PROMOTION OF
PUBLIC PROCUREMENT OF
INNOVATION
FOR RESOURCE EFFICIENCY AND
WASTE TREATMENT

Agreeing on Common Needs

Grant Agreement N°	642451	**Acronym**	PPI4Waste
Full Title	Promotion of Public Procurement of Innovation for Resource Efficiency and Waste Treatment		
Work Package (WP)	WP2- Definition and Assessment of Possible Needs amd Emerging Solutions		
Authors	Maria Thomtén Fredric Norefjäll Berit Gullbransson		
Document Type	D2.2		
Document Title	Report on Agreeing Common Needs		
Dissemination Level ***(mark with an « X » in the column to the far right)***	CO	Confidential, only for partners of the Consortium (including the Commission´s Services)	X
	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)	

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 642451

PROMOTION OF
PUBLIC PROCUREMENT OF
INNOVATION
FOR RESOURCE EFFICIENCY AND
WASTE TREATMENT

Table of Contents

1. Introduction to the PPI4Waste project Work Package 2 3
   - 1.1 The PPI4Waste project 3
   - 1.2 Work Package 2 'Definition and assessment of possible needs and emerging solutions' 3

2. Deliverable 2.2 'Agreeing common needs' 5
   - 2.1 Deliverable overview 5
   - 2.2 Relations to other PPI4Waste tasks and deliverables 5

3. Methodology for the identification and prioritization of common needs of public buyers in the field of municipal waste management 7
   - 3.1 Methodology for identifying and assessing needs 9
   - 3.2 Methodology for analysing, prioritizing and agreeing common needs 12

4. Next steps 13

Annex I – list of interviewed organisations 14

Annex II – map to analyse needs 15

1. INTRODUCTION TO THE PPI4WASTE PROJECT WORK PACKAGE 2

1.1 THE PPI4WASTE PROJECT

PPI4Waste is based on an integrated approach which will permit to define needs, targets, improvement of functional performances and complete the cycle of preparation activities to implement Public Procurement of Innovation (PPI) processes in the waste sector, while making know-how on procedures for procurement of innovation widely available through the establishment of a purchasing community, making state-of-the-art solutions accessible to a considerable potential number of procurers, capacity building and assessment of feasibility plan for uptake of PPI in the waste sector. This 30-month project, whose work plan has a concise structure supporting the workflow to achieve its main aim; the overall objective of the project is to achieve resource efficiency, sustainable waste management and sustainable consumption throughout Europe by increasing the use of public procurement of innovation through a structured coordination action of networking, capacity building and dissemination. The cornerstone of the project is to boost resource efficiency through PPI, on the basis of the waste hierarchy. The establishment of both the Purchasing Community and Interest Group in the first phase of the project will permit to create critical mass and achieve all objectives towards the reinforcement of early acquisition of eco-innovative solutions for resource efficiency and waste management through joint or coordinated PPI processes.

1.2 WORK PACKAGE 2 'DEFINITION AND ASSESSMENT OF POSSIBLE NEEDS AND EMERGING SOLUTIONS'

The PPI4Waste Work Package 2 focuses on defining and assessing needs among public procuring organisations in charge of municipal waste management in the EU. Since municipal waste are primarily a public sector responsibility and as consequence of the large disparities between countries regarding the waste production and waste management situation, the PPI4Waste project will include activities to identify common needs between public sector organisations in Europe. The establishment of common needs will enable a large group of potential buyers to be formed, which is vital to ensure critical mass when collaborating on public procurement. In parallel, emerging solutions are identified and assessed. The objectives of the work package are to:

- Approach and define real Public stakeholders target challenges through the assessment of their needs and ambitions;
- Check if the needs can be met in by innovative products and/or solutions close to the market in order to uptake PPI.

In this work package, PPI4Waste partners set the path to identify the needs of public procurers, and the current state of the art of the emerging innovation in the waste sector. At

this stage it is necessary to identify specific targets and strategies for waste management for participating buyers in the consortium, identify national schemes and draw a complete map of targeted improvements and possible emerging solutions so as to, in the next steps of the project, prepare contracting authorities to use PPI to lead innovation and meet the future challenges in the waste sector.

There are four main factors influencing the needs and the search for innovative solutions. Needs can thus be discovered, initiated and articulated from these factors:

- Policy makers: expressed as a direct and mission-oriented need (e.g. “We will reach 50% reduction of waste by 2020.”)
- New initiatives from eco-innovators and the market (e.g. “We have a new waste sorting machine which increases the sorting rate by 50 %.”);
- Evaluating past procurements and comparing the outcomes to organizational goals and targets (e.g. “The cost and negative impact from using oil as a fuel to waste trucks is increasing too much.”);
- The internal process of finding better ways to perform the task of the organization. (“We can manage and improve this collection process much better with our current knowledge and cooperation.”).

2. DELIVERABLE 2.2 'AGREEING COMMON NEEDS'

2.1 DELIVERABLE OVERVIEW

This deliverable (D2.2), 'Agreeing common needs', is based on task 2.2 in the PPI4Waste Description of Work, 'Assessment of possible needs', that aims to define the common needs of solutions to the waste-to-resource challenges or system failures which are possible to solve with PPI.
The central aim of the deliverable is to describe the methodology designed by the project consortium in order to identify and prioritize common needs related to the waste management chain (see figure 1 below) among contracting authorities within and outside the consortium.

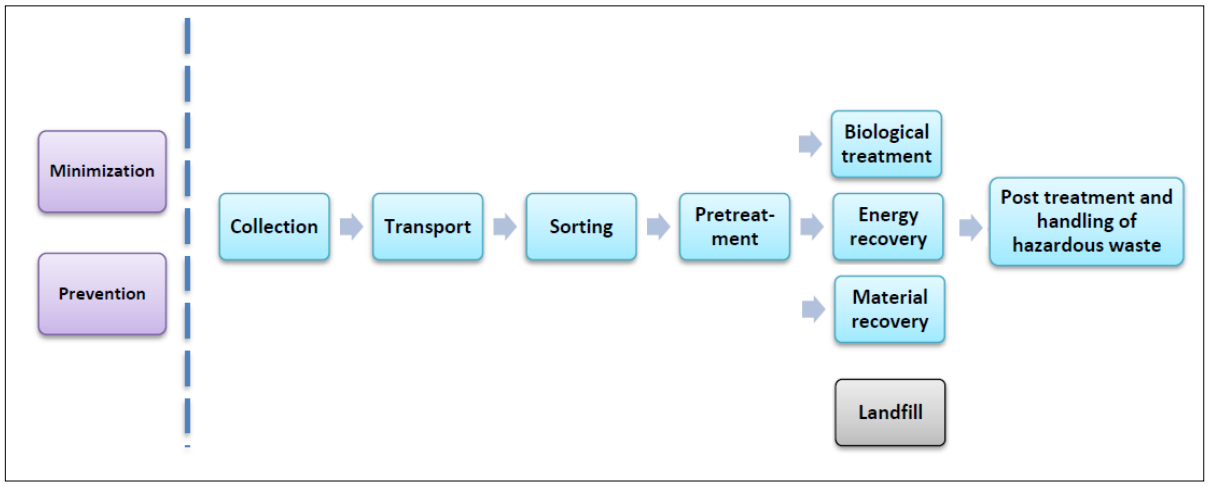


Figure 1. The management of the waste chain

The methodology supports the identification of needs faced by contracting authorities in different countries, regions and cities in order to support them to describe and understand their situation and challenges regarding municipal waste management. The identified needs are core needs of the contracting authorities that can be related to societal challenges, among others. The methodology used has also supported the identification of drivers behind the needs. Further, the methodology used to conduct the work in this task and deliverable is designed to take PPI into consideration while identifying and agreeing on common needs. The agreed needs will be presented in deliverable 2.3 'Common Report on targeted improvements'.

2.2 RELATIONS TO OTHER PPI4WASTE TASKS AND DELIVERABLES

This deliverable is one of the core deliverables in the PPI4Waste project, representing the foundation upon which the future work of the PPI4Waste project is built. The common needs –

to be agreed according to the methodology in this report – are the basis for all future activities within the project, and the design of the methodology for agreeing common needs in a correct way is therefore crucial.

The deliverable thus has clear links to other PPI4Waste deliverables, in particular deliverable 2.3 'Common Report on targeted improvements' which is also related to task 2.2.

Deliverable 2.3 will focus on the outcome of the process described in D2.2, and will thus go further into detail on the common needs agreed by the project consortium.

In parallel to the analysis of possible needs, possible emerging solutions will be identified in task 2.3; 'Cross-border state of the art', resulting in deliverable 2.4; 'State of the art of emerging solutions'. This deliverable has the objective of supporting the identification of innovative solutions with the highest potential in PPI. Input from task 2.2 is essential for task 2.3, since the review of existing innovative solutions must begin with the identification of common needs.

3. METHODOLOGY FOR THE IDENTIFICATION AND PRIORITIZATION OF COMMON NEEDS OF PUBLIC BUYERS IN THE FIELD OF MUNICIPAL WASTE MANAGEMENT

The PPI4Waste project explores mechanisms through which barriers to innovation and procurement of innovation can be overcome, including identification, analysis and agreement on common needs. The PPI4Waste consortium partners aim to support a number of contracting authorities, for instance the procuring partners within the consortium itself, to define the common needs of solutions to the waste-to-resource challenges or system failures that are possible to solve with public procurement of innovation. The process and methodology used within this task are developed on the basis of partner's knowledge and experience on waste and public procurement and inspired from the experience acquired on waste and procurement in the projects Ecopol, Wastecosmart, Probis and INNOCAT, and are further described in the coming sections of this deliverable.

The identification and analysis of common needs is defined by, and based on, situations that require implementation of collaborative public procurement initiatives that would efficiently tackle the EU waste challenges, identifying at least three priority targeted needs in the scope of municipal waste treatment. The common needs will be prioritized in accordance with the waste hierarchy (see figure 2), including prevention activities, to focus the needs identification under the circular economy approach. As recognized by the EC[1], circular economy systems aim to keep the added value of products for as long as possible and to eliminate waste. Altering the present linear model into a more circular economy requires fundamental changes throughout value chains. This transition would not only imply innovative technology, but rather full systemic change including organisation, society, finance methods and policies. A major challenge for such a change is related to waste; in particular to the landfilling of municipal waste. To this end, the EC's Communication towards a circular economy includes a number of proposals to meet challenges related to municipal waste management. For instance, the EC[2] proposes to:

- Boost reuse and recycle municipal waste to a minimum of 70% by 2030;
- Increase the recycling rate for packaging waste to 80% by 2030, with interim targets of 60% by 2020 and 70% by 2025, including targets for specific materials;
- Ban the landfilling of recyclable plastics, metals, glass, paper and cardboard, and biodegradable waste by 2025, while Member States should endeavour to virtually eliminate landfill by 2030;

[1] European Commission. Towards a circular economy: A zero waste programme for Europe. COM(2014) 398 final.
[2] European Commission. Towards a circular economy: A zero waste programme for Europe. COM(2014) 398 final.

- Further promote the development of markets for high quality secondary raw materials, including through evaluating the added value of end-of-waste criteria for specific materials.
- Clarify the calculation method for recycled materials in order to ensure a high recycling quality level.

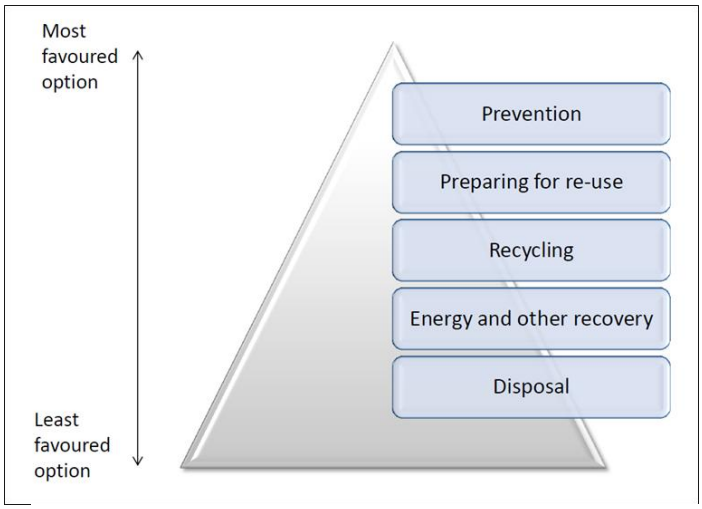


Figure 2: The waste hierarchy , adapted from Directive 2008/98/EC (Waste Directive)

The three priorities targeted in the PPI4Waste project will be the focus of all subsequent activities and deliverables during the development of the whole project. In order to create an essential basis for PPI initiatives which will allow an effective demand-side intervention, the methodology developed for identifying, analysing and agreeing common needs has been designed considering the following aspects:

- Orientation on societal needs and waste management activities in the area of waste-to-resource
- Analysis of the core needs of solutions for the contracting authorities
- Analysis of the drivers behind the participating buyers needs for innovative solutions in order to sort out what is possible to procure.

The methodology is described in two parts:

- Identifying and assessing needs
- Analysing, prioritizing and agreeing common needs.

The full process is visualised in figure 4 and described in the text in the following sections.

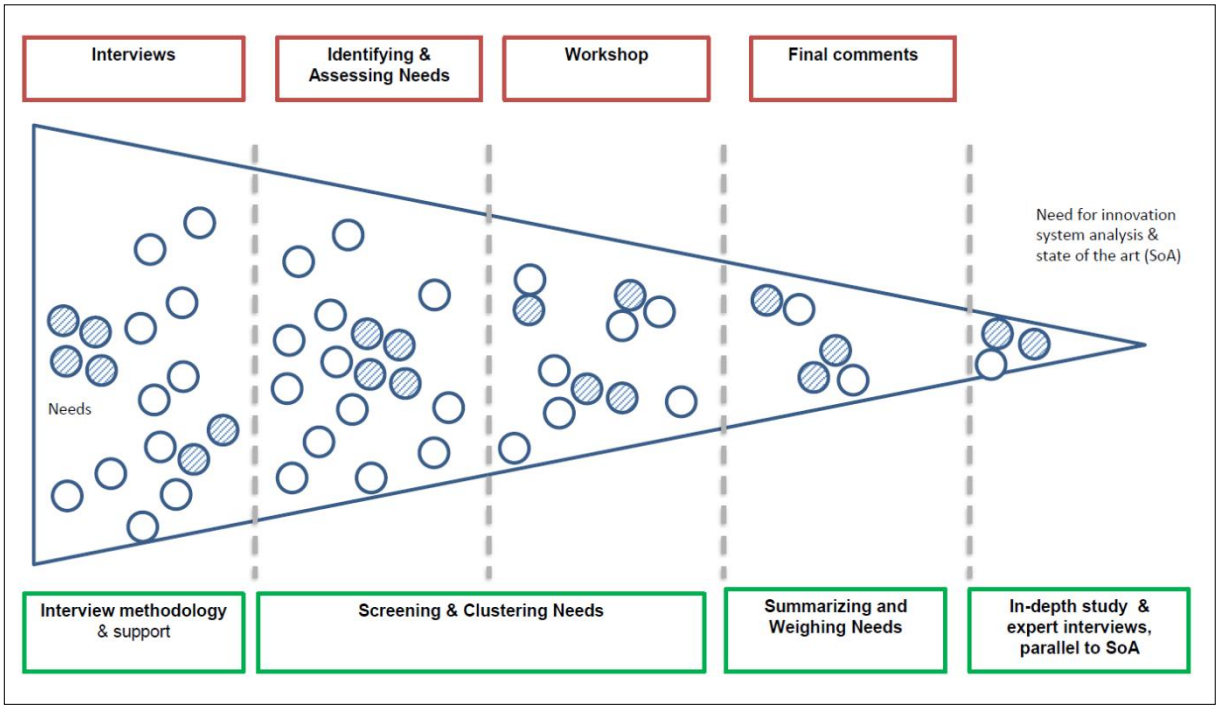


Figure 4: A visualisation of the methodology for identifying and assessing (section 3.1) needs as well as the methodology for analysing, prioritizing and agreeing common needs (section 3.2).

The activities in red boxes have been conducted by all PPI4Waste consortium partners while the activities in greed boxes have been the responsibility of task leader SP. The dotted lines symbolize toll gates for this task.

3.1 Methodology for identifying and assessing needs

The methodology used for identifying and assessing needs among contracting authorities is based on experience, reasoning and elaborates on the methodology development based on theoretical approaches from:

- The waste management chain
- Structured innovation system analysis
- Innovation potential
- Probis
- INNOCAT
- Ecopol
- Wastecosmart

In order to identify, capture and assess needs within the waste chain from contracting authorities, a round of interviews with external contracting authorities related to the PPI4Waste consortium partners, was conducted. SP, task leader of T2.2, was responsible for developing the interview material to be used as support for interviews by consortium partners. The development included a round of test interviews with the procuring partner organisations

within the PPI4Waste consortium: Zagreb City Holding (Croatia) and Mancomunidad del Sur (Spain). The tests resulted in a review and adaption of the interview material.
The activity resulted in six of the PPI4Waste consortium partners conducting a total of 13 interviews with contracting authorities in the consortium partner countries. The list of interviewed organisations can be found in Annex I, and the interview material is described in detail below. The group of interviewed organisations was diverse, consisting of procuring organisations (buyers) such as waste departments in municipalities, waste management companies owned by cities or fully privatized companies, while also including organisations who are not procuring themselves (non-buyers). These organisations included for instance associations for procuring organisations (such as associations for municipalities related to waste management). In the interviews, the non-procuring organisations could give an overall perspective of needs and conditions within their region, while the procuring organisations could provide more detail on their specific context and needs.

► Interview document

As a support to the needs identification and assessment, the developed interview document was used to gather information from contracting authorities and experts in the waste management chain. The document included the following sections:

- **Description of current state.** This section aimed to capture a description of which part of the waste management chain that the respondent's organisation is responsible for. This information is important to determine the opportunities for procurement of the organisation. The information in this section is also vital to get an understanding of the current baseline of the waste management situation for each respondent. The information could further be of use when establishing common elements among respondents.
- **Decision making process regarding waste management.** This section allowed the respondent to provide information of the regional decision making process related to waste management. The position of the organisation's procuring department should clearly be identified in this process. The identification of what actions the respondent's organisation can actually take is vital for a future preparation and collaboration on PPI. The same rationale applies to the mapping of decision making (including budget) patterns in the organisation and/or region.
- **Visions, goals and ambitions.** In this part of the interview, the respondents would state long-and short-term visions, goals and ambitions of their organisations with regards to waste management. As visions, goals and ambitions indicate a willingness to change, they can be used to determine the possibility for a future PPI. The respondent was further asked to estimate the gap between the current state and the visions, goals and ambitions, as this gives an indication of the societal needs.
- **Other related visions.** The respondents' organisations might also have other visions, such as environment- or health-related, that could also be drivers for future change.

- **Existing policies and/or regulations.** Policies and regulations that influence waste management are underlying drivers for needs. Mapping these elements is therefore vital to establish a foundation for a future procurement.
- **Description of waste handling technologies.** The technical elements of the organisation's responsibilities in the waste management chain are mapped in this section, to establish what technologies the organisation can influence. This information can further be used as input to the study of the State of the art to be conducted in T2.3.
- **Listing main areas for improvement and 10 most important needs.** These items will be the foundation for the future work within PPI4Waste, as this section provides a clear list of needs from all respondents.
- **Listing of drivers behind the 10 most important needs.** Another vital element in the needs assessment is the identification of drivers behind the needs, as perceived by the respondent. The waste streams related to the needs is also mapped here.
- **Grading of the needs from the respondent's point of view.** The respondents are finally asked to grade the needs from a number of aspects, and to answer a few yes/no-questions related to the needs. The grading is illustrated in figure 4 below.

Aspect / Need	A	B	C	D	E	F	G	H	I	J
Grade 1-5 (1=not at all, 5=very much)										
How likely do you think it is that your organisation or municipality will allocate money to solving this need within two years' time?										
How likely do you think it is that your organisation or municipality will allocate money to solving this need after two years' time?										
To what extent is this need addressed or mentioned in the short-term visions, goals and ambitions of your municipality or organisation?										
To what extent is this need addressed or mentioned in the long-term visions, goals and ambitions of your municipality or organisation?										
According to you, how important is it to solve this need?										
Yes/no (Y/N)										
Are there planned investments in your municipality or organisation that will solve this need?										
As far as you know, is the solution for this need present in the market?										
Do you think that a procurement of innovation* can solve this need?										

Figure 4: The assessment of identified needs as perceived by the respondent

3.2 Methodology for analysing, prioritizing and agreeing common needs

Following the interviews, the identified needs (which added up to a total over 95) were analysed and prioritized according to a method developed by task leader SP.
As a first step, SP conducted a pre-analysis of the needs, including a screening, an estimation of whether the needs are procurable or not, and a clustering of the identified needs. The needs were clustered according to the steps in the waste chain and also according to overarching topics such as awareness, policy, support systems etc.

Following the pre-analysis, a full analysis and prioritization of needs was conducted through a workshop format involving all consortium partners[3]. The analysis aimed to prioritize the needs by selecting the most important ones, and also included the crucial aspect of assessing if the needs are procurable or not. To this end, a map with a spidergraph was used, (see Annex II).
During the workshop, PPI4Waste consortium partners were divided into five small groups of three people from different organisations. Each group was requested to analyse one or more clusters of needs. As a first step, the groups selected the most important needs within their clusters. The groups would thereafter assess these selected needs from six perspectives, and grade each aspect from 1-10:

- **Waste hierarchy level.** The groups would assess which level of the EU waste hierarchy that the need could be related to. What changes could a solution to the need create? What impact is probable?
- **Eco-impact reduction.** How will the solutions to the need reduce eco-impact? Will it reduce the environmental footprint? Is only one type of waste involved in the need? Does the waste stream have a large environmental footprint? Other important environmental improvements?
- **Efficiency gain.** How important are efficiency gains or savings if the need is met? What is the impact on more efficient waste handling?
- **Leverage and buyers group.** Is there leverage from buyers groups? Are buyers potentially interested in meeting the need? Is this interesting for a larger group of buyers?
- **Collaboration conditions.** Is there interest and the right conditions for collaborative initiatives? Within the project? In the real world?
- **Procurable.** Is it possible to procure a solution to the need? Is procurement only a part of the changes needed for the solution?

The mapping of all selected needs was presented and discussed by all consortium partners. SP then summarized and weighed the results from the workshop while also taking into consideration the input and grading of needs from the respondents. The needs to be agreed

[3] Except for Mancomunidad del Sur, that was not present in the meeting.

will have to be viable for the coming steps and activities of the PPI4Waste project, and will also have to be communicable and expressed in a way that is understandable within and outside the project. The common needs should specifically be related to the procuring partners Zagreb City Holding and Mancomunidad del Sur, but in order to generate critical mass for the demand, the needs will also be related to other respondent organisations. SP's summary and weighing of needs resulted in the proposal of a number of common needs to be agreed by all consortium partners. The agreed common needs will be presented in D2.3 (in month 10 of the project), and will be described from a "zoom-out" perspective to make sure that organisations can relate to them, independent of their own starting point and stage of development within a certain topic.

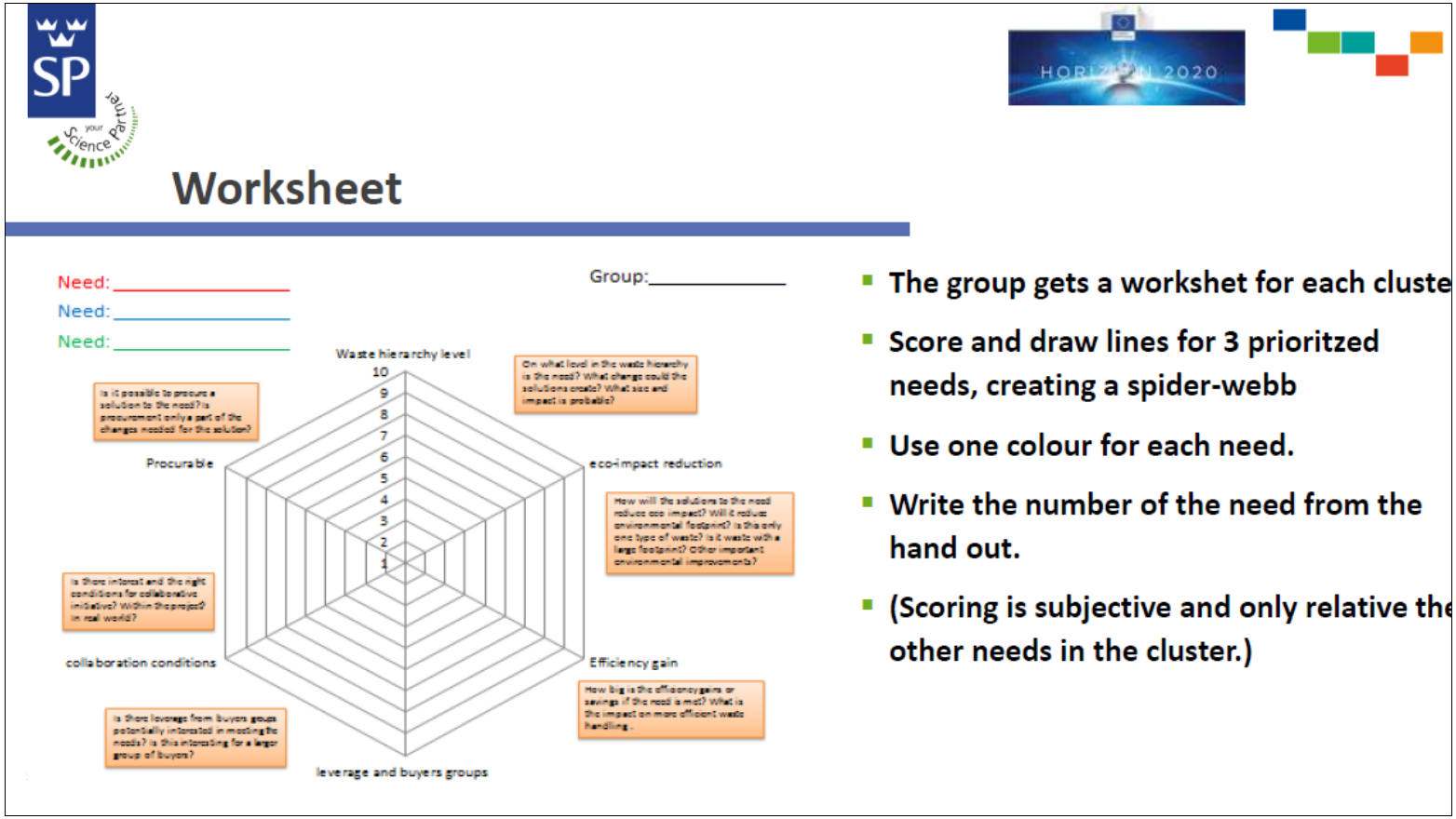
4. NEXT STEPS

The work in PPI4Waste T2.2 will continue until October 2015. The next step of the task will be to further investigate the innovation aspect of the agreed common needs. For this purpose, interviews and workshops will be held with the project's expert group, and with the procuring project partners Zagreb City Holding and Mancomunidad del Sur. These interviews/workshops will be based on theory from Technological Innovations Systems (TIS) analysis.

In parallel and in close collaboration with this task, the State-of-the-art (SoA) investigation will be conducted to identify existing solutions for the common needs that are already available in the market.

ANNEX I – LIST OF INTERVIEWED ORGANISATIONS

The following organisations have been interviewed by PPI4Waste consortium partners:

- ASF GmbH, Freiburg (Germany)
- Dun Laoghaire-Rathdown County Council (Ireland)
- Gothenburg Region Association of Local Authorities (Sweden)
- Öckerö municipality (Sweden)
- Zagreb City Holding (Croatia)
- LIPASAM (Spain)
- RESUR (Spain)
- Mancomunidad del Sur (Spain)
- COGERSA (Consorcio para la Gestión de Residuos Sólidos en Asturias) (Spain)
- Consortium group 8 Teurel (Spain)
- SYBERT (France)
- Agence Bruxelles Propreté – Net (Belgium)
- Municipality Almere (Netherlands)

ANNEX II – MAP TO ANALYSE NEEDS