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## IMPACTPaperRec: Recommendations on policy activities and incentives

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## Recommendations on policy activities and incentives

### Contents

Abbreviations.....	2
1. Introduction .....	4
2. State of the Art.....	4
3. Long lists of Policy measures and Incentives .....	8
4. Short List of Policy Measures and Incentives.....	14
5. Top Recommendations for Incentives and Policy Measures .....	21

### Abbreviations

<b>ACR+</b>	Association of Cities and Regions for Sustainable Resource management
<b>CEPI</b>	Confederation of European Paper Industries
<b>D</b>	Deliverable
<b>EFTA</b>	European Free Trade Association
<b>EN</b>	Standard on European Level (full consensus)
<b>EP</b>	European Parliament
<b>EPR</b>	Extended Producer Responsibility
<b>EPRC</b>	European Paper Recycling Council
<b>EU</b>	European Union
<b>MRF</b>	Material Recovery Facility
<b>PfR</b>	Paper for recycling



IMPACTPAPE REC

Boosting separate paper collection



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<b>P&amp;B</b>	Paper and Board
<b>TC</b>	Technical Committee
<b>WD</b>	Waste Directive
<b>WP</b>	Work Package
<b>WRAP</b>	UK Waste and Resources Action Programme



## 1. Introduction

IMPACTPapeRec is a European project to increase the separate collection of paper for recycling and promote appropriate schemes to avoid landfilling and incineration. IMPACTPapeRec aims to put Europe at the forefront of paper for recycling (PfR) collection by providing an innovative and common knowledge platform.

Within WP 3 *Validation of the models, Standards, policies and incentives*, the purpose of *Tasks 3.4 Definition of a system of incentives* and *Task 3.5 Recommendations for policy measure* is the development of innovative policy schemes and initiatives to boost the collection of PfR and the quality of the collected material. Specifically, innovative policy tools facilitating and supporting the implementation process of best practices. These measures should contribute to the enhanced efficiency and sustainability of European paper collection systems.

The objective of *Deliverable D3.4 Recommendations on policy activity and incentives* is to provide an overview of the current policy landscape in the field of separate collection of paper for recycling. Furthermore, recommendations for future policy measures and incentives are also provided based on the outcomes of the informative meeting held in Barcelona in January 2018.

Some standards and regulations that will be considered in the IMPACTPapeRec are:

- EN 643: List of Standard Grades of Paper and Board for Recycling;
- Directive 94/62/EC; Directive on Packaging and Packaging Waste;
- Directive 1999/31/EC; Landfill directive;
- Directive 2008/98/EC; Waste Framework Directive
- Draft Report on Resource efficiency: Moving towards a Circular Economy. Directive 2008/98/EC sets the general policy framework for Member States, including targets for the recycling of waste and obligations for the collection of certain waste streams.

## 2. State of the Art - INCENTIVES

### 2.1. What is an incentive

An incentive is something that motivates or encourages someone to (not) act in a certain way. An incentive for paper and board recycling is a measure that motivates or encourages the target audience to improve its performance in paper and board sorting and collection.

Incentivising a specific audience can take various forms and can include anything from the provision of information to ensure the audience is well aware of what it should (not) do (e.g. sorting guidelines); to providing an adapted equipment to enable the desired behaviour (e.g. waste collection bins); to applying measures directly rewarding/ punishing a certain behaviour (e.g. fines for non-compliance with sorting instructions).

### 2.2. Carrots and sticks

Incentives generally work in two ways: positive and negative. Positive incentives seek to motivate actors to certain actions by promising a reward, whereas negative incentives aim to motivate actions



Date: 10 January 2018

by threatening a punishment. Examples of positive incentives are subsidies for waste reduction technologies or fiscal incentives for the use of recyclable materials or recycled content although the latter is questioned by some stakeholders as in the case of paper the global recycled content is reaching its limits. Examples of negative incentives are posing different taxes on big waste amounts. Sometimes it is only a matter of presentation (e.g. pay-as-you-throw scheme could be seen as a penalty for those producing more waste or a reward for those with better performances). It can also be a combination of the two options. For instance when a landfill tax is set, the incomes from it could be used to help investing in recycling equipment and/or be used to reward the ones doing the right thing.

### 2.3. Right mix

A combination of different forms of incentives increases the possibility of a successful implementation of paper collection policy. Indeed, there is no use to resort to economic incentives if the target audience is not aware of what it should be doing and /or if there is a lack of infrastructure which allows carrying out the intended action.

The instruments should be carefully chosen in order for them to be mutually supportive rather than contradictory. For instance, while economic incentives are closely linked to market changes and instability, other types of policy incentives are able to provide more medium to long-term security. In any case, the effective implementation of the potential instruments and incentives requires accurate advance planning and a thorough analysis of the possible impacts and barriers.

### 2.4. Literature review

Different classifications of incentives related to waste management can be identified in the literature.

For instance, when analysing the conditions and interventions needed for households to be involved in waste management, Briguglio (2016) refers to an incentive as an “intervention that may stimulate (or surpress) cooperation”. As such, the author examines three of its inherent attributes – convenience (i.e. related to collection infrastructure), charges (i.e. monetary dimension) and communication (i.e. provision of information). Wagner (2013) identifies and examines five categories of convenience – knowledge requirements, proximity to a collection site, opportunity to drop-off materials, the draw of the collection site, and the ease of the process.

A report for the EU-funded FUSIONS project (2016) exploring specific policy measures for stimulating food waste prevention and reduction, has identified a number of market-based instruments (MBIs) and socio-economic incentives. These instruments are mostly price-based instruments based on positive and negative incentives (including subsidies and grants, tax credits, pay-as-you-throw schemes and various taxes). Further, a number of informational policy tools have been listed which aim for public disclosure of certain information (by industry) to consumers. These comprise the provision of information and campaigns in general terms and voluntary agreements and marketing standards (including labelling programmes, rating and certification systems).

A report produced for the Scottish Government (2003) looking at incentives for households to change their waste practices has categorised these using a 2x2 quadrant methodology considering



Date: 10 January 2018

whether the driver is financial or voluntary and whether it acts as a stick or a carrot. According to the resulting framework, the authors draw a list of the following different types of incentives:

- Voluntary + stick: A scheme reliant on people taking voluntary action while trying to achieve this by threat or a penalty. According to the authors, such incentives are likely to fail and cause conflict between the parties concerned.
- Voluntary + carrot: Voluntary incentive schemes aiming to change behaviour by appealing to people's good nature and community spirit without the need for direct financial incentives. Such schemes need to provoke a "feel good" reaction but equally offer convenience and capability.
- Financial + stick: A scheme offering financial incentives might operate through the threat of direct taxation.
- Financial + carrot: A scheme can offer financial incentives through discounts, subsidies or tangible rewards.

EU-funded research on financing and incentive schemes for municipal waste management (Eunomia, 2002) has identified a number of case studies providing incentives to reduce waste quantities and to increase recycling. The case studies are grouped into several categories such as variable charging/PAYT schemes; producer responsibility schemes; schemes with joint waste management and social objectives. The report also defines separate categories for schemes designed to incentivise a specific target, such as municipalities and households.

## 2.5 State of the Art - POLICY MEASURES

### 2.6 Current legislative status – Waste Directive

The present legislation related to paper for recycling defines general requirements. No specific environmental obligations apply for paper products. The packaging waste directive gives reference to the EN packaging standards which provide guidelines on how to implement essential packaging requirements for all. When paper enters the waste stream, the general rules covered in the Waste Framework Directive apply, as for all other materials. Regulation concerning collection, sorting and use of paper for recycling is generally acceptable. Overregulation that could become a barrier to development should be avoided. Nevertheless, obstacles and weaknesses in the present regulation exist that need to be improved. Separate collection is widely interpreted.

### 2.7 Technical, environmental and economic practicability of separate collection of paper

The Waste Directive (2008/98/EC) stipulates that with the view of facilitating or improving recovery – which will have to respect the waste hierarchy and environmental protection principles – and in order to promote high quality recycling, waste shall be collected separately if technically, environmentally and appropriate to meet the necessary quality standards for the relevant recycling sector. If this is the case, waste shall not be mixed with other waste or other material with different properties.

It is only if there is a technical, environmental or economic reason that would make separate collection not practicable (or if it were not required for the relevant recycling application), that Member States may authorise a co-mingled system. Member States' margins of decision making are limited in this frame. Moreover, if an alternative to separate collection were to generate a departure



Date: 10 January 2018

from the waste hierarchy, the Member State would have to justify this additionally, by life-cycle thinking on the overall impacts of the generation and management of such waste.

## 2.8 Separate collection is technically practicable

In the EU, the majority of collection schemes for paper and the volumes collected are based on separate collection. This system covers a variety of circumstances from small to large countries, in various demographic and geographic settings from rural areas to historic urban structures. Separate collection also has a long history with an excellent track record, resulting in the best results in the following recycling process. Therefore, any justification for authorising co-mingled collection should encounter and provide evidence against the technical practicability described briefly above. There is an intrinsic technical argument in favour of separate collection of paper: paper is a fibre-based material in the co-mingled collection schemes and is thus vulnerable for cross-contamination by other materials or residues of organic waste in those materials. Not having paper collected separately would conflict the mixing ban of materials with different properties in Article 10.2. of the Waste Directive, but on the other hand, it remains open to discuss whether that would allow for a “two stream” collection system where fibre-based materials are collected separately and other dry recyclables together in the second stream. The final recycling process in the paper mill has to be more intensive in cleaning and sorting the Paper for Recycling received from this co-mingled collections, and thus, the amount of material ending in landfills as refusal of the final recycling process is higher. Moreover, manual handling of the materials is needed when segregating materials in MRFs (Material Recovery Facilities). Therefore, when separate collection is carried out, paper is not in the segregation process (it has already been separated at home and collected separately) and the rest of the materials can be segregated in an easier way as the number of mixed materials is reduced.

## 2.9 Separate collection is environmentally practicable

Considering the higher costs and energy/material efforts for segregation of paper, it can be seen that separate collection can have a better environmental performance due to the reduced resource efficiency of separate collection. The losses due to cross-contamination and a higher share of non-paper elements in the paper separated from co-mingled collection stream, reduces the resource and energy efficiency of that collection type and results in more disposable residues in global terms because the paper cannot be further recycled. Even if such residues were recovered for energy, it is well established in research (for example, European Environmental Agency study *EEA Technical report No 5/2006* assessing over 100 life cycle assessments) that environmental benefits are superior in recycling thus making it the preferred option. As a result of that, a Member State justifying co-mingled collection has to answer the question of why separate collection would not be environmentally practicable. Paper from co-mingled collection system is often not of a sufficient quality to be recycled. Hence, many European paper recycling mills do not accept this material and it is the first to be avoided when the recovered paper market has a surplus of material (*Resource Association study “Cost of Contamination Report”, 2012* which has also examined the residue levels in non-paper components). When paper is coming from commingled collection the fibre quality is poorer and if segregation has not been correctly done, then paper mills receive a lot of non-paper components that have to be sent to landfills after the recycling process increasing the operation



Date: 10 January 2018

costs because of the waste management. Moreover, recycling in environmentally friendly conditions is not guaranteed. This is because most of the paper collected through co-mingled collection systems is sent to countries where environmentally friendly recycling conditions are not guaranteed. For example, of the net export for paper for recycling which was 9.4 million tonnes in 2015, most went to China and it is estimated that half of it came from co-mingled collection (EPRC, *European Declaration on Paper recycling 2016-2020*). Moreover, the gesture of the segregation of materials at home means people get involved in the recycling process. People feel that they are contributing to looking after the environment. If co-mingled collection is carried out, people do almost nothing different to what they do for one stream collection and do not participate in the recycling process of the material. Co-mingled collection systems do not allow people to participate in looking after nature.

## 2.10 Separate collection is economically practicable

UK Waste and Resources Action Programme (WRAP, 2008) has published a study which shows that separate collection actually is the most economical solution if the whole waste management is taken into account, not just the collection alone.

The study found that in the current market, kerbside sort schemes are more cost effective for local authorities than single stream co-mingled. However, two stream co-mingled collections where paper is kept separate have similar net costs to kerbside sort schemes. Co-mingled schemes had generally been considered cheaper to run but fare less well when the cost of sorting the material at a MRF is taken into account. The study found that contrary to the popular belief that co-mingling is more successful in collecting recyclable materials, what determines how much recycling people do, is the size of the containers they have to put it in. The entire cost of collection, selection and recycling process in co-mingled collection schemes is higher than in separate collection (at least for paper and glass) as WRAP's studies and other studies throughout Europe have demonstrated.

## 3. Long lists of Policy measures and Incentives

During the IMPACTPaperRec Informative Meeting held in Barcelona, project partners and members of the municipalities, as well as members of the External Support Committee (ESC) of the IMPACTPaperRec project and external experts joined together in a brainstorming exercise on Policy Making as well as on Incentive Schemes. At least six tables were created, each having mixed participants for different profiles within the PFR value chain (Municipalities, paper industry, waste management companies, etc). The assigned task consisted in writing down the best policy measures and incentives to support separate collection of paper and board based on their own experience and knowledge. Participants wrote their preferred policy measures and incentives on post-it notes and at the end of the exercise, all of the participants went around the room placing coloured dots on the preferred policy/incentive (green and blue stood for positive/agree and red for negative/disagree).

CEPI and ACR+ respectively, took pictures of the policy and incentives post-its and transferred the data collected in charts (see below). These charts are the basis of the "Long List of Recommendation for Policy Measures" and "Long List of Incentives". Inspired by a literature research, as well as based on a number of well-known practical examples, the different incentives and policy measures considered in IMPACTPaperRec project can be grouped into three categories: legal and economic; social and communicative; technical and operational.





Dot colour	Meaning
●	Positive
●	Neutral
●	Negative

### 3.1 Policy Measures (Brainstorm ideas from the session)

#### Barcelona informative meeting 24.01.2017 – 2<sup>nd</sup> Session Policy Making

	POLICY PROPOSAL	VOTES
<b>Group 1</b>	Stop commingled collection	●
	Establish criteria for recyclability	● ●
	Ecodesign to forecast when and how the material is recycled	● ●
	Fines if citizen do not comply with rules	●
	Penalty for products that have low recyclability like Ecofolio in France	●
	Establish regional level target, not only national	
	Increase recycling target	
<b>Group 2</b>	Political will and long-term vision	●
	Establishment of waste management plans: regularly and at different levels (national, regional, local; but also for companies, industries)	●
	Proximity principle should apply at EU level. No protectionism	● ●
	Better communication, cooperation and transparency between stakeholders	● ● ● ●
	Separate targets for recovery organization for material quotas from industries and from citizens	● ● ● ●
	Customs obligations for material should be aligned to industrial norms	● ●
	Analyse before acting: sense of dimension on infrastructure	● ●
	Coordinated local solutions and policies will improve the collection rates	●
	Platforms for discussion and exchange of good practices	
	More transparency on how waste is managed	



	End of Waste or Still Waste regulation. Still traceability but in a pragmatic way Policy makers should listen to industry and citizens	
<b>Group 3</b>	Pay-As-You-Throw Policies aiming towards Zero Waste Eco design Guidelines and handbooks for Municipalities, Ministries and businesses Internal policies on recycling and separate collection at companies Obligation for packaging waste generators to hand over their PfR for free Objectives to extend life of a fiber: research, standards, operation Avoid overcapacity of residual waste treatment Green Public Procurement	● ● ● ● ● ● ● ● ● ●
<b>Group 4</b>	Terminology for collection systems in different languages (dictionary) Paper for Recycling sampling methods (to ensure quality) Measurements methods of PfR quality	● ● ●
<b>Group 5</b>	All stakeholders should be part of this circular economy Need to align the regulations (National, EU) with the final consumers' needs Can quickly readapt to industry needs Standards can be a good WP1 to promote circular economy in the EU: avoid that certain qualities go to third countries (China, India etc) Standards should be harmonised at wide world level Standards have to be aligned with policies Source separation of paper should be the norm Different thresholds as function of the source of waste (municipal/industrial) in order to ensure economically feasible recycling Harmonized quality is a key issue for coordinated management and recycling of paper and board	● ● ● ● ● ● ● ● ● ●
<b>Group 6</b>	Landfill ban for recyclable paper Same law application for every region	● ● ● ● ●



Date: 10 January 2018

	<p>100% Recycling Policy for Paper (a more specific and realistic concept than Zero Waste)</p> <p>Traceability of material</p> <p>Including social groups (non-profit organizations) to legalise collectors</p> <p>Recycling based on materials and not on systems of collection</p> <p>EU separate collection obligation</p> <p>Involvement of the national law</p> <p>Enforcement of national law about single stream collection</p> <p>Limit possibility of local solutions</p> <p>Improve technology development for separating different waste fractions</p>	<p>● ● ●</p> <p>● ● ●</p> <p>● ●</p> <p>● ●</p> <p>●</p> <p>●</p>
<b>Group 7</b>	<p>Policy to raise awareness on PfR and education about PfR</p> <p>Efficient law for all stakeholders</p> <p>Make paper value chain more transparent</p> <p>Legislation to increase the use of sustainable resources until 2020 up to a certain percentage</p> <p>All public documents have to fulfil criteria (for example of ecolable) for printed products</p>	<p>● ● ● ●</p> <p>● ●</p> <p>●</p> <p>●</p> <p>●</p>
<b>Group 8</b>	<p>"Use resources in a responsible way" needs to be built in common culture</p> <p>Ensure enforcement of current legislation</p> <p>Adopt EPR rules to really encourage recyclability and Eco design</p> <p>Standardize in the EU without forgetting competitiveness to non-EU competitors</p> <p>Fact-based resource scarcity awareness</p> <p>Do not allow over packaging</p> <p>Differentiate the price between packed and unpacked goods</p> <p>Practical (economical) leverage on consumers making their purchasing decisions (not enough information on products)</p>	<p>● ● ●</p> <p>● ●</p> <p>●</p> <p>●</p> <p>●</p>
<b>Group 9</b>	<p>Increase taxes for landfilling paper waste from municipal collection</p> <p>Paper recycling should be an obligation other than a possibility. Now they have other possibility (like incineration)</p> <p>Make the use of paper coming from sustainable sources compulsory</p> <p>Legislation together with industries to boost innovation</p> <p>Reduce paper consumption (legal development on paper reduction)</p>	<p>● ● ●</p> <p>●</p> <p>●</p> <p>●</p> <p>● ●</p>



	<p>There is not a b on paper landfilling</p> <p>Legislation should harmonize collection systems between countries</p> <p>More specific regulation on packaging materials</p> <p>Speed up time for incorporation of European legislation In Member States</p> <p>Boost local recycling/recovering companies near generation</p> <p>Increasing targets on paper recycling are not realistic</p> <p>In order to facilitate the cycle, not all paper should be recycled</p>	<p>•</p> <p>•</p>
<b>Group 10</b>	<p>Same approach for all countries (eg calculation of recycling rates)</p> <p>5.01 in municipal tenders</p> <p>Make sure that regulation and laws are consistent and same in all languages</p> <p>Simplify Annex VII procedure</p> <p>EPR scheme on graphic paper</p> <p>Common methodology for calculation of KPI for all European countries</p> <p>Law against p&amp;b house firing</p> <p>Short distance for environmental reasons (tender) must be recycled</p> <p>Funding for collection of necessary data and information</p>	<p>•</p> <p>•</p> <p>•</p> <p>•</p> <p>•</p> <p>•</p> <p>•</p> <p>•</p>

### 3.1 Incentives (Brainstorming ideas from the session)

#### Incentives for municipalities

##### Legal & economic

###### *Bans & restrictions*

- Ban of house firing (burning paper for heating) XX
- Ban on landfilling unseparated waste X
- Restrictions on incineration of paper

###### *Legal obligations*

- Ecodesign rules XX
- Recycling targets for municipalities (based on national targets) XX
- Obligatory separate collection ( paper, plastics, glass, and metals) XX
- Legal obligation to use a % of recycled plastic/paper (must be coordinated at a European level) XX



Date: 10 January 2018

*Economic*

- EPR systems → municipalities can receive more money if they collect more: ≠ levels of payment
- EPR scheme paying municipalities for the collection X
- EPR schemes subsidising the waste management X
- High gate fees for incineration XX
- Imagine prohibitive landfill fees XX
- Taxes for disposal XXX
- High waste fee for residual waste X
- Tax for quantity under the obligatory rate X
- The municipality receives technical/financial support for implementing a good system on its territory (f.e. by the national PRO)
- Financial reward (private person)
- Tax reduction for less waste generation X

**Social & communicative**

*Communication campaigns*

- Annual awareness campaigns for citizens, households, schools, shopkeepers, etc. X
- Communication campaigns in schools XXX
- Awards campaigns in TV to incentivate (sic!) collection in municipalities and companies
- Image improvement/ campaign

*Awards & competitions*

- Awards & competition between municipalities towards targets. Publicly available. Advertise it. XX
- "Recycling awards" Best community/ municipality in waste collection XX
- Give a bonus; Pay-As-You-Throw X
- Recycling Olympic among municipalities XXXXXX
- Good practices showing, competition awards XXX
- City district of the month
- Municipalities competition for highest p&b collection amount X
- Competitions among municipalities/ national prize for best municipality

*Infrastructure (communicative)*

- Ecobins in schools and public buildings with separate collection of p&b X

**Technical & operational**

- Sorting by municipalities instead, consumers only 1 container XX
- Bring bank system for graphic paper and p&b packaging collection XX
- Organise long-term contracts XXXX
- Solar containers → tell level → better maintenance of collection bins XXX
- Provision of equipment to address waste problem XXXX



#### 4. Short List of Policy Measures and Incentives

Inspired by a literature research, as well as based on a number of well-known practical examples, the different incentives and policy measures considered in IMPACTPapeRec project can be grouped into three categories: legal and economic; social and communicative; technical and operational.

##### 4.1 Policy Measures – reviewed and shortened list

###### Legal & economic obligations

- Establish criteria for recyclability
- Establish regional level target, not only national
- Increase recycling target
- Establishment of waste management plans: regularly and at different levels (national, regional, local; but also for companies, industries)
- Separate targets for recovery organization for material quotas from industries and from citizens
- Internal policies on recycling and separate collection at companies
- Separate collection obligation at EU level
- Green Public Procurement criteria for all public documents (Ex: ecolabel)
- Simplify Annex VII procedure
- Implement 5.01 in municipal tenders

###### Bans and restrictions

- Avoid overcapacity of residual waste treatment
- Landfill ban for recyclable paper

###### Economic

- Pay-As-You-Throw schemes
- Incineration taxes or fees
- Increase taxes for landfilling paper waste from municipal collection
- Boost local recycling/recovering companies near generation
- Fines if citizen do not comply with rules
- Funding for collection of necessary data and information

###### Social and Communicative



Date: 10 January 2018

- Better communication, cooperation and transparency between stakeholders
- Platforms for discussion and exchange of good practices
- Guidelines and handbooks for Municipalities, Ministries and businesses
- Terminology for collection systems in different languages (dictionary)
- Include social groups (non-profit organizations) to legalise collectors
- Raise awareness and educate on PfR

#### **Technical**

- Coordinated local solutions and policies will improve the collection rates
- Measurements methods of PfR quality
- Traceability of material
- Improve technology development for separating different waste fractions
- Make paper value chain more transparent

#### **Operational**

- Stop commingled collection

## 4.2 Incentives – Reviewed and shortened list



## *Examples of legal and economic incentives*

### **Legal obligations**

- Mandatory separate collection for different waste streams (incl. paper)
- High collection/ recycling targets
- Requirements on use of recycled content

### **Bans and restrictions**

- Ban/ restriction on landfilling
- Ban/ restriction on incineration
- Ban of house firing (burning paper for heating)

### **Economic**

- Landfill taxes or fees
- Incineration taxes or fees
- Pay-As-You-Throw schemes
- Discount on waste tax for separate collection of recyclables
- Penalties for non-compliance with mandatory separate collection
- Separate waste bill linked to the quantity/ separate collection rate
- Financing from EPR schemes for specific waste streams

## *Examples of social and communicative incentives*

### **Communication campaigns and information channels**

- Awareness-raising campaigns
- Provision of complete information about waste collection and recycling
- Open days to recycling facilities/ paper mills
- Promotion of best practices
- Use of Eco labels and certifications

### **Awards and competitions**

- Competitions with prizes for most collected/ recycled quantities

## *Examples of technical and operational incentives*

### **Collection infrastructure**

- Convenience and sufficiency of collection infrastructure
- Provision of collection infrastructure through EPR schemes

### **Organisation and logistics**

- Consultancy and adapted solutions by EPR schemes
- Convenient and frequent service
- Less convenient collection for residual waste relative to separated/ Chip to open the residual waste bin (with limitations on disposal)

## **4.3 Descriptions of Policy Measures and Incentives**





Policy Measures and Incentives	Descriptions
Establish criteria for recyclability	Set specific criteria for the recycling of paper
Establish regional level target, not only national	Setting clear and ambitious collection and recycling targets for regions
Increase recycling target	Increase the overall target of recycling rate
Establishment of waste management plans: regularly and at different levels (national, regional, local; but also for companies, industries)	Waste management planning is the cornerstone of any national, regional or local policy on waste management. The establishment of a plan allows taking stock of the existing situation, defining the objectives that need to be met, formulating appropriate strategies, and identifying the necessary implementation means.
Separate targets for recovery organization for material quotas from industries and from citizens	Household and industries should have a different target with regards to recycling rates
Internal policies on recycling and separate collection at companies	Businesses and companies should have internal regulations making separate recycling of paper mandatory
Separate collection obligation at EU level	Make separate collection a requirement at EU level
Green Public Procurement criteria for all public documents (Ex: ecolabel)	Make government public documents comply with the Green Public Procurement criteria
Simplify Annex VII procedure	Annex VII is required for trans-border shipments and it should be simplified by cutting red tape
Implement 5.01 in municipal tenders	See Top Recommendations
Funding for collection of necessary data and information	Local or national funds should be used to collect data and other information on the process of recycling paper
Avoid overcapacity of residual waste treatment	Investments in treatment facilities for residual waste, such as extra incineration capacity would only be granted in limited and well justified cases, where there is no risk of overcapacity and the objectives of the waste hierarchy are fully respected.
Fines if citizen do not comply with rules	Use fines if a citizen is caught while littering for example, or in general, not following regulations



Pay-As-You-Throw schemes	Is a usage-pricing model for disposing of municipal solid waste. Users are charged a rate based on how much waste they present for collection to the municipality or local authority.
Boost local recycling/recovering companies near generation	Recovering companies should be close to waste generators for a more convenient collection
Better communication, cooperation and transparency between stakeholders	Document consultation activities and outcomes. Reports with quantitative information are much more robust and transparent. Ensure participation of stakeholders interested in monitoring projects. Hold community consultations where they can express their views on issues that concern them.
Guidelines and handbooks for Municipalities, Ministries and businesses	Create tools to help institutions and business taking decisions. Guidelines may be issued by and used by any organization (governmental or private) to make its actions of higher quality
Terminology for collection systems in different languages	Build a multilingual tool (for example, a dictionary) to be used by most communities in Europe
Include social groups (non-profit organizations) to legalise collectors	A measure to prevent grey-areas of some businesses that could result in corruption and other negative habits
Measurements methods of PfR quality	Make sure to include and measure levels of PfR quality when collecting paper
Make paper value chain more transparent	Take legislative and non-legislative actions to make the paper value chain more transparent for all
Stop comingled collection	Take legislative and non-legislative actions to implement separate collection of paper
Improve technology development for separating different waste fractions	Invest in technology development to make the separation of waste more precise
Traceability of material	All collected material should be traceable until its source
Mandatory separate collection for different waste streams (incl. paper)	Introduce a separate collection system for paper and board to offer citizens the possibility to separate it from their residual



	waste and other recyclables
High collection/ recycling targets	Setting clear and ambitious collection and recycling targets for a municipality. Progressive improvement of paper and board collection in the municipality based on annual meetings between municipality, paper collectors and others interested groups such as citizen associations.
Ban/ restriction on landfilling	Landfills are waste disposal sites for the deposit of waste onto land and are the least preferable option and should be limited to the necessary minimum by restricting their use
Ban/ restriction on incineration	Prohibiting or limiting any thermal destruction of paper and board or other recyclables with the intention of disposing of such materials
Ban of house firing (burning paper for heating)	In some areas (especially rural) household waste is burnt for heating. This has a number of negative health and environmental implications, notably loss of materials to recycling. Specific ordinance banning such practices can act as an incentive to stop house firing and to direct materials to other valorisation routes including recycling.
Landfill taxes or fees	Fiscal measure to push material up the waste hierarchy
Incineration taxes or fees	Incineration taxes, along with landfill taxes can be imposed to attempt to stop waste simply being diverted from landfill to incineration but to be recycled
Discount on waste tax for separate collection of recyclables	Establishing the link between the quantities of separately collected recyclables and total fee paid for waste services can act as an incentive to improve separate collection
Penalties for non-compliance with mandatory separate collection	Authorities could issue fixed penalty notices if citizens do not comply with the separation collection
Separate waste bill linked to the quantity/ separate collection rate	Establishing a separate waste bill related to the quantity and characteristics of the generated waste can act as direct incentive



	to reduce the quantities or improve separate collection rate, as well as to raise overall awareness to waste-related issues.
Financing from EPR schemes for specific waste streams	Producers are considered responsible for the environmental impacts of their products along their whole life cycle, including the end-of-life management. Consequently, every EPR scheme should cover the costs for establishing a separate waste collection system
Awareness-raising campaigns	Organization of outdoor visual activities to engage local residents and small businesses on paper and board recycling. Development and launch of awareness campaigns based on illustrative and clear examples of the recycling benefits.
Provision of complete information about waste collection and recycling	Dissemination of successful stories on paper and board recycling to draw attention, inspiring and stimulating citizens
Open days to recycling facilities/ paper mills	Integration of a reserved area in recycling yards and/or sorting plants in order to teach visitors (e.g. Kids, students, retired people) on paper and board collection and recycling.
Promotion of best practices	Best practices can serve as an example and inspiration to be implemented by others.
Use of Eco labels and certifications	Use of eco-labels and certifications can incentivise consumers to choose products containing recycled content over those based on virgin role materials.
Competitions with prizes for most collected/ recycled quantities	Establishment of competitions (e.g. Municipalities, schools, companies) in order to award the best performances or excellent behaviour in paper collection
Convenience and sufficiency of collection infrastructure	Collection infrastructure covers all the physical collection facilities (containers/ bins/ bags) and their features such as shape, openings, colour, size, etc.
Provision of collection infrastructure through EPR schemes	Collection infrastructure requires in some instances significant investments which can be a challenge for budget-constrained local authorities. Requirements on EPR schemes



	responsible for the handling of specific waste streams can be a way to secure the needed collection infrastructure is in place.
Consultancy and adapted solutions by EPR schemes	EPR schemes in charge of certain waste streams act as a connecting point between multitudes of stakeholders. Therefore, they potentially have access to important information, resources and expertise, which they could provide to local authorities and thus contribute to better performances of the system.
Convenient and frequent service	Collection service covers collection, transportation and cleaning, including the frequency of collection
Less convenient collection for residual waste relative to separated recyclable	By restricting disposal of residual waste (ex. Through less frequent collection or chips to open the collection bin), waste holders are incentivised to better separate the recyclable waste they generate.

### 5. Top Recommendations for Incentives and Policy Measures

This project is aligned with current European and National legislation on waste, recycling being a priority in other recovery strategies as it boosts the progressive increase of recycling rates. IMPACTPapeRec is also related to emerging European initiatives whose objectives include the re-use of by-products and waste fractions in alternative production processes to avoid landfilling. Knowledge and results from the project will serve as basis for the development of new regulations and standards in the future, both at EU and regional level. This will be boosted through the involvement of policymakers, standardisation bodies and Municipalities in the project as important stakeholders giving their input to the preparation of the IMPACTPapeRec Best Practice Handbook.

The following recommendations are designed to be applied through the series of policy measures and incentives identified during the course of the project, and especially during the work for WP3. They target different groups that are part of the paper recycling and value chain processes, as well as European and National institutions.

1. To the European Commission: following the adoption of the revised Waste Directive and the strengthening of the provisions on separate collection for paper and other materials, produce a similar guidance on interpretation as for Directive 2009/28/EC. Specify by material



IMPACTPAPE REC

Boosting separate paper collection



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stream, under which conditions diversion from the separate collection obligation is permissible, e.g. in a commingled stream.

2. To National Governments: Ensure all placers of packaging on the market contribute to the Extended Producer Responsibility schemes for packaging. Guarantee that these allocate sufficient resources to enable Municipalities to improve the separate collection of household waste, while ensuring commercial and industrial packaging collection. When a selective collection of graphic paper is in place, e.g. due to the presence of an EPR scheme for graphic paper, make sure there is also a selective collection for board.
3. To Local Authorities/Municipalities: Make full use of the incentives within the means of the Municipality/Public Authority to ensure separate collection. When separate collection is not established at national level, tender the collection of Paper for Recycling by specifying that the collection method must enable the handlers of the collected material to reach the limits and specifications of the EN 643 either directly or through additional sorting and cleaning.
4. To PFR collectors: When negotiating contracts with Municipalities, insist that the collection method must enable the handlers of the collected material to reach the limits and specifications of the EN 643 either directly or through additional sorting and cleaning.
5. To the paper mills: Implement strict PFR inbound quality control and measurement ensuring compliance with the EN 643 and refuse buying of sub-standard material.

