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EXECUTIVE SUMMARY

This document summarizes the work done in Task 7.5 *Project Stakeholder Dissemination Events*. The purpose of this task was to hold three stakeholder events allowing for both the dissemination and summative evaluation of the final results of the SEMANTCO project.

To this end, three stakeholder workshops were held in the three stakeholder areas. In summary:

- The NEA ran a workshop containing stakeholders from the Newcastle case study area,
- FORUM ran a workshop containing stakeholders from the Manresa case study area,
- RAMBOLL ran a workshop containing stakeholders from the Copenhagen case study area.

The basic plan of each event was similar: the events featured a combination of some invited keynote speakers in the area of energy efficiency with presentations about SEMANTCO and opportunities for the participants to discuss these ideas with each other.

The combined overall attendance for the three events has reached around 130 people. Each event featured a mix of attendees from companies, representatives of local authorities, universities and charities. This made the events highly valuable in terms of both disseminating the results of the SEMANTCO project – the events added many new members to the SEMANTCO dissemination network – and gaining feedback regarding the utility of its final output.

This feedback was gathered during the events through the use of a unified questionnaire which was localised in an appropriate manner for each event and was completed after the event by the participants. This allowed the results gathered in the different workshops to be compared and combined.

In total around 60 questionnaire results were gathered, with the overall conclusion that, while not all of the attendees would use SEMANTCO themselves, there was strong agreement that the tools produced by the SEMANTCO project had considerable potential utility for local authorities. These results are presented in detail within the current document.

Finally the events provided a platform the capture of videos of interviews with stakeholders and of them using the SEMANTCO tools, which will form a crucial contribution to the work on the web platform which will be created to publicise the SEMANTCO platform.

In summary, the events both provided a very useful evaluation of the outputs of the SEMANTCO project by relevant stakeholders, and contributed to the dissemination of these results. They thus constitute a solid basis for any future exploitation activities.

1 INTRODUCTION

1.1 Purpose and target group

The purpose of Task 7.5 *Project stakeholder dissemination events* was to hold three major stakeholder dissemination events in each of the three case studies (Newcastle, Manresa, Copenhagen) in order to both present the final outputs of the SEMANTCO project to stakeholders and to gather feedback to use to evaluate those results.

In order to ensure that the projects results were disseminated to the widest possible number of people, each of these events additionally featured talks on areas of broader interest to both the stakeholders directly involved in the case study areas and people with similar areas throughout the countries concerned.

The basic plan of each event was similar – the events features a combination of some invited keynote speakers in the area of energy efficiency with presentations about SEMANTCO and opportunities for the participants to discuss these ideas with each other. This basic format ensured that a large number of stakeholders came to each of the events. This made them highly valuable in terms of both disseminating the results of the SEMANTCO project and gained feedback regarding its final output.

Section 2 of this document contains the reports of the stakeholder events held in the three locations. Section 3 presents an analysis of the results gathered during each event and of the questionnaire based evaluation conducted after them. The detailed agendas and attendance lists for each event are in Appendices A and C respectively.

1.2 Contribution of partners

The University of Teesside (UoT) were responsible for coordinating the work of Task 7.5, including the analysis of the stakeholder feedback arising from the three events, and for contributing some effort towards the Newcastle event. NEA, FORUM and RAMBOLL each had primary responsibility for organising, hosting and reporting on their respective workshops.

1.3 Relations with other activities in the project

The guidance produced from the evaluation sessions would naturally contribute to any developments undertaken as part of future evaluation of the results of SEMANTCO.

The dissemination produced from holding the workshops complements that in Task 7.2 *Development of a dissemination network* and Task 7.3 *Management of dissemination activities*, and indeed many additional dissemination network members were recruited, thus helping the cause of Task 7.2. In addition, the results from the stakeholder evaluation form a useful contribution to the construction of the exploitation plan in Task 7.4 *Exploitation planning* and to the construction of the business models in Task 6.3 *Identifying implementation strategies and business models*.

Finally, the events were used as a basis to capture videos regarding the stakeholders use of SEMANTCO, thus forming a contribution to the new task Task 7.6 *Development of an Energy Services Platform portal*.

2 STAKEHOLDER WORKSHOPS

2.1 The Newcastle Workshop

2.1.1 Introduction: Planning for Low Carbon Communities

NEA and the University of Teesside hosted the workshop “Planning for Low Carbon Communities” on May 22, 2014 in Central Square, Newcastle (Figure 1).

This workshop explored some of the current challenges for built environment professionals working on low carbon urban regeneration. The event illustrated some innovative examples of energy modelling and master planning using a number of European and UK case studies.



Figure 1. Event location: Central Square, Newcastle

2.1.2 Attendance

NEA and UoT were keen to attract Local Authorities and representatives from the energy industry, in particular Architects, Utility Companies, and Housing Associations as these were some of the target groups the European Commission had asked us to reach out to in our third year of dissemination. The invitation was sent to 3708 of NEA’s contacts in North East and Yorkshire and Humber. The invitation was also circulated amongst northern architects and academics.

54 delegates registered for the event resulting in 42 attending on the day. Delegates were from a range of sectors and organisations including Local Authority representatives, Academics, Housing Associations, Architects, and Private Companies. A full delegate list can be seen in Appendix C.

2.1.3 Speakers

Five speakers were invited to participate in the event. NEA Chief Executive Jenny Saunders opened and chaired the event highlighting the important link between fuel poverty and urban regeneration; she expressed the importance of including the needs of the fuel poor in the planning stages of urban regeneration and ensuring communicating the benefits of behaviour change.

Professor Nashwan Dawood, Technology Futures Institute, University of Teesside, introduced the SEMANTCO project in the session ‘Introduction to low carbon energy tools, techniques and models’. Prof. Nashwan introduced the concepts behind the SEMANTCO programme, its scope and the European partners involved.

Professor Nashwan’s introduction was followed by two demonstrations of the tool:

- David Lynch, Senior Research and Policy Officer at NEA provided a live demonstration of the Newcastle case study: Riverside Dene. The purpose of this presentation was to demonstrate the functionality of the visualisation tool developed under the programme.
- Nadeem Niwaz, M.Sc., Energy, Energy Supply and Planning at Ramboll, presented the Copenhagen case study: ‘North Harbour, energy modelling for a major new sustainable urban extension’. Nadeem introduced the plans for regenerating the North Harbour project summarising the long term plans to develop a large scale expansion for the City of Copenhagen.

The afternoon provided two further case studies of urban regeneration:

- Andy Stephenson, Square Mile programme, Leicester (Knowledge exchange partnership, East Midlands Housing Association) provided a presentation on ‘Large-scale retrofitting - Energy modelling in Leicester Square Mile’. Andy presented the urban regeneration work that has taken place in Leicester providing information on the current data sets used to inform strategic decisions around carbon reduction, transportation and economic sustainability.
- Mark Barlow, Director, DKS Architects, spoke about a local project ‘One Planet Living, Middlehaven, Middlesbrough’. Mark’s presentation offered unique insight into the latest regeneration proposals in Middlehaven Teesside based in the North East of England. Mark elaborated on the current forms of data used by planners and other agencies involved in urban planning.

In the Q&A session that followed the speakers, delegates were concerned about using and gathering data (Figure 2). There were questions around the feasibility of district heating in the UK compared to the rest of Europe, particularly Copenhagen, and the accuracy of heating measures in the UK compared to other countries. Speakers called for a need for manufacturers to test their products in the UK before completing the specifications, and for good partnership working when it comes to accessing accurate data, using trusted third party organisations where necessary. There were questions around who is making the investment in these schemes, for Copenhagen it was private sector companies and utility companies for Newcastle it was the housing Association.

The event agenda can be seen in Appendix A.



Figure 2. Newcastle stakeholder event: question and answers session

2.1.4 Round table discussions and qualitative results

After the formal presentations delegates were asked to come together to discuss the SEMANTCO tool in small groups (Figure 3). Round-table discussions encouraged conversations around the SEMANTCO tool including the following questions to encourage discussion:

- Have we got the scope of stakeholder requirements correct? Have we a good scope of applications for the embedded tools?
- Would the current platform and tools benefit your organisation? What other applications would be useful to you?
- What ICT tools are you using? How is this accessed & supported? What sort of data supports this?
- What are the key costs (software, data, time)?

Qualitative comments from table discussions and evaluation forms

Although the questions were used to frame discussions, analysis of the feedback from the table discussions illustrates that some of the questions were not answered within the group discussions. However, delegates provided some useful feedback as this section illustrates.

Benefits of the tool and platform

Delegates are trying to encourage investment in energy efficiency across their housing stock and the SEMANTCO tool could help them with this task; there were lots of discussions around using a community-led approach to encouraging behaviour change with energy champions and “simple low cost measures” used.

There were issues around transport and access and the location of existing and new services, there is a need for these to be hard wired into developments. There are other things to consider such as water planning, green infrastructure, air quality, and surface water issues (these issues are bottom of list from cost).

The benefits focused on the ability to illustrate to a board what effect interventions proposed might have on a certain area and making decisions where they may want to measure impact.

Concerns and questions emerging around the platform and tools:

There were concerns from delegates around usability and reliability of data. The tool would require access to data, knowing who to speak to within that organisation and having partnership with bodies from the start.

There were issues with rural properties which differ from urban properties creating unique problems; some properties in nearby Northumberland are not on the electricity grid. The properties also use different heating methods and energy consumption in rural areas is different for example the use of heating oil, LPG and solid fuel.



Figure 3 .Newcastle stakeholder event: round-table discussion session

Usability of the tool itself

Delegates asked the question “do users need to become real experts?” They suggested this could be resolved with a SEMANTCO video taking users on a step by step guide of the tool. This was a positive suggestion as this idea is already being implemented by SEMANTCO partners for each of the case study areas.

Questions arose around how the tool applies to the planning process and whether it should be more clearly articulated. Delegates said they would find it useful to have a clear example of the tools’ integration into planning process.

It was suggested that the reports from the tool would need to be delivered in a user friendly way that is dedicated to users. From these questions one delegate asked ‘whose responsibility is it to enforce integration of these considerations?’ When asked what ICT tools delegates currently use the following suggestions were made: Geographical Information Systems for solar PV modelling, the DECC (UK Government) heat map and wind resource.

Cost

There were very few comments throughout the event on the cost of the tool and how much users would be willing to pay.

General Feedback from groups and suggestions about the SEMANTCO tool:

- Overall: the group felt that there remains uncertainty about the specific utility of SEMANTCO outputs. These uncertainties could be removed if there a variety of scenarios were available that showed the role of the tools in specific situations, such as in the planning decision making, etc.
- The ability to address the question of the model of delivery was felt to depend to some extent on the need for further clarity on applicability. However, there was a general feeling that the toolset itself is a specialist thing and is likely to best be delivered as a specialist consultancy function, rather than as software sold to user groups.
- Developers typically seek a quick ROI rather than longer term ROI and cost reduction.
- More responsibility needs to be taken by state Government, but it is changing the goal posts and funding all of the time.
- Leicester's communication strategy element: peer to peer support to deliver behavioural change. Needs need to be matched with circumstances. Behavioural change needs to be considered.

2.1.5 Evaluating the event

Delegates were asked to complete an evaluation form after the event, which can be seen in Appendix B. 18 out of 42 delegates completed the evaluation process. NEA was satisfied with the response rate. The outcomes of these forms with relation to SEMANTCO can be found in Section 3 below, the results about the organisation were largely positive but were designed for internal feedback and are not given here.

NEA and University of Teesside were delighted with the event and delegate feedback was extremely positive. Delegates scored the contents of presentations positively and participated in lots of discussion around SEMANTCO and the tool. The attendance was higher than expected on the day and these delegates will be added to the dissemination network.

2.2 The Manresa Workshop

2.2.1 Introduction: Cities and Energy

The workshop “Ciutats i Energia” (Cities and Energy) took place on May 29, 2014 in the Polytechnic School of Engineers of Manresa (Figure 4). The aim of the Manresa workshop was to gather a significant amount of people interested in the related matters of the project, as potential stakeholders, and let them know about SEMANTCO and its main output, the integrated platform. During the planning sessions of the event, it was foreseen that announcing just SEMANTCO itself would not attract too many people, so it was decided to widen the scope of the event, making it more attractive to all sort of audiences.



Figure 4. Event location: Polytechnic School of Engineers of Manresa

In this regard, the event was planned in the form of a morning session with relevant speakers presenting both the current energy challenges and the difficulties related to that challenges that urban managers (urban planners, policy makers) have to deal with. After this presentation, the SEMANTO platform was introduced to the audience as a tool that can end up being very useful to overcome these difficulties.

2.2.2 Attendance

FORUM produced a digital leaflet that was distributed among the contacts of the dissemination list (Figure 5). The invitation was also sent to professional colleges, the provincial council, the department of urbanism of the Catalan government, the housing companies association, etc., who spread the invitation among their contacts. Apart from the digital invitation, paper leaflets and posters were produced and placed in various educational and cultural facilities.



Figure 5. Manresa stakeholders event: poster

A piece of news in the local newspaper was published as well two days before the event (Figure 6).

Manresa acoge este jueves la jornada "Ciutat i Energia" para debatir la eficiencia energética urbana del futuro

La jornada, que se celebrará en la Sala de Actos de la Escuela Politécnica Superior de Manresa (EPSEM), servirá para poner en común los datos recopilados en eficiencia energética urbana que el proyecto SEMANCO ha hecho en tres ciudades europeas, una de las cuales es Manresa.

Este próximo jueves, 29 de mayo, la Sala de Actos de la Escuela Politécnica Superior de Ingeniería de Manresa (EPSEM), acogerá la jornada "Ciutats i Energia", organizada por la empresa municipal FORUM (Foment de la Rehabilitació Urbana de Manresa SA), enmarcada dentro de la participación de FORUM en el proyecto SEMANCO, una iniciativa cofinanciada por la Comisión Europea con el fin de proporcionar herramientas y un sistema de gestión del conocimiento común en Europa alrededor de la eficiencia energética en el ámbito urbano. Durante la jornada, se expondrán los datos que han sido recogidos en la investigación de tres ciudades piloto: Manresa, Copenhague y Newcastle, en el Reino Unido. Todo ello debe servir para orientar e incidir en las futuras políticas urbanísticas de barrios, ciudades y países de toda la Unión Europea: la visualización del consumo de energía a escala urbana; la evaluación de diferentes métodos de reducción de emisiones de CO2; la predicción de la demanda futura de energía y la determinación de los indicadores de energía adecuados para las autoridades locales.

La jornada está dirigida a todas aquellas personas involucradas de una manera u otra en la toma de decisiones en procesos energéticos y/o urbanísticos así como a particulares con interés en la materia relacionada con la eficiencia energética, su producción, distribución, etc. El acto es gratuito y requiere inscripción previa a través del formulario de la EPSEM: (<https://docs.google.com/forms/d/1WNS6E-wTSQzFQY-Cb3F0N6sg5HqJel1mBB0dR0C0bQ/viewform>).

Figure 6. Manresa stakeholders event: dissemination of the event in local media.

An article about the event was published in the local media after the event (Figure 7).



Figure 7. Newspaper article about the Manresa SEMANTCO event

A total of 43 people attended the workshop. The audience comprised a wide range of profiles, including architects, urban planners working in municipalities, engineers, university professors, members of political parties, social housing promoters, energy consultants, and students. All of the participants signed up in the web form hanged from FORUM's webpage where they had written down their name and profession. The detailed list of attendance can be seen in Appendix C.

Before starting the workshop, the delegates were given a folder with the following documents:

- a leaflet of the workshop,
- a leaflet of the project,
- a transcription of an article about SEMANTCO published on May 21, 2014 in the web portal www.prefieres.es, specialized in efficiency and refurbishment, and
- a questionnaire.

2.2.3 Speakers

The event started with a brief presentation by Mr. Ramon Bacardit, the Councillor of Urbanism and Mobility of Manresa.

The following talks were structured in three different blocks:

1. The relationship between Energy and Cities, from a technical, political and administrative point of view.
2. How are urban planners and decision makers taking into account energy issues in their daily work with new or existing urban structure.
3. The importance of energy information when it comes to take decisions in urban planning.

Block 1

Energy in today's world: Mr. Josep Puig

The first speaker was Mr. Josep Puig, current Director of Ecoserveis, an association dedicated to energy consultancy. Mr. Puig had been president of “Energie-Cités”, the European Association that works as representative of the municipalities in the relationships with the European Commission in energy issues, and also president of ICLEI –Local Governments for Sustainability (formerly known as International Council for Local Environmental Initiatives), the association that comprises more than 1200 cities, towns and counties and provides them support in the implementation of sustainable development at the local level.

Mr. Puig's talk focused on explaining the idea of energy and its relationship with humanity. He started reporting the dangers that the world is facing nowadays (smog, acid rain or nuclear accidents) and continued his speech refuting some myths about energy: there is no energy crisis, oil reserve problems only affect fossil and nuclear fuel; people are not energy consumers but energy users; and finally, more energy use does not mean more comfort. Mr. Puig examined then the technology that exists and how it can be used to assure a sustainable development. He concluded with an appeal to democratize the access to energy.

The challenge of energy efficiency in cities: Mr. Richard Elelman

After Mr. Puig, it was the turn of Mr. Richard Elelman, Head of Public Administration Projects of CTM Foundation and General Director of NETWERC H2O. CTM Foundation is an organization that aims to contribute to improving the competitiveness and technological progress of companies through the provision of specialized services and implementation of R&D/IT. NETWERC H2O is an association for European municipal and regional governments whose objective is the promotion and development of sustainable practices related to the management of water.

His talk highlighted the importance that municipalities have in the achievement of sustainable goals at global level and underlined the positive contribution that projects like SEMANCO can make to reaching these goals through local urban planning.

After the intervention of Mr. Elelman, there was an interesting debate among the attendees and the speakers that continued during the coffee break.

Block 2

Acting on existing buildings: Joan Carles Batanés

The following speaker was Mr. Joan Carles Batanés, delegate in the regional office of the College of quantity surveyors of Catalonia. He based his talk in presenting the platform for the promotion of building energy rehabilitation of Bages (region of which Manresa is capital). This platform is an initiative from the four professional colleges presents in Manresa and aims to promote the refurbishment of existing buildings using energy efficiency criteria. It was presented as a relevant social movement created by its own, without public intervention.

The Sustainable Energy Action Plans (SEAPs). The Manresa case: Manel Ribera

Mr. Manel Ribera is the Head of supply network and energy efficiency in the Manresa city council. He is one of the people in charge of the Sustainable Energy Action Plan (SEAP) in Manresa, a plan that was approved in October 2009 and that is compulsory for those municipalities associated to the Covenant of Mayors. This covenant is a European cooperation movement involving local and regional authorities that has the aim of reducing in no less than

a 20% the greenhouse gas emissions before 2020.

Mr. Ribera started his talk revising the different energy supply networks existing in the city. Afterwards, he explained in detail the SEAP and how it was prepared: the initial emissions evaluation, the analysis of the data, the action plan itself and the monitoring plan. He finally offered the results obtained so far: since 2005, the greenhouse gas emissions have decreased by about a 13% in the public sector (buildings, lighting and fleet) and by about a 27% in the city as a whole.

Mr. Ribera concluded by saying that the achieved success was not only due to the plan but it was also a consequence of the economic crisis. He added that the current legal framework does not make things easy but that there is still a margin to promote actions provided that there is a clear political will and appropriate technical engagement.

Urban planning today. The Manresa case: Ricard Torres

Mr. Ricard Torres is Head of the Urban Planning department in the Manresa city council. His talk focused on comparing different types of urban structure and analysing its strong and weak points according to environmental criteria.

During the first minutes of his speech, Mr. Torres focused on the description of different urban structures and how they are not only related to environmental conditions but also to culture and social indicators.

His presentation was very visual, and concluded by proving that different structures lead to different networks and to different ways of energy and water consumption. He ended by blinking an eye to the SEMANCO project saying that more information available would prove everything he was saying as true.

Environmental assessment and energy: challenges and opportunities: Laura Cid

Ms. Cid is an environmentalist and Head of Urbanism and Environmental Assessment at Lavola, a service company for comprehensive sustainability that supports and helps its clients to achieve economic, social and environmental sustainability. She explained to the audience how environmental assessment can have an impact on energy issues.

To begin with, she complemented the first talk of the workshop about energy in cities. She then defended that the key for a sustainable urban development was to follow a comprehensive and transversal vision of the urban system through three environmental goals: sustainable mobility, efficiency of buildings and building control (acoustic and lighting levels, but also transport infrastructure).

Lastly, Ms. Cid talked about the challenge that aims to redesign the existing model of resources consumption and generation, so as to maximize their reuse and final savings, and the opportunities that this new model could bring

Block 3

Information for decision making at domestic scale: Jordi Cipriano

After the second break it was the turn of Mr. Jordi Cipriano, Director of the BEE Group in CIMNE (The International Centre for Numerical Methods in Engineering, an autonomous research and development centre). The Buildings Energy and Environment (BEE) Group is an independent research group within CIMNE, which focus its R&D activities on methodologies and tools for the reduction of CO₂ emissions in the urban environment.

He provided a summary of various projects in which the BEE Group had participated, which aimed at providing energy consumption information to users in order to achieve a significant energy related behaviour change. The projects presented were ESESH, BECA and ENCERTICUS.

He sincerely expressed his opinion about the outputs of those projects, by saying that although users can achieve significant resource and money savings, the fact is that the cost of the technology needed to obtain the consumption data is too high as to consider this a viable savings method for small communities. It can be attractive though as an additional service that can be provided by large building developers (public or not) or even better by the same companies supplying the resources.

He ended his talk by encouraging the politicians attending the workshop to back these kinds of initiatives and implement them in their environmental policies that really push large resource companies towards the delivery of such services.

Information for decision making at urban scale: Joan Oliveras

Mr. Joan Oliveras from FORUM, was the SEMANTCO representative attending the workshop. As such, he took care of introducing both the project and the platform.

He first provided an overview of the project, the aims, partners and budget. His speech went from the original diagrams explaining the role of data, passing quickly through the semantic and ontology definitions, and ended up on the decision making process.

Right after this brief introduction, Mr. Oliveras made a live demonstration of the SEMANTCO platform following the same process as the one implemented in the second round of demonstrations.

After the last talk, Mr. Jordi Serracanta, Environmental Councillor of the city of Manresa, gave the closing speech. He thanked all the speakers and congratulated the SEMANTCO consortium for their good work and said he has eager to see the final version of the platform.

2.2.4 Evaluating the event

The attendees filled in a questionnaire and gave it to the FORUM representatives. People who did not fill in the questionnaire in situ received an online version of it by mail afterwards and filled it later on. A total of 24 people answered it.

At the end of the workshop, 4 of the participants (3 speakers and 1 attendee) made an informal session using the platform, in order to evaluate its functionalities. It took place in a computer room in the same university (Figure 8).

During the session, the participants were able to perform the set of activities done during the live demonstration in the morning, and to deal with the same issues that arose during the real demonstration. Participants could use the platform freely, navigating through the 3D model, filtering data, and editing parameters.



Figure 8. Hands-on session of the SEMANTCO platform, Manresa event

A specialized company recorded the workshop activities and is now producing a video with images of the interventions and of the slides used to illustrate the talks. These videos will be used as raw material for other dissemination purposes and also uploaded into a YouTube channel.

A significant amount of new members to be included in the dissemination network were acquired due to the event.

2.3 The Copenhagen Workshop

2.3.1 Introduction: Tools for designing energy efficient cities – experiences and challenges

Ramboll hosted the workshop “Tools for designing energy efficient cities – experiences and challenges” on May 28, 2014 in the Copenhagen headquarters (Figure 9). The aim of the workshop was to disseminate the latest outcomes of the SEMANTCO project and to have a broader discussion with stakeholders and share knowledge of tools and cases dealing with sustainable urban development.



Figure 9. Event location: Ramboll headquarters, Copenhagen

The workshop explored some of the current challenges related to sustainability for urban development projects in a green field planning situation and the energy planning tools and sustainability tools applied to current projects in Denmark.

2.3.2 Attendance

Ramboll was keen to attract planners, researchers and decision maker from Urban Developing Companies, Local Authorities, Utility Companies, Universities and Architects as these were some of the target groups the European Commission had asked us to reach out to in our third year of dissemination. The invitation was sent to a targeted group of Ramboll's contacts in Denmark.

48 delegates registered for the event resulting in 42 attending on the day. Delegates were from a range of sectors and organisations including Urban Developing Companies, Local Authorities, Utility Companies, Universities and Architects (Figure 10). A full delegate list can be seen in Appendix C.



Figure 10. Copenhagen stakeholder event

2.3.3 Speakers

Seven speakers were invited to participate in the event. A brief summary of the speakers' presentation is given below:

- Lars Erik Høgenhaven Larsen, Director for Ramboll Energy, opened the event by welcoming the delegates and highlighting the importance of sustainable urban development when planning for new cities; he presented the green city index showing the top 30 cities from Europe and North America and Ramboll's presence on those markets.
- Nadeem Niwaz, M.Sc., Energy, Energy Supply and Planning at Ramboll presented the SEMANTCO project as a project that supports the 2020 goals in EU. The need of tools to document these goals was highlighted. Many different partners are involved in the project, both public and private. The project focuses on new as well as existing cities. Main activities are; structuring energy data, classification of buildings, visualising the energy consumption in a city, projection of energy consumption, and calculation of relevant indicators. The platform

should help the city development and lead to a visualisation via a 3-D platform. The tool that Ramboll has been involved in developing is based on the city development in the North Harbour.

- Martin Fogsgaard Nilsson, Energy Planner at Ramboll presented and demonstrated the three cases in the SEMANCO project; Manresa, Newcastle and the North Harbour in Copenhagen:

- Manresa in Spain; looking at modernising the buildings in the historical centre and calculating the effects of shadows. A challenge has been to find the data needed in order to develop the tool.
- Newcastle; looking at urban regeneration in parts of the city. It focuses on the fuel poverty in Newcastle, and therefore operates with the socio economic data. The platform shows where fuel poverty would occur. With a zoom in to the building scale you can see how efficient a building is using the energy. In the SAP tool you can change the data that is used to find the SAP rating.
- The North Harbour, Copenhagen; looking at developing a new city part. Focuses on the energy supply that can incorporate renewable energy. Also focuses on the effect of changing scenarios. The tool can calculate the different scenarios and help to choose the most cost effective one. It is possible to choose the year of construction of the building and the energy supply connected to the building.

- Kirsten Ledgaard, Project Director at CPH City & Port Development presented the North Harbour case. CPH City & Port Development takes care of the development in the city of Copenhagen and the harbour area. In 2008 there was a contest on the architecture design of the North Harbour area. They had to develop a strategic plan for the infrastructure, with a big focus on the future plans for the city. A local plan for three parts of the North Harbour area was developed in 2013. There are three storehouses at the harbour area that would be nice to mix with private housing. The container harbour and the cruise wharf will have to be moved further out into the water (that will be filled with soil) in order to make space for the housing. Requirements for the competition; An environmental friendly city, a city at the water, a city for everyone, a dynamic city, a city of green mobility and a vibrant city. The project has worked with different partners both private and public. There is a focus on; smart energy, smart house, street lighting, electric cars, low temperature district heating, district cooling, heat storage, geothermal energy, common energy data. The project has been used for a pilot project for the DGNB certifications and achieved a gold medal in the certification process.

- Claus Ravn at Realdania By talked about experiences with sustainability tools. Realdania By often work with partners involved in urban development projects. Realdania By looks at how the development of the cities do not harm the environment, take into account old parts of the cities, focus on the social sustainability in the cities. Focus on temporary activities, stakeholders, tools for sustainable city development, financial cohesion. Realdania tries to gather their different experiences in reports; gathers energy solutions in a sustainable city development, shows different cases and technologies and different model calculations (the lighthouse, the moderate sustainable city, the sustainable dome, the global sustainable solution (no effect on the surroundings). The tool for sustainable city development developed by Realdania has been based on environmental (energy, transport, water and waste), social (physical frames, city life, health and diversity) and economical (overall economy) considerations. The tool works with 23 indicators that covers all of the areas mentioned above. From this it is possible to give points to different proposals and the suggested indicators based on a benchmark. The indicators can be used to describe the sustainable city development and used as a check list to improve the relevant conditions of the city and can be

optimized/changed accordingly.

- Thomas Sichelkow, Project Director Frederikssund Municipality presented the Urban development project Vinge. Vinge will be a city with 20,000 citizens and 5,000 working places. There will be a “green heart” in the middle of the city for vulnerable road users and activities. There will be a station for the train that will be incorporated in a special way. The original plans were made in 2006 before the financial crisis which caused a lot to change. The focus is on how to work in a global context so it is possible in the future to connect into a larger network. In the city there is a goal to use the rain water and incorporate it in the nature landscape. It is a high density housing area where the houses are at a minimum of two storeys. The focus is on how to make the citizens aware of using the outdoor areas and get them to take ownership.

- Anders Dyrelund, Market Manager at Ramboll Energy presented the case of the city of Carlsberg and NYE city. The hidden backbone of the liveable city; the production of the energy is placed outside the city so only visually nice looking features are placed in the city (e.g. green roofs). There is a lot of focus on socio economic. CO₂ is included in the social economic results.

- The Carlsberg City: The first intention was to make the city isolated CO₂ neutral, but this was showed not to be very sustainable. A more sustainable solution would be to connect the network and then buy a part in e.g. wind turbines. A low temperature area is desired but would mostly be helpful when the nearby Valby city also converts into a low temperature area.
- NYE: Is located in Jutland where there is a light rail located in the middle of the city. The district heating was planned based on the drawings of the new city. It is important to get the heat pumps and district heating separated so the district heating suppliers will still join the project.

- Nadeem Niwaz, Project Manager at Ramboll presented relevant sustainable urban development and planning tools focused on energy planning from a current, short time and longtime perspective. GIS-platforms are often used in the work carried out by Ramboll in order to consider all the different aspects for a master plan in the city development project (such as climate adaptation, environment, energy supply, traffic, waste management and so on). GIS-platforms combined with specific district heating grid analysis tools and energy system analysis tools along with economic models are used to carry out the required energy analysis. More detail and specific tools to e.g. simulate different energy supply and storage technologies developed in Excel can be used as well. The energy storage is an important factor in order to balance the energy supply. Other simple tools to document that central transport and energy solutions are more sustainable compared to individual solutions from a CO₂ point of view have been developed as well.

- Thomas Leerberg, Project Director Ramboll introduced the common discussion session by presenting the ideas behind the DGNB certification. In the DGNB certificate there is a focus on 45 different indicators. The North Harbour was used as a pilot project. Every new sustainable development project might be seen as a pilot project. Therefore you will need a dynamic tool in order to fit the situation to the changing circumstances. The projects need to think of the changes over time. To document the city quality with regards to the energy supply is a challenge. SEMANCO might be able to visualise and document the sustainability of individual energy supply to buildings vs. district heating or other kinds of central energy supply solutions.

The event agenda can be seen in Appendix A.

2.3.4 Evaluating the event

Delegates were asked to complete an evaluation form after the event. 19 out of 41 delegates completed the evaluation process. Ramboll was satisfied with the response rate. The outcomes of these forms with relation to SEMANTCO can be found in section 3 below.

Ramboll was delighted with the event and delegate feedback was extremely positive. Delegates appreciated the contents of presentations positively and participated in lots of discussion around SEMANTCO and sustainable urban development tools. The delegates will be added to the dissemination network.

3 STAKEHOLDER EVALUATION RESULTS

3.1 Introduction

As well as the more qualitative evaluation results produced from round table discussions within each of the events, the decision was made to conduct a simple quantities evaluation, focusing on aspects relating to the potential future exploitation of the SEMANTCO tools. In order to ensure a healthy response rate a simple questionnaire was used that the stakeholders attending each event were invited to complete. This is described in section 3.3 below.

3.2 Meeting Participants

When considering the results of such quantities evaluations, the range of people attending each event is a crucial factor. This information was gathered for each of the events and is presented below in the series of pie charts below (Figures 11-13).

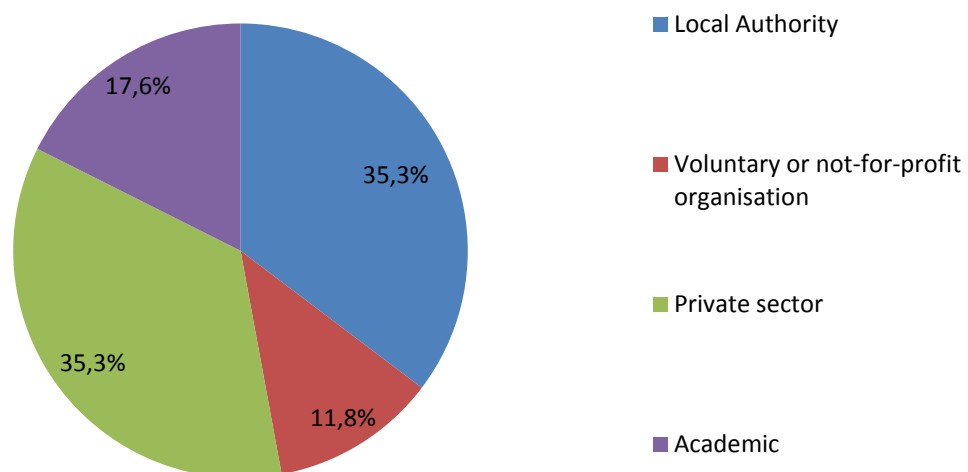


Figure 11. Sectors of delegates attending Newcastle event

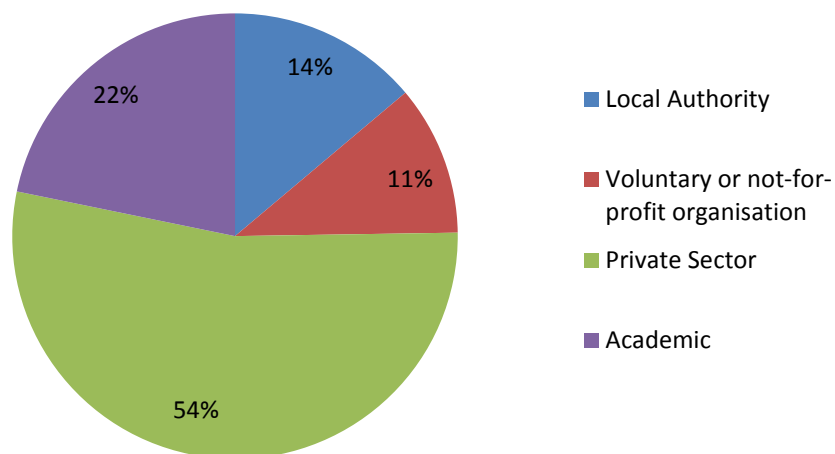


Figure 12. Sectors of delegates attending the Manresa event

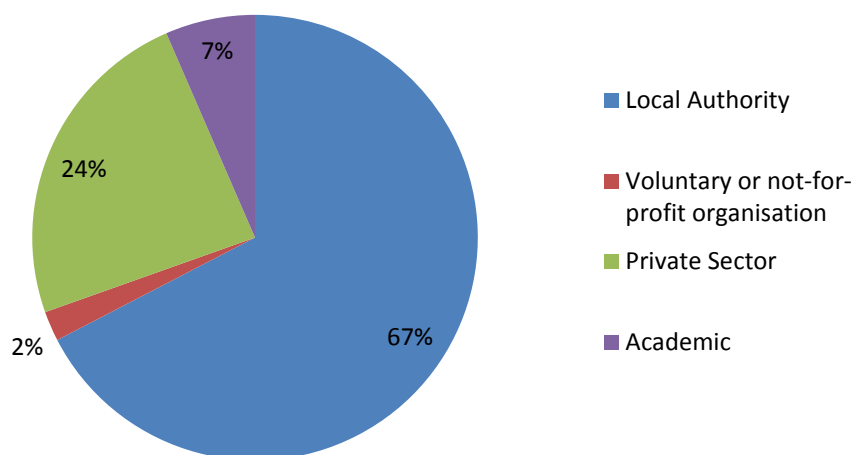


Figure 13. Sectors of delegates attending Copenhagen event

As can be seen from these pie charts, each of the events attracted people from a range of different sectors and backgrounds. Copenhagen had a greater emphasis on the public sector, Manresa on the private sector and Newcastle was more evenly spread.

3.3 Evaluation Results

The basic methodology used for the quantitative portion of the evaluation in these workshops was a simple questionnaire in which the stakeholders rated their answer for each of seven questions on a scale of 1 to 5 where 1 denotes strong disagreement and 5 strong agreement. This method of evaluation was chosen in order to maximise the overall number of responses received, and achieved this goal with roughly half of all delegates returning completed questionnaires.

The following seven questions were evaluated at each of the workshops (in the case of the NEA event, a fuller questionnaire which also evaluated the running of the event was used, please see questionnaire in Appendix B):

- Question 1** I think the tools (SEMANTCO) presented can be used in my everyday work.
- Question 2** I think the tools presented (SEMANTCO) are easy to understand and use.
- Question 3** I already have a tool that provides me with this kind of information, or similar.
- Question 4** The SEMANTCO tool could help Local Authorities and other agencies make more informed decisions regarding regeneration in the built environment.
- Question 5** The SEMANTCO tool could help Local Authorities and other agencies make more informed decisions to improve the lives of local citizens.
- Question 6** The SEMANTCO tool could help Local Authorities and other agencies make decisions to inform carbon reduction in the built environment.
- Question 7** I would be willing to pay for the services that SEMANTCO could offer.

As can be seen the questions asked had particular relevance to the potential future exploitation of the SEMANTCO tool and were thus especially appropriate in the context of stakeholder workshops.

Each of the events handed out paper copies of the 7 questions above, with Newcastle and Manresa also offering the option of later completion online. In total Newcastle received 18 answers, Copenhagen 19 and Manresa 24. This represents a healthy response rate, in line with the design goals of the questionnaire. Figure 14 below summarises the average values for the answers to these questions:

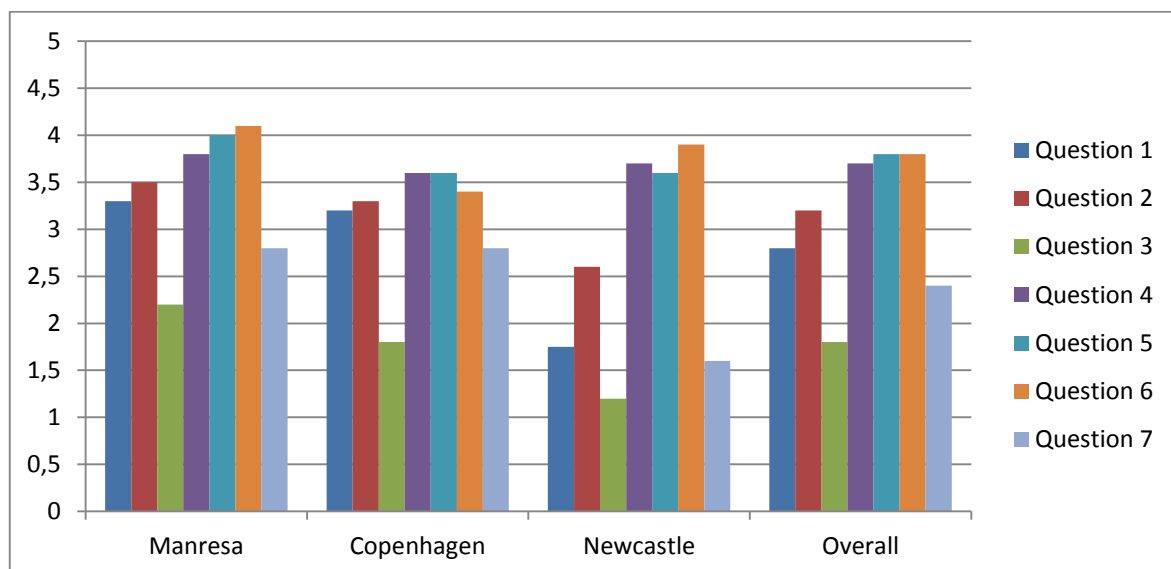


Figure 14. Overall answers to questionnaires

There are several items of interest in the results above. The first is that the results are mostly fairly uniform across the three case study areas. This provides some comfort as to the accuracy of the results.

The agreement is especially notable in the case of questions 4-6 which involving judging the potential utility of the tool for local authorities. This was clearly felt to be a very viable option in all of the case study areas, indicating that the tools developed in the project take account of the local needs of each area.

Question 2, which evaluates the perceived ease of use of the tool, had answering clustering around the tool being averagely hard to use. This is as good as might be reasonably expected for an unfamiliar prototype tool.

Questions 1, 3 and 7 all relate to the work of the individual answering the questionnaire. Overall the answers to Question 3 indicate that there is a gap in the market regarding the sort of tool that SEMANTCO provides, and those to Question 1 suggest that a reasonable number of those answering might be able to use the tool.

The answers to Question 7 highlight one potential major problem with the exploitation of SEMANTCO – the types of end user being targeted by the tool are often rather reluctant to commit to capital expenditure. This potential challenge will be considered in both the exploitation plans for the project and in the forthcoming Deliverable 6.3 *Identifying implementation strategies and business models*.

It is natural that the answers to these questions were lower than those related to the use of the tool by local authorities. While all of the people at the events worked in areas related to SEMANTCO, they had a wide range of backgrounds and many of them would not be expected to use SEMANTCO themselves.

This is especially marked in the case of Newcastle where the answers to all of the questions regarding the personal use of SEMANTCO were rather lower. Since this included Question 3 concerning who had access to similar tools, this strongly suggests that the sub-sample of the people attending the Newcastle meeting who completed their questionnaires were relatively less likely to want a similar tool themselves. The answers to Questions 4-6 show that the delegates definitely felt the tools to have potential use in the context of Newcastle.

In addition to the questionnaire results described above, one piece of information from the extended NEA questionnaire in Appendix B is of particular relevance. Here people were asked about the level of knowledge of SEMANTCO both before and after attending the event. The increase, seen in in Figure 15 below, was considerable and clearly indicates that the delegates felt they had received a large quantity of useful information regarding SEMANTCO from the event.

In addition the attendees showed considerable willingness to learn more about SEMANTCO, as was shown by the considerable number of attendees who joined the SEMANTCO dissemination network after the events.

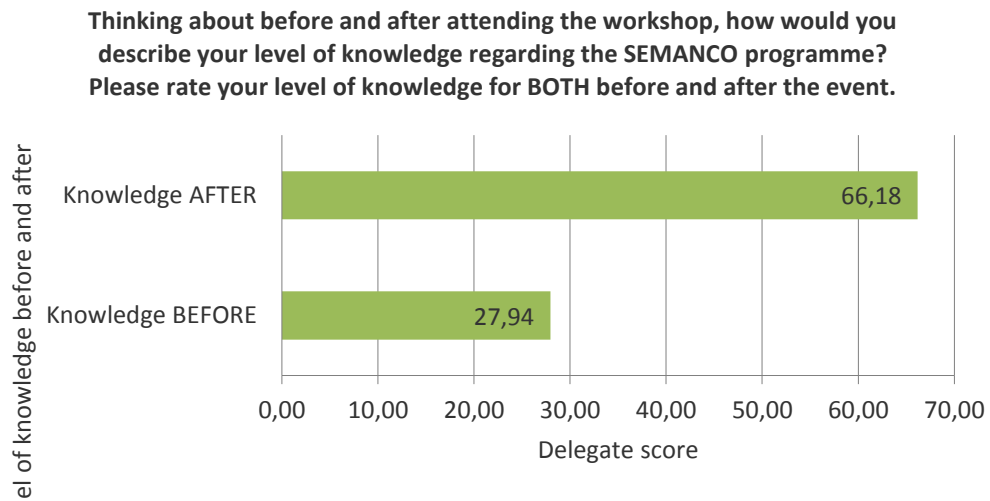


Figure 15. Level of knowledge regarding the SEMANTCO programme

4 CONCLUSIONS

4.1 Contribution to overall picture

The hosting of the stakeholder workshops as part of Task 7.5 provided a valuable opportunity for the SEMANTCO project to present the final results of the project to stakeholders and to reflect on these results. Doing so provided two principal contributions to the project:

- By presenting the results to a large number of stakeholders in relevant areas, it completed the cycle of user feedback which was originally started with the development of the dissemination network.
- The feedback gathered from the end users regarding the platform provided very valuable feedback for guiding any future exploitation efforts regarding the SEMANTCO platform. This includes not only potential changes that should be made to that software but also guidance as to which sorts of users were most interested in the project.

4.2 Impact on other WPs and Tasks

Since the evaluation sessions conducted as part of Task 7.5 were summative, their principal impact is on activities that might occur after the end of the SEMANTCO project. In particular the evaluation feedback gathered will provide highly useful information for any potential exploitation building on the results of SEMANTCO.

This information will be fed into the development of the exploitation plan to be presented as Deliverable 7.4 *Exploitation plans*. In addition, many extra members of the dissemination network were signed up and will be provided to the work in Task 7.2.

4.3 Contribution to demonstration

The results of Deliverable 7.5 were gathered after the completion of the main implementation and development work within the project. Besides, the events were used as a basis to capture videos regarding the stakeholders use of SEMANTCO, thus forming a contribution to the new task Task 7.6 *Development of an Energy Services Platform portal*.

5 APPENDICES

APPENDIX A. Workshop Agendas

The following appendix contains a copy of the full programme for each of the events. As can be seen, each of the events had a very similar format and contained both SEMANTCO related speakers and speakers on a range of related topics.

A.1 Newcastle Event Programme: Planning for Low Carbon Communities

Location: Central Square, Forth Street, Newcastle upon Tyne, NE1 3PJ

Date: Thursday 22 May, 2014

| | |
|-------|---|
| 9:00 | Registration |
| 9:30 | Welcome <i>Chaired by Jenny Saunders, Chief Executive, National Energy Action</i> |
| 9:40 | Introduction to low carbon energy tools, techniques and models <i>Professor Nashwan Dawood, Technology Futures Institute, University of Teesside</i> |
| 10:00 | SEMANTCO Demonstration 1: Riverside Dean, Newcastle upon Tyne <i>David Lynch, Senior Research and Policy Officer, NEA</i> |
| 10:15 | SEMANTCO Demonstration 2: Copenhagen North Harbour, energy modelling for a major new sustainable urban extension <i>Nadeem Niwaz, M.Sc., Energy, Energy Supply and Planning, Ramboll</i> |
| 10:45 | Q&A |
| 11:00 | Refreshment break and networking |
| 11:20 | Case study: Large scale retrofitting - Energy modelling in Leicester Square Mile <i>Andy Stephenson, Square Mile programme, Leicester (Knowledge exchange partnership, East Midlands Housing Association)</i> One Planet Living, Middlehaven, Middlesbrough <i>Mark Barlow, Director, DKS Architects</i> |
| 12:00 | Q&A |

A.2 Manresa Event Programme: Ciutats i Energia (Cities and Energy)

Location: Sala d'Actes de la Escola Politècnica Superior d'Enginyeria de Manresa

Date: Wednesday 29 May, 2014

| | |
|-------|---|
| 9:30 | Welcome (Benvinguda) <i>Ramon Bacardit, Councillor of Urban and Mobility, Ajuntament de Manresa</i> |
| | Energy in today's world (L'energia en el món d'avui) <i>Josep Puig, Environmental Engineer, Director at Ecoserveis</i> The challenge of energy efficiency in cities (El repte de l'eficiència energètica a la ciutat. Energycities) <i>Richard Elelman, Head of Public Administrations, Fundació CTM Centre Tecnològic</i> Discussion session |
| 10:05 | Break |

| | |
|--------------|---|
| | <p>Acting on existing buildings (Actuar sobre els edificis existents) <i>Joan Carles Batanés, Delegate, CAATEEB</i></p> <p>The Sustainable Energy Action Plans (SEAPs). The Manresa case (Els plans d'Acció per a l'Energia Sostenible (PAES). El cas de Manresa) <i>Manel Ribera, Engineer, Head of Networks Services, Ajuntament de Manresa</i></p> <p>Urban planning today. The Manresa case (El planejament actual. Un exemple a Manresa) <i>Ricard Torres, Head of Urban Planning Department, Ajuntament de Manresa</i></p> <p>Environmental assessment and energy: challenges and opportunities (Avaluació ambiental i energia: reptes i oportunitats) <i>Laura Cid, Environmental expert, Lavola</i></p> <p>Discussion session</p> |
| 13:00 | Break |
| 11:05 | <p>Information for decision making at domestic scale (La informació en la presa de decisions a escala domèstica) <i>Jordi Cipriano, Engineer, Director BEE Group / CIMNE</i></p> <p>Information for decision making at urban scale (La informació en la presa de decisions a escala urbana) <i>Joan Oliveras, Architect, Technical Director, FORUM</i></p> <p>Discussion session</p> |
| 14:35 | <p>Conclusions <i>Jordi Serracanta, Councillor of Environment, Ajuntament de Manresa</i></p> |

A.3 Copenhagen Event Programme: Tools for designing energy efficient cities – Experiences and challenges

Location: Ramboll, Hannemanns Alle 53, 2300 Copenhagen, 2nd floor room 2131

Date: Wednesday 28 May, 2014

| | |
|--------------|--|
| 9:00 | Welcome and registration |
| 9:05 | <p>Welcome <i>Lars Erik Høgenhaven Larsen, Director at Ramboll</i></p> |
| 9:10 | <p>SEMANCO: EU project (FP7) about sustainable urban development . Presentation of a European research project focusing on tools to visualize energy consumption in buildings, neighbourhoods and cities. <i>Nadeem Niwaz, Project Manager and Martin Fogsgaard Nilsson, Energy Planner at Ramboll</i></p> |
| 9:40 | <p>Urban development in Copenhagen. North Harbour – demand, challenges and opportunities for sustainable energy <i>Kirsten Ledgaard, Chief Consultant at CPH City & Port Development</i></p> |
| 10:00 | <p>Urban development Fredericia C & Koege Kyst. Demand, challenges and opportunities for sustainable energy <i>Claus Ravn, Chief Consultant, Realdania By</i></p> |
| 10:30 | Break |
| 10:45 | Urban development Vinge in St. Roerbaek. Including DGNB certification, test and |

| | |
|--------------|--|
| | demonstration of buildings supplied by renewable energy <i>Thomas Sichelkow, Project Director, Frederikssund Municipality Sustainability in Vinge</i> |
| 11:05 | City of Carlsberg and NYE. Choice of energy solutions for the City of Carlsberg and the new urban area by Elev and Lystrup with focus on socio economic costs and benefits <i>Anders Dyrelund, Market Manager, Ramboll</i> |
| 11:25 | Sustainable urban development and planning tools. What considerations do energy planners have about sustainability, energy and climate, and what tools can be used in the planning process? <i>Nadeem Riwaz, Project Manager, Ramboll</i> |
| 11:45 | Open discussion: Future challenges <i>Thomas Leerberg, Project Director, Ramboll</i> |
| 12.25 | Conclusions <i>Thomas Leerberg, Project Director, Ramboll</i> |

APPENDIX B. Evaluation Questionnaire

The following is the full questionnaire used after the Newcastle event. Since the NEA wished to also evaluate peoples opinions regarding their overall hosting of the event, a fuller questionnaire was used here than in the other events.

B.1 Questionnaire

NEA invites you to take part in this short survey to help us measure the impact of NEA's recent workshop.

Please take a few minutes to complete the following short questions. Please note that all answers will be treated in confidence and results presented in an aggregated format.

2. About you

1. Please provide your name, organisation/company and contact details below.

This information will only be used for classification purposes, or to keep you informed of NEA activities/events where you have consented. We will not share your details with other organisations or third parties without your permission to do so.

| | | | |
|-----------------|----------------------|-------------------|----------------------|
| Name.... | <input type="text"/> | Job Title... | <input type="text"/> |
| Organisation... | <input type="text"/> | Email address.... | <input type="text"/> |

2. Which of the following professional roles and functions are undertaken within your organisation? (Please delete as appropriate)

Strategic Urban Planning/Planning Policy/Development Finance/Architectural Design/Options appraisal and evaluation/Project management/Provision of infrastructure/Energy supply and Management/Housing and property rentals/Monitoring, review and assessment/Education and research/other (please specify)

3. To which sector do you belong? (Please delete as appropriate and select only one):

Central Government /Local Authority / Voluntary or not-for-profit organisation / Private sector/
Private housing/ Social housing/ Academic/ other (please state if other) _____

4. In which English regions or nations of the UK do you primarily operate?

UK-wide/GB-wide/England/Northern Ireland/Scotland/Wales/England: North East/England: North West/ England: Yorkshire & Humberside/ England: East Midlands/ England: West Midlands/ England: Eastern/ England: South East/ England: London/ England: South West/ Other (please specify)....

2. Prior to attending the workshop had you visited the SEMANTCO or NEA website to find out further information?

Yes, I visited the SEMANTCO website

Yes, I visited the NEA website

No, I didn't visit either website

4. Organisation of the event:

1. Please rate each aspect of the workshop listed below:

| Aspects of the workshop (a-f) | Very poor | Poor | Average | Good | Excellent |
|-------------------------------------|-----------|------|---------|------|-----------|
| a) Administration pre event | 1 | 2 | 3 | 4 | 5 |
| b) Administration on the day | 1 | 2 | 3 | 4 | 5 |
| c) Venue location | 1 | 2 | 3 | 4 | 5 |
| d) Standard of presentations | 1 | 2 | 3 | 4 | 5 |
| e) Content of presentations | 1 | 2 | 3 | 4 | 5 |
| f) Overall standard of the workshop | 1 | 2 | 3 | 4 | 5 |

2. Which presentation was of the most interest and benefit to you? Please tell us why.

5. Event Outcomes

1. Thinking about before and after attending the workshop, how would you describe your level of knowledge regarding the SEMANTCO programme?

Please rate your level of knowledge for BOTH before and after the event.

| | None | Limited | Average | Fairly good | Excellent |
|-----------------------|------|---------|---------|-------------|-----------|
| Your knowledge BEFORE | 1 | 2 | 3 | 4 | 5 |
| Your knowledge AFTER | 1 | 2 | 3 | 4 | 5 |

6. Your perceptions of the SEMANTCO tool:

1. Please evaluate from 1 to 5 the level of agreement (5) or disagreement (1) with the following statements:

| | Disagree | | | | Agree |
|---|----------|---|---|---|-------|
| I think the tools presented can be used in my everyday work. | 1 | 2 | 3 | 4 | 5 |
| I think the tools presented are easy to understand and use. | 1 | 2 | 3 | 4 | 5 |
| I already have a tool that provides me with this kind of information, or similar. | 1 | 2 | 3 | 4 | 5 |
| The SEMANTCO tool could help Local Authorities and other agencies make more informed decisions regarding regeneration in the built environment. | 1 | 2 | 3 | 4 | 5 |
| The SEMANTCO tool could help Local Authorities and other agencies make more informed decisions to improve the lives of local citizens. | 1 | 2 | 3 | 4 | 5 |
| The SEMANTCO tool could help Local Authorities and other agencies make decisions to inform carbon reduction in the built environment. | 1 | 2 | 3 | 4 | 5 |
| I would be willing to pay for the services that SEMANTCO could offer. | 1 | 2 | 3 | 4 | 5 |

2. Please use the space below to provide any additional comments:

7. Any gaps in our workshop:

Please tell us briefly about:

Any areas you feel should have been covered in the workshop that were not?
Any issues or topics you would like to see addressed in NEA's future events?

8. NEA information and events:

Would you like to receive further information about SEMANTCO and/or general information about NEA's work, where we think it is relevant to you and your areas of interest?

Please note that this will involve your contact details being stored on NEA's contacts database.

Yes, please send me information about the SEMANTCO programme

Yes, please send me information about NEA

No thanks

9. Any further comments:

Please provide any further comments you wish to make in the box below:

NEA thank you for your time.

NEA will use your valuable feedback to help measure the impacts of the workshop and to help inform the design and content of future events.

We look forward to seeing you again at future NEA events.

APPENDIX C. Workshop Attendance

The current appendix includes full details of the people attending each of the workshops.

C.1 Newcastle Event

| SURNAME | FORENAME | JOB TITLE | ORGANIZATION |
|------------|-----------|---------------------------------------|----------------------------------|
| Algirni | Eid | PHD Student | University of Teesside |
| Atkinson | Andrew | Energy Manager | Sunderland City Council |
| Barlow | Mark | Partner | DKS Architects |
| Bush | Ruth | PhD researcher | University of Leeds |
| Carpenter | Martin | Research Associate | University of Teesside |
| Clear Hill | Hugh | Sustainability Programme Manager | Northumberland County Council |
| Crawshaw | Timothy | Built and Natural Environment Manager | Darlington Borough Council |
| Crilly | Michael | Research Associate | University of Teesside |
| Davison | Geoff | Managing Director | Concept Informatics Ltd |
| Dawood | Nashwan | Technology Futures Institute | University of Teesside |
| Dobby | Claire | | Durham County Council |
| Dunlavy | Nina | Communications Officer | National Energy Action |
| Ennis | Chris | Senior Lecturer in Energy Management | University of Teesside |
| Flannery | Vincent | Module Leader | Together Housing Group |
| Ford | Chris | | |
| Galatioto | Fabio | Research Fellow | Newcastle University |
| Gillon | Peter | Energy Assessor | PG EPCS |
| Goodchild | Elizabeth | Green Economy Officer | Darlington Borough Council |
| Gooding | Jo | National Coordinator | UK CoHousing Network |
| Henderson | Claire | Communications Officer | National Energy Action |
| Jessett | Cliff | Corporate Project Manager | Newcastle City Council |
| Jones | Alan | Business Development Manager | Tadea UK |
| Leddy-Owen | Edward | Sustainability Officer | Rykneld Homes Ltd |
| Lynch | David | Senior Research and Policy Officer | National Energy Action |
| Mather | Nicola | Development Manager | GB Group |
| Mulyani | Rini | Lecturer | Bung Hatta University, Indonesia |
| Nevett | John | Relationships Manager | E.ON UK |
| Nicholls | Christine | Community Development Officer | Community Action Northumberland |

| SURNAME | FORENAME | JOB TITLE | ORGANIZATION |
|-------------|------------|---|--------------------------------------|
| Niwaz | Nadeem | M.Sc., Energy, Energy Supply and Planning | Ramboll |
| Orr | David | Neighbourhood Manager | Newcastle City Council |
| Phillips | Andrew | Project Manager | Newcastle Science Central |
| Rahmantalab | Maral | Architect | Xsite Architecture |
| Saunders | Jenny | Chief Executive | National Energy Action |
| Scott | Raini | Commercial Services Manager | Scotia Gas Networks |
| Stephenson | Graeme | Partnership Development Manager | British Gas Warm Up North |
| Stephenson | Andy | Managing Director | Deep Green Sustainable Solutions Ltd |
| Thomson | Stuart | Student | Glasgow Caledonian University |
| Thornhill | Matthew | | South Tyneside Homes |
| Turner | Aleksandra | Welfare Rights Officer | Durham County Council |
| Wardrobe | Maria | Director of External Affairs | National Energy Action |
| Williamson | Richard | Environment and Climate Change Manager | City of Bradford Council |
| Wilson | Ashley | Energy Technician | Gateshead Council |

C.2 Manresa Event

| SURNAME | FORENAME | JOB TITLE | ORGANIZATION |
|--------------------|----------------------|-------------------------------------|---------------------------------------|
| Alemán | Gemma | Journalist | Regio 7 |
| Amer Capdevila | Sergi | Head of Urban Planning Department | Ajuntament de Martorelles, Arquitecte |
| Amores | Guillem | Enterprise responsible | Respira Energia |
| Bacardit | Ramon | Councillor of Urbanism and Mobility | Ajuntament de Manresa |
| Batanés | Joan Carles | Delegate | CAATEEB |
| Berenguer | David | Engineer | Associació Azimut Zero |
| Bergés | Montse | Environmental expert | ECOSTUDI |
| Borrell Bru | Josep M ^a | Architect | IMPSOL |
| Carné Cabré | Jaume | Architect | Private architectural office |
| Casado Colorado | Joan Josep | Engineer | Private engineering office |
| Casaldàliga Albisu | Pau | Architect | Càtedra CEIM |
| Casas Sabata | Josep Maria | Researcher | UNIVERSITAT POLITÈCNICA DE CATALUNYA |
| Casas Santoyo | Marta | Architect | Private architectural office |

| SURNAME | FORENAME | JOB TITLE | ORGANIZATION |
|-------------------|--------------|-------------------------------------|--|
| Cid | Laura | Environmental expert | Lavola sostenibilitat |
| Cipriano | Jordi | Engineer, Director | BEE-Group / CIMNE |
| Collado Hinarejos | Joan | Public lightning expert | Ajuntament de Manresa |
| Cunill Solà | Jordi | Higher Education | Universitat Politècnica de Catalunya - UPC |
| De las Heras Cisa | Xavier | Student | EPSEM-UPC |
| Donoso Cosodo | Joan | | |
| Elelman | Richard | Head of Public Administrations | CTM Foundation |
| Fàbrega | Anna | International projects | FORUM |
| Font Soldevila | Josep | Researcher | UPC |
| Galindo | Jordi | | |
| Galvan Tàpia | Ricard | Citizen, politician | Iniciativa per Catalunya |
| Gamboa | Gonzalo | Researcher | CIMNE |
| Garcia Vilaplana | Jordi | Architect | Architectural office |
| Gómez Pino | Hector Jesús | | |
| Granados Pérez | Remei | Architect | IMPSOL |
| Iglesias | Conchi | Architect | Architectural office |
| Illa | Carme | Business agent | Industrial BREINCO |
| Luján Galí | Josep | Enginner | CETIM |
| Marcet | Albert | Engineer | Renergia |
| Marcet | Arnau | Student | UPC Manresa |
| Masana Botella | Enric | Architect | SUMMA |
| Massaneda Drets | Enric | Maintenance engineering | ELÈCTRICA PINTÓ, S.L. |
| Miranda Tomás | Noelia | Architect | IMPSOL |
| Montiel Portella | Toni | Engineer | Private engineering office |
| Naval Marcos | Xavier | Head of GIS department | Ajuntament de Manresa |
| Oliveras | Joan | Architect, Technical Director | FORUM |
| Orriols | Raül Ramon | Building engineer | Arquitecte tècnic privat |
| Puig i Boix | Josep | Enviromental engineer, Director | Ecoserveis |
| Pujolà Calsina | Marc | Head of public lightning department | Ajuntament de Manresa |
| Reguant | Anna | Architect | Private architectural office |

| SURNAME | FORENAME | JOB TITLE | ORGANIZATION |
|---------------------------|----------|-----------------------------------|---|
| Ribera | Manel | Engineer | Ajuntament de Manresa |
| Sabaté Rovira | Xavier | Student | Estudiant Eng. Mines i Recursos Energètic |
| Sanclimens Solervicens | Marc | Citizen | |
| Serracanta | Jordi | Councillor of Environment | Ajuntament de Manresa |
| Soler Moreno | Josep | Head of Urban Planning Department | Ajuntament de Balsareny |
| Solera Lujan | Manuel | Urban lightning maintenance | SECE |
| Torres | Ricard | Head of Urban Planning Department | Ajuntament de Manresa |
| Urraca | Oscar | | |
| Vivancos | Santi | Engineer | Natura i Eficiència, S.L. |

C.3 Copenhagen Event

| SURNAME | FORENAME | JOB TITLE | ORGANIZATION |
|-------------|---------------------|-----------------------|---------------------------------|
| Amer | Sara | Ph.D Student | Technical University of Denmark |
| Andersen | Bjoern Raagaard | Architect | Hilleroed Municipality |
| Andersen | Joergen Eskemose | Architect | KADK |
| Birch | Claus | Energy Consultant | Taarby Municipality |
| Boldt | Joergen | Project Manager | HOFOR |
| Carstens | Natasha | Traffic Coordinator | Broendby Municipality |
| Claus | Ravn | Chief Consultant | Realdania By |
| Corvalán | Javier | Urban Planner | Taarby Municipality |
| Dyrelund | Anders | Market Manager | Ramboll |
| El-khatib | Wisam | Energy Consultant | Albertslund Varmevaerk |
| Fogmar | Janne | Environmental Officer | Glostrup Municipality |
| Frederiksen | Rose | Student | Technical University of Denmark |
| Glarbo | Sigrid | Urban Planner | Albertslund Municipality |
| Gottschalch | Regitze | Energy Planner | Lyngby-Taarbeak Municipality |
| Grendal | Rikke | Project Manager | Frederikssund Municipality |
| Grusgaard | Astrid Kock | Project Coordinator | Gentofte Municipality |
| Hartmann | Lene | Project Manager | Furesoe Municipality |
| Henriksen | Niels | Engineer | HOFOR |
| Kraag | Anja | Chief Consultant | Glostrup Municipality |
| Kringsholm | Jakob | Urban Planner | Taarby Municipality |
| Kurz | Cornelius | Energy Planner | Alleroed Municipality |

| | | | |
|-------------|-----------------------|-----------------------|--|
| Larsen | Lars Erik Hoegenhaven | Director | Ramboll |
| Ledgaard | Kirsten | Chief Consultant | <i>CPH City & Port Development</i> |
| Leerberg | Thomas | Project Manager | Ramboll |
| Nielsen | Lars Hedegaard | Planner | Roskilde Municipality |
| Nielsen | Per | Engineer | Roedovre Fjernvarme |
| Nielsen | Per Sieverts | Senior Researcher | Technical University of Denmark |
| Nilsson | Martin Fogsgaard | Analyst | Ramboll |
| Niwaz | Nadeem | Project Manager | Ramboll |
| Oestergaard | Maria Ensig | Urban Planner | Guldborgssund Municipality |
| Pedersen | Anne Hartvig | Environmental Officer | Ishøj Municipality |
| Prahm | Susanne | Architect | KADK |
| Rasmussen | Martin | Project Manager | Gladsaxe Municipality |
| Raunkjaer | Anna Esrom | Intern | Albertslund Municipality |
| Ravn | Ravn | Cheif Consultant | Realdania By |
| Rosenberg | Louise | Student | Ramboll |
| Rue | Mads | Architect | Greve Municipality |
| Sichelkow | Thomas | Project Manager | Frederikssund Municipality |
| Thomsen | Tina | Environmental Planner | Roedovre Municipality |
| Toxvaerd | Kirstine | Senior Analyst | Ramboll |
| Weng | Vibe | Urban Planner | Albertslund Municipality |