



# IMPACTPAPE REC

——— Boosting separate paper collection ———

## Overview of the project



Antonio Dobón – Project Coordinator – ITENE

Final Project Conference – Committee of the Regions, Brussels (Belgium) 24 Jan 2018



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 690182

# Why a project on that topic?



IMPACTPAPE REC

Boosting separate paper collection

- Scientific knowledge is required to address quantitatively the problems...to find real solutions
- Involvement of stakeholders:
  - Municipalities
  - Citizens
  - Academia & research institutions
  - Paper Industry
  - Industry associations
  - Collectors & waste management companies
  - Expert consultancy
  - ...



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 690182



Final Project Conference – Committee of the Regions, Brussels (Belgium) 24 Jan 2018

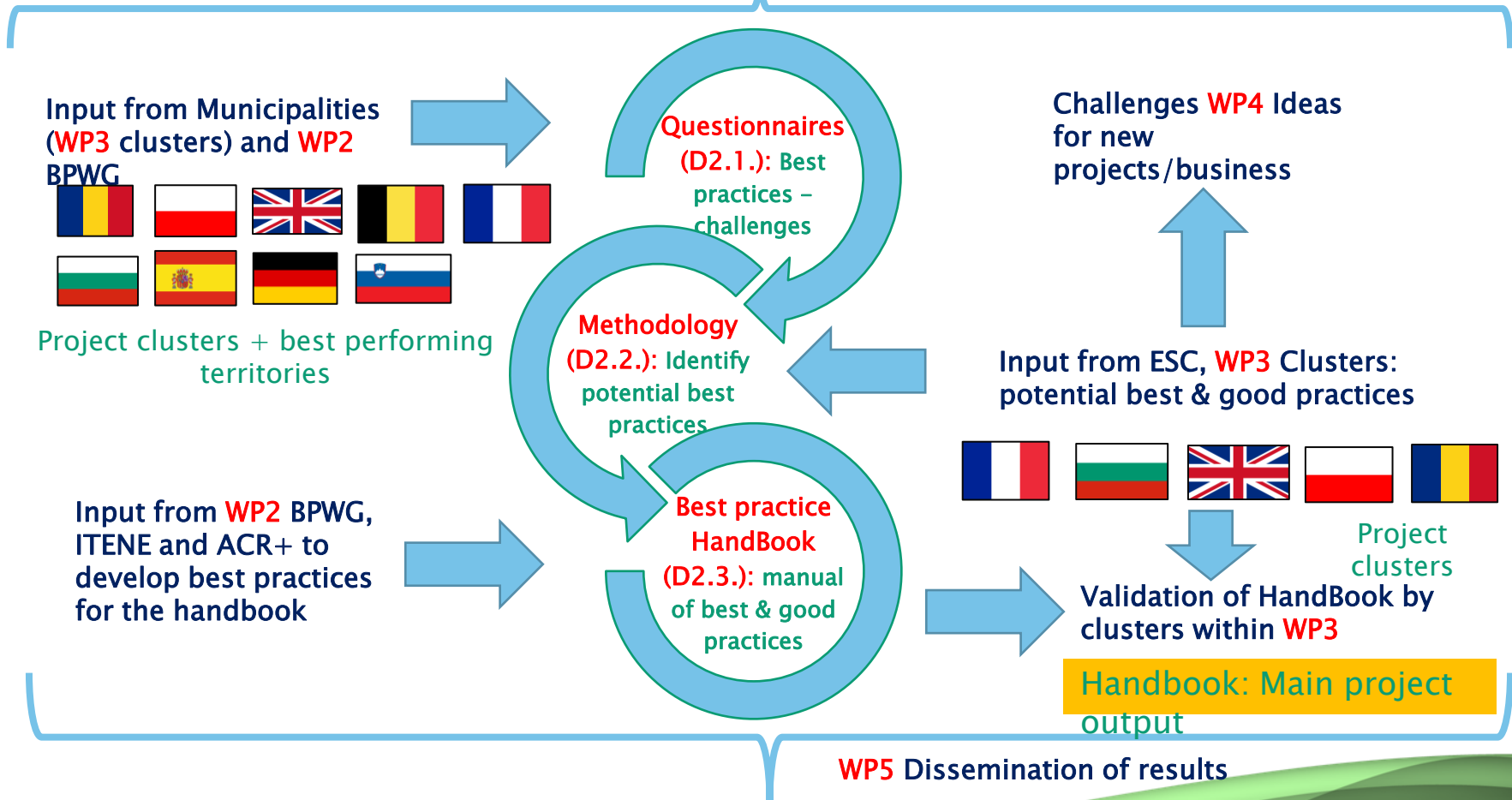
# IMPACTPapeRec project overview



IMPACTPAPE REC

Boosting separate paper collection

## WP1 Management



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 690182



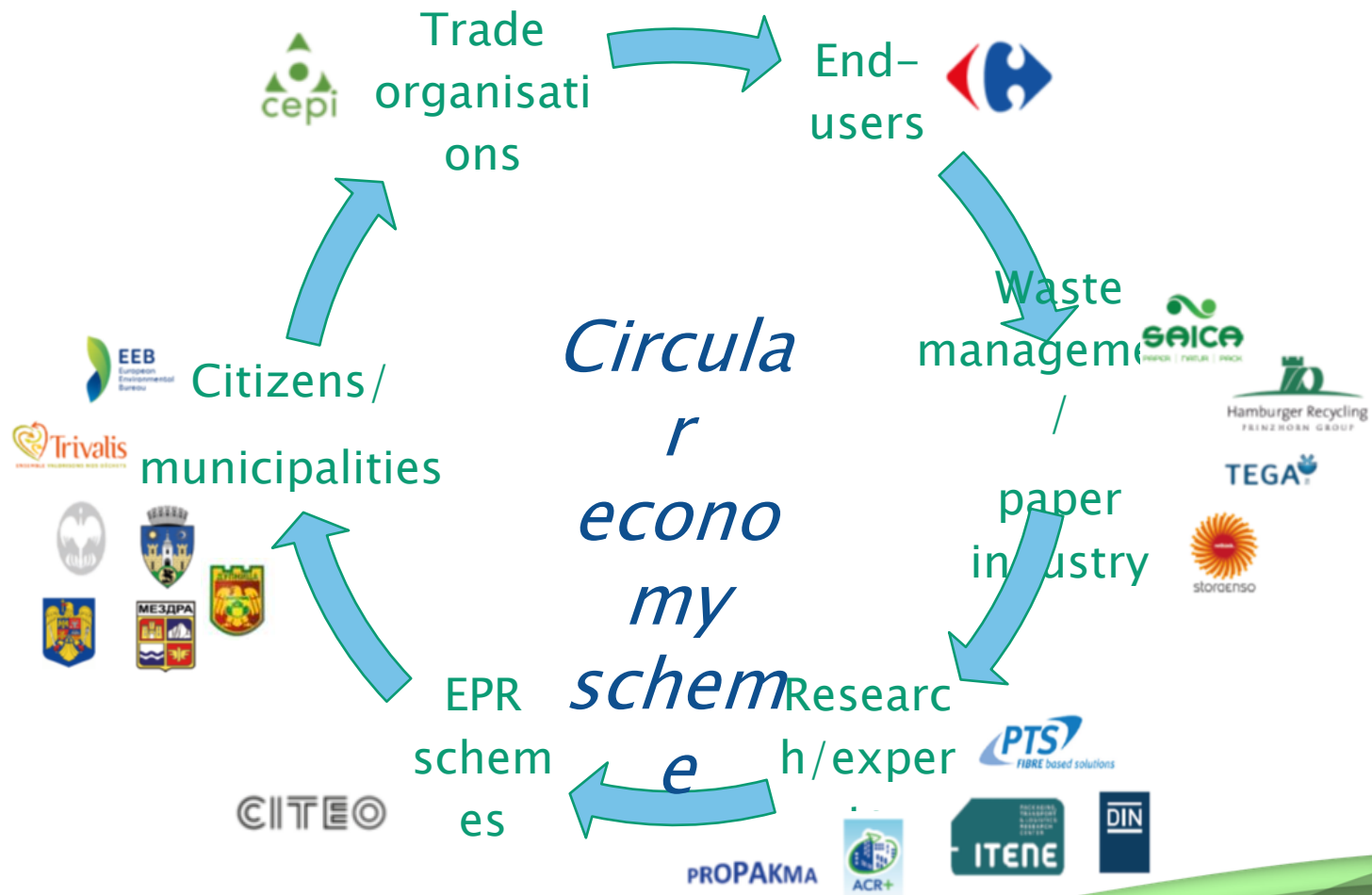
Final Project Conference – Committee of the Regions, Brussels (Belgium) 24 Jan 2018

# Stakeholders



IMPACTPAPE REC

Boosting separate paper collection



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 690182



Final Project Conference – Committee of the Regions, Brussels (Belgium) 24 Jan 2018

# Support by externals

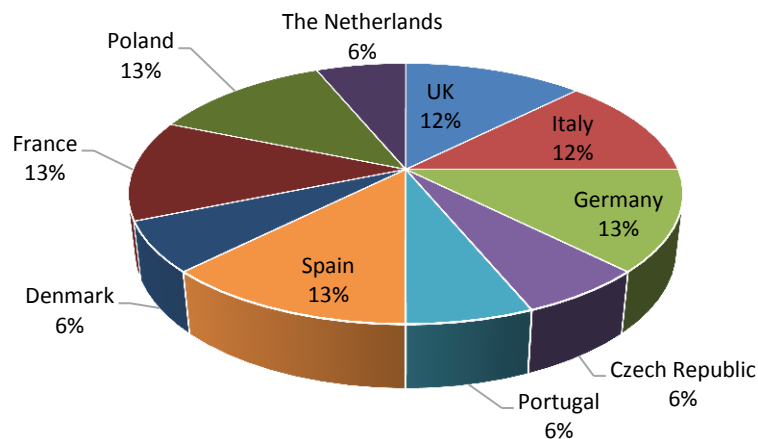


IMPACTPAPE REC

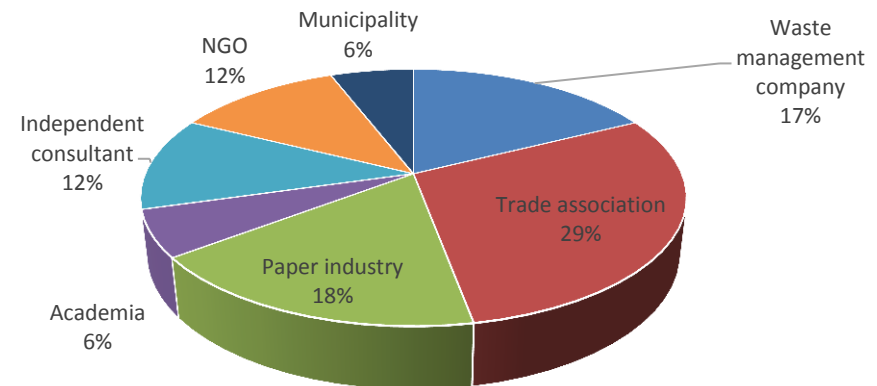
Boosting separate paper collection

- Consultation to the External Support Committee of the project

IMPACTPaperRec External Support Committee members by Country



IMPACTPaperRec External Support Committee members by company profile



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 690182



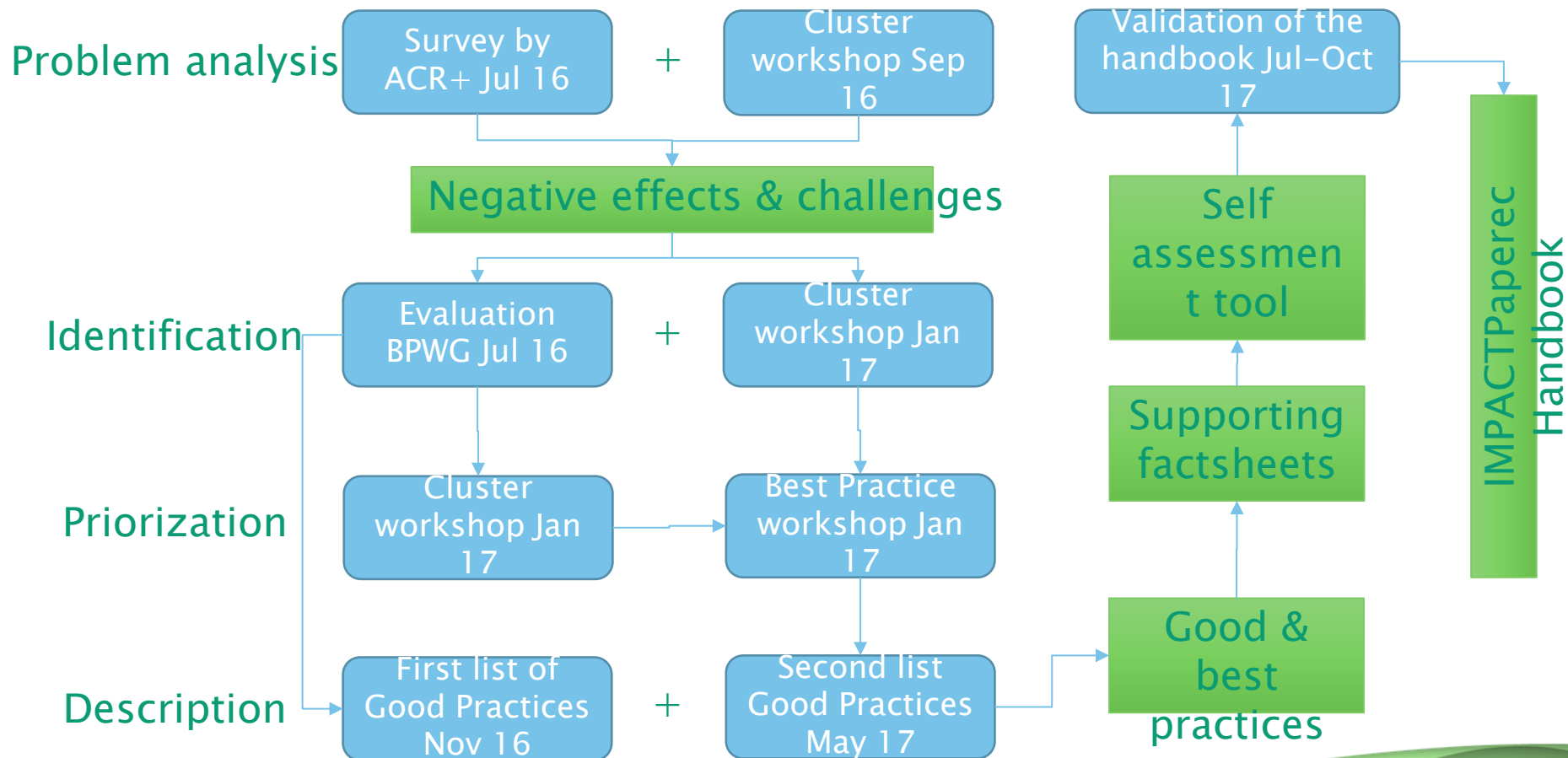
Final Project Conference – Committee of the Regions, Brussels (Belgium) 24 Jan 2018

# How to address these challenges to solutions?



IMPACTPAPE REC

Boosting separate paper collection



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 690182



Final Project Conference – Committee of the Regions, Brussels (Belgium) 24 Jan 2018

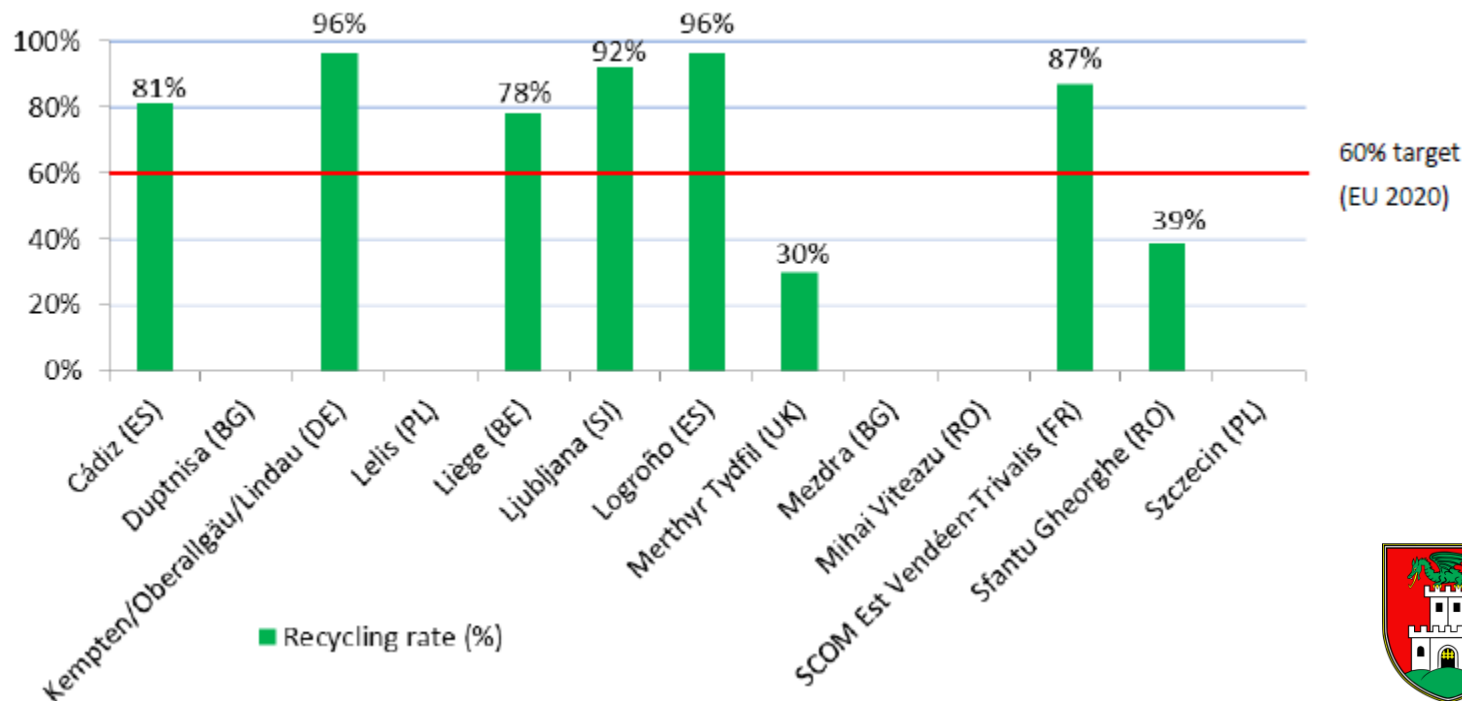
# How to address these challenges to solutions?



IMPACTPAPE REC

Boosting separate paper collection

- By looking at best performing territories on paper and cardboard recycling



Cádiz (ES)



Liège (BE)



Logroño (ES)



Ljubljana (SI)



Kempen/Oberallgäu/Lindau



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 690182



Final Project Conference – Committee of the Regions, Brussels (Belgium) 24 Jan 2018



# The challenges in cluster territories



IMPACTPAPE REC

Boosting separate paper collection



UK: Merthyr Tydfil

France: Vendée/Trivalis

Poland: Szczecin

Romania: Mihai Viteazu  
& Sfantu Gheorghe

Bulgaria: Dupnitsa &  
Mezdra



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 690182



Final Project Conference – Committee of the Regions, Brussels (Belgium) 24 Jan 2018



# Key identified problems in clusters (= needs selection tree)



IMPACTPAPE REC

Boosting separate paper collection

- Low quantity of collected paper and board
- Collection of mixed recyclables
- Low quality of paper and board (mainly because high level of impurities and moisture)
- Low motivation of citizens
- Vandalism at collection sites
- Littering around collection sites



*8 field trips in Spain, Romania, Bulgaria, France, UK and Poland*



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 690182



Final Project Conference – Committee of the Regions, Brussels (Belgium) 24 Jan 2018

# How to address these challenges to solutions?



IMPACTPAPE REC

Boosting separate paper collection

- All the best and good practices identified supported by an implementation factsheet

## SERVICE TO CITIZENS



### 1.1. SPECIFIC COLLECTION SYSTEM ADAPTED TO THE REAL NEEDS

Selection of the best collection system (e.g. Bring banks, door-to-door, recycling yards, mobile collection points) for each zone of the municipality by taking into account its specific characteristics and needs: type of building, density of population, and demographics. The decision of the most suitable system in each neighbourhood should be based on a "step by step" list of requirements. All stakeholders should be engaged in this process.

[Download here](#)

### SPECIFIC COLLECTION SYSTEM ADAPTED TO THE REAL NEEDS



#### Background (REF. 1, 2 & 3)

The selection of a well-performing waste and recyclables collection system is the basis for proper recycling. Waste and recyclables collection systems commonly applied in Europe can be classified by:

- Type of recipient:** container (surface/ underground), bin, bag (plastic), etc.
- Distance to collection point:** Pick-up (door-to-door, kerbside) and drop-off system (bring banks and recycling yards).
- Type of fractions collected:** selective and separate collection (only one material fraction), mixed (all fractions together) or commingled (all recyclables together). Five fractions, including paper & board, are obligatory to be collected separately according to the EU framework. However, while EU legislation does allow not only separate, but also commingled collection, research shows that separate collection of paper & board is essential for achieving good results in paper & board recycling.
- Frequency:** daily, weekly, fortnightly, monthly, bi-monthly, etc.

Each collection system is a combination of the elements above, and should be decided according to the characteristics and preferences of each territory.

#### ACTION

Select the best collection system for each area of the municipality by considering its specific characteristics and needs: climate, type of urbanisation (buildings, density of population), demographics, infrastructure, etc.

#### Examples of best practice implemented

##### Household waste collection in Barcelona (Spain) (REF. 4)

Barcelona has an extensive municipal service for the daily collection of household waste according to the characteristics of each urban district.

- Blue containers for paper and cardboard: All citizens have recycling collection containers located less than 100 meters from their home.
- Manual bag collection service: Door-to-door waste collection of different types of waste and recyclables service in specific zones including the old part of the city, where is especially difficult to place containers or access with vehicles.
- Recycling yards: Used to get rid of municipal waste fractions which can't be thrown into street containers.

##### Waste management plan 2018 in Copenhagen (Denmark) (REF. 6)

In the Waste Management Plan 2018, the efforts of the City for a more resource efficient waste management system fall under four topics each with a specific target and a number of measures and concrete initiatives. Each topic furthermore contains a *flagship project*.

Under the Topic 2: "Better separation among citizens and business", by 2018 all citizens in the City of Copenhagen must have access to separation of the most ordinary types of waste near their home, and all institutions of the city will source-separate their waste. Those measures directly related with paper and board collection are:

SEE MORE: Resource and Waste Management Plan 2018 in Copenhagen City	MEASURES	
	1. Better separation options in blocks of flats. Better marks and signs, review and optimisation of waste schemes, higher recycling rates through trials with citizens.	2. More options for separation in single family houses. Better service in waste collection voluntary cardboard container
	3. Integration of innovative waste solutions in the urban space. More separation options in inner city, multi-functional waste solutions in the public space, clear common guidelines for waste solutions	4. More separation in the business community Better separation in municipal institutions



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 690182



Final Project Conference – Committee of the Regions, Brussels (Belgium) 24 Jan 2018

# How to address these challenges to solutions?



IMPACTPAPE REC

Boosting separate paper collection

- Recommendations for standardisation of future

Topic	Measure
Terminology	Common and unambiguous definition of collection systems and services
Sampling and measurements	Improve quality (humidity, contaminants) and quantity measurements, as well as the measurement devices Increase precision of EN 643 definitions and differentiated thresholds as function of the waste source
Collection systems	Need of common KPI's, schemes, requirements Standardization of size and shape of containers for paper & board
Marking	"Label" for paper products and non-recyclable paper Common color for bins, pictograms for recycling
IT solutions	Smart cards & systems for quality rating
Economic aspects	Clear guidelines for the municipalities about collection systems, communication, dissemination



European Union's Horizon 2020 research and innovation programme under grant agreement No 690182



Final Project Conference – Committee of the Regions, Brussels (Belgium) 24 Jan 2018

# How to address these challenges to solutions?



IMPACTPAPE REC

Boosting separate paper collection

- Recommendations for policy and incentive schemes

To	Recommendations
EC	Following the adoption of the revised Waste Directive (Waste Package)
National Governments	All stakeholders in the packaging value chain to contribute effectively to EPR schemes Allocate enough resources to improve separated collection from households and ensuring industrial/commercial collection Selective collection for either graphic paper or board everywhere (when this distinction is made)
Local Authorities/ Municipalities	Make full use of the incentives available to ensure separate collection Separate collection to follow the specifications of EN 643
PfR Collectors	Collection method compatible with EN 643, either directly or through additional sorting/cleaning operations
Paper mills	Strict quality control ensuring compliance with EN 643



# Results from the validation with municipalities



IMPACTPAPE REC

Boosting separate paper collection

PART 4		rating numbers							
Handbook structure		Dupnitsa	Mezdra	Sfantu Gheorghe	Mihai Viteazu	Vendée	Merthyr Tydfil	Szczecin	mean
1.1	The HANDBOOK sections provide all necessary information to understand paper and board collection.	5	5	5	5	5	5	5	5
1.2	Do you miss any section? Which one?	no	no	no	no	yes	no	no	
1.3	Would you exclude any section? Which one?	no	no	no	no	no	no	no	
1.4	The content of the handbook is properly described and help you to understand better the selection tree tool.	5	5	5	5	4	5	5	5
Chapters of the Handbook		Dupnitsa	Mezdra	Sfantu Gheorghe	Mihai Viteazu	Vendée	Merthyr Tydfil	Szczecin	mean
Please evaluate every chapter regarding provided information and knowledge! Do you miss something in a chapter?									
1.5	Chapter 1 - Introduction	5	5	5	5	3	5	5	5
1.6	Chapter 2 – Legislation, standardization, incentives & policy measures	5	4	4	5	4	5	5	5
1.7	Chapter 3 – Collection systems for PfR	5	5	4	5	5	5	5	5
1.8	Chapter 4 – The good and best practices for PfR collection	5	5	5	5	4	5	5	5
1.9	Chapter 5 – Evaluation of your performance in PfR collection	5	4	5	5	4	5	5	5
1.10	Chapter 7 – Background and more information	5	4	5	5	4	5	4	5
General questions		Dupnitsa	Mezdra	Sfantu Gheorghe	Mihai Viteazu	Vendée	Merthyr Tydfil	Szczecin	mean
6.1	The HANDBOOK is useful for your municipality	5	5	4	5	5	5	5	5
6.2	We will use the HANDBOOK in the future	5	5	4	5	4	5	4	5
6.3	We would recommend the HANDBOOK to other cities.	yes	yes	yes	yes	yes	yes	yes	
6.4	We think that we could achieve the municipality targets using the suggested good and best practices	5	5	4	5	4	4	4	4
6.5	Our municipality will improve the collection and quality of the paper for recycling once applied the good and best practices	5	5	4	5	3	4	4	4
6.6	Total evaluation for the HANDBOOK	5	5	5	5	4	5	5	5

Validation results are good in general terms: all the municipalities will use the handbook in the future and recommend to other cities



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 690182



Final Project Conference – Committee of the Regions, Brussels (Belgium) 24 Jan 2018



# Thanks for your

attention  
Antonio Dobon – Project Coordinator  
– ITENE



PROPAKMA

CITEO



[www.impactpaperec.eu](http://www.impactpaperec.eu)



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 690182



Final Project Conference – Committee of the Regions, Brussels (Belgium) 24 Jan 2018



# #impactpaperec

#InvestEUresearch

