task. Strategies will be chosen taking into account what is most cost effective, how it correlates to other goals in the municipality and what is economically, legally and politically feasible.
Integrating and synchronizing ambitious and innovative project in various areas that are embedded in comprehensive planning gives each city the possibility to transform existing structures and to multiply the effect of energy savings.
The wp6 will from these results develop a model which will be a base for action plans. The preliminary action plans developed by each city will be evaluated by universities to secure scientific values and dimensions before they are fulfilled and presented before replication.

Task 6.1.: Develop a model for energy smart cities
The Energy Smart City model for smart cities shows WHAT is going to be done on a local planning. The energy saving issue is very context related and case specific. With the aim to respect the diversity of European cities and urban areas, the model provides a common basis but each city will find the optimal mixture of strategies with the best energy saving potential and prioritize its actions according to the particular needs (suiting the different city characteristics). The model “Energy Smart City” will consist of a strategic framework including the three main perspectives (technology, citizens’ behavior, and structures) of key aspects. The form of the model is a web-based handbook/manual that includes background, instructions and methodology for how to identify what, when and where actions/activities are most relevant in order to become an energy smart city. (ESK, MDU, TUWIEN, partner cities)

Task 6.2. Applying the model for each of the partner cities
A preliminary model result will be worked out for each city showing how the different aspects within the three main perspectives will be combined. The aim of city specific combinations is to enlarge savings potential and the use of low carbon technologies by taking into account preliminary spin-off effects as well as win-win-effects. Resources are limited and it is extremely important to be able to choose the most strategically efficient path. The results of saving potentials and preliminary recommendations from the three different perspectives (technology, structure and behavior) are analyzed (push- and pull-factors) and optimized in order to integrate the perspectives in the most efficient way. Important aspects are possible synergy effects, conflicts between the different

perspectives or regarding the vision as well as the aspects of cost effectiveness, large-scale deployment (replication) and managing the model. Does the model fit the vision? What are the gaps an how to mend them? (partner cities)

Example: Mostly it is necessary to include all perspectives in a successful strategy but we want to find out where the focus should be. If energy use of the specific key aspect is very decentralized and dependent of human behavior (e.g. lighting in flats) it will be very important to emphasize changes in behavioral and sometimes change of structure in the meaning of rules or consumption costs.

Task 6.3. Workshops on developing the preliminary model results for each of the cities
At the workshop the cities discuss the model results and how they combine the different aspects. Already identified common opportunities as well as structural barriers will be discussed. What was difficult, what was easy to apply integrating and combining the three perspectives? What can we learn of each other? Best practice? What are the win-win effects? Where to put the focus? The cities will discuss and agree upon the model structure. (All partners)

Task 6.4. Elaborate final model outcomes for each of the cities and a preliminary action plan for each city

The final model outcomes will be the most optimal mix of the relevant key aspects for the cities which will be a base for making a preliminary action plans. (all cities)

Task 6.5. Preliminary action plan with time-line, costs and pay-back period, and monitoring routines.
From the outcomes of the model, the action plan shows HOW the outcome of the model is going to be managed, implemented and gets into action on local planning level. Here it is extremely important to involve high decision makers in the model cities in order to give real prerequisites for implementation.
Energy saving potentials of the optimized model are inserted into the energy efficiency city profiles again to evaluate impacts on the overall profile. This would also be an opportunity to use smart-city-model (developed in earlier projects) beyond the profiling phase towards a more flexible and holistic tool. The progress of the continuously energy efficient transition of medium-sized cities will be monitored with the Energy Smart City profile.
Reveal the specific opportunities and threats, the cities will be confronted during their innovation journey connected with a continuously learning process (stakeholder platform) towards an energy smart city. (all cities)

Task 6.6. WS Developing the preliminary action plans for each of the cities.
In the workshop preliminary action plans will be developed to make a common preparation for the final action plan for each city. (all partners)

Task 6:7 Evaluating action plans and make a research agenda.
The universities will analyze the model and preliminary action plans from cities and evaluate them from the scientific perspectives and give reports to the cities. The universities will from experience from that make a strategic research agenda for energy efficiency in the cities. (Universities)

Task 6:8 Finalize model
Universities will complete the model for energy smart cities. (TUWIEN, MDU)

Task 6:9 Finalize action plans
All cities will finalize the final action plan for each city. (all cities)

Person-Months per Participant

Participant number [10]	Participant short name [11]	Person-months per participant
1	EEM	1.00
2	ESK	20.00
3	MDU	5.00
4	City of Turku	5.00
5	TUAS	4.00

WT3:
Work package description

Person-Months per Participant

Participant number [10]	Participant short name [11]	Person-months per participant
6	Tartu city	5.00
7	SoTCC	5.00
8	HAW	1.00
9	TUWIEN	4.00
10	UCPH	4.00
11	TU Delft	4.00
12	UNI-RUSE	1.00
13	IMAGINE	1.00
14	SMARTTA	1.00
15	CSC	5.00
16	USC	4.00
17	Jyväskylä city	5.00
18	UL	1.00
	Total	76.00

List of deliverables

Delive-rable Number [61]	Deliverable Title	Lead benefi-ciary number	Estimated indicative person-months	Nature [62]	Dissemi-nation level [63]	Delivery date [64]
D6.1	Synergized model for planning considering energy potential of key aspects	2	46.00	R	PU	34
D6.2	Preliminary action Plans for cities to be presented for decision makers in the city	2	24.00	R	PU	34
D6.3	Strategic research agenda for energy efficiency in the cities	2	6.00	R	PU	34
		Total	76.00			

Description of deliverables

D6.1) Synergized model for planning considering energy potential of key aspects: [month 34]

D6.2) Preliminary action Plans for cities to be presented for decision makers in the city: [month 34]

D6.3) Strategic research agenda for energy efficiency in the cities: [month 34]

WT3:
Work package description

Schedule of relevant Milestones

Milestone number [59]	Milestone name	Lead benefi-ciary number	Delivery date from Annex I [60]	Comments
MS6	Preliminary synergized model for planning considering energy potential of key aspects	2	31	
MS7	Preliminary action plans for cities to be presented for decision makers in the cities	2	31	
MS8	6 cities action plans adapted from the model	2	34	

WT3:
Work package description

Project Number [1]	314704	Project Acronym [2]	PLEEC

One form per Work Package

Work package number [53]	WP7	Type of activity [54]	COORD
Work package title	Dissemination		
Start month	1		
End month	36		
Lead beneficiary number [55]	8		

Objectives

To ensure an efficient dissemination of the project results addressing all relevant stakeholders from municipalities, politics, industry, academia, key associations and the general public. To enhance the replication potential of successful solutions (best practice identified). To communicate the key message that an integrative approach achieves much better economics than individual actions without integrative planning. To ensure an EU-wide impact of the measures and to facilitate the exchange of knowledge in order to substantially reduce greenhouse gas emissions in an innovative and integrative manner. All tasks are done in order to increase the impact of the project results.

Description of work and role of partners

The work is broken down in 9 different tasks: 7.1 Communication Plan, 7.2 Project design, posters, brochure, 7.3 Web and digital content 7.4 Social media, 7.5 Local kick-off meetings, 7.6 PR activities, 7.7 Networking, 7.8 PLEEC Dialogue Forums, 7.9 Study visit preparation and 7.10 PLEEC Final conference. The work package is lead by HAW. Each partner contributes to the dissemination and impact creating work.
Some work is subcontracted to expertise in the area of communication and is related to: project design (task 7.1), production of folder/posters (7.2), creation of interactive web-platform (7.3), digital content and movie clips (7.3), opening up social media channels e.g. facebook group, blog space and twitter (7.4), training on social-media (7.4) international press-releases (7.6), dialogue forum moderation (7.8) and final conference arrangements (7.10).
Task 7.1 The Communication Plan will list all relevant available communication tools for the project, the target groups, main messages to be communicated and time plan for communication activities (when to use a communication tool towards a specific target group with what message reaching for a specific impact). A first version of the plan is produced in Month 1 of the project. It is a living document that will be up-dated during the project life-cycle in terms of content and planning of communication activities. It will also be used for evaluating the result (e.g. # of press releases, # of articles published and other media coverage, # of journalists met, # of showed movie clips on the website, # of followers of the blog, # of friends on facebook) and the impact (e.g. EU-wide or just local impact of key messages communicated, interest shown from other cities for transfer of best practice).
Task 7.2 Project design, posters, brochure, ppt-slides: the project's "corporate identity" and its official design will be produced in this task, one brochure to introduce the project with foreseen activities and anticipated results will be produced month 1 (printed in English, open digital version of brochure with language that can be translated by each partner if they so desire will be provided, but printing and translation outside project budget). One general poster for the project will be produced (month 1), but also assistance for posters to be used in project activities, 15 different posters in budget with same design but with changed content for text and illustrations (provided by project partners). Design for power point presentations, and a general project presentation in ppt format will be produced in this task.
Task 7.3 Web and digital content: The task includes establishment of the project's internal web-workspace. Content of the website will be delivered during the project by the participating partners.
The task includes feeding of the project space on the ERKC and the SCSP website with comprehensive and up-to-date information, in accordance with the guidance and templates of the ERKC and SCSP website managers. At least one person from the consortium will set up a personal profile on the SCSP website thus permitting the participation of the project in the relevant SCSP fora .

The websites of the Energy Research Knowledge Centre (ERKC) and the EU's Smart Cities Stakeholder Platform (SCSP, www.eu-smartcities.eu) will serve as the main platforms for the public web-communication and -dissemination of the project results, in view of creating single access points for all projects and activities under the EU's Smart Cities Innovation Partnership.
An important digital content of the website is short movies illustrating best practice identified in the project.
The web-address will be widely disseminated through e-mail and a postcard to various targeted groups and individuals e.g. to European energy clusters, city-planning networks, networks of decision-makers in public authorities, relevant researchers and local stakeholders in the participating cities. The postcard and a standard mail for promoting the url will be produced in month 2 and follow the PLEEC corporate identity.
Task 7.4 Social media: A PLEEC blog will be set-up where the project management team together with the WP leaders contribute on a regular basis (at least weekly) with project news and reflections using pictures and a blog style language. A PLEEC facebook page will be set-up where project activities may be promoted and network of friends of energy efficiency in cities will be created. Here suggestions and comments will be posted on various issues of energy efficiency linked to city planning like an open-innovation activity. The project management team will start to twitter on short project notices and will promote staff internally among the partner organizations but also outside the consortium to follow the twittering. The task will deliver a training course to staff in the partner organizations on social media. This will be made in real life at the project kick-off meeting and will be filmed so it may be presented to anyone who wants to participate afterwards, on the project website.
Task 7.5 Local kick-off meetings will be held in the partner cities inviting relevant local participants. The local kick-off meetings mainly targets media and local politicians but also team members. Scheduled to month 2 of the project. The academic partners will also arrange a start activity where local media and municipalities are invited to be informed about the project and with research orientation. An introduction seminar may present some state of the art facts (from research) and explain why coordination is needed between researchers in Europe in relevant fields.
Task 7.6 Press releases, press conferences and regular press briefings: HAW prepares basic material for press releases and indicates in the communication plan when press-releases will be distributed locally or from the WP leader targeting the European level. Local partners propose and prepare press-releases but check them with the communication plan for timing and messages put forward. Media channels and contacts will be listed in the communication plan that is updated during the project. Central WP press activities will be synchronized in time and message with local press initiatives especially after important project milestones. The movie clips produced in task 7.3 will be used in press contacts and especially for websites such as www.euronews.net .
Task 7.7 Networking: This task will reach out to ongoing projects and activities on energy efficiency in cities in Europe as well as networks e.g. Eurotowns www.eurotowns.org, Eurocities (www.eurocities.eu), Energy cities (http://energy-cities.eu/), European Green Cities network (www.europeangreencities.com/) and Union of the Baltic Cities (www.ubc.net/). Relevant external events (e.g. conferences, seminars, exhibitions) will be surveyed in the beginning of the project. Based on the findings a comprehensive strategy of how these events will be addressed by which partner will be set-up.
The projects and networks identified will also be invited to the social forum of the PLEEC project and to open activities in the project (e.g. the Final conference and Dialogue Forums). The goal is to establish a sustainable network of persons and organisations interested in energy efficiency and city planning supported by internet and social media than can continue after the project end.
Task 7.8 Local Dialogue Forums and PLEEC Energy Efficiency Forum: For fostering a dialogue on Energy Efficiency and promoting latest findings on city energy efficiency potential models and action plans for an energy efficient city the PLEEC Energy Efficiency Forum will be created as part of the project-communication strategy. Local dialogue forums will be held that focus on dialogue creating meetings with industry, public bodies, citizens and researchers involved. Problems and possibilities identified during the project will be discussed. Each municipality in the consortium (7) arranges one dialogue forum per year, thus 21 dialogue meetings will be held. One international guest will be invited to the forum (from another partner organisation in the consortium). The forum dialogue will be led by an external moderator.
There will also be 3 major PLEEC Energy Efficiency Forums held addressing a wider public than the local one in the city dialogue forum. These forums offer various stakeholders to participate of the project findings and to enter in a dialogue with key actors of the PLEEC project. The three major PLEEC Energy Efficiency Forums will be arranged in connection to General Assembly meetings for efficient travel planning of the consortium and to foster international participation.
Task 7.9 Study visit preparations: The project will promote best practise in energy efficiency and integrated city planning in Europe and in order to disseminate this in a concrete municipalities outside the consortium will be offered to make study visit to the best practices identified and promoted. The partners of the consortium will prepare their own concept for such a study-visit and will get resources to host one such study visit to try out the

prepared concept. Invitations will be send to identified network members (see task 7.6). 8 study visit concepts are foreseen.
Task 7.10 The PLEEC final conference: A final conference will be held in Brussels in month 36 of the project (lunch to lunch meeting). The first part of the conference is for consortium members only. They will discuss the results achieved, their lessons learned from the project and how to make the project sustainable after the project end and co-operation in the future. At the second part of the conference the leading politician(s) from the partner cities will present a signed joint PLEEC declaration where they presents their future commitment in terms of integrated city-planning and energy efficiency. The researchers of the consortium will present the strategic research agenda for the future. Project results and best practise will be presented in an interesting, energetic and moveable manner. Target groups for this part of the final conference are invited guests from European Commission (e.g. DG Research, DG Regio, DG Energy), regional offices in Brussels, Members of the European Parliament, and reps for the Committee of Regions and relevant EU projects and European networks identified in task 7.6. Journalists will be invited to the second part, and there will be a short press briefing before the start of the second part of the conference.

Person-Months per Participant

Participant number [10]	Participant short name [11]	Person-months per participant
1	EEM	2.00
2	ESK	2.00
3	MDU	2.00
4	City of Turku	2.00
5	TUAS	2.00
6	Tartu city	2.00
7	SoTCC	2.00
8	HAW	31.00
9	TUWIEN	2.00
10	UCPH	2.00
11	TU Delft	2.00
12	UNI-RUSE	2.00
13	IMAGINE	2.00
14	SMARTTA	2.00
15	CSC	2.00
16	USC	2.00
17	Jyväskylä city	2.00
18	UL	2.00
	Total	65.00

WT3:
Work package description

List of deliverables

Delive-rable Number [61]	Deliverable Title	Lead benefi-ciary number	Estimated indicative person-months	Nature [62]	Dissemi-nation level [63]	Delivery date [64]
D7.1	Communication Plan	8	4.00	R	PP	1
D7.2	Project design, brochure and poster	8	2.00	O	PP	1
D7.3	Project posters with activity focus	8	2.00	O	PU	36
D7.4	Website	8	4.75	O	PU	2
D7.5	Postcard with web-adress	8	0.25	O	PU	2
D7.6	Movie clips	8	6.00	O	PU	36
D7.7	One project blog	8	5.00	O	PU	1
D7.8	Facebook group	8	5.00	O	PU	1
D7.9	Twitter activity	8	5.00	O	PU	1
D7.10	Social media training	8	2.00	O	PP	1
D7.11	Media coverage	8	10.00	O	PU	36
D7.12	Dialogue forum notes	8	2.00	R	PU	36
D7.13	8 study visit concepts	8	12.00	O	PU	36
D7.14	The PLEEC declaration	8	3.00	O	PU	36
		Total	63.00			

Description of deliverables

D7.1) Communication Plan: Communication Plan (month 1, continuous update) [month 1]

D7.2) Project design, brochure and poster: [month 1]

D7.3) Project posters with activity focus: Project posters with activity focus (during full project life-cycle from month 1 untill month 36) [month 36]

D7.4) Website: One website (running from month 2) [month 2]

D7.5) Postcard with web-adress: Postcard with web-adress (month 2) [month 2]

D7.6) Movie clips: Movie clips (from month 2 and during the project life-cycle from month 1 untill month 36), 10 clips are anticipated [month 36]

D7.7) One project blog: One project blog (from month 1 and during project life-cycle) [month 1]

D7.8) Facebook group: Facebook group (from month 1) [month 1]

D7.9) Twitter activity: [month 1]

D7.10) Social media training: Social media training course (month 1) [month 1]

D7.11) Media coverage: Media coverage, 40 articles or notices in public media as a result of media contacts (during project life cycle) [month 36]

D7.12) Dialogue forum notes: Dialogue forum notes (from month 6 and onwards during project life cycle), in total 24 forum meetings. [month 36]

D7.13) 8 study visit concepts: 8 study visit concepts (from month 12) [month 36]

D7.14) The PLEEC declaration: The PLEEC declaration (month 36) [month 36]

WT3:
Work package description

Schedule of relevant Milestones

Milestone number [59]	Milestone name	Lead benefi-ciary number	Delivery date from Annex I [60]	Comments
MS9	Communication plan	8	2	

WT4:
List of Milestones

Project Number [1]	314704	Project Acronym [2]	PLEEC

List and Schedule of Milestones

Milestone number [59]	Milestone name	WP number [53]	Lead beneficiary number	Delivery date from Annex I [60]	Comments
MS1	Delivery of data to city profile	WP2	9	4	
MS2	Energy smart city profiles of partners cities	WP2	9	12	
MS3	Final report for WP3. Techno-economic recommendations to WP6	WP3	3	21	
MS4	Summary report on cross-cutting key aspects and structure driven energy efficiency potentials	WP4	10	21	
MS5	Final report of WP5	WP5	5	21	
MS6	Preliminary synergized model for planning considering energy potential of key aspects	WP6	2	31	
MS7	Preliminary action plans for cities to be presented for decision makers in the cities	WP6	2	31	
MS8	6 cities action plans adapted from the model	WP6	2	34	
MS9	Communication plan	WP7	8	2	

WT5:
Tentative schedule of Project Reviews

Project Number [1]	314704	Project Acronym [2]	PLEEC

Tentative schedule of Project Reviews

Review number [65]	Tentative timing	Planned venue of review	Comments, if any
RV 1	12	Turku	
RV 2	21	santiago de Compostela	
RV 3	31	Tartu	

WT6:
Project Effort by Beneficiary and Work Package

Project Number [1]	314704	Project Acronym [2]	PLEEC

Indicative efforts (man-months) per Beneficiary per Work Package

Beneficiary number and short-name	WP 1	WP 2	WP 3	WP 4	WP 5	WP 6	WP 7	Total per Beneficiary
1 - EEM	36.00	2.00	6.00	0.00	3.00	1.00	2.00	50.00
2 - ESK	0.00	4.00	1.00	4.00	4.00	20.00	2.00	35.00
3 - MDU	0.00	7.00	15.00	0.00	0.00	5.00	2.00	29.00
4 - City of Turku	0.00	4.00	3.00	4.00	3.00	5.00	2.00	21.00
5 - TUAS	0.00	2.00	0.00	4.00	23.00	4.00	2.00	35.00
6 - Tartu city	0.00	4.00	1.00	4.00	3.00	5.00	2.00	19.00
7 - SoTCC	0.00	4.00	1.00	4.00	3.00	5.00	2.00	19.00
8 - HAW	0.00	0.00	3.00	0.00	0.00	1.00	31.00	35.00
9 - TUWIEN	0.00	24.00	0.00	0.00	0.00	4.00	2.00	30.00
10 - UCPH	0.00	4.00	0.00	23.00	6.00	4.00	2.00	39.00
11 - TU Delft	0.00	3.00	3.00	21.00	6.00	4.00	2.00	39.00
12 - UNI-RUSE	0.00	1.00	6.00	0.00	3.00	1.00	2.00	13.00
13 - IMAGINE	0.00	0.00	8.00	0.00	0.00	1.00	2.00	11.00
14 - SMARTTA	0.00	0.00	8.00	0.00	0.00	1.00	2.00	11.00
15 - CSC	0.00	4.00	1.00	4.00	3.00	5.00	2.00	19.00
16 - USC	0.00	2.00	6.00	0.00	0.00	4.00	2.00	14.00
17 - Jyväskylä city	0.00	4.00	1.00	4.00	3.00	5.00	2.00	19.00
18 - UL	0.00	5.40	0.00	0.00	0.00	1.00	2.00	8.40
Total	36.00	74.40	63.00	72.00	60.00	76.00	65.00	446.40

WT7:
Project Effort by Activity type per Beneficiary

Project Number [1]	314704	Project Acronym [2]	PLEEC

Indicative efforts per Activity Type per Beneficiary

Activity type	Part. 1 EEM	Part. 2 ESK	Part. 3 MDU	Part. 4 City of	Part. 5 TUAS	Part. 6 Tartu c	Part. 7 SoTCC	Part. 8 HAW	Part. 9 TUWIEN	Part. 10 UCPH	Part. 11 TU Delf	Part. 12 UNI-RUS	Part. 13 IMAGINE	Part. 14 SMARTTA
3. Consortium Management activities														
WP 1	36.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Management	36.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Work Packages for Coordination activities														
WP 2	2.00	4.00	7.00	4.00	2.00	4.00	4.00	0.00	24.00	4.00	3.00	1.00	0.00	0.00
WP 3	6.00	1.00	15.00	3.00	0.00	1.00	1.00	3.00	0.00	0.00	3.00	6.00	8.00	8.00
WP 4	0.00	4.00	0.00	4.00	4.00	4.00	4.00	0.00	0.00	23.00	21.00	0.00	0.00	0.00
WP 5	3.00	4.00	0.00	3.00	23.00	3.00	3.00	0.00	0.00	6.00	6.00	3.00	0.00	0.00
WP 6	1.00	20.00	5.00	5.00	4.00	5.00	5.00	1.00	4.00	4.00	4.00	1.00	1.00	1.00
WP 7	2.00	2.00	2.00	2.00	2.00	2.00	2.00	31.00	2.00	2.00	2.00	2.00	2.00	2.00
Total Coordination	14.00	35.00	29.00	21.00	35.00	19.00	19.00	35.00	30.00	39.00	39.00	13.00	11.00	11.00
4. Other activities														
Total other	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	50.00	35.00	29.00	21.00	35.00	19.00	19.00	35.00	30.00	39.00	39.00	13.00	11.00	11.00

WT7:
Project Effort by Activity type per Beneficiary

Activity type	Part. 15 CSC	Part. 16 USC	Part. 17 Jyväsky	Part. 18 UL	Total
3. Consortium Management activities					
WP 1	0.00	0.00	0.00	0.00	36.00
Total Management	0.00	0.00	0.00	0.00	36.00
Work Packages for Coordination activities					
WP 2	4.00	2.00	4.00	5.40	74.40
WP 3	1.00	6.00	1.00	0.00	63.00
WP 4	4.00	0.00	4.00	0.00	72.00
WP 5	3.00	0.00	3.00	0.00	60.00
WP 6	5.00	4.00	5.00	1.00	76.00
WP 7	2.00	2.00	2.00	2.00	65.00
Total Coordination	19.00	14.00	19.00	8.40	410.40
4. Other activities					
Total other	0.00	0.00	0.00	0.00	0.00
Total	19.00	14.00	19.00	8.40	446.40

WT8:
Project Effort and costs

Project Number [1]	314704	Project Acronym [2]	PLEEC

Project efforts and costs

Beneficiary number	Beneficiary short name	Estimated eligible costs (whole duration of the project)						Requested EU contribution (€)
		Effort (PM)	Personnel costs (€)	Subcontracting (€)	Other Direct costs (€)	Indirect costs OR lump sum, flat-rate or scale-of-unit (€)	Total costs	
1	EEM	50.00	350,000.00	60,000.00	31,300.00	76,260.00	517,560.00	467,991.00
2	ESK	35.00	234,500.00	17,000.00	26,695.00	52,239.00	330,434.00	296,478.65
3	MDU	29.00	203,000.00	8,000.00	17,560.00	44,112.00	272,672.00	243,999.20
4	City of Tu	21.00	140,700.00	3,000.00	23,635.00	32,867.00	200,202.00	178,838.45
5	TUAS	35.00	245,000.00	8,000.00	17,490.00	52,498.00	322,988.00	288,864.30
6	Tartu city	19.00	53,200.00	18,000.00	30,485.00	16,737.00	118,422.00	107,542.95
7	SoTCC	19.00	142,500.00	38,990.00	28,655.00	34,231.00	244,376.00	222,125.85
8	HAW	35.00	262,500.00	46,800.00	44,710.00	61,442.00	415,452.00	375,514.70
9	TUWIEN	30.00	225,000.00	8,000.00	15,545.00	48,109.00	296,654.00	265,383.15
10	UCPH	39.00	304,200.00	8,000.00	19,780.00	64,796.00	396,776.00	354,658.60
11	TU Delft	39.00	304,200.00	0.00	12,345.00	243,595.00	560,140.00	338,703.15
12	UNI-RUSE	13.00	36,400.00	0.00	11,235.00	9,527.00	57,162.00	50,969.45
13	IMAGINE	11.00	77,000.00	0.00	11,235.00	64,448.96	152,683.96	94,411.45
14	SMARTTA	11.00	30,800.00	12,000.00	11,235.00	8,407.00	62,442.00	56,977.45
15	CSC	19.00	123,500.00	3,000.00	30,955.00	30,891.00	188,346.00	168,266.85
16	USC	14.00	91,000.00	0.00	10,055.00	20,211.00	121,266.00	108,128.85
17	Jyväskylä	19.00	133,000.00	3,000.00	23,245.00	31,249.00	190,494.00	170,182.15
18	UL	8.40	25,200.00	0.00	10,340.00	7,108.00	42,648.00	38,027.80
	Total	446.40	2,981,700.00	233,790.00	376,500.00	898,727.96	4,490,717.96	3,827,064.00

1. Project number

The project number has been assigned by the Commission as the unique identifier for your project. It cannot be changed. The project number **should appear on each page of the grant agreement preparation documents (part A and part B)** to prevent errors during its handling.

2. Project acronym

Use the project acronym as given in the submitted proposal. It cannot be changed unless agreed so during the negotiations. The same acronym **should appear on each page of the grant agreement preparation documents (part A and part B)** to prevent errors during its handling.

53. Work Package number

Work package number: WP1, WP2, WP3, ..., WPn

54. Type of activity

For all FP7 projects each work package must relate to one (and only one) of the following possible types of activity (only if applicable for the chosen funding scheme – must correspond to the GPF Form Ax.v):

• **RTD/INNO =** Research and technological development including scientific coordination - applicable for Collaborative Projects and Networks of Excellence

• **DEM =** Demonstration - applicable for collaborative projects and Research for the Benefit of Specific Groups

• **MGT =** Management of the consortium - applicable for all funding schemes

• **OTHER =** Other specific activities, applicable for all funding schemes

• **COORD =** Coordination activities – applicable only for CAs

• **SUPP =** Support activities – applicable only for SAs

55. Lead beneficiary number

Number of the beneficiary leading the work in this work package.

56. Person-months per work package

The total number of person-months allocated to each work package.

57. Start month

Relative start date for the work in the specific work packages, month 1 marking the start date of the project, and all other start dates being relative to this start date.

58. End month

Relative end date, month 1 marking the start date of the project, and all end dates being relative to this start date.

59. Milestone number

Milestone number:MS1, MS2, …, MSn

60. Delivery date for Milestone

Month in which the milestone will be achieved. Month 1 marking the start date of the project, and all delivery dates being relative to this start date.

61. Deliverable number

Deliverable numbers in order of delivery dates: D1 – Dn

62. Nature

Please indicate the nature of the deliverable using one of the following codes

R = Report, **P** = Prototype, **D** = Demonstrator, **O** = Other

63. Dissemination level

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

• **PU =** Public

• **PP =** Restricted to other programme participants (including the Commission Services)

• **RE =** Restricted to a group specified by the consortium (including the Commission Services)

• **CO =** Confidential, only for members of the consortium (including the Commission Services)

• **Restreint UE =** Classified with the classification level "Restreint UE" according to Commission Decision 2001/844 and amendments

• **Confidentiel UE =** Classified with the mention of the classification level "Confidentiel UE" according to Commission Decision 2001/844 and amendments

• **Secret UE =** Classified with the mention of the classification level "Secret UE" according to Commission Decision 2001/844 and amendments

64. Delivery date for Deliverable

Month in which the deliverables will be available. Month 1 marking the start date of the project, and all delivery dates being relative to this start date

65. Review number

Review number: RV1, RV2, ..., RVn

66. Tentative timing of reviews

Month after which the review will take place. Month 1 marking the start date of the project, and all delivery dates being relative to this start date.

67. Person-months per Deliverable

The total number of person-month allocated to each deliverable.

Cover Page

Proposal full title: Planning for energy efficient cities

Proposal acronym: PLEEC

Type of funding scheme: Coordination and support actions (Coordinating)

Work programme topics addressed: FP7 Cooperation Work Programme: Energy; ACTIVITY ENERGY.8: ENERGY EFFICIENCY AND SAVINGS; AREA ENERGY.8.8: SMART CITIES AND COMMUNITIES; Topic ENERGY.2012.8.8.1: Strategic sustainable planning and screening of city plans

Name of the coordinating person: Audrone Simule

List of participants:

Participant no.	**Participant organisation name**	**Country**
1 (Coordinator)	Eskilstuna energi & miljö	Sweden
2	Eskilstuna city	Sweden
3	Mälardalen university	Sweden
4	Turku city	Finland
5	Turku university of applied sciences	Finland
6	Tartu city	Estonia
7	Stoke-on-Trent city	UK
8	Hamburg university of applied sciences	Germany
9	Vienna university of technology	Austria
10	University of Copenhagen	Denmark
11	Delft university of technology	Netherlands
12	University of Rousse	Bulgaria
13	LMS IMAGINE	France
14	Smart technologies association SMARTTA	Lithuania
15	Santiago de Compostela city	Spain
16	Santiago de Compostela university	Spain
17	Jyväskylä city	Finland
18	University of Ljubljana	Slovenia

Table of Content

1. Scientific and/or technical quality, relevant to the topics addressed by the call

1.1 Concept and objectives

The project proposal, if approved, will be a **powerful tool for energy efficiency and savings in the European cities** according key aspects listed in the call for proposal. By **connecting scientific excellence and innovative enterprises** in the energy sector with ambitious and well organized **cities**, with important projects and good results in the energy and environmental matters, and using the proposed methodology we will create an efficient, inspiring and target orientated journey in order to fulfill the task to reduce energy use in Europe in a short future.

By identifying the profiles of the cities as objects and subjects and scanning and evaluating the best research results the project will be well prepared to propose a **model and action plans for implementation** which will be **disseminated in Europe** by a well prepared communication plan.

The logical framework of the project is to elaborate the key aspects through three different perspectives that implicate different **strategies to save energy**. A successful level, the **energy smart city**, will be achieved when measures from the three perspectives will be taken in a good balance between each other.

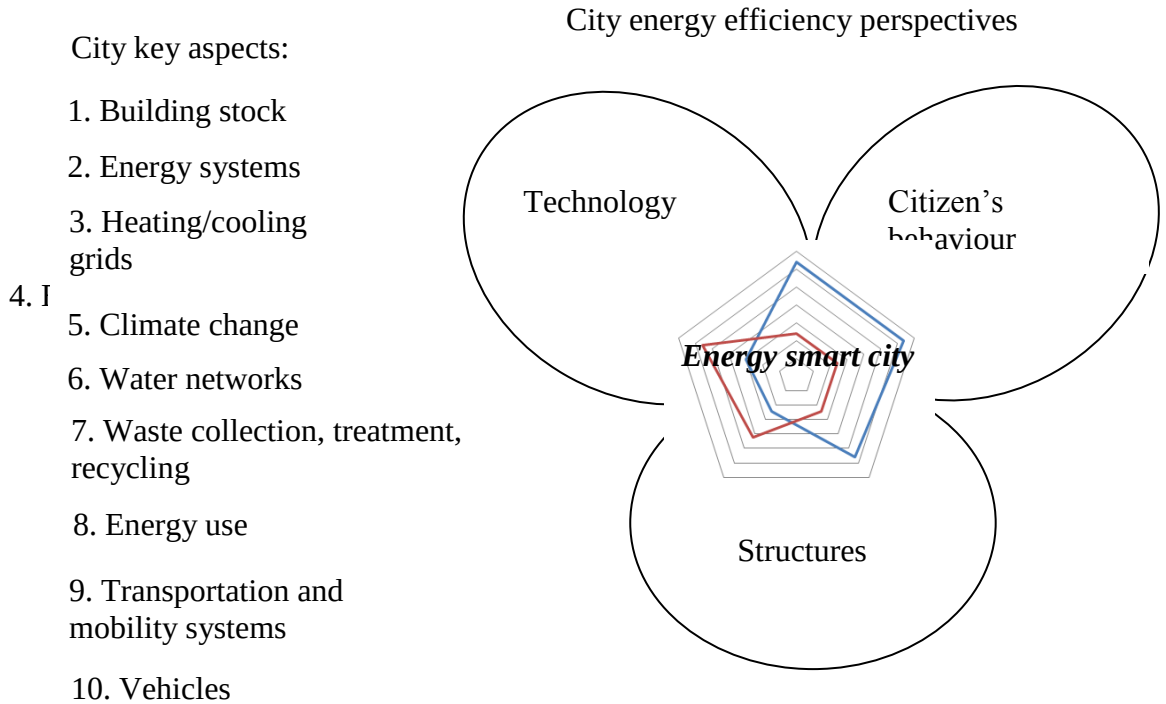


Figure 1. Project framework

Holistic knowledge about energy efficiency potentials in the cities is scarce and far from complete today. Energy efficiency work in the cities is generally based on the efforts of different stakeholders tackling separate city key aspects. There is an urgent need for ambitious and strategic planning for and integration of energy efficiency in city plans worldwide. There is an impressive array of individual and national energy efficiency efforts, initiatives and research. **This project will coordinate initiatives and develop a general model for energy efficiency planning, sharing energy efficiency recommendations based on Best Available Practices and identifying and coordinating further development and research needs.** It will increase the cost-efficiency of European efforts to achieve SET-Plan goals to reduce energy use in EU by 20% till 2020.

This proposal for the coordination action aims to minimize the waste of energy in the most cost efficient way. This will be done by coordination of scientific and technical efforts to create the model for strategic sustainable planning by addressing energy flows and finding energy efficiency potentials within the main key aspects relevant for the whole city. Industry, municipalities, politicians, universities, finances and other stakeholders will elaborate energy efficiency potential in own predominant perspectives followed by common work on synergetic solutions to achieve energy smart city. Optimal mix of innovative energy efficiency measures will be presented indicating the time line, the costs and pay-back periods accounting for different regulatory and market conditions in participating cities. Developed plans will be supported by the public authorities on the highest political levels.

Objectives:

- Assess the energy saving solutions and potentials to be integrated in the comprehensive city planning
- Demonstrate how integrative planning is more efficient than separate measures
- Develop the synergized model for planning considering energy potential of key aspects
- Create the Action Plans to be presented for decision makers in the city
- Contribute to the efforts to achieve SET-Plan goals to reduce energy use in EU by 20% till 2020.
- Identify future research agenda for energy smart cities topic

Efforts in the PLEEC proposal are concentrated on integrative planning. By understanding driving forces and obstacles in technique and human behavior a more efficient planning for energy efficient city will be possible. In the project we see planning in a more focused way, naturally because of the frame of the call. The key aspects are mainly about different technical structures and do not include high energy consumers like private consumption of goods and food. Therefore the main planning agenda will be how technical structures are created, developed, changed, maintained and even abolished in order to create the most energy efficient smart city. In the planning we want to include or rather add legal and behavior structures because they are the essential parts of the planning system (e.g. traffic rules, fee systems, procurement rules). A large part of the technical structures in the cities are already there and will be for a long time. To create completely new technical structures is therefore a small part of the planning structure. A lot of the planning system is to”polish” the existing structures. Anyhow it is possible by planning to use existing structures e.g. transport system by changing vehicles to use it in a more efficient way. How to use the existing infrastructure in an energy saving way is a crucial challenge for the project.

1.2 Contribution to the cordination of high quality research

PLEEC approach of energy efficiency matter from three different perspectives includes **coordination between research groups from energy technologies to urban planning and social sciences.** Ongoing research will be coordinated and used to give a platform for knowledge exchange between universities, practitioners and decision makers creating innovative environment in the cities. It is the key element for cities being smart.

Energy efficient city modelling will be done by cross-disciplinary team consisted of researchers in urban planning, urban sustainability and energy technologies. Involved researchers have been active in the projects addressing different city key aspects from climate change to waste management. In most of the cases research groups have operated rather independently concentrating on different energy efficiency perspectives such as technological, structural and behavior. It is expected that the joint coordination action will provide the municipalities and researchers with an energy efficiency forum that may be the starting point of new breakthroughs in energy smart cities. Such an approach **will give community possibility to advance their knowledge in the energy sustainable city planning which can be missed in specialized research fields**.

The high competences of research organizations are utilized, where MDU, USC and University of Rousse have a special focus on *Energy engineering* and *Innovative processes*. Vienna University of Technology has a special emphasis on *Performance indicators*, university of Copenhagen and Delft Technical University on *City planning*. Urban planning is the integrative element, where different aspects of energy efficiency as well as different spatial levels (building, district, city, and region) come together. There are still major gaps in integrating urban policy including the integration between (1) sectoral policies, (2) plan-making and implementation, (3) resources needed and available, (4) administrations and functional urban regions. Turku University of applied sciences is specialized in Behavior science. The behaviour and energy efficiency focuses on understanding the nature of individual and organizational behaviour and decision making, and using that knowledge to accelerate our transition to an energy efficient community. Behavior change interventions are much more effective when they target specific behaviors, rather than raising general awareness. The project operates with few main target groups: civil servants, representatives of private sector companies (better awareness increases eco-efficient thinking and behavior) etc.

The concept of city smartness can be implemented only by promotion of integrated approach and managing coordinative actions. Smart city research is an emerging scientific field. PLEEC will create environment for the research groups involved in the project to develop common agenda for the smart city research.

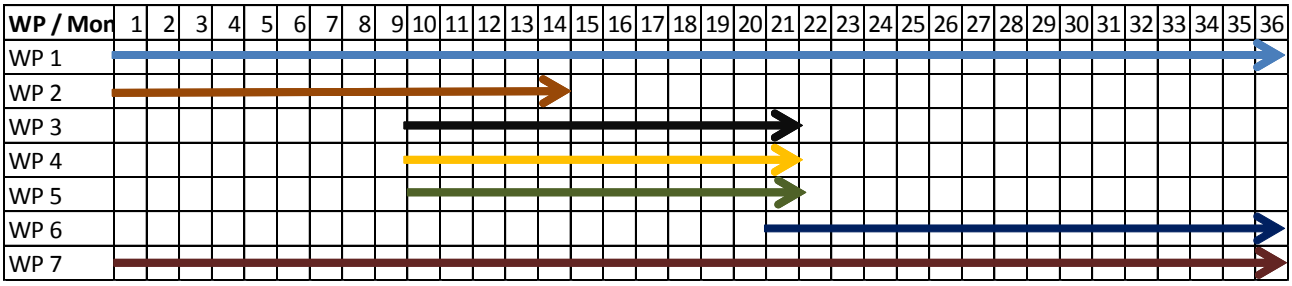
1.3 Quality and effectiveness of the cordination mechanisms, and associated work plan

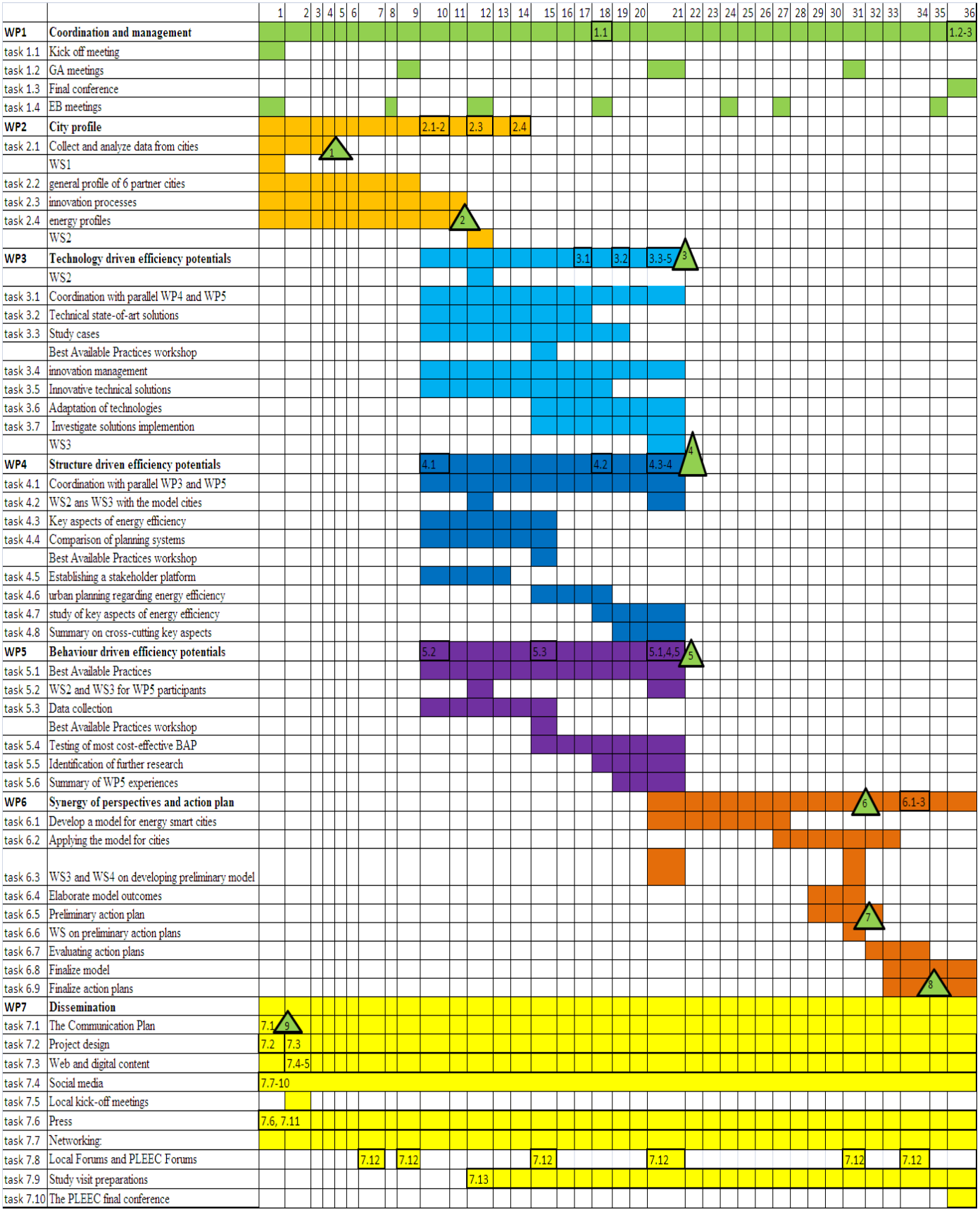
1.3.1 Overall strategy and general description

As the starting point proposal takes SET-Plan goals and initiative to reduce energy use in EU by 20% till 2020. In order to coordinate efforts in optimizing the local community energy system the performance of 6 model middle size cities within key aspects will be analyzed in WP2. City key aspects such as such as renovating a major share of the building stock, energy systems, heating/cooling smart grids, electricity smart grids, climate adaptation and mitigation, efficient water networks and use, efficient waste collection, treatment, recycling and energy use, efficient transportation and mobility systems, promotion of efficient vehicles. The general profile of the 6 partner cities will be based on the "European Smart Cities" approach (see http://www.smart-cities.eu) in which more than 70 small and medium sized European cities were characterized and ranked by 74 indicators in 6 main categories according to their ability to deal with changing global trends as demographic change or economic transformation.

These profiles, which will show the basic conditions in the partner cities for an energy-efficient development in future, will reveal the specific opportunities and threats the cities will be confronted with during their innovation journey. Furthermore, these city profiles will follow a transparent methodology which allows regular updates and can therefore be used for permanent monitoring. Three in time parallel WPs will elaborate energy efficiency recommendations from the three key perspectives: WP3 – technology driven energy efficiency, WP4 – municipal structure driven energy efficiency and WP5 – citizens and companies' behavior driven efficiency. The recommendations will be generated based on pay-off period, state-of-art development, infrastructure and etc. The recommendations will be supported by case studies, references to tools and BAP (best available practices), and implementation options. For the experience exchange process we will organize small to medium size study trips and workshops. As a final step in WP6 the results from WP2, WP3, WP4 and WP5 will be integrated in the model of sustainable city planning and summary of best matching recommendations for the cities provided as an Action Plan for Energy Smart City. Researchers will present common agenda for the future research in the Energy smart cities topic in WP6. Separate WP7 will insure proper dissemination of project results at local and EU levels.

1.3.2 Timing of the different Work packages, milestones and workshops




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
WP1 Coordination and management
task 1.1 Kick off meeting
task 1.2 GA meetings
task 1.3 Final conference
task 1.4 EB meetings
WP2 City profile
task 2.1 Collect and analyze data from cities
WS1
task 2.2 general profile of 6 partner cities
task 2.3 innovation processes
task 2.4 energy profiles
WS2
WP3 Technology driven efficiency potentials
WS2
task 3.1 Coordination with parallel WP4 and WP5
task 3.2 Technical state-of-art solutions
task 3.3 Study cases
Best Available Practices workshop
task 3.4 innovation management
task 3.5 Innovative technical solutions
task 3.6 Adaptation of technologies
task 3.7 Investigate solutions implemention
WS3
WP4 Structure driven efficiency potentials
task 4.1 Coordination with parallel WP3 and WP5
task 4.2 WS2 ans WS3 with the model cities
task 4.3 Key aspects of energy efficiency
task 4.4 Comparison of planning systems
Best Available Practices workshop
task 4.5 Establishing a stakeholder platform
task 4.6 urban planning regarding energy efficiency
task 4.7 study of key aspects of energy efficiency
task 4.8 Summary on cross-cutting key aspects
WP5 Behaviour driven efficiency potentials
task 5.1 Best Available Practices
task 5.2 WS2 and WS3 for WP5 participants
task 5.3 Data collection
Best Available Practices workshop
task 5.4 Testing of most cost-effective BAP
task 5.5 Identification of further research
task 5.6 Summary of WP5 experiences
WP6 Synergy of perspectives and action plan
task 6.1 Develop a model for energy smart cities
task 6.2 Applying the model for cities
task 6.3 WS3 and WS4 on developing preliminary model
task 6.4 Elaborate model outcomes
task 6.5 Preliminary action plan
task 6.6 WS on preliminary action plans
task 6.7 Evaluating action plans
task 6.8 Finalize model
task 6.9 Finalize action plans
WP7 Dissemination
task 7.1 The Communication Plan
task 7.2 Project design
task 7.3 Web and digital content
task 7.4 Social media
task 7.5 Local kick-off meetings
task 7.6 Press
task 7.7 Networking:
task 7.8 Local Forums and PLEEC Forums
task 7.9 Study visit preparations
task 7.10 The PLEEC final conference
1.1
1.2-3
2.1-2
2.3
2.4
3.1
3.2
3.3-5
4.1
4.2
4.3-4
5.2
5.3
5.1,4,5
6.1-3
7.1
7.2
7.3
7.4-5
7.7-10
7.6, 7.11
7.12
7.12
7.12
7.12
7.12
7.13
Milestone
Deliverables

1.3.3 Work description broken down into work packages

Table 1.3 a: Work package list

Work package No	Work package title	Type of activity[1]	Lead participant No	Lead participant short name	Person-months	Start month	End month
1	Coordination and management	MGT	1	EEM	36	1	36
2	City profile	COORD	9	TUWIEN	74,4	1	14
3	Technology driven efficiency potentials	COORD	3	MDU	63	10	21
4	Structure driven efficiency potentials	COORD	10	UCPH	72	10	21
5	Behaviour driven efficiency potentials	COORD	5	TUAS	60	10	21
6	Synergy of perspectives and action plan	COORD	2	ESK	76	21	36
7	Dissemination	COORD	8	HAW	65	1	36
		TOTAL			446,4		

COORD = Coordination activities); MGT = Management of the consortium; OTHER = Other specific activities, if applicable.

Table 1.3 b: Deliverables List

Del. no.	Deliverable name	WP no.	Nature [1]	Dissemination level [2]	Delivery date
1.1	Progress report of the project nr.1	1	R	PP	18
1.2	Progress report of the project nr. 2	1	R	PP	36
1.3	Final report	1	R	PP	36
2.1	Smart City Profiles	2	R	PU	10
2.2	Typology of cities	2	R	PU	10
2.3	Energy Smart City Profiles of partner cities	2	R	PU	12
2.4	Methodology for monitoring	2	R	PU	14
3.1	Report on ttechnical state-of-art innovative solutions	3	R	PU	21
3.2	Case study reports. Economic impacts and eco-efficiency potential of selected BAP.	3	R	PU	21
3.3	Thematic report for selected key aspects	3	R	PU	21
3.4	Report on adaptation of recommendations of technical solutions to different conditions for the different cities	3	R	PU	21
3.5	Final report of WP3. Techno-economic recommendations to WP6	3	R	PU	21
4.1	Framework for case study reports	4	R	PU	10
4.2	Case study reports	4	R	PU	21
4.3	Thematic report for selected key aspects	4	R	PU	21
4.4	Summary report on cross-cutting key aspects and structure driven energy efficiency potentials to feed into WP6	4	R	PU	21
5.1	Case study reports	5	R	PU	21
5.2	Economic impacts and eco-efficiency potential of selected Best Available Practices to be disseminated	5	R	PU	21
5.3	Deliveries related to WS7	5	O	PU	12

[1] **R** = Report, **P** = Prototype, **D** = Demonstrator, **O** = Other

[2] **PU** = Public
PP = Restricted to other programme participants (including the Commission Services).
RE = Restricted to a group specified by the consortium (including the Commission Services).
CO = Confidential, only for members of the consortium (including the Commission Services).

Del. no.	Deliverable name	WP no.	Nature [1]	Dissemination level[2]	Delivery date
5.4	Deliveries related to WS8	5	O	PU	21
5.5	Final report of WP5	5	R	PU	21
6.1	Synergized model for planning considering energy potential of key aspects	6	O	PU	34
6.2	Action Plans for cities to be presented for decision makers in the city	6	O	PU	34
6.3	Strategic research agenda for energy efficiency in the cities	6	R	PU	34
7.1	Communication Plan	7	R	PP	1
7.2	Project design, brochure and poster	7	O	PP	1
7.3	Project posters with activity focus (during full project life-cycle)	7	R	PP	1-36
7.4	One website	7	O	PU	2
7.5	Postcard with web-address	7	O	PU	2
7.6	Movie clips (from month 2 and during the project life-cycle), 10 clips are anticipated	7	O	PU	1-36
7.7	One project blog	7	O	PU	1
7.8	Facebook group	7	O	PU	1
7.9	Twitter activity	7	O	PU	1
7.10	Social media training course (month 1)	7	O		1
7.11	Media coverage, 40 articles or notices in public media as a result of media contacts (during project life cycle)	7	O	PU	1-36
7.12	Dialogue forum notes (from month 6 and onwards during project life cycle), in total 24 forum meetings.	7	R	PU	6-36
7.13	8 study visit concepts	7	O	PU	12-36

[1] **R** = Report, **P** = Prototype, **D** = Demonstrator, **O** = Other

[2] **PU** = Public
PP = Restricted to other programme participants (including the Commission Services).
RE = Restricted to a group specified by the consortium (including the Commission Services).
CO = Confidential, only for members of the consortium (including the Commission Services).

Table 1.3 c: List of milestones

Milestone number	Milestone name	Work package(s) involved	Expected date	Means of verification
1	Delivery of data to city profile	WP2	4	Verified by EB
2	Energy Smart City Profiles of partner cities	WP2	10	Verified by EB
3	Final report of WP3. Techno-economic recommendations to WP6	WP3	21	Verified by EB
4	Summary report on cross-cutting key aspects and structure driven energy efficiency potentials to feed into WP6	WP4	21	Verified by EB
5	Final report of WP5	WP5	21	Verified by EB
6	Preliminary synergized model for planning considering energy potential of key aspects	WP6	31	Verified by EB
7	Preliminary action Plans for cities to be presented for decision makers in the city	WP6	31	Verified by EB
8	6 cities action plans adapted from the model	WP6	34	Verified by EB
9	Communication Plan	WP7	2	Verified by EB

Table 1.3 d: Work package description

Work package number	1						**Start date or starting event:**			1								
Work package title	Coordination and management																	
Activity Type[1]	MGT																	
Participant number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Participant short name	EEM	ESK	MDU	Turku city	TUAS	Tartu	SoTCC	HAW	TUWIEN	UCPH	TU Delft	UNI-RUSE	IMAGINE	SMARTTA	CSC	USC	Jyväskylä	UL
Person-months per participant:	36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Objectives

To run an efficient and effective high quality management of the PLEEC consortium.

Description of work:

The coordinator is the intermediary between the partners and the European Commission (EC) and performs all tasks assigned to it as described in the grant agreement with the EC. The coordinator will monitor compliance by the partners with their obligations. The coordinator keeps the address list of members and other contact persons updated and available.

The coordinator is also responsible for collecting, reviewing to verify consistency and submitting reports and other deliverables (including financial statements) to the EC as well as transmitting documents and information connected with the project to and between WP Leaders, as appropriate, and any other partners concerned.

The coordinator will administer the EC financial contribution and fulfill the financial tasks. The coordinator is not entitled to act or make legally binding declarations on behalf of any other partner in the consortium. A management support team will be set up for the project at EEM that will assist the project co-ordinator, the executive committee, the general assembly as well as individual consortium members in issues concerning management.

The management structure and procedures is described in section 2.1. In the project management team there will be one project co-ordinator (11 person months), one project technical officer co-leader (11 months), one financial officer (6 person months), one project secretary (8 person months) and one project process support function specialized in FP 7 project processes which is sub-contracted (corresponding to 7 person months).

The management support team works on a continuous and daily basis for the consortium.

Task 1.1 A kick off meeting (a full partner meeting, month 1) will be arranged

Task 1.2 General assembly meetings (3 planned meetings, month 9, 19 and 30)

Task 1.3 final conferences (in Brussels, month 36).

Task 1.4 The management support team supports the executive board (7 planned meetings, month 1, 8, 14, 18, 24, 29 and 35).

The management support team will handle the consortium agreement and updates. The management support team will keep a close dialogue with WP 7 on impact and dissemination.

Deliverables (brief description and month of delivery)

D1.1 Progress report of the project nr. 1 (month 18)

D1.2 Progress report of the project nr. 2 (month 36)

D1.3 Final report (month 36)

Work package number	2						**Start date or starting event:**						1					
Work package title	Smart City profiles																	
Activity Type[1]	COORD																	
Participant number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Participant short name	EEM	ESK	MDU	Turku city	TUAS	Tartu	SoTCC	HAW	TUWIEN	UCPH	TU Delft	UNI-RUSE	IMAGINE	SMARTTA	CSC	USC	Jyväskylä	UL
Person-months per participant:	2	4	7	4	2	4	4	0	24	4	3	1	0	0	4	2	4	5,4

Objectives

The main objective of WP2 is to profile the 6 partner cities with respect to the main characteristics of a "Smart City" with special consideration of their energy efficiency and use. Based on the comprehensive and comparative evaluation the basic conditions for energy efficiency in these 6 cities will be analysed from 3 main perspectives (technology, citizens' behavior, and structures). WP2 (1) identifies most relevant and innovative efforts in a complex socio-technical process and (2) gives an important input for the assessment of energy efficiency potentials in the consecutive WP3, 4 and 5. Finally, the smart city approach shall induce a learning process and provide the empirical base for identifying energy efficiency potentials and for discussing perspectives and visions, which will be developed in WP6 in the wider context of comparable cities.

Description of work

Task 2.1 Collect and analyze goals, target and visions of the municipalities

At the beginning of elaborating city profiles the actual goals, targets and visions of the municipalities have to be discovered by exploring planning documents and stakeholders in charge, which has to be done in close collaboration of the researchers and the municipalities. The results of this analysis will be confronted with the individual strengths, weaknesses, opportunities and threats revealed in the city profiles. Draft profile model will be presented and discussed during WS1. (EEM, ESK, Turku city, Tartu city, SoTCC, CSC, TUWIEN)

Task 2.2 Create general profile of 6 partner cities

The general profile of the 6 partner cities will be based on the "European Smart Cities" approach (see http://www.smart-cities.eu), in which more than 70 small and medium sized European cities were characterized and ranked by 74 indicators in 6 main categories according to their ability to

deal with changing global trends as demographic change or economic transformation. This ranking will be complemented with the partner cities and adapted to the main research targets of this project with respect to data availability. The result of this comparative analysis will reveal the specific strengths and weaknesses of the 6 cities and their potentials for challenging other cities in an increasing competitive situation. In addition to basic information on city profiles this approach in particular provides evidence-based learning processes within complex socio-technical processes. (ESK, Turku city, Tartu city, SoTCC, CSC, Jyvaskyla, TUWIEN, UCPH, TU Delft)

Task 2.3 Investigation of innovation processes towards an energy smart city

A main issue in these city profiles will be the investigation of community driven innovation processes towards an energy smart city. In this respect it would be highly productive to reveal how municipalities follow its specific innovation path to reach the forefront and leading edge on the road towards energy-efficient societies. From this perspective the communities should be analysed regarding their progress in this transformation process, and their specific levels of innovation potentials, capacities, challenges and restrictions. (ESK, Turku city, Tartu city, SoTCC, CSC, Jyvaskyla, TUWIEN, UCPH, TU Delft, MDU)

Task 2.4. Development of basic conditions profile in the partner cities for an energy-efficient development in future

Based on the results of these general Smart City rankings and profiles the 6 partner cities will be evaluated more specifically with respect to their conditions for an innovation driven energy-efficient future development. Based on statistic data and other information sources (questionnaires, interviews) the three main perspectives of an "Energy Smart City" (technology, citizens' behavior, structures) will be described and compared. These three fields, which build the backbone of analysis in this project, shall be described by indicators which are able to reveal the ability of a city to cope with new technologies and to make use of them:

- "Technology": role of Research and Development (R&D), amount of innovation (patents), existence of research networks with special respect of technologies in energy use and production, general economic conditions (firm sizes, dominant branches,…)
- "Citizens' behavior": the will (open-mindedness, modernity, values, attitudes,…) and the ability (education, qualification,…) of people to agree on and make use of innovation, social conditions (human and social capital, networking,…)
- "Structures": Decision-making structures (governance), sustainability issues in planning legislation and integrative planning, spatial conditions (urban sprawl, city sizes, transport network,…) for applying new technologies

These profiles, which will show the basic conditions in the partner cities for an energy-efficient development in future, will reveal the specific opportunities and threats, the cities will be confronted with during their innovation journey. In that individual learning process towards energy smart city the main results of this specific profiling will therefore serve as an important input for defining perspectives and visions in WP6. Furthermore, these city profiles will follow a transparent methodology which allows regular updates and can therefore be used for permanent monitoring. Final profiles and methodology will be presented and discussed during WS2. (ESK, Turku city, Tartu city, SoTCC, CSC, JVK, TUWIEN, UCPH, TU Delft, MDU, TUAS, UNI-RUSE, USC)

Deliverables

D 2.1 Smart City Profiles: strengths and weaknesses of the partner cities in comparison to other medium-sized cities in Europe revealing the potentials for challenging other cities in an increasing competitive situation

D 2.2 Typology of cities: Classification of cities based on their profiles as a basis for recommendations and visions

D 2.3 Energy Smart City Profiles: specific profiles of the 6 partner cities with respect to their conditions for an energy-efficient future development based on the three main perspectives of an "Energy Smart City" (technology, citizens' behavior, structures), Challenges and restrictions

D 2.4 Methodology for monitoring: based on the Energy Smart City Profiles a general methodology will be developed, which allows a permanent monitoring of the cities by a regular update of the data

Work package number	3						**Start date or starting event:**						10					
Work package title	Technology driven efficiency potentials																	
Activity Type[1]	COORD																	
Participant number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Participant short name	EEM	ESK	MDU	Turku city	TUAS	Tartu	SoTCC	HAW	TUWIEN	UCPH	TU Delft	UNI-RUSE	IMAGINE	SMARTTA	CSC	USC	Jyväskylä	UL
Person-months per participant:	6	1	15	3	0	1	1	3	0	0	3	6	8	8	1	6	1	0

Objectives

During WP3 potentials of new technologies for smart energy systems will be identified. Industry and SMEs should take leading role in the energy efficiency work together with community authorities, representatives and stakeholders as active lead users. They have the resources and knowledge. Industry and SMEs has an obligation to create the user friendly tools to access constantly progressing techniques to improve energy efficiency within all city key aspects in the cities.

Task 3.1 Coordination with parallel WP4 and WP5

The coordination between the parallel work packages 3, 4 and 5 is important regarding

- involvement of stakeholders
- meetings and workshops in the cities
- outputs for WP6

This task will be worked out together with the leaders from WP3, 4, 5 and 6. Coordinator will coordinate this task. (MDU)

Task 3.2 Technical state-of-art solutions for energy efficiency and saving potentials in the cities within key aspects

Screening of state-of-art solutions will be done, for example integration of wind and solar power, solutions for waste handling and transportation, replacement of light tubes by LED in the buildings,

better indoor climate control etc. (MDU, ESK, Turku city, Tartu city, SoTCC, CSC, JVK, TU Delft, MDU, UNI-RUSE, IMAGINE, SMARTTA, USC)

Task 3.3 Study cases - technique driven best practice for energy efficiency and savings. Two or three cases will be explored combining trips with the WS and one separate study trip. Separate study trip will give possibility to explore practices outside participating cities. Selected Best Available Practices from study cases will be calculated according economic impacts and eco-efficiency potential. Case study reports framework will be synchronized with WP4 and WP5.

(MDU, EEM, ESK, Turku city, Tartu city, SoTCC, CSC, JVK, UNI-RUSE, IMAGINE, SMARTTA, USC)

Task 3.4 Drive and manage a process where innovative solutions and a methodology for generating new products, solutions, services, business models, tools for authorities create incentives to change behavior and make it economically interesting to implement new solutions.

Evaluate technical solutions with respect to innovation, impacts on a large scale and systemic transition potentials, short and long term economic feasibility. The conditions for different forms of sustainable entrepreneurship, from business to community/societal forms, in terms of opportunity and conditions for driving a process of sustainable innovation.

Evaluate ideas and solutions with respect to innovation, impacts on a large scale and systemic transition potentials, short term and long term economic feasibility. The conditions for different forms of sustainable entrepreneurship, from business to community/societal forms, in terms of opportunity and conditions for driving a process of sustainable innovation.

(MDU, ESK, Turku city, Tartu city, SoTCC, CSC, JVK)

Task 3.5 New innovative solutions. Identify a number of possible technical solutions reducing the energy use within city key aspects. Some areas and technologies of interest: the information gathered through new IT-system can be analyzed using e.g. the Google algorithm and similar using Marchow chains, and by these finding relations between different performance issues or power consumption patterns in time and space identified. What are the potential technologies and what are the obstacles? These and other alternatives can be very interesting in a future energy system. Exchanges, studies and presentations on how simulation activities can contributes to smart city energy efficiency, major advantages, impacts, requirements and barriers for technical implementation in city planning. Scales from local grid to city energy networks simulation will be addressed, and real implementation capability studied.

(MDU, IMAGINE, EEM, UNI-RUSE, IMAGINE, SMARTTA, USC)

Task 3.6 Adaptation of technologies to the different cities. Based on WP2 results (city profiles) and discussions of experts from the city administration we will identify the key aspects which will be prioritized in each city. Technical conditions in the model cities are compared with respect to strengths and development tasks. (EEM, MDU, ESK, Turku city, Tartu city, SoTCC, CSC, JVK, UNI-RUSE, IMAGINE, SMARTTA, USC)

Task 3.7 Investigate how the different solutions could be implemented on a larger scale – infrastructure needs, incentives to make it interesting for customers to adopt, capital for investments, get suppliers involved etc. Study on existing capabilities on simulation activities involvement in city planning. Evaluation of different incentives for different technical solutions with respect to large scale implementation. Techno-economic recommendations to WP6. (MDU,

ESK, Turku city, Tartu city, SoTCC, CSC, JVK, TU Delft, MDU, UNI-RUSE, IMAGINE, SMARTTA, USC)

Deliverables:

D 3.1 Report on technical state-of-art innovative solutions for energy efficiency and saving potentials in the cities within key aspects.

D 3.2 Case study reports. Economic impacts and eco-efficiency potential of selected Best Available Practices (BAP)

D 3.3 Thematic reports for selected key aspects.

D 3.4 Report on adaptation of recommendations of technical solutions to different conditions for the different cities

D 3.5 Final report of WP3. Techno-economic recommendations to WP6.

Work package number	4						**Start date or starting event:**			10								
Work package title	Structure driven efficiency potentials																	
Activity Type[1]	COORD																	
Participant number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Participant short name	EEM	ESK	MDU	Turku city	TUAS	Tartu	SoTCC	HAW	TUWIEN	UCPH	TU Delft	UNI-RUSE	IMAGINE	SMARTTA	CSC	USC	Jyväskylä	UL
Person-months per participant:	0	4	0	4	4	4	4	0	0	23	21	0	0	0	4	0	4	0

Objective

The overall objective of this WP is to **identify structure driven efficiency potentials within urban planning and the 10 key aspects**. We will answer how well the energy issues are integrated in the planning process and how different planning measures are integrated between each other.

The key aspects of energy efficiency will not be treated equally, but different foci will be set depending on the issues (as found in WP2) and actions taken in the model cities. The results will feed into WP6 where they will be integrated with the other perspectives on technologies (WP3) and citizen behaviour (WP5).

Description of work

The work is structured by activities, including case studies and thematic studies (for the key aspects) were knowledge will be gathered and internal workshops and open conferences (with external participants) where knowledge will be exchanged.

In WP4 we will screen the urban setup as well as urban planning instruments (decision structure) in regards to the identified key aspects. We will review and operationalize results from previous research projects where the team was involved in (e.g. Interreg IIIB MECIBS, FP6 PLUREL, FP7 SUME).

Task 4.1: Coordination with parallel WP3 and WP5

The coordination between the parallel work packages 3, 4 and 5 is important regarding

- involvement of stakeholders
- meetings and workshops in the cities

- outputs for WP6

This task will be worked out together with the leaders from WP3, 4, 5 and 6. Coordinator will coordinate this task. (UCPH, TU Delft)

Task 4.2: Planning and organization of workshops with the model cities

WP4 is considerably based on work from and with the model cities. Besides regular communication, the exchange between the WP participants will be supported by workshops. For each city one or two workshops should be held with the following topics

- **Urban planning and energy efficiency in cities**
  WP4-partners will discuss how urban planning structures affect energy projects in the case studies. Already identified best practices as well as structural barriers will be discussed for each model city. The structure for the case study reports will be discussed and agreed upon (Deliverable 4.1). We will also discuss the common practices and barriers as a first input to the thematic report (Deliverable 4.3).
- **Joint challenges and potentials of energy efficiency regarding spatial structures and urban planning**
  WP4-partners we will discuss the case study reports (Deliverable 4.2) and joint challenges and potentials of energy efficiency regarding urban-regional structures and urban planning. Further, we will highlight possibilities for collaborations/clusters (Deliverable 4.3 and 4.4).

(ESK, Turku city, Tartu city, SoTCC, CSC, JVK, UCPH, TU Delft, TUAS)

Task 4.3 Identification of key aspects of energy efficiency within urban planning in each of the cities

Based on WP2 results (city profiles) and discussions of experts from the city administration we will identify the key aspects which will be prioritized in each city. The result will be a common disposition for the case study reports (Deliverable 4.1) (ESK, Turku city, Tartu city, SoTCC, CSC, JVK, UCPH, TU Delft, TUAS)

Task 4.4 Comparison of planning systems and how energy issues are addressed

Urban planning as well as the work with energy issues are very context related and case specific. This makes it necessary to review planning systems and competences as well as in the case studies to provide a common basis for a comparative discussion of good practice examples in Deliverable 4.2 (ESK, Turku city, Tartu city, SoTCC, CSC, JVK, UCPH, TU Delft, TUAS)

Task 4.5 Establishing a stakeholder platform within selected key aspects

Through the work in the previous tasks the key stakeholders in each city should be identified and reported in Deliverable 4.2. The thematic work (Deliverable 4.3) can then be supported by a stakeholder network/platform of key actors within different key aspects. (ESK, Turku city, Tartu city, SoTCC, CSC, JVK, UCPH, TU Delft, TUAS)

Task 4.6: Study of the state of urban-regional structures and urban planning regarding energy efficiency in each model city

Through Task 2-5 data will be provided to complete the case study reports (Deliverable 4.2). Each report will contain a summary of the city profile, information about the planning system, an overview on the key challenges (driving forces and obstacles of potential in the energy efficiency planning process) and if/how they are addressed, relevant stakeholders within those and good practice examples (see examples below). The reports will contain a SWOT-analysis to identify

driving forces and obstacles. Besides the view on the city as a whole, the focus will be on ambitious and innovative projects embedded in comprehensive urban planning. The projects will be screened for their environmental as well as social and economic sustainability.

. (ESK, Turku city, Tartu city, SoTCC, CSC, JVK, UCPH, TU Delft, TUAS)

Task 4.7 Thematic study of key aspects of energy efficiency in spatial structures and urban planning

The thematic study (Deliverable 4.3) will summarize the case study reports and supply condensed information by the key aspects regarding spatial structures and urban planning. (TU Delft, TUAS)

Task 4.8: Summary on cross-cutting key aspects and structure driven energy efficiency potentials

This final summary report (Deliverable 4.4) will synthesize the findings on structure driven energy efficiency potentials and barriers in cities and feed into WP6. (TU Delft, TUAS)

Deliverables:

D 4.1 Framework for case study reports

D4.2 Case study reports, based on WP2 profiles and information of planning structures in all participating cities

D 4.3 **Thematic report for selected key aspects**, summarizing key stakeholders and related planning processes

D 4.4 **Summary report** on cross-cutting key aspects and structure driven energy efficiency potentials to feed into WP6

Work package number	5						**Start date or starting event:**									10		
Work package title	Behaviour driven efficiency potentials																	
Activity Type[1]	COORD																	
Participant number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Participant short name	EEM	ESK	MDU	Turku city	TUAS	Tartu	SoTCC	HAW	TUWIEN	UCPH	TU Delft	UNI-RUSE	IMAGINE	SMARTTA	CSC	USC	Jyväskylä	UL
Person-months per participant:	3	4	0	3	23	3	3	0	0	6	6	3	0	0	3	0	3	0

Objectives

The main objective of WP5 is to identify potential of energy use reduction from behaviour driven perspective. It will be achieved by exploitation of Best Available Practices (BAP) related to behaviour driven potential in smart energy consumption. WP5 will give input to the synergy process so it will be possible to evaluate what are the most efficient BAPs to be implemented to get a good balance between technical, structural and behavior measures.

In order to get the "biggest bang for the buck" interventions should target behaviors based on the magnitude of achievable energy reductions and the malleability of the behavior. Work here integrates existing information into an easy-to-use format, given that existing work tends to be decentralized and highly technical.

Behavior change interventions are much more effective when they target specific behaviors, rather than raising general awareness. Therefore WP5 operates with four main target groups:

a) Citizens. Key issue is to empower citizens to adopt energy efficient life forms.

b) Civil servants (workers of PLEEC partner cities). City level strategies does not yet well enough affect to daily operations among civil servants. Cities should be forerunners in eco-efficiency. Therefore we need good examples how cities can both decrease energy consumption and act as role models both for companies and citizens.

c) Representatives of private sector companies. Better awareness increases eco-efficient thinking and behavior in many sectors, e.g. repair construction, recycling and transportation.

d) Non-Governmental Organisations (NGOs). In many European countries NGOs play significant role in awareness rising in efficient energy consumption. Therefore it is cost-effective to involve NGOs both in best practice mining as well as dissemination activities. NGOs are operating in grass root level and have good connections to citizens.

WP5 share important research findings, best available practices implemented or planned in partner cities and urban environments and built dynamic new networks and collaborations. WP5 presents

analyses and disseminates strategies and tools for behaviour change, community engagement and the reinvention of our cities.

Description of work:

WP5 operates with behaviour driven Best Available Practices (BAP) related to the eco-efficiency. Some BAPs are purely behaviour based solutions and some are mixture of structure or technology oriented solutions but still with strong link to behaviour aspects – two example cases are briefly presented in the end of this question box. It is important to have a holistic point of view to the main theme as well as carefully coordinate WP5 work with other WPs (especially WP3 and WP4).

Task 5.1 Best Available Practices and identified major challenges will be collected and listed based on the work carried out in WP2. In addition to input from cities, there will be BAPs from PLEEC consortium University partners. All BAPs will be pre-evaluated by the WP5 team. (TUAS, EEM, ESK, Turku city, Tartu city, SoTCC, CSC, JVK, UCPH, TU Delft, Uni-Ruse)

Task 5.2 Internal Workshop for WP5 participants. Agenda:

- Best Available Practices thematic grouping. There will be made 2 thematic groups both with 5 City key aspects in energy consumption
- selection of most interesting and ready-to-disseminate Best Available Practices
- identification of the need of additional analyses or data collection

(TUAS, EEM, ESK, Turku city, Tartu city, SoTCC, CSC, JVK, UCPH, TU Delft, Uni-Ruse)

Task 5.3 Needed additional economic evaluations and data collection for prioritized Best Available Practices will be carried out by WP5 University partners.

Task 5.4 Testing of most cost-effective Best Available Practices in participating Cities

- pilots are based on the concept of "Energy Management Program" - activity to take effective institutional and behavior change actions to reduce energy consumption. This activity can involve developing evidence-based educational and resource materials on how to bring about organizational change, as well as individual behavior change in the workplace
- concrete actions are simulations, communication campaigns etc. to test Best Available Practices in selected Cities
- actions are focused to different target groups: citizens, civil servants, companies, NGOs

(TUAS, EEM, ESK, Turku city, Tartu city, SoTCC, CSC, JVK, UCPH, TU Delft, Uni-Ruse)

Task 5.5 Identification of further research needs in behavior driven eco-efficiency in Cities. Based on City profiles and experiences from WP5 dissemination activities there will be made an analyzed list of most critical issues to be studied in the near future. Publication "Green Thoughts, Green Future" will be created and actively used as a reference material in public affairs and communication activities. This procedure arms responsible funding authorities with relevant updated information and helps them to allocate grants to cost-effective RDI operations in the field of eco-efficiency.

(TUAS, UCPH, TU Delft, Uni-Ruse)

Task 5.6 Summary of WP5 experiences to be used in WP6. Based on experiences in WP5 there will be made a study of the most cost effective BAPs. Summary includes detailed descriptions of selected BAPs as well as economic potential of implementing those either in one City or more widely in Europe.

(TUAS)

Deliverables

D 5.1 Case study reports. List of Best Available Practices in middle seized European cities of successful actions which resulted in lower energy use by changing behavior. Matrix of challenges and Best Available Practices in target Cities

D 5.2 Economic impacts and eco-efficiency potential of selected Best Available Practices to be disseminated

D 5.3 Deliveries related to WS2

D 5.4 Deliveries related to WS3

D 5.5 Final report of WP5. Report identifies areas of energy use where behavior seems to play an important role in use of energy, especially energy use which is strongly spread on many people (e.g. lighting, car driving, recycling etc.) Report elaborates also new and innovative possibilities.

Work package number	6						**Start date or starting event:**									21		
Work package title	Synergy of perspectives and action plan																	
Activity Type[1]	COORD																	
Participant number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Participant short name	EEM	ESK	MDU	Turku city	TUAS	Tartu	SoTCC	HAW	TUWIEN	UCPH	TU Delft	UNI-RUSE	IMAGINE	SMARTTA	CSC	USC	Jyväskylä	UL
Person-months per participant:	1	20	5	5	4	5	5	1	4	4	4	1	1	1	5	4	5	1

Objectives

Time for implementation! The main objective is to integrate the "sub optimized" results and deliverables from Wp 2 – Wp 5 and in a holistic way create a model for continuously energy transition of cities. Wp 6 will answer to the question what should be done in a closer time perspective as 2020 in order to fulfill EU policy visions and goals such as 20 % energy saving till 2020. The WP5 will in order to answer how it should be done create actions plans for every model city (taking into consideration the city profile delivered in WP2) including time-line, the costs and pay-back period for energy efficient city and include top level decision makers (top politicians, ceo:s in important business sectors) in order to increase the possibilities of implementation.

Description of work (possibly broken down into tasks), and role of participants

The wp6 will start by in a holistic way analyze the results and deliverables from wp3, wp 4 and wp5 where the potential for each perspectives in key aspects has been analyzed.

What is the optimal mix when choosing strategies according implementation possibilities and efficiency? Is it to explore best technique, is it to explore new structures, and is it to change behavior among citizens and institutions? The answer will probably be a mix of all three perspectives, in what scale depending on the task. Strategies will be chosen taking into account what is most cost effective, how it correlates to other goals in the municipality and what is economically, legally and politically feasible.

Integrating and synchronizing ambitious and innovative project in various areas that are embedded in comprehensive planning gives each city the possibility to transform existing structures and to multiply the effect of energy savings.

The wp6 will from these results develop a model which will be a base for action plans. The preliminary action plans developed by each city will be evaluated by universities to secure scientific

values and dimensions before they are fulfilled and presented before replication.

Task 6.1.: Develop a model for energy smart cities

The Energy Smart City model for smart cities shows WHAT is going to be done on a local planning. The energy saving issue is very context related and case specific. With the aim to respect the diversity of European cities and urban areas, the model provides a common basis but each city will find the optimal mixture of strategies with the best energy saving potential and prioritize its actions according to the particular needs (suiting the different city characteristics). The model "Energy Smart City" will consist of a strategic framework including the three main perspectives (technology, citizens' behavior, and structures) of key aspects. The form of the model is a web-based handbook/manual that includes background, instructions and methodology for how to identify what, when and where actions/activities are most relevant in order to become an energy smart city. **(ESK, MDU, TUWIEN, partner cities)**

Task 6.2. Applying the model for each of the partner cities

A preliminary model result will be worked out for each city showing how the different aspects within the three main perspectives will be combined. The aim of city specific combinations is to enlarge savings potential and the use of low carbon technologies by taking into account preliminary spin-off effects as well as win-win-effects. Resources are limited and it is extremely important to be able to choose the most strategically efficient path. The results of saving potentials and preliminary recommendations from the three different perspectives (technology, structure and behavior) are analyzed (push- and pull-factors) and optimized in order to integrate the perspectives in the most efficient way. Important aspects are possible synergy effects, conflicts between the different perspectives or regarding the vision as well as the aspects of cost effectiveness, large-scale deployment (replication) and managing the model. Does the model fit the vision? What are the gaps an how to mend them? **(partner cities)**

Example: Mostly it is necessary to include all perspectives in a successful strategy but we want to find out where the focus should be. If energy use of the specific key aspect is very decentralized and dependent of human behavior (e.g. lighting in flats) it will be very important to emphasize changes in behavioral and sometimes change of structure in the meaning of rules or consumption costs.

Task 6.3. Workshops on developing the preliminary model results for each of the cities

At the workshop the cities discuss the model results and how they combine the different aspects. Already identified common opportunities as well as structural barriers will be discussed. What was difficult, what was easy to apply integrating and combining the three perspectives? What can we learn of each other? Best practice? What are the win-win effects? Where to put the focus? The cities will discuss and agree upon the model structure. **(All partners)**

Task 6.4. Elaborate final model outcomes for each of the cities and a preliminary action plan for each city

The final model outcomes will be the most optimal mix of the relevant key aspects for the cities which will be a base for making a preliminary action plans. **(all cities)**

Task 6.5. Preliminary action plan with time-line, costs and pay-back period, and monitoring

routines.

From the outcomes of the model, the action plan shows HOW the outcome of the model is going to be managed, implemented and gets into action on local planning level. Here it is extremely important to involve high decision makers in the model cities in order to give real prerequisites for implementation.

Energy saving potentials of the optimized model are inserted into the energy efficiency city profiles again to evaluate impacts on the overall profile. This would also be an opportunity to use smart-city-model (developed in earlier projects) beyond the profiling phase towards a more flexible and holistic tool. The progress of the continuously energy efficient transition of medium-sized cities will be monitored with the Energy Smart City profile.

Reveal the specific opportunities and threats, the cities will be confronted during their innovation journey connected with a continuously learning process (stakeholder platform) towards an energy smart city. **(all cities)**

Task 6.6. WS Developing the preliminary action plans for each of the cities.

In the workshop preliminary action plans will be developed to make a common preparation for the final action plan for each city. **(all partners)**

Task 6:7 Evaluating action plans and make a research agenda.

The universities will analyze the model and preliminary action plans from cities and evaluate them from the scientific perspectives and give reports to the cities. The universities will from experience from that make a strategic research agenda for energy efficiency in the cities. **(Universities)**

Task 6:8 Finalize model

Universities will complete the model for energy smart cities. **(TUWIEN, MDU)**

Task 6:9 Finalize action plans

All cities will finalize the final action plan for each city. **(all cities)**

Deliverables:

D 6.1 Synergized model for planning considering energy potential of key aspects

D 6.2 Action Plans for cities to be presented for decision makers in the city

D 6.3 Strategic research agenda for energy efficiency in the cities

Work package number	7						**Start date or starting event:**						1					
Work package title	Dissemination																	
Activity Type[1]	COORD																	
Participant number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Participant short name	EEM	ESK	MDU	Turku city	TUAS	Tartu	SoTCC	HAW	TUWIEN	UCPH	TU Delft	UNI-RUSE	IMAGINE	SMARITTA	CSC	USC	Jyväskylä	UL
Person-months per participant:	2	2	2	2	2	2	2	31	2	2	2	2	2	2	2	2	2	2

Objectives

To ensure an efficient dissemination of the project results addressing all relevant stakeholders from municipalities, politics, industry, academia, key associations and the general public. To enhance the replication potential of successful solutions (best practice identified). To communicate the key message that *an integrative approach achieves much better economics than individual actions without integrative planning*. To ensure an EU-wide impact of the measures and to facilitate the exchange of knowledge in order to substantially reduce greenhouse gas emissions in an innovative and integrative manner. All tasks are done in order to increase the impact of the project results.

Description of work

The work is broken down in 9 different tasks: 7.1 Communication Plan, 7.2 Project design, posters, brochure, 7.3 Web and digital content 7.4 Social media, 7.5 Local kick-off meetings, 7.6 PR activities, 7.7 Networking, 7.8 PLEEC Dialogue Forums, 7.9 Study visit preparation and 7.10 PLEEC Final conference. The work package is lead by HAW. Each partner contributes to the dissemination and impact creating work.

Some work is subcontracted to expertise in the area of communication and is related to: project design (task 7.1), production of folder/posters (7.2), creation of interactive web-platform (7.3), digital content and movie clips (7.3), opening up social media channels e.g. facebook group, blog space and twitter (7.4), training on social-media (7.4) international press-releases (7.6), dialogue forum moderation (7.8) and final conference arrangements (7.10).

Task 7.1 The Communication Plan will list all relevant available communication tools for the project, the target groups, main messages to be communicated and time plan for communication activities (when to use a communication tool towards a specific target group with what message reaching for a specific impact). A first version of the plan is produced in Month 1 of the project. It

is a living document that will be up-dated during the project life-cycle in terms of content and planning of communication activities. It will also be used for evaluating the result (e.g. # of press releases, # of articles published and other media coverage, # of journalists met, # of showed movie clips on the website, # of followers of the blog, # of friends on facebook) and the impact (e.g. EU-wide or just local impact of key messages communicated, interest shown from other cities for transfer of best practice).

Task 7.2 Project design, posters, brochure, ppt-slides: the project's "corporate identity" and its official design will be produced in this task, one brochure to introduce the project with foreseen activities and anticipated results will be produced month 1 (printed in English, open digital version of brochure with language that can be translated by each partner if they so desire will be provided, but printing and translation outside project budget). One general poster for the project will be produced (month 1), but also assistance for posters to be used in project activities, 15 different posters in budget with same design but with changed content for text and illustrations (provided by project partners). Design for power point presentations, and a general project presentation in ppt format will be produced in this task.

Task 7.3 Web and digital content: The task includes establishment of the project's internal web-workspace. Content of the website will be delivered during the project by the participating partners.

The task includes feeding of the project space on the ERKC and the SCSP website[1] with comprehensive and up-to-date information, in accordance with the guidance and templates of the ERKC and SCSP website managers. At least one person from the consortium will set up a personal profile on the SCSP website thus permitting the participation of the project in the relevant SCSP fora[2].

The websites of the Energy Research Knowledge Centre (ERKC[3]) and the EU's Smart Cities Stakeholder Platform (SCSP, www.eu-smartcities.eu) will serve as the main platforms for the public web-communication and -dissemination of the project results, in view of creating single access points for *all* projects and activities under the EU's Smart Cities Innovation Partnership.

An important digital content of the website is short movies illustrating best practice identified in the project. The web-address will be widely disseminated through e-mail and a postcard to various targeted groups and individuals e.g. to European energy clusters, city-planning networks, networks of decision-makers in public authorities, relevant researchers and local stakeholders in the participating cities. The postcard and a standard mail for promoting the url will be produced in month 2 and follow the PLEEC corporate identity.

Task 7.4 Social media: A PLEEC blog will be set-up where the project management team together with the WP leaders contribute on a regular basis (at least weekly) with project news and reflections using pictures and a blog style language. A PLEEC facebook page will be set-up where project activities may be promoted and network of friends of energy efficiency in cities will be created. Here suggestions and comments will be posted on various issues of energy efficiency linked to city planning like an open-innovation activity. The project management team will start to twitter on short project notices and will promote staff internally among the partner organizations but also outside the consortium to follow the twittering. The task will deliver a training course to staff in the partner organizations on social media. This will be made in real life at the project kick-off meeting

[1] In practical terms, the managers of the ERKC and SCSP websites will create an automatic transfer of data from the ERKC, so that the projects do not have to provide their information twice. However, while on the ERKC, the information is organised by *projects*, on the SCSP website it is organised by *cities* and innovative *solution proposals*. This means that the projects have to tailor *some* information for the SCSP website.

[2] Further staff member of the consortium are invited to do the same.

[3] More information on the web site http://setis.ec.europa.eu/energy-research. The project section of the website will be fully operational as of autumn 2012.

and will be filmed so it may be presented to anyone who wants to participate afterwards, on the project website.

Task 7.5 Local kick-off meetings will be held in the partner cities inviting relevant local participants. The local kick-off meetings mainly targets media and local politicians but also team members. Scheduled to month 2 of the project. The academic partners will also arrange a start activity where local media and municipalities are invited to be informed about the project and with research orientation. An introduction seminar may present some state of the art facts (from research) and explain why coordination is needed between researchers in Europe in relevant fields.

Task 7.6 Press releases, press conferences and regular press briefings: HAW prepares basic material for press releases and indicates in the communication plan when press-releases will be distributed locally or from the WP leader targeting the European level. Local partners propose and prepare press-releases but check them with the communication plan for timing and messages put forward. Media channels and contacts will be listed in the communication plan that is updated during the project. Central WP press activities will be synchronized in time and message with local press initiatives especially after important project milestones. The movie clips produced in task 7.3 will be used in press contacts and especially for websites such as www.euronews.net .

Task 7.7 Networking: This task will reach out to ongoing projects and activities on energy efficiency in cities in Europe as well as networks e.g. Eurotowns www.eurotowns.org, Eurocities (www.eurocities.eu), Energy cities (http://energy-cities.eu/), European Green Cities network (www.europeangreencities.com/) and Union of the Baltic Cities (www.ubc.net/). Relevant external events (e.g. conferences, seminars, exhibitions) will be surveyed in the beginning of the project. Based on the findings a comprehensive strategy of how these events will be addressed by which partner will be set-up.

The projects and networks identified will also be invited to the social forum of the PLEEC project and to open activities in the project (e.g. the Final conference and Dialogue Forums). The goal is to establish a sustainable network of persons and organisations interested in energy efficiency and city planning supported by internet and social media than can continue after the project end.

Task 7.8 Local Dialogue Forums and PLEEC Energy Efficiency Forum: For fostering a dialogue on Energy Efficiency and promoting latest findings on city energy efficiency potential models and action plans for an energy efficient city the PLEEC Energy Efficiency Forum will be created as part of the project-communication strategy. Local dialogue forums will be held that focus on dialogue creating meetings with industry, public bodies, citizens and researchers involved. Problems and possibilities identified during the project will be discussed. Each municipality in the consortium (7) arranges one dialogue forum per year, thus 21 dialogue meetings will be held. One international guest will be invited to the forum (from another partner organisation in the consortium). The forum dialogue will be led by an external moderator.

There will also be 3 major PLEEC Energy Efficiency Forums held addressing a wider public than the local one in the city dialogue forum. These forums offer various stakeholders to participate of the project findings and to enter in a dialogue with key actors of the PLEEC project. The three major PLEEC Energy Efficiency Forums will be arranged in connection to General Assembly meetings for efficient travel planning of the consortium and to foster international participation.

Task 7.9 Study visit preparations: The project will promote best practise in energy efficiency and integrated city planning in Europe and in order to disseminate this in a concrete municipalities outside the consortium will be offered to make study visit to the best practices identified and promoted. The partners of the consortium will prepare their own concept for such a study-visit and will get resources to host one such study visit to try out the prepared concept. Invitations will be send to identified network members (see task 7.6). 8 study visit concepts are foreseen.

Task 7.10 The PLEEC final conference: A final conference will be held in Brussels in month 36 of

the project (lunch to lunch meeting). The first part of the conference is for consortium members only. They will discuss the results achieved, their lessons learned from the project and how to make the project sustainable after the project end and co-operation in the future. At the second part of the conference the leading politician(s) from the partner cities will present a signed joint PLEEC declaration where they presents their future commitment in terms of integrated city-planning and energy efficiency. The researchers of the consortium will present the strategic research agenda for the future. Project results and best practise will be presented in an interesting, energetic and moveable manner. Target groups for this part of the final conference are invited guests from European Commission (e.g. DG Research, DG Regio, DG Energy), regional offices in Brussels, Members of the European Parliament, and reps for the Committee of Regions and relevant EU projects and European networks identified in task 7.6. Journalists will be invited to the second part, and there will be a short press briefing before the start of the second part of the conference.

Deliverables

7.1. Communication Plan (month 1, continuous update)

7.2. Project design, brochure and poster (month 1)

7.3. Project posters with activity focus (during full project life-cycle)

7.4. One website (running from month 2)

7.5 Postcard with web-adress (month 2)

7.6 Movie clips (from month 2 and during the project life-cycle), 10 clips are anticipated

7.7. One project blog (from month 1 and during project life-cycle)

7.8. Facebook group (from month 1)

7.9. Twitter activity (from month 1)

7.10. Social media training course (month 1)

7.11. Media coverage, 40 articles or notices in public media as a result of media contacts (during project life cycle)

7.12. Dialogue forum notes (from month 6 and onwards during project life cycle), in total 24 forum meetings.

7.13 8 study visit concepts (from month 12)

7.13. The PLEEC declaration (month 36)

Table 1.3 e: Summary of staff effort

	Participant short name	WP1	WP2	WP3	WP4	WP5	WP6	WP7	Total person months
1	EEM	36	2	6	0	3	1	2	50
2	ESK		4	1	4	4	20	2	35
3	MDU		7	15	0	0	5	2	29
4	City of Turku		4	3	4	3	5	2	21
5	TUAS		2	0	4	23	4	2	35
6	Tartu city		4	1	4	3	5	2	19
7	SoTCC		4	1	4	3	5	2	19
8	HAW		0	3	0	0	1	31	35
9	TUWIEN		24	0	0	0	4	2	30
10	UCPH		4	0	23	6	4	2	39
11	TU Delft		3	3	21	6	4	2	39
12	UNI-RUSE		1	6	0	3	1	2	13
13	IMAGINE		0	8	0	0	1	2	11
14	SMARTTA		0	8	0	0	1	2	11
15	CSC		4	1	4	3	5	2	19
16	USC		2	6	0	0	4	2	14
17	City Jyvaskyla		4	1	4	3	5	2	19
18	UL		5,4				1	2	8,4
	Total	36	74,4	63	72	60	76	65	446,4

1.3.4 Graphical presentation of the components showing their interdependencies

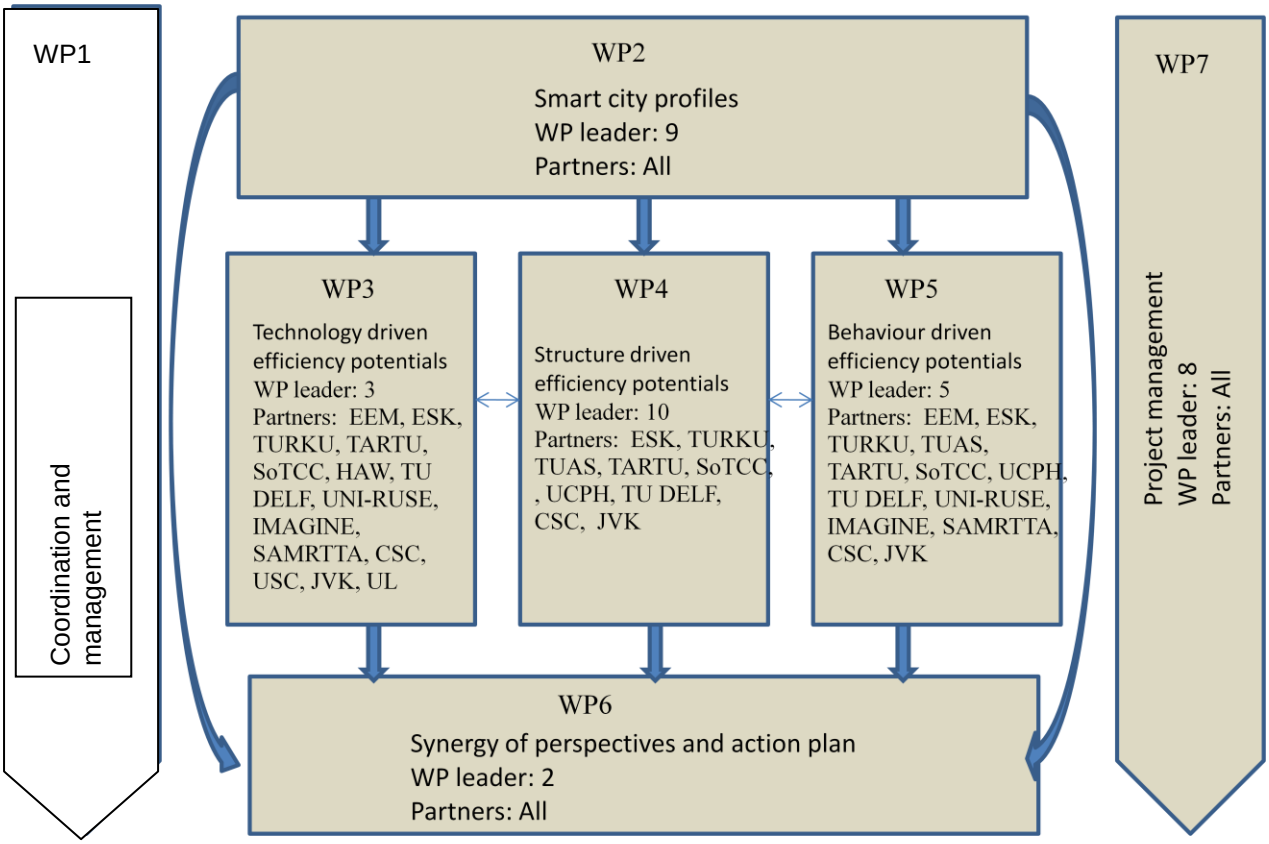


Figure 2. Diagram showing the linkage of the work packages and the dataflow

1.3.5 Risks, and associated contingency plans

Risks related to the project are analyzed in a risk analysis where values are given to how likely it is that a risky action may happen (1=not likely, 5=most likely) and what the impact is on the project if the risky action happens (1=no impact, 5=high impact) as well as what the project will do or have done in order to avoid the risks. That the ***deliverables and milestones are not delivered on time*** would be graded 8 (2*4=8). To tackle this risk we have a strong work plan, close follow-ups with

WP leaders and WP groups and affluent communication among partners facilitated by communication channels such as skype and email. The executive board and the coordinating team help the WP leaders to assure the timely delivery from all partners. That a ***partner will drop-out*** is graded 5 (1*5=5). To tackle this risk the consortium has been careful when building the consortium so trust and commitment has been built. Each partner has also been allocated a budget that is reasonable for the work scheduled. The project plan has been designed in consensus. Also the open communication among partners is an important issue. That a ***recession will hit Europe*** could also be a risk that may affect the willingness or ability of municipalities to invest in new infrastructure (which is not in the project budget but ought to be an outcome of the project), as taxes brought in and financing available might not be enough. This risk is graded 3 (3*1=3). That the project will ***not be able to find best practice*** and key performance indicators and communicate them to stakeholders is graded 5 (1*5=5). The project has planned for several communication channels both in public media but also through existing and new networks. By bringing in a critical mass of competence and partners with extensive European networks the project avoids this risk. That the project will ***not reach out to industry*** is graded 3 (1*3=3). The project has planned dialogue forums to reach industry, and industrial partners are part of the consortium. Communication is needed through several channels targeting SMEs and larger companies at local level.

2. Implementation

2.1 Management structure and procedures

The design of the organizational structure and decision-making mechanisms of the project reflect the complexity, scale of the project and amount of partners. The organization of the project consortium consists of the following bodies:

- A General Assembly as the ultimate decision-making body of the consortium
- An Executive Board as the supervisory body for the execution of the project and which reports to the General Assembly
- Work Package Committees as management group for each work package
- A Coordinating organization as the intermediary between the project partners and the European Commission
- A Management Support Team assisting the Executive Board and the coordinator

General Assembly
The General Assembly (GA) will have ordinary meetings in month 9, 19, 30. There will also be a full partner meeting as a kick-off for the project in month 1. There we will go through administrative prerequisites, project objectives, organization and staff. There will also be a final meeting in month 36, however this will be budgeted for in WP 7 Dissemination and Impact. The General Assembly can meet for extraordinary meetings upon written request by the Executive Board or one third (1/3) of the Members of the GA. If the project runs according to plan such a meeting will not be necessary but in order to handle a crisis situation we budget for one such meeting. The GA consists of one representative of each partner in the consortium. Each member has one vote. The GA can decide validly if two-thirds (2/3) of the members are present or represented. The coordinator will chair all meetings unless decided otherwise in a meeting of the GA. The General Assembly functions (decision making, minutes' distribution, invitation to meetings etc.) will be elaborated and agreed upon in the Consortium Agreement (CA).

The GA is free to act on its own initiative to formulate proposals and take decisions. All proposals made by the Executive Board will also be considered and decided upon by the GA. The GA members will be duly authorized to deliberate, negotiate and decide on content and finances (e.g. changes to the consortium plan including the budget), evolution of the consortium (e.g. entry of a new partner or withdrawal of a partner) and appointments (e.g. Executive Board Members and Work Package Leaders).

The chairperson of the GA produces written minutes of each meeting which is the formal record of all decisions taken. The draft minutes will be sent to all members within 10 calendar days after the meeting. Decisions will only be binding once the relevant part of the minutes has been accepted. The minutes will be considered accepted if, within 15 calendar days from sending, no member has objected in writing to the chairperson with respect to the accuracy of the draft of the minutes. The

chairperson will send the accepted minutes to all members and to the coordinator, who will safeguard them.

Any decision may be taken without a meeting if the coordinator circulates to all members of the GA a document which is then signed by a majority of the members. Meetings may be held by teleconference or other telecommunication means. The GA will be called to meeting by the chairperson at least 30 calendar days prior to the meeting, and the agenda will be distributed at the latest 15 calendar days before the meeting.

Executive Board
The Executive Board (EB) will have ordinary meetings in month 1, 8, 14, 18, 24, 29 and 35 (7 meetings in total) or at any time upon written request of any member of the EB. The EB consists of the coordinator and all of the Work Package Leaders as appointed by the GA. The coordinator chairs all meetings of the EB unless decided otherwise. The EB will be called to meeting by the chairperson at least 14 calendar days prior to the meeting, and the agenda will be distributed at the latest 7 calendar days before the meeting. The same rules for voting and minutes of meetings apply as for the GA.

Minutes of EB meetings, once accepted, will be sent by the coordinator to the GA members for information. The EB prepares the meetings, propose decisions and prepare the agenda of the GA. EB seeks a consensus among the partners. The EB is responsible for the proper execution and implementation of the decisions of the GA.

The EB monitors the effective and efficient implementation of the project. The EB collects information, at least every 6 months, on the progress of the project, examine that information to assess the compliance of the project with the consortium plan and, if necessary, propose modifications of the consortium plan to the GA.

The EB will also initiate, coordinate and organize the work packages, agree on the members of the Management Support Team (proposed by the coordinator) and support the coordinator in preparing the meetings with the European Commission and in preparing related data and deliverables. In addition, the EB will propose the content and timing of press releases and joint publications by the consortium or proposed by the European Commission. Work Package 7 will execute PR and dissemination activities.

Note that the EB has in effect no decision powers: decisions are taken at the highest level (GA) or at the confined working level of a WP Group. The power of the EB lies in the fact that the EB uniquely prepares and proposes decisions to be made to the GA.

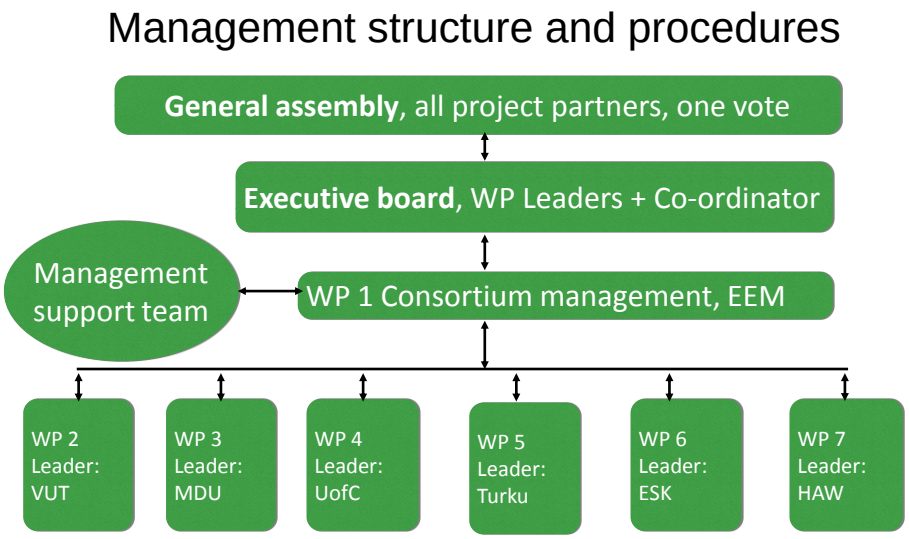
Work Package Group
The Work Package Group (WPG) meets at least every 2 months, or at any time upon written request of any Member of the respective WPG. A Work Package Group consists of one representative of each partner having a task within the respective work package. A work package leader chairs all meetings in the WPG. Each WPG manages the respective work package, in particular with regard to the timely delivery of reports and results to the EB and the coordinator, reviewing the quality of reports, formulating an implementation plan for the activities in the WP for the future period as well as alerting the EB and coordinator in case of delay in the performance of the WP or in case of breach of responsibilities of any partner.

The WP Leader (WPL) is appointed by the GA and has the function of communicating any plans, deliverables, documents and information connected to the WP between the members of the WPG and if relevant to the EB. The WPL submits the implementation plan of the WP to the EB for review and proposing an update of the consortium plan. The WPL also coordinates on a day-to-day basis the progress of the work under the WP, and follows up decisions made by the EB or the GA insofar they affect the WP. Finally the WPL will advise the coordinator of any discrepancy with the consortium plan including any delay in delivery.

The WPGs will be called to meeting by the chairperson at least 10 calendar days prior to the meeting, and the agenda will be distributed at the latest 7 calendar days before the meeting.

Coordinator
The coordinator is the intermediary between the partners and the European Commission (EC) and performs all tasks assigned to it as described in the grant agreement with the EC. The coordinator will monitor compliance by the partners with their obligations. The coordinator keeps the address list of members and other contact persons updated and available. The coordinator is also responsible for collecting, reviewing to verify consistency and submitting reports and other deliverables (including financial statements) to the EC as well as transmitting documents and information connected with the project to and between WP Leaders, as appropriate, and any other partners concerned. The coordinator will administer the EC financial contribution and fulfill the financial tasks. If the coordinator fails in its coordination tasks the GA may propose to the EC to change the coordinator. The coordinator is not entitled to act or make legally binding declarations on behalf of any other partner in the consortium.

Management Support Team
The Management Support Team is proposed by the coordinator and is appointed by the EB. The team assists and facilitates the work of the Executive Board and the coordinator for executing the decisions of the General Assembly and the day-to-day management of the project. The management team consists of the following functions: coordinator (30%), coordinator support (technical officer) (30%), Project process support (20% internal or external), Financial officer (20%), Project secretary (20%). The management support team will subcontract a specialist in FP 7 project management. Euroclas AB with Clas Tegerstrand is provisioned as subcontractor. Clas Tegerstrand has 20 years experience from EU-funded projects. He was director of the Europa Institutet i Västerås (1992-1999), a host organization in the Euro Info Centre and Entreprise Europe Network (under DG Enterprise), European Research Liaison Officer, LEAR and Director of the Grants Office at Mälardalen university (2000-2011), European Research Liaison Officer at Karolinska Institutet, Grants Office (2003) and Manager at Global Incentive Services, Price Waterhouse Coopers, Sweden (2011). Clas Tegerstrand has coordinated the national professional network of EU Liaison officers at universities in Sweden. He is a member in EARMA, and has training from Hyperion (Sean McCarthy), Yellow Research (Lotte Jaspers), Tutech (Monica Schofield) and Vinnova (NCP). The management structure of PLEEC is illustrated below:



2.2 Individual participants

Partner 1: Eskilstuna Energi & Miljö - EEM

Eskilstuna Energi & Miljö (EEM) is the utility company in the city of Eskilstuna. The company supplier of water, waste water and treatment, biogas, recycling, heat and power, electricity and heat grids as well as broad band grid to the municipality of Eskilstuna. EEM will co-ordinate the project. EEM will also contribute to the project with specialists on energy efficiency in the key areas such as energy systems, heating and cooling, electricity grid, water and waste water grid and treatment and waste collection and recycling.

EEM has experience in working with energy efficiency questions within its different fields of operation. The company also has experience from how energy efficiency is managed and organized in the municipality. The company provides energy services.

Coordinator, Dr Audrone Simule holds a Tech. Dr. Degree in chemical engineering. She has a broad experience of working in transnational project e.g. from INTERREG, EUREKA, ERASMUS and FP6 projects. Dr Simule managed the EUREKA project BIOSORB-TOX and has been coordinator of the application for an INTERREG project named Baltic Sea cycling (see www.balticseacycling.com) as well as country coordinator of the Baltic university program (BUP) project http://www.balticuniv.uu.se Dr Simule has experience from working in international environment through her research work in Denmark, Poland, USA and Lithuania. She was in the management team for the worldwide network IPSW and BUP network within Baltic Sea region involving over 200 universities.

From EEM, senior advisor Mikael Kullman and other specialists will bring knowledge to the project. Adam Brännström, EEM CEO, will also contribute to the project.

Partner 2: Eskilstuna City - ESK

Eskilstuna is strategically situated in the centre of the region called Stockholm-Mälar region, about 100 km west of Stockholm. The town is located on the river Eskilstunaån, which connects two of Sweden's major lakes Mälaren and Hjälmaren. It has an increasing resident population (about 96.000 in the year 2010). The land area is about 1.104 km2. Eskilstuna is an important industrial city with international companies such as Volvo Wheel loaders, main site for the heavy construction equipment division of Volvo and Assa (locks, keys) as well as logistics operations. Mälardalen University gives Eskilstuna an academic touch. There are a lot of organizations active in the energy sector located in Eskilstuna such as the Swedish Energy Agency and the National Authority of Energy Market Inspections and the Regional center of Energy. Eskilstuna municipality is organized in eight departments. The energy savings issue is closely connected to operations in five of these: consulting and commissions, labor and family department, environmental and emergency department, town planning department and Torshälla urban planning department. Swedish municipalities are entitled to levy taxes and Eskilstuna municipality has a total budget of 540 million €. Eskilstuna municipality has relevant experience form EU-projects e.g. ***Trailblazer*** financed under SAVE Intelligent Energy Europe (promoting coordinated and energy efficient goods transports in European cities), ***2020 Goes Local*** financed by Interreg IVC (how to implement EU2020 strategy at the local and regional level, with energy and sustainable transports as main themes), ***CLIQ*** financed by Interreg IVC (on user driven innovation and "quadruple helix aspects" in eco-innovation systems), ***CLEAN*** funded by ERDF (a cluster for clean tech companies in the region) as well as from international networks such as ***Eurotowns*** (see http://www.eurotowns.org/) a network for midsized cities in Europe aiming at creating opportunities for exchanges and collaboration in European projects and to provide an important link between medium-sized European cities and the European Commission. On the national level Eskilstuna municipality is active in the Swedish network of Sustainable municipalities and the project ***Sustainable municipality*** (Uthållig kommun) which is a co-operation-project of the National Authority for Energy and selected municipalities in Sweden aiming to build up and develop best practice within energy smart spatial planning and economic policy with focus on energy aspects. Relevant projects that are run on the local level include ***Energyefficient company*** targeting SMEs and energy efficiency actions aiming at decreasing energy use with 30 % in the participating companies. Eskilstuna municipality is currently preparing a joint venture project with a Chinese city under the ***Symbio City*** concept. The city hall administration and the city planning department will be engaged in the project, as well as KFast real estate company (about 8000 flats). Since February 2007 the town Planning Department is certified according to ISO 14001. The certification audit was carried out after two years of work to build and implement an EMS. Eskilstuna Municipality will contribute to WP2, WP 4 and WP 6. For WP2: data within energy saving and according to the smart city profile is provided in order to build-up the common city profile as well as the profile for Eskilstuna municipality. For WP3-5: Eskilstuna will support with data, participating analyse, reflecting mayor stakeholders in Eskilstuna and also bring politicians to the project events. Eskilstuna has strong links to different energy-related projects that could be of interest as case study. For WP 6: Eskilstuna will apply the model for Energy Smart Cities and work out an economically reasonable action plan for Eskilstuna municipality. Staff involved in the project include Kristina Birath, Eskilstuna Environment and Planning Director experienced in EU projects, , Eva Lehto city planning strategist Magnus Widing (environmental officer at K-Fast), Svante Sundkvist (expert on Energy efficiency work in enterprises), Vanessa Scheffler (town planner, with practical experience from EU projects), Pernilla Lindström (town planner, responsible comprehensive plan, experience from international projects on integrated urban planning), Petter Skarin (traffic planner, member of national steering group, international project experience), Helena Ringmar (Strategic GIS-coordinator).

Partner 3 Mälardalen University - MDU

Mälardalen University has some 13 000 students and 1000 employees, of which 57 professors. MDU has six prioritized research profiles of which two are represented in this project: ***MERO***, ***Mälardalen Energy, Environmental and Resource Optimization***, has today 31 researchers (13 professors) and 55 PhD students in the area Future Energy, where focus is on Renewable energy (solar power, wind, biomass conversion) and Intelligent energy. Intelligent energy has the goal to reduce energy use in industry and buildings through intelligent methods like using mathematical modeling and simulation for advanced diagnostics, model based control, optimization and production planning. MERO has both applied mathematicians as well as energy engineers using the methods in different applications. MERO has participated in large EU projects e.g. DOTS (FP 6, dynamic optimization of paper mills where Erik Dahlquist was WP leader. 5 M€), REMOWE where MERO are coordinators in a 1.6 M€ project on waste recycling (Eva Thorin, coordinator, Interreg Baltic Sea Program), CLEAN (Emma Nehrenheim, coordinator, Environmental engineering and entrepreneurship, 2.1 M€). The optimization projects have mostly been towards Pulp and paper, power plants, waste water treatment, biogas production and energy savings in workshops. ***Erik Dahlquist***, professor in Energy Engineering, has a background from different R&D and management positions within ABB for 27 years. The last seven years as business manager for advanced control, simulation, optimization and special sensors for Pulp and paper industry globally within ABB. He is now Research Director for the research profile MERO (Mälardalen Energy, environmental and resource optimization). Erik Dahlquist has been Dean for the faculty of science and technology (six years), deputy school head and is a member of the Swedish Royal academy of Engineering. He has been key note speaker at many international conferences (WREC 2011 in New Delhi, WREC 2010 in Abu Dhabi, Applied Energy 2011 in Perugia, Italy, Applied Energy 2009 in Hong Kong, and many more) and is in the editorial board of Journal of Applied Energy (Elsevier, impact factor 3.9, which is very high for energy journals). Erik Dahlquist has been WP leader in several EU projects (e.g. DOTS and ECOST 36). ***Fredrik Wallin***, dr in Energy engineering, has his dissertation in "NEW OPPORTUNITIES PROVIDED BY THE SWEDISH ELECTRICITY METER REFORM" which deals with interaction between energy suppliers and customers. It also deals with refining data collected to identify electricity consumption for single customers by remote analysis, and thereafter presentation of the results for the customers, both industrial, municipal as well as private users like households. He also has been project manager for several projects related to energy savings in industry. Interaction between customers and suppliers of electricity is also covered in several other on-going projects where Fredrik is project manager. Two of them also include installations of solar power in connection with apartment houses to generate local electricity. ***Eva Thorin***, associate professor in Energy engineering, current project manager for the REMOWE project will also contribute in the project Eva Thorin has a background in turbine cycles, is a member of the faculty board, member of the Applied Energy editorial board and has been participating in arranging several scientific conferences like 3rd International Green Energy conference in Västerås 2007 and the 52nd Scandinavian Simulation and modeling Society conference (SIMS) in September 2011 in Västerås.

Innovation and Product Realization (IPR), a multidisciplinary research unit with a unique combination of research on art and design, engineering, and innovation/entrepreneurship will also participate in the project. ***Erik Lindhult***, assistant professor doing research in the area of innovation management, entrepreneurship, and change management will contribute. His main research theme is broadened concepts of entrepreneurship and innovation as a basis for sustainable development of society, e.g. in the form of social and societal entrepreneurship, ecopreneurship, regional entrepreneurship, open and democratizing innovation and the role of development partnerships as medium for entrepreneurship and innovation. He is board member of Swedish Participatory Action Research Community (SPARC) and Swedish Interactive Research Society (SIRA).

Partner 4 Turku city

The City of Turku is situated on the southwest coast of Finland. It has around 178 000 inhabitants. Turku is the oldest city in Finland and the country's first university, the Royal Academy of Turku, was founded here. Turku is the economical centre of the region. An extensive range of educational facilities support the versatile business structure. ***Valonia*** is part of the city of Turku. It is the ***Service Centre for Sustainable Development and Energy of Southwest Finland.*** Valonia is administered by the city of Turku, but serves all the 28 municipalities in the region of Southwest Finland in matters concerning sustainable development and energy issues. Valonia has been working with these themes since 1998 as a local energy agency and Agenda 21 agency. The Service Centre Valonia is a non-profit organisation and is financed partly by the municipalities and mainly by project funds from national and international sources. It has 20 employees with different fields of expertise. The fields of action of Valonia are climate change, energy efficiency and renewable energy sources, sustainable consuming, material efficiency, mobility management, waste water treatment in rural areas and environmental awareness. Valonia has direct contacts to over 20 000 customers yearly and indirect contacts with around half a million people.

Valonia will contribute to the WP 2 by presenting data regarding Turku from the energy saving areas. Valonia has created an action plan for energy efficiency for the city of Turku. We have also been a member of the city's various working groups on issues such as environment and climate, energy and public transportation. Valonia has also calculated the energy balance for the city of Turku and has good contacts and a great deal of information needed to make the energy map for Turku. In WP 3 Valonia has experience of working with SME's and their environmental and energy needs. Valonia will introduce new energy saving systems to local SME's, promoting development and initiating new investments. In WP4 Valonia will consult the Department of urban planning on the city of Turku and provides the information and possible target areas for the project. Concerning WP 5 Valonia has been closely involved in the strategic work of Turku and has good experience and expertise about actions for different target groups. During this project the strategic work will go further in the city of Turku and will take more concrete steps of action. In WP 6 the issue is to complete an economically reasonable action plan for the city of Turku.

Valonia has been working with energy efficiency since 1998, when the *Energy Agency of Southwest Finland* was established. It has organized several energy awareness campaigns for citizens and employees of the municipalities. Part of the work has been funded by the municipalities or directly by the ministries of Finland. During the last few years Valonia has also been working with SME's. Below are listed some projects that Valonia has coordinated or participated in as a partner. Ongoing projects are marked with bold letters: KELAA – Sustainable consuming and quality of life (ERDF) see www.kelaahanke.fi , **EETU** – Energy for the benefit of Southwest Finland (EAFRD), **RULLAA** – Sustainable logistics for Southwest Finland (ERDF), **KYMPPI** – Power for SME's environmental actions (ERDF), WestWind – Wind power for Southwest Finland (ERDF), Voimaa Varsinais-Suomesta – Energy efficiency campaign (Ministry of Employment and Economy), Climate and Energy Strategy for Southwest Finland (Council of Southwest Finland), **MINWA** – Minimization of Wastewater Loads at Sparsely Populated Areas (Interreg IA) www.minva.info and **Mobility Management in Southwest Finland** (Ministry of Transport and Communications, Finnish Transport Safety Agency). Key personnel involved in the project are ***Anne Ahtiainen*** (director of Valona with expertise in energy efficiency and renewable energy sources), Liisa Harjula (energy advisor with expertise in energy efficiency for municipalities and citizens) and Antti Numminen (energy advisor with expertise in energy efficiency and renewable energy sources for SMEs.

Partner 5 Turku university of applied sciences - TUAS

Turku University of Applied Sciences (TUAS) is a multidisciplinary institution of higher education that offers competitive qualifications for international career in seven educational fields. Turku University of Applied Sciences takes the responsibility for the development of higher professional education and expertise in Southwest Finland. Future-oriented education and RDI measures contribute to prosperity and well-being based on ecologically and ethically sustainable development. TUAS produces new applications of nation-wide significance and publicity. Presently, there are ca 9000 students studying towards their Bachelor's degree and ca 280 students studying Master's degree. Continuing education is provided to 5500 students annually. Applied research plays a significant role at TUAS. TUAS produces versatile applied research and development services for enterprises and working communities. The collaboration ensures opportunities for implementing short-term development projects as well as multinational EU funded proposals. Applied research and development co-operation speeds up implementation of new knowledge in businesses. At TUAS, the results of research and development collaboration are also integrated into studies, which ensure up-to-date teaching and the best possible readiness for graduates stepping into working life.

TUAS will lead the WP5 "Behaviour driven efficiency potentials". Main tasks of TUAS in WP5 include economic analyses of Best Available Practices (BAP) identified in WP2, promoting and demonstrating BAPs in the Turku City area, organization of Work Shops and study visits with Cities, identification of further research needs and producing summary of BAPs. TUAS is also responsible for editing the booklet "Green Thoughts, Green Future" and planning the public affairs and communications activities targeted for decision-makers.

In WP3 and WP4 TUAS will act as an expert by delivering Best Available Practices based on its applied research in energy-efficiency projects. In WP2 TUAS will help Turku City to collect and analyze potential Best Practices. In WP 6 and WP7 TUAS provides its knowledge especially in producing summaries and valorization of lessons learned. TUAS also demonstrates to other partners the Research Hatchery (REHA) method which allows Universities to combine regional development to their curriculum. The REHA method is a pedagogical approach to solve real world problems by using the innovation potential of Higher Education students. It produces win-win results for regional development actors and companies, as well as University students and personnel.

Turku University of Applied Sciences has been involved with numerous land use and city planning projects coordinated by Turku City General Planning Office. For instance, TUAS has been involved in projects related to transportation and infrastructure, City planning and land use, waste management and environmental protection. TUAS has actively participated also regional level development activities. In most of these projects key element has been active stakeholder cooperation and participation. We have a lot of experience in cooperation with public bodies, companies as well as NGOs. Internationalization is one of the focus areas of TUAS. Being part of the vast network of institutes of Higher Education in Europe, Asia and North and South America, TUAS is engaged in lively co-operation, especially in terms of student and staff exchange and international RDI projects. Key personnel involved in the project include Juha Kääriä (R&D manager, expert in RDI, economic and environmental analyses, public relations), Jari Hietaranta (project manager, expertise in energy efficiency, economic and environmental analyses), Harri Lappalainen (senior advisor, expert in project management, processing of best practice), Rina Bao (project coordinator with expertise in waste management and international cooperation) and Ilpo Penttinen (project manager, expert on eco-efficiency, environmental management and international cooperation).

Partner 6 Tartu City

Tartu City Government is made up of five members – a mayor and 4 deputy mayors. There are 10 departments in the structure of the city government, employing approximately 290 officials. The energy savings issue is closely connected with the action areas of 3 departments: Department of communal service (public transport and traffic; maintenance and development of streets and roads, parks and other public areas; organizing waste management and other environment related areas), Department of Urban Planning (land survey and use – developing and planning of the city, land survey and use, mapping and geodesy) and Department of Municipal Property (municipal maintenance, managing and construction of municipality property) and TREA - Tartu Region Energy Agency.

Tartu City will contribute to the WP 2 by presenting data of Tartu from the energy saving areas and according to the smart city model. In Tartu there are more developed areas. In WP 3 – WP 5 Tartu will present data, participate in analysis- and development actions. Make the pre-work for the new strategies. Bring politicians to the project events. Introduce new energy saving systems to local enterprises, promoting development and initiating new investments. Tartu is also ready to organise a best practice event under e-inclusion and e-administration. In WP 6 Tartu city will complete the economically reasonable action plan for Tartu city.

The City Government of Tartu has been participating in the international projects since 2002. In the field of energy saving there are several projects e.g. ***Baltic Biogas Bus*** (funded from Baltic Sea Region Programme 2010-2012), ***Waste collection and producing fuels from waste*** – (supported from ERDF), ***MoMa.BIZ*** - Mobility Management for Business and Industrial Zones (Intelligent Energy - Europe) where the goal is to get less energy consumption (-10%.) for home-work mobility in every Business and Industrial Zones (BIZ) involved. Locally: reduction of air pollution, congestion and accidents, ***Tartu Region Energy Agency*** (NGO) – its foundation supported from Intelligent Energy Europe Programme (2010-2012) and Tartu City is the founder of the organisation, ***EmPower*** - EmPowerment of SME to Network for Intelligent Energy Solutions and New Markets (Intelligent Energy Europe Programme) using e-participation - currently Tartu is a partner and work-package leader in Interreg IVC project "***eCitizen II Towards Citizen-centred eGovernment in European Cities and Regions***".

Key personnel involved in the project are Indrek Ranniku (head of city planning service in city government), Mati Raamat (city engineer with expertise in central heating and different nets of infrastructure) Raimond Tamm (deputy mayor, political spokesman under the energy are topics in Tartu), Anneli Säälik (head of foreign project coordination service) and Martin Kikas (Director of Tarty Regional Energy Agency, energy expert).

Partner 7 Stoke-on-Trent City

Stoke-on-Trent City is a confederation city of six diverse and distinct towns with a population just under 240,000 inhabitants. The City is known as The Potteries and the World Capital of Ceramics, thanks to its magnificent ceramic heritage built on the Coal extraction and steel manufacturing. Whilst the industry of ceramics still thrives, the legacy, location and infrastructure continues to attract manufacturing, logistics operations, headquarters and back office functions. Key sectors include advanced manufacturing, building technologies, business and professional services, ceramics innovation, creative and digital, distribution, low carbon and sustainability, medical and healthcare, retail and tourism. Between the two local universities of Keele and Staffordshire, more than 30,000 students study in the field of medicine and healthcare, science and engineering and computing. Stoke-on-Trent City Council has recently placed Economic Development/Investment with Sustainability as one of the pillar for its formal mandate for change.

Stoke-on-Trent City Council would contribute to WP2 and WP4. For WP2, Stoke-on-Trent could be on the cities list to be modelled. The Council has already some information pertinent to the modelling and has access to further information to answer an initial survey. This would contribute on the creation of the methodology to model city. For WP4, the Council would establish a group reflecting major stakeholders in Stoke-on-Trent i.e., Ceramic Businesses, University, Retailers shopping centres. This group will then work through the issues of understanding where energy policy/strategy sits on their corporate agenda; what the barriers are for them to develop that agenda (i.e. internal - capacity/capability? Financial? or external - planning; regulation; legal); how does policy (local; national; EU or corporate) affect opportunities/decisions for developing this agenda.

Stoke-on-Trent City Council has previous experience relevant to the task. Stoke-on-Trent City Council is a key partner in the INTERREG IVC "***EU2020 going local – from detached Lisbon and Gothenburg Strategies to a regionalised indigenous EU2020***". The project is designed to contribute to effective implementation of the Lisbon and Gothenburg Strategies and the new EU2020 strategy at local and regional level. Stoke-on-Trent City Council is also working on the INTERREG IVB "***ARBOR – Accelerating Renewable Energies through valorisation of Biogenic Organic Row Material***" involving 13 partners in 6 North West Europe countries. Stoke-on-Trent City Council is also taking part in the INTERREG IVB "***Greenov – Green Renovation Cluster***. A total of 10 partners from North West Europe region are developing the economic sector of sustainable renovation mainly by stimulating the innovation capacity of SMEs working in this field. The project will contribute to the transition to low-carbon cities and sustainable economy and will improve the knowledge and expertise on sustainable renovation of existing buildings.

Key personnel involved in the project are Sébastien DANNEELS (responsible, officer, coordinator of various EU projects, economic development officer, low carbon sector support), Nicolas Jones (officer with expertise in climate change strategy, carbon accounting, building engineering), Andrew Briggs (strategic manager, economic development, ceramic sector support) and Jane Forshaw (assistant director, city services, waste, energy).

Partner 8 - Hamburg University of Applied Sciences - HAW

The Hamburg University of Applied Sciences (HAW Hamburg) is, with over 12.000 students, the second largest institution of higher education in the Hamburg region and one of the largest of its kind (University of Applied Sciences) in Germany. Solving future energy problems is just one focus of the HAW and therefore different research and transfer centers exist. Additionally, to the existing centers the HAW set-up the Competence Centre of Renewable Energy and Energy Efficiency (CC4E) an interdisciplinary oriented centre bringing together experiences from different HAW departments. Vastly experienced in technical research and implementation of state-of-the-art projects in the fields of renewable energy and sustainability is the Research and Transfer Centre "Application of Life Sciences" (FTZ-ALS). The FTZ-ALS is involved in numerous national and international programmes, for instance ALFA, EuropeAID, COMENIUS, LEONARDO, INTERREG and ESF. A team of highly qualified scientific staff members supports the implementation of the projects and the arrangement of a series of high level events which bring together scientists, government agencies and industry.

Hamburg University of Applied Sciences will contribute to the project PLEEC as coordinator of WP 7. HAW will be responsible for the project-communication and dissemination. Arrangements of events and support to participants for events (e.g. Energy Efficiency Forum) will be done as well, in close liaison with the project coordination team. Additionally, to ensure high-quality impact on the other WPs, manpower and the provision of relevant data and information is foreseen.

HAW Hamburg has a strong portfolio on renewable energy, sustainability and climate. This is reflected by the various international projects on renewable energy and climate change on which the Research and Transfer Centre's team has been working on. In addition to the international research and knowledge-transfer projects the FTZ-ALS has organized and implemented the international online conferences ***CLIMATE 2008 - 2011/KLIMA 2008-11*** and is still in the process of arranging ***CLIMATE 2012/KLIMA 2012***. Consequently, the FTZ-ALS has been vastly experienced in project-communication and dissemination of results. Furthermore, the FTZ-ALS has developed and implemented strategies on knowledge transfer in the field of renewable energy and climate aspects and acts as a knowledge transfer hub for energy related projects.

The Director of the FTZ-ALS, Professor Dr. Walter Leal, is the coordinator of the renewable energy projects ***JELARE, DIRECT and REGSA***, which are Europe-AID projects in Latin America, Caribbean, Africa and the Pacific region. He is also the Chair of the newly-founded Centre on Technology Tansfer on Renewable Energy and Energy Efficiency, which specialises in projects and training in the field. Professor Dr. Leal has a longstanding experience as project leader on sustainability, climate change and energy themes. He has initiated online climate conferences and the International Climate Change Information Programme. He is an editor of various international professional publications and review editor of the Intergovernmental Panel on Climate Change. Prof. Dr. Leal is the founder of the Technology Transfer Centre on Renewable Energy and Energy Efficiency.

Ms. Natalie Fischer (Dipl Biologist) is a projectmanager at the FTZ-ALS and has been responsible for various international projects in the field of sustainability and environmental affairs. In addition Ms. Fischer is part of the Climate project team and therefore, decidedly possesses knowledge concerning energy related topics and related to project-communication.

Partner 9 Vienna University of Technology (VUT): Centre of Regional Science

The Centre of Regional Science is part of the Department of Spatial Development, Infrastructure and Environmental Planning in the Faculty of Architecture and Spatial Planning at the Vienna University of Technology (VUT). It focuses on the analysis of urban and regional structures, developments and processes. In this scientific field the main challenge consists in revealing causal relations behind economic, social and spatial processes in cities and regions and consequently in discovering the driving forces of spatial development. This systemic approach is a solid base for creating strategies and instruments on the one hand and for assessing the effects of projected measures on the other. Thus, research in the Centre of Regional Science is not exclusively geared to scientific challenges, but also to its applicability to policy makers, planning institutions, investors, lobbies, nongovernmental organizations or other stakeholders.

Based on the experiences in the ***"European Smart Cities***" project the Centre of Regional Science will have main responsibility in WP2, in which Smart City Profiles of the 6 partner cities will be elaborated. These profiles will be done with special consideration of energy efficiency and use and the visions of partner cities for future development. In a first step the 6 cities will be compared with other cities in Europe according to their specific strengths and weaknesses in different fields of urban development. Based on this comprehensive evaluation the specific conditions for energy efficiency will be analyzed from 3 main perspectives (technology, citizens' behavior, structures), in order to describe conditions and abilities to cope with new technologies and to make use of them. In that way the results shall give an important input for the assessment of energy efficiency potentials in the consecutive WPs and provide the empirical base for discussing perspectives and visions in WP6, in which the Centre of Regional Science will also participate. Hence, in order to stimulate and steer learning processes this quantitative tool in combination with qualitative analysis of strategic documents or projects will be used in order to stimulate the evidence-based discussion and to improve knowledge how to steer energy efficient development processes.

The Centre of Regional Science is the lead partner of an international consortium (TU Delft, University of Ljubljana), which has developed the "European Smart Cities" ranking approach, which compares, profiles and ranks 70 European medium-sized cities according to their "smartness". In this approach the strengths and weaknesses of the cities in 6 different characteristics (economy, mobility, people, governance, environment, living) are revealed against the background of economic and technological changes caused by globalization and integration processes in Europe. In that way specific city profiles are elaborated which allow identifying opportunities and threats for a sustainable future development and can be transferred into policy recommendations for the stakeholders.

Key personnel involved are professor Rudolf Giffinger (expert in urban and regional development, urban competitiveness, city rankings, segregation and planning strategies), assistant professor Hans Kramar (expertise in the field of urban and regional development, regional analysis, economic geography and EU policy-making).

Partner 10 Faculty of Life Sciences at the University of Copenhagen (UCPH)

The Danish Centre for Forest, Landscape and Planning (FLP), is an independent education and research centre under the Faculty of Life Sciences at the University of Copenhagen (UCPH), Denmark. The objective of the Centre is to generate and disseminate knowledge on forests, landscapes and planning. FLP carries out education, research and development and transfers the research results to the sectors related to forestry, landscape, and planning. FLP performs education, training, research, development and dissemination within the following main fields: Forestry, Forest ecology, Parks and landscape, Physical planning, Outdoor recreation and tourism. The results are directed towards a practical application on these fields creating a basis for a sustainable and multiple use management.

UCPH (FLP) will lead the work in work package 4, structure driven efficiency potentials. UCPH will also contribute to work package 2, city profiles as well as to work package 5, behaviour driven efficiency potentials with a focus on bicycle behaviour. Despite our involvement in the different work packages, UCPH will contribute with its experience and networks from relevant previous projects. Finally, UCPH's good contact to planning practitioners in Denmark will be an asset for the communication and dissemination of the project work.

FLP's research and advisory work include world-wide activities. FLP's involvement in EU funded projects includes '***Climate change and urban vulnerability in Africa***' (FP7 CLUVA), '***Peri-urban land use relationships***' (FP6 PLUREL), '***Medium Sized Cities in Dialogue around the Baltic Sea***' (Interreg IIIB), '***Landscape as a resource for health and sustainable development in the Sound region'*** (Interreg IIIA), and the projects ***SENSOR, SEAMLESS, FOOTPRINT and EFORWOOD*** under FP6. FLP is also involved in a range of large national funded projects dealing with urban sustainability, including ***'Bikeability – cities for zero-emmison travel and public health'*** (www.bikeability.dk), ***'Cities without limits'*** (www.byforskning.dk), and '***Water in Urban Areas'*** (www.vandibyer.dk).

Key personnel involved in the project are Professor Gertrud Jørgensen (expert in urban development and regeneration, use and perception of the city, children in the city, urban policies and planning), Niels Boje Groth (Senior Researcher with expertise within strategic urban development and planning, urban policies, small and medium-sized cities, Baltic sea region and Polycentricity), trine Agervig Carstensen (Assisting Professor, expert on urban liveability and everyday life, citizens' experience and practice in the urban public space, bicycle culture and velomobility, spatiality of everyday life, place attachment, methodologies to investigate meaning of places, citizens perspectives on urban policies and planning) and Christian Fertner (researcher, expert in growth management and urban sprawl, urban-rural relationships, peri-urban landscapes, urban policies and planning, urban competitiveness).

Partner 11 Delft University of Technology

The TU Delft is the largest and most comprehensive technical university in the Netherlands. The Faculty of Architecture at TU Delft has an extensive portfolio of research on the built and natural environments and in particular addressing issues of sustainable development of cities and regions. The Department of Urbanism is committed to an international perspective. The research focuses on developing and testing new instruments, methods and principals for urban and landscape analysis and design; climate adaptation; evaluating and formulating strategic projects, accelerating the sustainable development of the cities; developing and comparing planning instruments and strategies, as well as design & history.

TU Delft has previous experience relevant to the task. ***ESPON-INTERACT*** projects: one on ***transportation and communication networks*** and the other on ***polycentricity and rural-urban relations.*** Recent research related to the INTERREG programme include the update of the mid-term evaluation of the INTERREG IIIB programme for North West Europe and the synthesis of key issues, lessons and conclusions from the INTERREG IIIB URBAL project. 2007 benchmark exercise comparing the performance of European medium-sized cities in the ***European Smart Cities project***, see http://smart-cities.eu/index2.html.

TU Delft will participate in WP2 contributing to the profiling of the 6 partner cities as "Smart Cities" with respect to their energy efficiency and use and co-drafting reports. We will bring our interest in the regional forms of cities and the effects of these on performance and efficiency to this task, as well as our expertise in the understanding of the effects of spatial structures and the integration of these with governance structures. Our expertise extends to an understanding of the effects of the integration of spatial and governance structures on the effectiveness of planning action. We will help in identifying energy efficiency potentials and for discussing perspectives and visions, which will be developed in WP6 in the wider context of comparable cities.

We will participate in WP4, contributing to all deliverables and bringing the same interests and expertise to the tasks: (4.1) developing a framework for the case study reports; (4.2) co-drafting six case study reports, based on city profiles developed in WP2 and work on the structural effectiveness of plans and implementation of energy efficiency in all model cities; (4.3) co-drafting the thematic report for selected key energy aspects, summarizing stakeholders roles and planning processes related to these key aspects; (4.4) co-drafting a summary report on cross-cutting key aspects and structure driven energy efficiency potentials to feed into WP6.

Responsible for the work at TU Delft is Professor Vincent Nadin. Other key personnel involved in the project include Stephen Read (Associate Professor, expert in spatial theory and modeling, regional structure), Evert Meijers (Senior Researcher, expert in polycentricity and regional structure) and Dominic Stead (Associate Professor with expertise in European policy and transportation).

Partner 12 University of Rousse “Angel Kanchev”, UR

The University of Rousse has participated in 18 international RTD projects, with a value of over 5000000 Euros in the last 8 years. PLEEC work will be carried out at the Technology Innovation Centre. The Centre is entirely devoted to research activities and its members are highly qualified in advanced ICT technologies and their implementations. Since 2000 the Centre has taken and is taking part in the implementation of 10 research projects and several academic projects, financed in the frames of the programs of the EC. The staff is active in the areas of Knowledge management, Artificial Intelligence, Decision Support Systems, Control Systems, Automation, Energy Measurement, and Emergency risk management.

UR will have a dual role, providing transfer of knowledge in the energy efficiency at domestic level, which experience is based on developed Living Labs framework and to transfer knowledge related to how to encourage positive behavior change in domestic energy consumers in the EU based on understanding the domestic energy consumers’ attitudes towards the environment, attitudes towards ecological behavior (in this case, energy saving and environment behaviors), and the constraints that they face in changing their behavior.

The experience of the staff involved includes a range of European projects, including FP7 ***DEHEMS*** project officially closed on 31st July 2011, looking at how technology can improve domestic energy efficiency. The intention was to develop and test a home energy management system for the home market using 250 Living Labs in 5 cities across UK and Bulgaria.

Key personnel involved in the project include Professor Vladimir Vitliemov (Doctor or Science, member of the high National Academic Commission for Scientific Degrees; Head of Rousse Science and Technology Society, Project Manager for several FPs projects), Daniel Bratanov (Associate Professor, PhD, FP7 ICT National Contact Point for Bulgaria), Pavel Vitliemov (Research Associate, PhD, expertise in Knowledge management, Artificial Intelligence, Decision Support Systems, Automation, Energy Measurement and Efficiency) and Milko Marinov (Associate Professor, PhD, expert in Knowledge-based systems, Object-oriented database systems, Query Processing, Deductive Databases, and Knowledge-Based Distributed Information Systems; Energy Measurement and Efficiency).

Partner 13 LMS Imagine

LMS Imagine is the French subsidiary of the LMS group. LMS Imagine develops for more than 20 years the Amesim 1D multi-domain simulation solution. Major worldwide transportation OEMs and tiers-1 suppliers rely on Amesim for their multi-physics system and subsystems 1D dynamic simulation. Some LMS Imagine 1D simulation customers are Renault, Bosch, Toyota, Honda, Hyundai, Continental, GE and Schneider. LMS imagine development teams are located in Lyon and Roanne, in France. LMS Imagine AMESim offers a complete 1D simulation suite to model and analyse multi-domain, intelligent systems and predict their multi-disciplinary performance. Model components are described using validated analytical models that represent the system's actual hydraulic, pneumatic, electric or mechanical behaviour. To create a system simulation model, all the user has to do is use the various dedicated tools to access the required pre-defined components from validated libraries covering different physical domains. LMS Imagine AMESim can work with a variety of libraries to create a physics-based system model.

LMS Imagine is involved since many years in several collaborative RTD projects dealing with system energy efficiency: ***ESTOMAD*** (Energy software tools for sustainable machine design), ***CSDL*** (complex systems decision tools), and more simulation software oriented projects like ***OPENPROD, MODELISAR, or CRESCENDO*** (Modelica, FMI, MBSE…). The most relevant projects are the ones done for some LMS customers in the smart grid domain.

The LMS Imagine key competency is the 1D dynamic simulation of systems and the development of involved components models. LMS Imagine have developed over 4500 components models, and its simulation solution AMESIM is used by most of the major transportation OEMs, and some industry/energy tiers-1. LMS Imagine will contribute to the project by analyzing how simulation activities can contribute to reach higher energy efficiency for the cities of tomorrow, and how these simulation activities can be implemented in city planning.

Key personnel involved in proposal are Pacôme Magnin (R&D Coordinator, expert in in real time simulation development, manage French and European collaborative RTD projects for an electronic/power electronics system development company including energy conversion and storage topics and manages RTD projects for LMS Imagine since 2011), Philippe Aubret (Technical director, supervises the technical activities of the Amesim development team, wide experience of RTD activities, and is deeply involved in the energy and frid topics, and long-lasting academic partnerships), Franck Sellier (Electromechanical solution manager, managed the technical activities in the field of electric simulation, with the support of other development teams on specific topics (fluids, thermal, etc..) contributes to the development of the electric libraries and capabilities of Amesim solution). Corporate responsibility is Jan Leuridan.

Partner 14 Energy efficiency cluster represented by SMART Technologies Association (SMARTTA)

SMART Technologies Association (SMARTTA) is a voluntary consolidation of legal entities that are interested in the economic and technical advancement of SMART technologies sector. This consolidation combines the companies that relate their activity with SMART technologies and associated members, as well as educational and scientific institutions. In this project, SMARTTA is represented by the employees-specialists of the association members that have extensive experience in electricity, heat, water and gas energy sectors, in developing transport communication and application of smart technologies. SMARTTA will consolidate the force of the best specialists into one entirety to achieve the result satisfying the goals of the project. Every member of the cluster is distinguished for exclusive abilities and experience in creation of the solutions for energy efficiency in different fields. SMARTTA will also organize and coordinate the work of these specialists that solutions would cover the city key aspects as much as possible, and would correspond to the requirements of the project. Key personnel involved in the project are Rolandas Juraitis (project manager, expert in project management, leading highly effective teams, professional coaching and facilitating, change leadership & organizational transition management), Asta Mockutė (7 years experience in the field of the EU financial support project management, administrating structural support projects, preparation of project reports, communication with the European Commission, and the supervision of the project implementation) Members of the efficiency cluster include:

Schneider Electric Lithuania UAB is a global specialist in energy management with operations in more than 100 countries, Schneider Electric offers integrated solutions to make energy safe, reliable, efficient, productive, and green for its customers. The Group's 110 000+ employees achieved sales of more than 19,6 billion in 2010, through an active commitment to help individuals and organizations all over the world make the most of their energy. Schneider Electric specializes in energy management with key focus on Energy efficiency and Smart grid. Schneider Electric Lithuania UAB is a branch of Schneider Electric group in Lithuania. Their B2B market approach lets them to cooperate with many local partners.

AEDILIS, UAB is an Energy Infrastructure Company employing 40 people of which 36 are highly-skilled engineers with great experience in projecting/designing, mounting, installing, configuring, commissioning and testing.

Tieto is the leading IT service company in Northern Europe providing IT and product engineering services. Tieto is the leading provider of customer information and billing solutions to energy utility companies in the Nordics. Paving the way for the Smart Grid and AMI, they facilitated projects implementing more than 1 000 000 smart meters.

REMC (Training centre for energy sector workers of Lithuania) is a long standing institution operational since 1964 and specializing in providing energy and related sectors (utilities, construction) workers with all the necessary and needed technological, organizational and managerial training. REMC emphasize the competence/qualification shift towards smart technologies. REMC aims at strengthening the role as a main hub for changing sector needs-related know-how. Their client base includes up to 5000 organizations and firms, and provide 7000 persons with relevant qualifications and competences each year, thus REMC is a leader in energy-related professional education in Lithuania.

Fima is a leading developer of intelligent engineering solutions in Baltic region, providing telecommunications, security, automation and data center solutions as well as individually tailored solutions for transport and energy sectors.

Elektrosaugos įrangos centras UAB has a strong portfolio on energy efficiency projects in industry field. EIC focus company activity in energy audit.

Lithuanian Energy institute

Partner 15 Santiago de Compostela city

Santiago de Compostela is a monumental city, centered on the tomb of St. James the Greater, which has been shaped through the centuries. The result is an extraordinary, harmonious architectural site that has been declared a World Heritage City by UNESCO. Considered one of Christendom's three spiritual centers, along with Rome and Jerusalem, the city has been a religious pilgrimage destination since the Middle Age. This phenomenon gave rise to the Way of St. James and, according to many scholars, the idea of Europe. Santiago is the capital of Galicia, where its executive (Xunta) and legislative (Parliament) authority is based, with close to 125,000 inhabitants. Santiago is a political, social, economic and cultural reference point for Galicia as a whole. Its municipality, which encompasses the old town, the urban expansion area, the surrounding neighborhoods and a total of 29 rural parishes, has an area of 223 square km. Its old town, who's Special Plan includes the classification of 2,700 buildings, is one of the largest and best-preserved in Europe, having been awarded by significant international prizes in the field of rehabilitation. The City Council's departments, autonomous organisms and municipal companies provide a wide variety of citizen services, like water supply and rubbish collection, city transport and traffic, promotion of tourism, public safety, town planning and rehabilitation, neighborhood relations, economic promotion, environment, education, sports and youth, festivals, culture, linguistic normalization and social welfare, etc. The University of Santiago de Compostela (USC) collaborates in many projects with the Municipality of Santiago in the implementation of new services and technologies in the city.

In WP2 CSC will present a profile of the city from the energy areas, according to the smart city model. In WP3-5: the city of Santiago will present data and participate in its analysis. The municipality will also involve the main stakeholders of the region in the project events. In WP6: completing an action plan for the city of Santiago in energy efficiency.

Key personnel involved in the project include Carme Casado Casado (Manager of Economic Promotion, with expertise in Economic development, trade and markets, business excellence plans), Fernando Piñeiro Lameiro (Responsible of Business Service, expert in Economic development, trade and markets), Lucía Castro López (Technician, expert in program management, and internal evaluation).

Partner 16 Santiago de Compostela university, (USC)

The "Universidade de Santiago de Compostela" (USC), founded in 1495, is one of the university institutions with a great tradition in Europe. At the USC, studies are organized into two campuses: Santiago de Compostela and Lugo. Research and Technology Development is one of the most important activities in the USC having the infrastructure facilities and human resources needed for the training of young researchers. More than 300 research teams, belonging to the different Departments and Research Institutes from the University, offer a high quality scientific production in different areas of a main socioeconomic interest which has allowed a narrow technological cooperation with regional, national and international institutions, companies and SMEs.

The USC is participating in this project through research groups integrated in the Information Technologies Research Centre (CITIUS), the Technological Research institute (IIT) and the Faculty of Mathematics that, together integrate research groups specialised in the energetic sector. The CITIUS researchers are integrated in 4 research divisions: a) computer engineering; b) artificial intelligence; c) computer graphics and multimedia; d) systems engineering. Main research lines are: knowledge engineering, flexible computing, autonomous robotics, supervisory and control systems, biomedical engineering, geographic information systems, augmented and virtual reality, artificial vision, multiprocessor architectures, parallel computing, embedded systems, ambient intelligence.

From 2008 to 2011, CITIUS researchers have developed 37 research projects, 34 contracts and 10 consulting services. Scientific productivity reaches 234 papers published in scientific magazines, books and congress proceedings. In the same period, the Department of the Faculty of Mathematics involved in this project have developed more than 20 R&D projects and contracts with the industry. Their scientific productivity results in more than 100 papers published in scientific magazines (JCR), books and congress proceedings.

The USC has set up for years an Energy Optimization Plan, in which part of the group of researchers involved in this project have contributed to his development. Currently, the USC has a micro network with seven cogeneration plants to simultaneously generate both heat and electricity, and two interconnection points distributed throughput the campus. Additionally, the USC also has an experimental pilot plant of photovoltaic's and the appropriate licenses for energy automation and energy production.

The University of Santiago de Compostela (USC) project team is integrated by researchers and professors with a long expertise on research, innovation and technology transfer. Their main areas of expertise are: Augmented and Virtual Reality, Geographic Information Systems, Mobility, Internet applications, Monitoring, Energy Efficiency, Statistical Models.

Key personnel involved in the project include Dr. Juan E. Arias Rodríguez. He received his PhD Degree in Physics from the University of Santiago de Compostela (USC) in 1980 and became a Professor of Department of Electronics and Computing from USC in 1988. From 1998 he is Director of the Information Technologies Research Centre (ITRC) and is also Director of the Systems Laboratory, a research unit integrated in the ITRC, member of the Board of Innovation and Technology Transfer Centre and others. His research activities are focused on: Virtual Reality, Geographic Information Systems, Mobility, Internet applications. As a brief summary of his academic and research activities, he has directed 12 Master Thesis and 9 PhD Thesis. He has participated in about 25 national and international research projects. He has led about 150 R&D activities supported by private organizations, enterprises and government. He has published more than 100 papers in several research fields and has organized several National and International Congress in different fields such as Remote Sensing or Biomedical Engineering. Dr. Arias is a

member of IEEE & ACM and several university committees. He was member of the Board of the USC, and, currently, he has also promoted two spin-off enterprises. Dr. José A. Taboada González specialize in energy efficiency, building automation. He is the leader of the development, among others, of a monitoring system for 47 intelligent buildings of the USC. Dr. Alfredo Bermúdez is researcher in mathematical modelling, numerical simulation, industrial applications, leader of 40 research projects and 70 contracts with several companies. Dr. Wenceslao González Manteiga is coordinator of the Statistical Modeling and Applications (MODESTYA) research group.

Partner 17 Jyväskylä city

City of Jyväskylä is a local authority in Central Finland. It is the leading city of the region with a population of 132.000 people, of which more than ¼ are students. It is a city of education, a site of 2 universities, and many kinds of services. The main industrial sectors are metal, wood processing and ICT. In addition, the competence structure of the businesses includes biotechnology, energy and nanotechnology. Our regional R & D investments total 3,8% of the regional GDP, of which 64% comes from the private sector. The number of jobs in the city amounts to 61.000 of which the City of Jyväskylä employs over 10%. The average age of the citizens is 38 years, which makes Jyväskylä a youthful city. The city of Jyväskylä has the best educated young population in the whole country: 73,4% of the inhabitants over 15 years of age have completed tertiary education and 32,4% of the citizens have a university level degree.

The City of Jyväskylä wishes to draw the city energy profile in WP2 to get a solid basis for the work towards its energy saving targets. In addition, we will participate in WP4 and to make a SWOT-analysis over the (energy) planning process and to analyze how different key-aspects of energy saving potential can benefit from each other. In WP6 we shall participate in outlining the Action Plan for cities to be presented for decision makers and stakeholders and in development of the Toolkit for its implementation.

The City of Jyväskylä has newly adopted a climate programme, which identifies concrete measures to be taken in order to diminish energy consumption and greenhouse gas emissions. We are currently preparing a new environmental system which follows the ISO14001 standard. The City of Jyväskylä is also the owner of Jyväskylä Energy Ltd, the local/regional energy and water supplying company, which is in the possession of 2 major power plants. At the moment approx. 30% of our energy production comes from renewable energy sources, the target being 50% by the year 2020.

The City of Jyväskylä is an experienced project partner/administrator. We have just completed a large INTERREG IVC project ***CLIQ – Creating Local Innovation through a Quadruple Helix,*** implemented in a partnership of 16 organizations from 10 European countries. In addition, the city was a partner e.g. in the ***Baltic Climate project***, financed by the Baltic Sea Programme and locally coordinated by the Regional Council of Central Finland. The Regional Development Company ***Jykes Ltd***, which is part of the City of Jyväskylä Group, is a home of a ***bio energy cluster***. Furthermore, ***Jyväskylä Innovation Ltd***., also part of the same group, possesses high expertise in bioenergy and manages several regional and European projects in this field.

Key personnel involved in the project include Mervi Saukko (coordinator, expert in climate programme, environmental systems, environmental accounting & balance), Päivi Pietarinen (Environmental director, expertise in Environmental management, management of the climate programme), Laura Ahonen (European officer, expert in European project management & implementation).

Partner 18 University of Ljubljana

The ***University of Ljubljana*** was established in 1919. It ranks as a very large university, with more than 63,000 graduate and postgraduate students. Approximately 4000 higher education teachers are employed in 22 faculties, 3 arts academies and one university college. The University of Ljubljana practices basic, applied and development research, striving for excellence and quality of the highest standard in all fields of science and arts, such as the humanities, social sciences, linguistics, arts, medicine, natural sciences and technology. The University also promotes interdisciplinary and multi-disciplinary studies and co-operation with various other institutions in both the public and private sectors, with the government and local authorities, civil institutions in Slovenia and abroad. Over one half of the study programmes in the 2007/2008 academic year were offered according to the Bologna Declaration. Achievements in the fields of science and arts are shared with other universities and institutions carrying out scientific research.

Faculty of Civil and Geodetic Engineering (FGG) is one of 25 faculties and academies of the University of Ljubljana. The Faculty of Civil and Geodetic Engineering consists of two departments: ***Department of Civil Engineering and Department of Geodetic Engineering***. Department of Geodetic Engineering consists of six chairs: Chair of Geodesy, Chair of Cartography, Photogrammetry and Remote Sensing, Chair of Engineering Geodesy, Chair of Mathematic and Physical Geodesy and Navigation, Chair of Geodetic Information Technology and Real Estate Cadastres, and ***Chair of Spatial Planning.*** The Faculty of Civil and Geodetic Engineering of the University of Ljubljana employs 126 full-time lecturers, 53 of them are teachers (15 full professors, 15 associate professors, 19 assistant professors, 4 lecturers), 44 teaching assistants (25 Ph.D., 6 M.Sc., and 10 graduate civil engineers), 16 professional associates, and 13 laboratory assistants. Beside the basic educational activity the Faculty's staff is also involved in research and professional activities. These activities are closely connected and necessary for high quality education. Nonetheless they also enable better material ground for teaching, research and professional work at the Faculty. The total income of FGG is divided according to the following areas: 50% education, 17% research, 5% professional expertise, 23% national and 2% international market, and 3% from other activities. The Faculty's employees are entrusted with tasks in the framework of research and professional activity from the field of civil and geodetic engineering based on different (inter)national clients, and with direct contracts as consultants for companies. The FGG has seven computer rooms equipped with most contemporary PCs and software. As a whole, the Faculty has about 200 PCs, 20 work stations and access to the main-frame computers of the University of Ljubljana. In the field of research activities the holders of teaching subjects are mainly involved in research projects issued by the Ministry of Science and Technology of the Republic of Slovenia and by other ministries. An increasingly important part of the research work includes bilateral projects and other forms of international research cooperation. Especially important are the projects of the European Commission, mainly the 6^{th} and 7^{th} Framework Program, as well as some other programs such as COST, Leonardo da Vinci, INTERREG, etc.

Nataša Pichler-Milanović is a senior research associate at the Spatial Planning Chair, Faculty of Civil and Geodetic Engineering, University of Ljubljana, Slovenia. Her academic and profession background is in spatial planning, geography and economics. She has been employed as a researcher, consultant and lecturer in Belgrade, London, Tokyo and Ljubljana. She has been responsible for urban, regional and housing research projects and consultancy activities for the Ministry of Environment and Spatial Planning, Ministry of Science and Technology, City Municipality of Ljubljana in Slovenia, as well as for international organisations (UN, OECD, EU) and EU programmes - INTERREG / Objective 3, Framework Programme, URBACT, ESPON I - II. Nataša's current research interests include urban competitiveness, metropolisation, city networking, polycentricity, functional (urban) regions, territorial governance, sustainability and resilient analysis, property market analysis and urban land use management.

2.3 Consortium as a whole

The PLEEC consortium consists of ***18 partners*** representing ***6 midsized cities, 9 universities and 3 industry partners*** (one utility enterprise, one enterprise for energy simulation technology, and one energy cluster-motor organization). It is important to point the industrial lead in this project. The coordinating organization, EEM, is a utility company and supplier integrating several key aspects of the project in its operations. The industrial representation in this project ensures the exploitation and use of the results. The enterprises in the consortium bring relevance and expertise to the project work. The companies in the consortium represent market lead at various levels. Industrial partners included in the consortium represent a large potential for future investment in technology for energy efficiency.

The project offers a pan-European perspective where different climate zones are covered. Geographically the consortium covers ***13 EU member states*** (Austria, Bulgaria, Denmark, Estonia, Finland, France, Germany, Great Britain, Lithuania, Netherlands, Slovenia, Spain and Sweden). There are synergies between the partners in the consortium. The cities chosen for the consortium have best practice identified and every partner city add a unique value which contributes to the project and that can enrich each city, their city planners, other municipality functions as well as politicians. There are similarities between the partner cities e.g***. in terms of size (mid-sized cities), structure*** (how decisions are made at local level), ***old industrial tradition, importance of logistic centers, economic development situation and integrated city planning for energy efficiency purposes.*** It is important to point out why we choose 2 cities in Finland and not in any other state represented in the consortium. Jyväskylä municipality was added mainly because of its work with the ***innovation mind-set*** of its staff, but also that of the citizens and enterprises of Jyväskylä. Jyväskylä is working with an extended triple helix model in their innovation eco-system involving citizens (a quadruple helix approach). Turku city differs from Jyväskylä in several ways, where its' location on the Baltic Sea gives other prerequisites for transports and climate (coast climate rather than in-land climate). We have chosen mid-sized cities only, because according to statistics mid-sized cities are the largest energy consumers in Europe. Therefore disseminated solutions and best practice would create best efficiency in achieving the EU 2020 goal of reducing 20% of energy use.

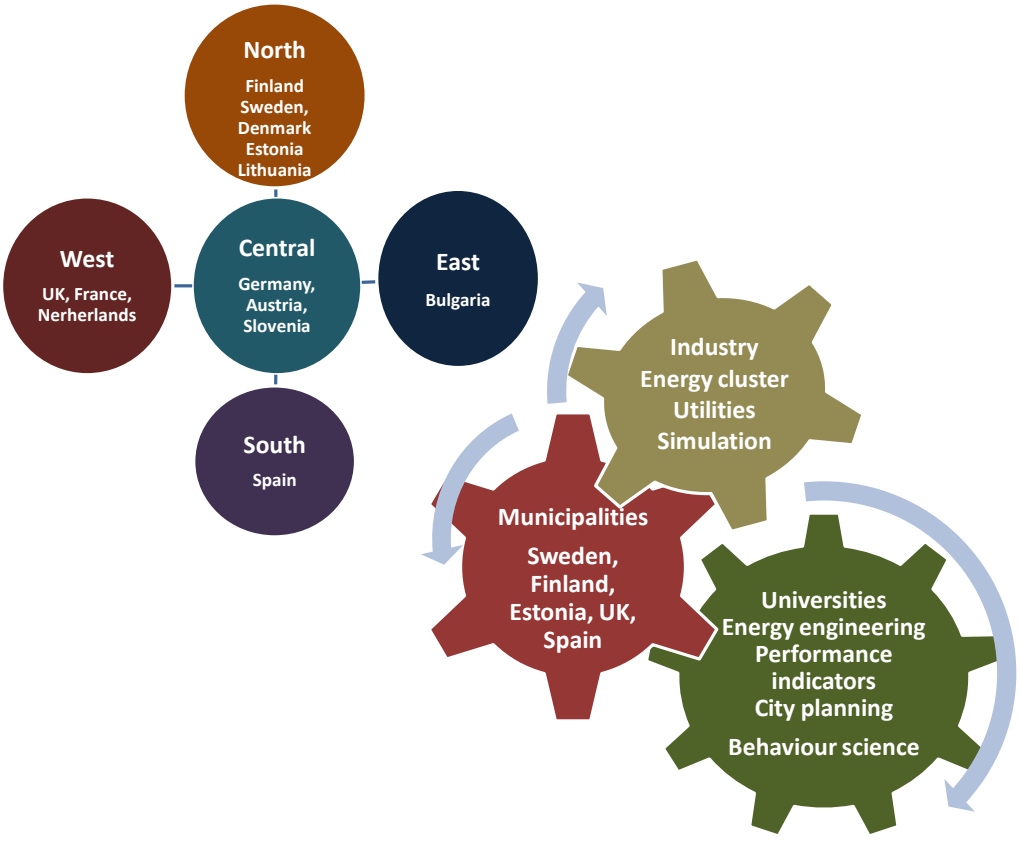
The academic institutions in the consortium have excellence in different fields that cover the key aspects in the project. Together they will work strategically to coordinate research in order to reach the project objectives, but also to plan a strategic research agenda where future research for new knowledge is identified. Each university research group adds knowledge to the consortium that is unique. Though, they all share the interest in energy efficiency connected to city planning. The different competences of the research organizations are utilized, where MDU and USC have a special focus on ***Energy engineering and Innovative processes***, Vienna University of Technology has a special emphasis on ***Performance indicators***, University of Copenhagen and Delft Technical University on ***City planning***. ***Urban planning is the integrative element***, where different aspects of energy efficiency as well as different spatial levels (building, district, city, region) come together. University of Ljubljana, Faculty of Civil and Geodetic Engineering (UL-FGG) has long experience in research on territorial governance/spatial planning. There are still major gaps in integrating urban policy including the integration between (1) sectoral policies, (2) plan-making and implementation, (3) resources needed and available, (4) administrations and functional urban regions. Gaps and barriers in the model cities in relation to energy efficiency will be studied. Turku University of applied sciences is specialized in ***Behavior science*** and Rousse University in Bulgaria also has a focus on technology and engineering. ***Research on renewable energy*** is presented in the project by Hamburg university of applied sciences Competence centre of Renewable Energy and Energy efficiency. Also HAW has long experience in the implementation of the projects and the

arrangement of a series of high level events which bring together scientists, government agencies and industry.
The potential for structural impact at various political levels (local, regional, national and European) is very high. The potential is also high to have an impact on the academic institutions involved and research within the field of energy efficiency. The PLEEC consortium is competent and confident to reach for coordination, dissemination and impact in the field of reducing the environmental footprint and fostering energy efficiency through efficient city planning integrating various key aspects. The partners are committed at top management level of the participating organizations and when (and if) the PLEEC project is invited to contract negotiation with the European Commission a consortium agreement will be formulated and signed, giving details to the co-operation, complementing the rules for participation laid down in the grant agreement.

There is some sub-contracting foreseen for the work planned that is explained under heading Resources to be committed. There are no participants outside EU in the project. There are no unidentified participants in the project. Totally there are 444 person-months budgeted. 36 of these are for coordination of the consortium (EEM). Municipalities have 132 person-months, academic institutions have 240 and the three other private organizations have 36 person-months all together (excluding the 36 for consortium management). WP 6 for Dissemination covers 64 person-months.

In the decision making body, the general assembly, a large proportion of the voting power is with the universities (9 of 18 partners, 50%). Municipalities have 6 votes (33%). The representation in the executive board of the consortium and as work package leaders is a mix of all types of partners, yet academic partners have a dominance (industrial partners coordinate 1 WP, municipalities 1 WP and academic partners 5 WPs). The executive board consists of the coordinator and the work package leaders.

The consortium can be illustrated in the following manner:



2.4 Resources to be committed

The total budget of the project comprise 3 827 064 euro. We have gathered a critical mass of competence in a pan-European consortium of 17 partners to solve the aim of the project. We present a reasonable project budget with necessary costs used in a coherent way.

Consortium management costs amounts to 451337,4 euro which is ***11,7% of the budget***. This is motivated by the size of the consortium and the complexity of the project. The budget for consortium management comprises costs for general assembly meetings, executive board meetings and the kick-off meeting as well as for the project coordination team at Eskilstuna Energi & Miljö.

Sub-contracting costs amount to 233790 € (***6,1% of the project budget***) and are used to finance special support functions to the project. In WP 1 it constitutes of costs for consortium management process support (57600 €) and audit certificate cost for partners exceeding 375000 € in EU contribution (EEM, HAW). 6000 EUR will be used for subcontracting specialist for the work with energy efficient cities model format in WP6. In WP 2, 3, 4, 5 and 6 there is a budget for workshops' process support (40000 €). In WP 6 Tartu municipality will need 15000 € for subcontracting Tartu Regional Energy Agency to work out the action plan for Tartu municipality and completing the analysis of the results of WP 3-5. SMARTTA in Lithuania will need to subcontract expertise within the field of smart power grid technology (12000 €) in WP 3. In WP 7 each municipality will subcontract support for arranging 3 local dialogue forums and 1 local kick-off (2500 € per municipality, 6 municipalities). HAW as the WP leader of WP7 has a budget for subcontracting related to project design (2000 €), poster/folder design and production (2000 €), web-construction (2000 €), facebook group set-up (800 €), blog set-up (800 €), twitter instruction and strategy (800 €), production of movie clips of best practice identified (20000 €), social media training (2000 €), support for international press releases (10000 €) and final conference arrangement support (2000 €).

Other costs amount to 376 500 € (***9,8 % of the project budget***). A small part is allocated to cover costs for lunch, dinner and coffee during GA and SB meetings, workshops, dialogue forums, study visits, kick off meeting and final conference. These costs are always at a very moderate level and in line with public rules. In other costs there is also in WP 7 allocated 4000 € for printed matters (posters, brochure, postcard). Our dissemination strategy is based more on social and digital media, PR and networking, rather than on printed matters. In WP 7 there is also a small budget for url registration and annual fees for the project's web-address.

Salaries are the largest budget post (77,8***% of the budget***). It amounts to 2 981 700 euro. The project pays for 446,4 person-months. The distribution among partners is shown in the project effort form. The project coordinating organization has a relatively large budget due to the coordinating function. Also work package leading organizations have a somewhat larger budget than the average partner.

Indirect costs amount to 2 350 74 € (***6,2% of the total budget*** and 7***% of direct costs***). The consortium is asking for an EU contribution in accordance with the rules for participation for coordination actions (100% contribution, 7% indirect costs).

Partners contribute with own funds in several ways. ***The largest co-funding post is underfinanced indirect costs***. All academic partners have around 60% indirect cost level, and the municipalities have 20% indirect cost level or higher. This co-funding is not shown in the project budget. Partners also contribute with ***own working hours not paid by the project*** in order to keep the project budget at an attractive level. As this is a coordination action no investments will be made within the project budget. Yet, as a result of the project, investments in new technology and working methods will be

made possibly already during the project life-cycle. There may be demonstrations made in the project in close connection to e.g. WP 6, yet there is no project budget for this.

Sub-contracting

This table summarizes the subcontracts that will be concluded by the beneficiaries for the realization of specific tasks during the project implementation. The subcontractors identified/to be identified were/will be selected following the provisions of Art. II.7.2. of the Grant Agreement. The selection of the subcontractors will take place in accordance with the EU tendering requirements and be awarded to the tender offering the best value for money (best price-quality ratio) in compliance with the principles of transparency and equal treatment (care being taken to avoid any conflict of interest).

For the non-defined subcontractors, the consortium will establish strong procedures to ensure open competition and the choice of the most competitive offer (best value for money)

Beneficiary	**Subcontractor (if identified)**	**Activity**	**Task**	**WP**	**Selection procedure**	**Justification**	**Amount (EUR)**
EEM	Not identified	Management	Project management	1	*following the provisions of Art. II.7.2. of Annex II of GA*	Consultant specializing in FP project management processes.	57600
	Not identified	Management	Audit certificate	1	*following the provisions of Art. II.7.2. of Annex II of GA*	*following the provisions of Art. II.4.4* of Annex II of GA*	2400
						TOTAL by beneficiary	**60000**
ESK	Not identified	Coordination	Local dialog forums	7	*following the provisions of Art. II.7.2. of Annex II of GA*	Professional specializing in arranging effective and productive dialog forums	2100
	Not identified	Coordination	Workshop process support	6	*following the provisions of Art. II.7.2. of Annex II of GA*	Support to arrange workshop in professional and results orientated manner.	8000
	Not identified	Coordination	Local kick-off meeting	7	*following the provisions of Art. II.7.2. of Annex II of GA*	Support to arrange local kick-off meeting to ensure successful project start in the city.	900

Beneficiary	Subcontractor (if identified)	Activity	Task	WP	Selection procedure	Justification	Amount (EUR)
	Not identified	Coordination	Develop a model for energy smart cities	6	*following the provisions of Art. II.7.2. of Annex II of GA*	Specialist to develop on-line based tool for the best dissemination of results.	6000
						TOTAL by beneficiary	**17000**
MDU	Not identified	Coordination	Workshop process support	3	*following the provisions of Art. II.7.2. of Annex II of GA*	Support to arrange workshop in professional and results orientated manner.	8000
						TOTAL by beneficiary	**8000**
City of Turku	Not identified	Coordination	3 local dialog forums	7	*following the provisions of Art. II.7.2. of Annex II of GA*	Professional specializing in arranging effective and productive dialog forums	2100
	Not identified	Coordination	local kick-off meeting	7	*following the provisions of Art. II.7.2. of Annex II of GA*	Support to arrange local kick-off meeting to ensure successful project start in the city.	900
						TOTAL by beneficiary	**3000**
TUAS	Not identified	Coordination	Workshop process support	5	*following the provisions of Art. II.7.2. of Annex II of GA*	Support to arrange workshop in professional and results orientated manner.	8000
						TOTAL by beneficiary	**8000**
Tartu city	Tartu Regional Energy Agency	Coordination	To develop model and action plan for energy efficient city	6	*following the provisions of Art. II.7.2. of Annex II of GA*	Subcontracting Tartu Regional Energy Agency to help to work out the model and action plan for Tartu municipality and completing the analysis of the results of WP 3-5	15000

Beneficiary	Subcontractor (if identified)	Activity	Task	WP	Selection procedure	Justification	Amount (EUR)
	Not identified	Coordination	3 local dialog forums	7	*following the provisions of Art. II.7.2. of Annex II of GA*	Professional specializing in arranging effective and productive dialog forums	2100
	Not identified	Coordination	local kick-off meeting	7	*following the provisions of Art. II.7.2. of Annex II of GA*	Support to arrange local kick-off meeting to ensure successful project start in the city.	900
						TOTAL by beneficiary	**18000**
SoTCC	Not identified	Coordination		4	*following the provisions of Art. II.7.2. of Annex II of GA*	Subcontracting of local stakeholders to work on driving forces and obstacles creating energy strategy for the city.	35990
	Not identified	Coordination	3 local dialog forums	7	*following the provisions of Art. II.7.2. of Annex II of GA*	Professional specializing in arranging effective and productive dialog forums	2100
	Not identified	Coordination	local kick-off meeting	7	*following the provisions of Art. II.7.2. of Annex II of GA*	Support to arrange local kick-off meeting to ensure successful project start in the city.	900
						TOTAL by beneficiary	**38990**
HAW	Not identified	Coordination	Project design, posters, brochure	7	*following the provisions of Art. II.7.2. of Annex II of GA*	Professional to create the project's "corporate identity" and its official design	4000
	Not identified	Coordination	web contruction	7	*following the provisions of Art. II.7.2. of Annex II of GA*	Creation of an interactive internet portal to be used to share project content, targets and progress.	2000

Beneficiary	Subcontractor (if identified)	Activity	Task	WP	Selection procedure	Justification	Amount (EUR)
	Not identified	Coordination	Facebook	7	*following the provisions of Art. II.7.2. of Annex II of GA*	Social media is one of the important projects dissemination strategies. Facebook group set-up.	800
	Not identified	Coordination	Blogg	7	*following the provisions of Art. II.7.2. of Annex II of GA*	Social media is one of the important projects dissemination strategies. Blog set-up.	800
	Not identified	Coordination	Twitter	7	*following the provisions of Art. II.7.2. of Annex II of GA*	Social media is one of the important projects dissemination strategies. To create twitter instruction and strategy.	800
	Not identified	Coordination	Movie clips	7	*following the provisions of Art. II.7.2. of Annex II of GA*	production of movie clips of best practice identified	20000
	Not identified	Coordination	Social media training	7	*following the provisions of Art. II.7.2. of Annex II of GA*	Social media is one of the important projects dissemination strategies. Training is needed to explore all social medias possibilities.	2000
	Not identified	Coordination	dissemination support	7	*following the provisions of Art. II.7.2. of Annex II of GA*	Support to produce communication plan.	2000
	Not identified	Coordination	international press release	7	*following the provisions of Art. II.7.2. of Annex II of GA*	Support for professional and effective press releases.	10000

Beneficiary	Subcontractor (if identified)	Activity	Task	WP	Selection procedure	Justification	Amount (EUR)
	Not identified	Coordination	Final conference arrangment support	7	*following the provisions of Art. II.7.2. of Annex II of GA*	Support to arrange professional meeting including moderation of the meeting.	2000
	Not identified	Management	Audit certificate	1	*following the provisions of Art. II.7.2. of Annex II of GA*	*following the provisions of Art. II.4.4* of Annex II of GA*	2400
						TOTAL by beneficiary	**46800**
TUWIEN	Not identified	Coordination	Workshop process support	2	*following the provisions of Art. II.7.2. of Annex II of GA*	Support to arrange workshop in professional and results orientated manner.	8000
						TOTAL by beneficiary	**8000**
UCPH	Not identified	Coordination	Workshop process support	4	*following the provisions of Art. II.7.2. of Annex II of GA*	Support to arrange workshop in professional and results orientated manner.	8000
						TOTAL by beneficiary	**8000**
SMARTTA	SMARRTA consolidation members	Coordination	Investigate technical state-of-art solutions for energy efficiency	3	*following the provisions of Art. II.7.2. of Annex II of GA*	Subcontract expertise within the field of smart power grid technology. Expertise will be subcontracting from the companies from SMARTTA consolidation.	12000
						TOTAL by beneficiary	**12000**
CSC	Not identified	Coordination	3 local dialog forums	7	*following the provisions of Art. II.7.2. of Annex II of GA*	Professional specializing in arranging effective and productive dialog forums	2100

Beneficiary	Subcontractor (if identified)	Activity	Task	WP	Selection procedure	Justification	Amount (EUR)
	Not identified	Coordination	local kick-off meeting	7	*following the provisions of Art. II.7.2. of Annex II of GA*	Support to arrange local kick-off meeting to ensure successful project start in the city.	900
						TOTAL by beneficiary	**3000**
Jyväskylä	Not identified	Coordination	3 local dialog forums	7	*following the provisions of Art. II.7.2. of Annex II of GA*	Professional specializing in arranging effective and productive dialog forums	2100
	Not identified	Coordination	local kick-off meeting	7	*following the provisions of Art. II.7.2. of Annex II of GA*	Support to arrange local kick-off meeting to ensure successful project start in the city.	900
						TOTAL by beneficiary	**3000**

***Art. II.4.4 of Annex II** - A certificate on the financial statements shall be submitted for claims of interim payments and final payments when the amount of the financial contribution of [the Union] [Euratom] claimed by a beneficiary under the form of reimbursement of costs is equal to or superior to EUR 375 000, when cumulated with all previous payments for which a certificate on the financial statements has not been submitted.*

Cost specification of the project events

Event	EB*1	EB2	EB3	EB4	EB5	EB6	EB7	GA**1	GA2	GA3	Mng. Trips**
WP	WP1	WP1	WP1	WP1	WP1	WP1	WP1	WP1	WP1	WP1	WP1
No of part.	10	9	9	9	9	9	9	20	20	20	
Place	ESK	CPH	Turku	Wien	video	video	ESK	STK	CSC	Tartu	
Total, EUR	*2910*	*5530*	*5530*	*5530*	*0*	*0*	*3170*	*13010*	*13300*	*12710*	*2965*
	Total EB						22670	Total GA		39020	2965
	Total meetings cost for WP1										**64655**

*Executive board
**General assembly
**Extra management trips

Event	Kick-Off/WS1	WS2	WS/BAP*	WS3	WS4
WP	WP1/2/7	WP2-WP5	WP3-5	WP 3-6	WP6
No of part.	29	35	31	34	36
Place	Eskilstuna	Turku	EU	CSC	Tartu
Total, EUR	*27990*	*35250*	*36165*	*28950*	*33120*
	Total WS cost				**161475**

*BAP – Best Available Practices

Event	Local kick-off	PLEEC F*1	PLEEC F2	PLEEC F3	Local F**1	Local F2	Local F3	Conf.	Netw.	Rest	Total direct costs
WP	WP7	WP7	WP7	WP7	WP7	WP7	WP7	WP7	WP7		
No of part.	20-50	30-70	30-70	30-70	20-50	20-50	20-50	65			
Place	All	SToC	CSC	Tartu	Cities	Cities	Cities	Brussels			
Total, EUR	*14000*	*6000*	*6000*	*6000*	*10200*	*10200*	*10200*	*32500*	*36000*	*19310*	
	14000	Total PLEEC F		18000	Total Local F		30600	32460	36000	19310	
Total direct meetings costs for WP7									131100	19310	**376500**

*PLEEC F - PLEEC energy efficiency forum
**Local F – Local energy efficiency forum

3 Impact

3.1 Expected impacts listed in the work programme

It is listed in the work program that the planning exercise is expected to show that the integrative approach achieves much better economics than individual actions without integrative planning. The project is expected to help exchange of best practices and dissemination of Key Performance Indicators. Hence, the project will identify, clarify and disseminate best practices and Key Performance indicators. The best practices will show an integration of the key aspects that will be focused in the project. The project will evaluate the economic benefits of integrative planning (see WP 6).

There are no IPR issues in the project and the results will be public. Background necessary for the project will be accessed at no charge. Issues on IPR, handling and identification of background knowledge and use of knowledge will be regulated in the consortium agreement. We intend to use the DESCA model for the consortium agreement.

Impact is necessary and possible at various levels and types of organizations. In a political way city planners are affected by multi-level governance when dealing with energy efficiency. There are relevant decisions made at local, regional, national, macro-regional and European level. Therefore the project needs to communicate to policymakers at all these levels in order to get an effective impact. For daily city planning work in a municipality the most important level might be the local level. However for strategic, long-term reasons other political levels are very important.

The project also reaches for an impact in the academic world. The research groups connected to the project represent different competencies and they need to integrate among each other to create good results for the on-going project. The academic partners are also given the opportunity to create a strategic research agenda for the future related to the needs of new knowledge expressed by the city-planners. The integrative approach among the researchers might also create a new view on the state of the art and how to reach beyond that. The project prepares the partners in the project for a future co-operation and co-creation of new knowledge. The way of working in the municipalities will become more research based and will contribute to create a working environment where research and innovation meet.

Impact is also necessary in the private sector. Industry and other enterprises need to plan and invest for better energy efficiency. The project is coordinated by an enterprise and will bring in relevance to the project, but practically and strategically. One of the partners is a cluster motor, reaching out to many companies. The cluster-motor feature is very interesting in order to find methods and ways to reach many companies with a commitment for a shared cause.

You cannot force impact. Impact is connected to behavior and wishes of individuals. Therefore we want to put an emphasis on social media in our dissemination activity plan (WP 7). With good proofs and clear messages, combined with efficient media channels, we strive for highest possible impact.

In order to reach impact the project will also work with the innovation mind-set of city planners. The participating municipalities are expected to devise innovative measures to accelerate the deployment of low carbon technologies.

We need a European consortium in order to gather a critical mass of competence that complements each other. We also need a European consortium in order to find best practice and to reach impact in Europe through the contact network of the partner organizations. City-planners across Europe are affected by multi-level governance and in order to get an impact on city-planners and integrative working methods we need a European wide consortium to show similarities and possibilities. The project complies with the EU 2020 strategy and the grand challenges expressed in the Innovation Union, by working with energy efficient cities and through building platforms for smart specialization. We believe we can contribute to growth that is smart, inclusive and sustainable and help cities to substantially reduce greenhouse gas emissions in an innovative and integrative manner. The best practices and key performance indicators disseminated represent a high replication potential.

The project is prepared and willing to establish links with other EU projects for instance those under the Green Cities initiative (e.g. *GC.SST.2012.1-2* and *SST.2012.3.1-3* to stimulate exchanges and cross-fertilization. The project will network other relevant networks (as a subtask in WP 7). The project will promote replication of successful solutions through clustering of cities with similar framework conditions and similar ambitions as well as preparing concepts for study visits and planning tools.

3.2 Spreading excellence, exploiting results, disseminating knowledge

The key message of this project is: An integrative approach to city planning achieves much better economics than individual actions without integrative planning. Hence the project needs to prove, illustrate and disseminate this message. The project is expected to help exchange of best practices and dissemination of Key Performance Indicators.

The aim of WP 7 on Impact and dissemination is to communicate the objectives and results of the PLEEC work effectively and includes resources to help prepare and deliver a communication strategy, website, publication and presentation and generate positive media coverage. Communication and media specialists will be subcontracted to the WP leader of WP 7 (HAW) that can help the consortium to choose appropriate modes of communication, tailor the information, build good relations with the media and maximise the exposure of the project messages. Media coverage will be evaluated by all partners of the consortium by reporting to the WP Leader. The most innovative part of WP7 would be the extensive use of social media.

The consortium will through WP 7 foster a dialogue and debate beyond the research community on the project results and on related scientific issues with policy makers at municipality, regional, national and international level, industry and civil society. We will take appropriate measures to engage with media about the project and highlight the community support. WP 7 comprises 10 different tasks.: 7.1 Communication Plan, 7.2 Project design, posters, brochure, 7.3 Web and digital content 7.4 Social media, 7.5 Local kick-off meetings, 7.6 PR activities, 7.7 Networking, 7.8 PLEEC Dialogue Forums, 7.9 Study visit preparation and 7.10 PLEEC Final conference. The work package is lead by HAW. Each partner contributes to the dissemination and impact creating work.

The Communication Plan will list all relevant available communication tools for the project, the target groups, main messages to be communicated and time plan for communication activities. Targeted audiences ought to be city planners, policy-makers, researchers within energy efficiency, city planning and the key aspects focused in the project, industry and other enterprises that may contribute to a more energy efficient city, interest groups and networks at national and European level and media at local, national and international level.

A. project design, posters, a brochure, webdesign, power point point-templates and other presentation material will produce the project's "corporate identity". The websites of the Energy Research Knowledge Centre (ERKC[1]) and the EU's Smart Cities Stakeholder Platform (SCSP, www.eu-smartcities.eu) will serve as the main platforms for the public web-communication and -dissemination of the project results, in view of creating single access points for *all* projects and activities under the EU's Smart Cities Innovation Partnership. The consortium will feed its project space on the ERKC and the SCSP website[2] with comprehensive and up-to-date information, in accordance with the guidance and templates of the ERKC and SCSP website managers. At least one person from the consortium will set up a personal profile on the SCSP website thus permitting the participation of the project in the relevant SCSP fora[3]. The project consortium will, however, establish itself the project's *internal* web-workspace, which cannot be provided by the SCSP. Details will be laid down after project start in agreement with the European Commission's technical officers and the Smart Cities Stakeholder Platform. An important digital content of the website is short movies illustrating best practice identified in the project. The website will give transparency to the project activities, goals and progress. A consultative tool will be developed and published on the web assisting European municipalities in becoming smart cities working even better with energy efficiency issues in an integrative manner.

Social media is seen as a very important feature of the project communication strategy. A PLEEC blog will be set-up as well as a PLEEC facebook page. The project management team will use twitter for short project notices. The task will deliver a training course to staff in the partner organizations on social media. This will be made in real life at the project kick-off meeting and will be filmed so it may be presented to anyone who wants to participate afterwards, on the project website.

Local kick-off meetings will be held by all partners inviting relevant participants and media. Totally there will be 14 local kick-off meetings. A continuous dialogue on energy efficient cities on the local level will be delivered through Local Dialogue Forums. The main target group for the dialogue forums are enterprises. In total there will be 21 local forum dialogue meetings.

Press releases, press conferences and regular press briefings will provide support to both the WP 7 coordinator and partners for reaching relevant public media. Central WP press activities will be synchronized in time and message with local press initiatives especially after important project milestones. The movie clips produced in task 7.3 will be used in press contacts and especially for websites such as www.euronews.net.

Networking will reach out to ongoing projects and activities on energy efficiency in cities in Europe as well as networks such as Eurotowns www.eurotowns.org, Eurocities (www.eurocities.eu), Energy cities (http://energy-cities.eu/), European Green Cities network (www.europeangreencities.com/) and Union of the Baltic Cities (www.ubc.net/). Relevant external events (e.g. conferences, seminars, exhibitions) will be surveyed in the beginning of the project.

[1] More information on the web site http://setis.ec.europa.eu/energy-research. The project section of the website will be fully operational as of autumn 2012.

[2] In practical terms, the managers of the ERKC and SCSP websites will create an automatic transfer of data from the ERKC, so that the projects do not have to provide their information twice. However, while on the ERKC, the information is organised by *projects*, on the SCSP website it is organised by *cities* and innovative *solution proposals*. This means that the projects have to tailor *some* information for the SCSP website.

[3] Further staff member of the consortium are invited to do the same.

Based on the findings a comprehensive strategy of how these events will be addressed by which partner will be set-up. Each partner has a budget to participate in at least 3 networking sessions. The projects and networks identified will also be invited to the social forum of the PLEEC project and to open activities in the project (e.g. the Final conference and Dialogue Forums). The goal is to establish a sustainable network of persons and organisations interested in energy efficiency and city planning supported by internet and social media than can continue after the project end.

The PLEEC Energy Efficiency Forum will be introduced to foster a dialogue on Energy Efficiency and promoting latest findings on city energy efficiency potential models and action plans for an energy efficient city. Three major PLEEC Energy Efficiency Forums will be held addressing a wider public. These forums offer various stakeholders to take part of the project findings and to enter in a dialogue with key actors of the PLEEC project.

Study visit preparations_will facilitate the preparation and trial of concepts for study-visits in the best practices communicated by the project. This way, the project partners will be prepared to host study visits from various European municipalities and other stakeholders during and after the project life-cycle.

The PLEEC final conference be held in Brussels. At the conference the leading politicians from the consortium cities will present a signed joint PLEEC declaration where they presents their future commitment in terms of integrated city-planning and energy efficiency. The researchers of the consortium will present the strategic research agenda for the future. Project results and best practise will be presented in an interesting, energetic and moveable manner. Target groups for this part of the final conference are invited guests from the European Commission (e.g. DG Research, DG Regio, DG Energy), regional offices in Brussels, Members of the European Parliament, reps for the Committee of Regions, relevant EU projects and European networks identified in task 7.6. Journalists and relevant media will be invited to the event.

4. Ethics Issues

There are no ethical issues in the project as is illustrated in the tables. Neither does legislation or regulations create obstacles for the planned work.

	Research on Human Embryo/ Foetus	YES	Page
	Does the proposed research involve human Embryos?		
	Does the proposed research involve human Foetal Tissues/ Cells?		
	Does the proposed research involve human Embryonic Stem Cells (hESCs)?		
	Does the proposed research on human Embryonic Stem Cells involve cells in culture?		
	Does the proposed research on Human Embryonic Stem Cells involve the derivation of cells from Embryos?		
	I CONFIRM THAT NONE OF THE ABOVE ISSUES APPLY TO MY PROPOSAL	x	

	Research on Humans	YES	Page
	Does the proposed research involve children?		
	Does the proposed research involve patients?		
	Does the proposed research involve persons not able to give consent?		
	Does the proposed research involve adult healthy volunteers?		
	Does the proposed research involve Human genetic material?		
	Does the proposed research involve Human biological samples?		
	Does the proposed research involve Human data collection?		
	I CONFIRM THAT NONE OF THE ABOVE ISSUES APPLY TO MY PROPOSAL	x	

	Privacy	YES	Page
	Does the proposed research involve processing of genetic information or personal data (e.g. health, sexual lifestyle, ethnicity, political opinion, religious or philosophical conviction)?		
	Does the proposed research involve tracking the location or observation of people?		
	I CONFIRM THAT NONE OF THE ABOVE ISSUES APPLY TO MY PROPOSAL	x	

	Research on Animals[1]	YES	Page
	Does the proposed research involve research on animals?		
	Are those animals transgenic small laboratory animals?		
	Are those animals transgenic farm animals?		
	Are those animals non-human primates?		
	Are those animals cloned farm animals?		
	I CONFIRM THAT NONE OF THE ABOVE ISSUES APPLY TO MY PROPOSAL	x	

	Research Involving non-EU Countries (ICPC Countries[2])	YES	Page
	Is any material used in the research (e.g. personal data, animal and/or human tissue samples, genetic material, live animals, etc) : a) Collected and processed in any of the ICPC countries?		
	b) Exported to any other country (including ICPC and EU Member States)?		
	I CONFIRM THAT NONE OF THE ABOVE ISSUES APPLY TO MY PROPOSAL	x	

	Dual Use[3]	YES	Page
	Research having direct military use		
	Research having the potential for terrorist abuse		
	I CONFIRM THAT NONE OF THE ABOVE ISSUES APPLY TO MY PROPOSAL	x	

[1] The type of animals involved in the research that fall under the scope of the Commission's Ethical Scrutiny procedures are defined in the Council Directive 86/609/EEC of 24 November 1986 on the approximation of laws, regulations and administrative provisions of the Member States regarding the protection of animals used for experimental and other scientific purposes Official Journal L 358 , 18/12/1986 p. 0001 - 0028

[2] In accordance with Article 12(1) of the Rules for Participation in FP7, 'International Cooperation Partner Country (ICPC) means a third country which the Commission classifies as a low-income (L), lower-middle-income (LM) or upper-middle-income (UM) country. Countries associated to the Seventh EC Framework Programme do not qualify as ICP Countries and therefore do not appear in this list.

[3] Dual-use items' shall mean items, including software and technology, which can be used for both civil and military purposes (Ref: Article 3**,** Council Regulation (EC) No 428/2009 of 5 May 2009 setting up a Community regime for the control of exports, transfer, brokering and transit of dual-use items