

# Better Regulation for a Circular Economy



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# Introduction

## Better Regulation for a Circular Economy

The Partnership on Circular Economy is one of the 14 partnerships established as a part of the Urban Agenda for the EU. The Partnership has identified barriers in regulations, funding and knowledge for the transition of Circular Economy in cities. The Partnership has initiated 12 different actions to reduce or remove these barriers.

This booklet highlights two of the better regulation actions undertaken by the Partnership, namely:

- a position paper on how to make waste legislation support the circular economy in cities.
- a survey report on the regulatory obstacles and drivers for boosting an urban circular bio-economy;

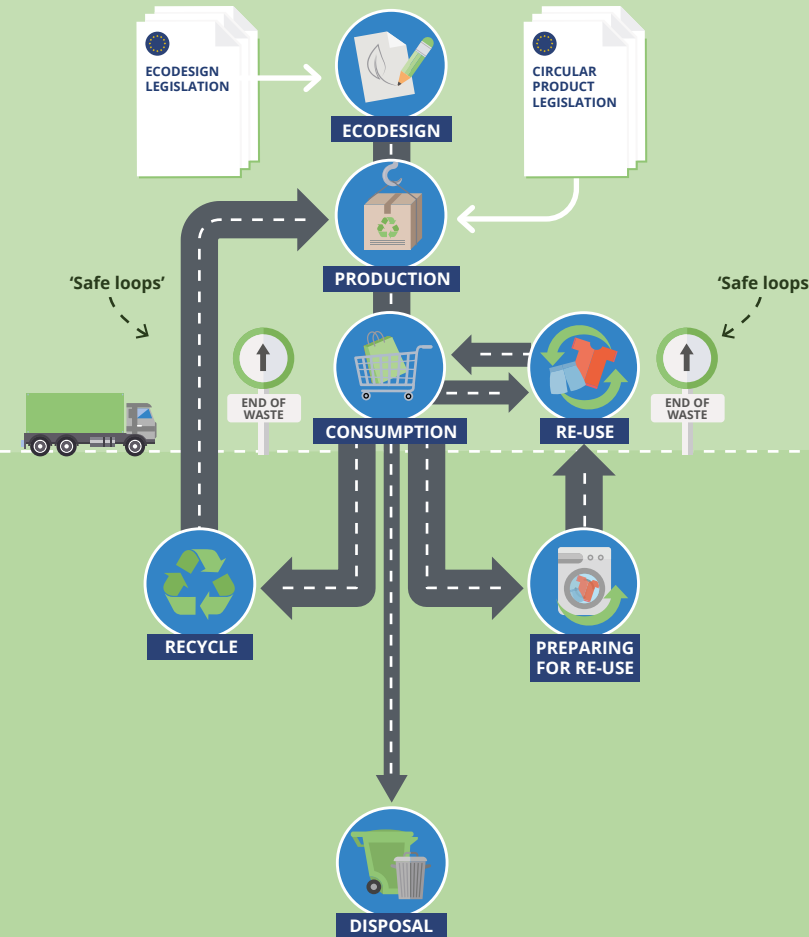
These actions aim to contribute to better EU policies, legislation and instruments with regard to the urban circular economy. The transition to a circular economy is an important objective of the recently announced Green Deal. Many of the proposed measures in the Green Deal need to be implemented at the local level. Therefore, it is crucial that EU-legislation on waste and bio-resources support the circular economy in cities.

The Partnership calls on the European Commission to take into consideration the recommendations and observations from the Partnership when evaluating existing and developing new EU policies and legislation in the context of the circular economy.

## Current framework



## Possible future framework



# 1. Waste legislation action

The Partnership examined how EU waste legislation in general can be improved to support the circular economy in cities. Based on exchange of views and experiences in the Partnership, a position paper on this topic was prepared.

### Partnership recommendations in the position paper on waste

To help cities maximise the value of products and materials and minimise waste, the current EU policy and legislative framework should be reoriented towards resource management, instead of waste management. To achieve this, we need to implement a consistent material and product hierarchy in the regulatory framework. This means consistently taking circularity on board in legislation governing the whole lifecycle of products, from product design to waste management. The Partnership therefore recommends:

- Short and medium term: introduce a value-based approach to waste management in order to foster the uptake of waste as secondary resource. This could be achieved by for example:
  - Optimizing the current End-of-Waste criteria process. Testing innovative approaches like the Safe-Loops methodology developed by the Dutch National Institute for Public Health and the Environment would be interesting in this respect.
  - Looking at possibilities to make EPRS schemes more effective as drivers for innovation in product design.
  - Exploring how the EU legislative framework can better continue to facilitate and sustain the future progress of the circular economy.

b) Long term: that action is taken at the beginning of the lifecycle of products. Currently, most products and packaging are not designed to be reused or recycled. This makes it difficult for cities to effectively implement a more circular approach to waste management. The EU could support cities by for example implementing more eco-design measures in existing and new product specific legislation and by putting in place a strong legislative framework for eco-design that is in line with the circular economy.

The Partnership stresses the importance of a coordinated multi-level effort. Many of the challenges cities face cannot be solved only at the local level or only at the European level. Therefore, cities should be actively involved in the development and implementation of the future EU legislative framework regarding the circular economy.

## 2. Bio-resources action

### Survey report

In 2018, the Partnership carried out a survey on EU regulatory bottlenecks and drivers influencing the production of bio-based products from urban biowaste and wastewater. This resulted in a survey report that was published in October 2019. The aim of this report is to present the European Commission and EU legislators with practical experiences from experts with EU legislation and the production of bio-based products. Moreover, this report also provides practical experiences that could be useful for policymakers and experts at the local level that are interested in valorising urban organic resources.

### Drivers stimulating the EU circular bio-economy

The respondents to the survey identified a total of 71 drivers in relevant EU legislation. Especially the EU legislative- and policy initiatives originating from the 2015 Action Plan for the circular economy, contributed greatly to supporting the bio-economy at the urban level. Examples of these regulatory drivers are:

- The recently introduced rules in the Landfill Directive against landfilling of biodegradable waste are positive for its value chain. The stricter limits on landfilling are welcomed prohibitions in helping to reduce the amount of bio-waste sent to landfills and could stimulate the production of bio-products from biowaste.

- The newly introduced Fertilising Products Regulation was positively received, considered it establishes a regulatory framework enabling production and making available on the market of fertilisers from recycled bio-waste, contributing to a better implementation of the waste hierarchy, by minimizing landfilling or energy recovery of bio-waste. It is seen as a driver towards bringing recycled bio-waste to the market as fertilisers.
- Drivers in the revised Waste Framework Directive are the mandatory separation of bio-waste by 2024, the incentives it provides for the application of the waste hierarchy and the binding targets for recycling municipal waste.
- A vital driver of the REACH agreement is the exemption of compost and PHA (Polyhydroxyalkanoates), or polyesters produced in nature by microorganisms.

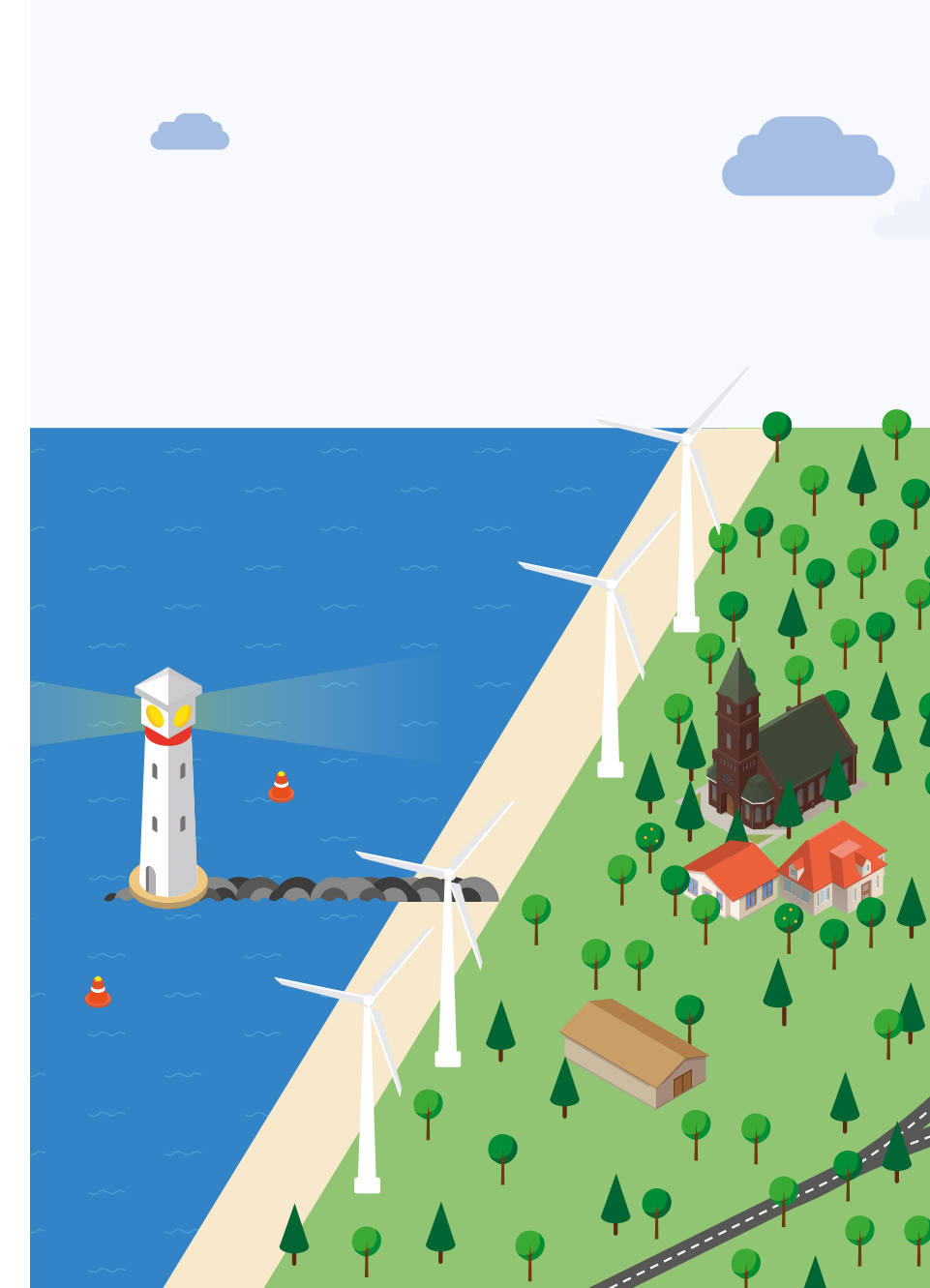
Furthermore, the newly updated Bioeconomy Strategy (2018) has also contributed significantly as it includes improvements, such as: a strong focus on circular bioeconomy, the role of cities as bioeconomy hubs and the valorisation of biowaste through the production of safe and sustainable bio-based products.

### Bottlenecks hampering the EU circular bio-economy

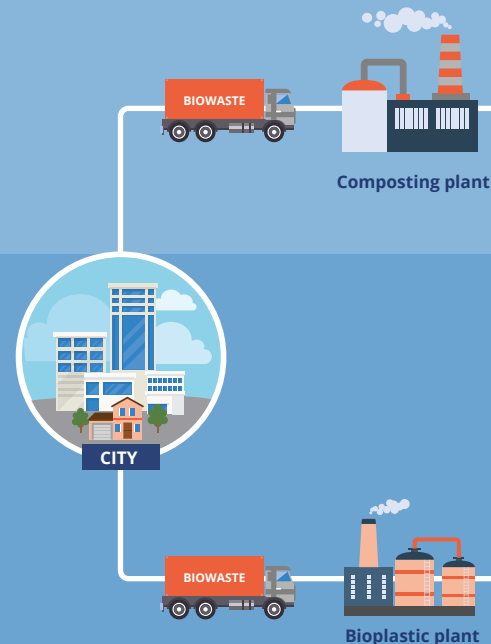
Although substantial progress has been made, respondents to the survey also identified 137 bottlenecks that may impede the valorisation of bio-waste. The entire list of challenges can be found in the survey report. On this basis of the experiences and observations of respondents of the survey, the Partnership has identified three recurring themes that can impede the valorization of urban bio-waste. These are:

- I. insufficient harmonization of standards and rules hampering the valorisation of bio-waste;
- II. the process of updating and keeping up-to-date of technical requirements and definitions;
- III. EU legislation that is of a restrictive nature, thereby constricting innovative products and processes from bio-waste streams.

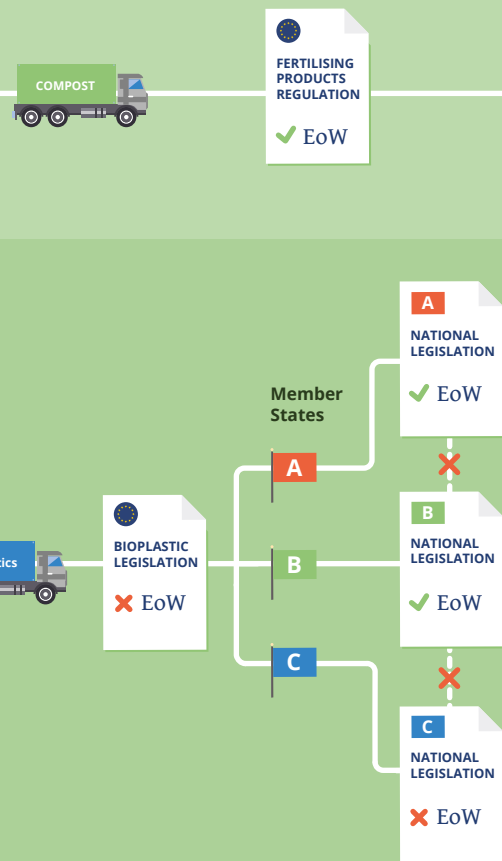
These themes are explained in more detail in the next pages and are supplemented with case studies.



## Waste valorisation



## Legislation



## Market



EoW = End-of-Waste

## Theme I - insufficient harmonization of standards and rules hampering the valorisation of bio-waste

Insufficient harmonisation of standards and rules between member states can hamper the placement on the market of bio-based products from urban bio-waste and wastewater sludge. Especially the lack of EU-wide End-of-Waste criteria was identified by the respondents as an issue of concern. This is consistent with the recommendations from the position paper by the Partnership that is presented in chapter 1 of this booklet.

End-of-Waste criteria determine when waste ceases to be waste and becomes a product or a secondary raw material. These criteria can be set at different levels: EU-wide, national or on a case-by-case basis. Thus far, the EU has only set End-of-Waste criteria for a limited number of products and resources. Respondents of the survey considered it difficult to place products from bio-waste feedstocks on the EU market, because they are often still considered to be waste.

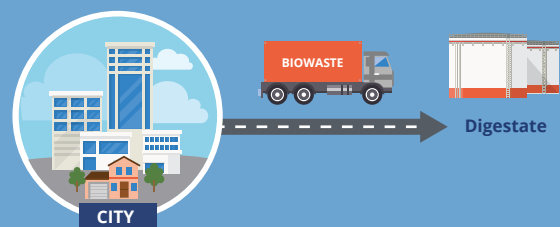
The rules on setting End-of-Waste criteria are laid down in the Waste Framework Directive. The 2018 revision of the Waste Framework Directive did clarify and expanded the End-of-Waste process. For example, to set explicit End-of-Waste criteria in product specific legislation is now a clear objective. However, the End-of-Waste process is still perceived as complex by respondents. The process can still lead to different approaches in Member States. Especially the lack of EU-wide End-of-Waste criteria for bio-based products remains a commonly identified challenge by respondents.

### Case study: End-of-Waste criteria for bio-waste based products

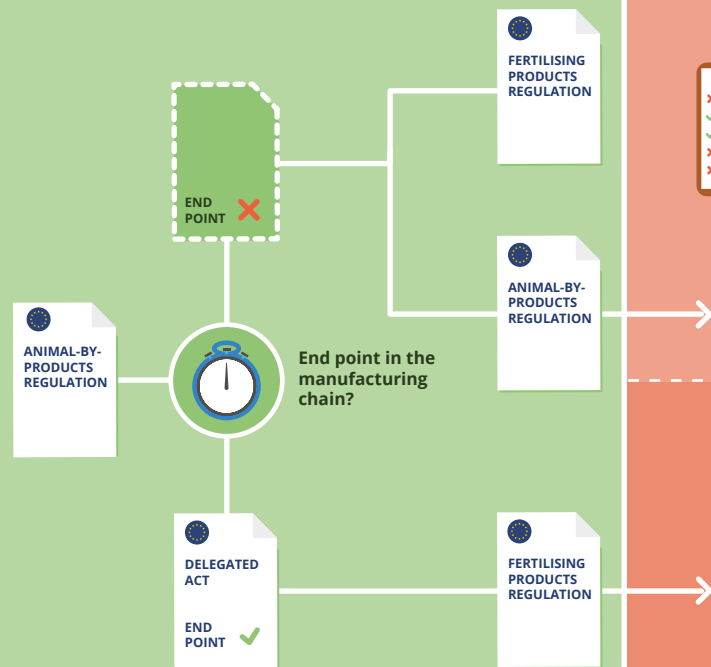
- A city wants to extract secondary resources from the organic fraction of their municipal solid waste and place them on the EU market.
- These secondary resources are:
  - Compost, which is decomposed organic material that can be used as a fertiliser.
  - Bioplastics, such as polyhydroxyalkanoates (PHAs), which are polyesters produced in nature. These PHAs can be used to create plastics with high biodegradability and without using fossil fuel.
- If the city wants to place these secondary resources/products on the market, however, this is not allowed as the secondary resources are still considered to be waste materials. To make sure that these waste materials can be placed on the market as secondary resources, End-of-Waste criteria need to be fulfilled.
- The conditions for determining these criteria can be found in the Waste Framework Directive and the technical criteria for specific kinds of secondary resources can be found in product specific legislation.
- Placing on the market of compost: EU-wide End-of-Waste criteria are formulated in the Fertilising Products Regulation. Therefore, compost stemming from separately collected bio-waste can be placed on the EU market without further complications, if they meet these criteria.
- Placing on the market of bioplastics: There are no EU-wide End-of-Waste criteria for bioplastics produced from bio-waste. The city must therefore turn to national legislation. However, even if there are national End-of-Waste criteria, these might not be recognised by other member states or be different from theirs. So the bioplastic can still not be placed on the EU market because of the lack of harmonisation.



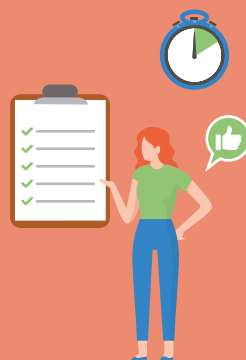
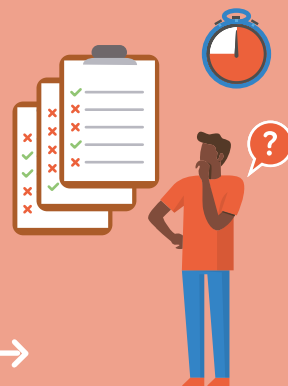
## Waste valorisation



## EU legislation



## EU market



## Theme II - the process of updating and keeping up-to-date of technical requirements and definitions

The EU legislative framework is not always aligned and up-to-date with the current state of technological developments in the context of bio-resources valorisation. The survey report includes several examples from different EU directives and regulations that contain outdated technical requirements and definitions, which thereby prevent the deployment of the latest innovative products and technologies available.

Outdated provisions were identified by the respondents in several bio-resource product categories. Fertilisers, chemicals and plastics were the most commonly identified product categories where the relevant legislation is not up-to-date. Respondents also found that often EU legislation does not consider the latest available technologies. For instance, the Urban Waste Water Treatment Directive does not take into account new sludge valorisation technologies and recycling strategies.

To better facilitate the uptake of new developments and technologies, respondents state that legislative requirements and principles need to be kept up-to-date more quickly. That could be achieved by a more responsive process of amending the relevant annexes of EU legislation.

### Case study: conflicting technical requirements of the Animal By-Products Regulation and the Fertilising Products Regulation

- A city wants to use their separately collected organic fraction of municipal solid waste to produce digestate and place it on the EU market as an organic fertiliser.
- Digestate can be made by subjecting biodegradable waste to anaerobic digestion. A new Fertilising Products Regulation has been introduced by the EU to insure that bio-based fertilisers from bio-waste, such as digestate, are able to move freely on the EU market. The regulation lays down the requirements to place digestate from a bio-waste feedstock on the EU market.
- However, in the organic fraction of municipal solid waste there is an unavoidable presence of animal materials. Consequently, the Animal-By-Products Regulation also applies to digestate produced from bio-waste. The Animal-By-Products Regulation provides strict requirements for products derived from animal by products, hampering the placement on the market of bio-waste based digestate.
- To ease the process of placing on the market of bio-waste based digestate, the European Commission can provide an 'end point in the manufacturing chain' through the adoption of a delegated act. If such an end point is provided, the Animal-by-Products Regulation does not apply anymore to derived products. This means that from that point onwards only the requirements from the Fertilising Product Regulation apply.
- The Commission intends to adopt a delegated act that provides such an end point for bio-waste based digestate. However, as long as it has not been adopted it hampers the market for bio-waste based fertilisers, such as digestate. This exemplifies that EU legislation is not always expediently up-to-date with technological possibilities.

## Waste valorisation



## EU legislation

### Desired situation



### Current situation

## Market



## Theme III - legislation of a restrictive nature which constricts innovative products and processes from bio-waste streams

The protection of human health and the environment is an essential objective in EU waste legislation. In order to ensure a high level of protection, waste legislation uses a risk-based approach towards waste. However, this risk-based approach can in some cases unnecessarily impede the use of innovative products and processes due to too strict technical requirements. Especially as new technologies and innovative products can offer a higher level of protection against contamination.

Respondents to the survey have observed these restrictive requirements in several sets of EU legislation. The current risk-based approach in the legislative framework on waste could be supplemented by a value-based approach towards waste. In a value-based approach, waste is considered to be a valued resource first. Respondents consider such an approach necessary to adequately facilitate access to the market for innovative products and fertilisers.

### Case study: the use of volatile fatty acids platforms (VFAP)

- A city wants to utilise an innovative technique to valorise their waste water sludge and the organic fraction of municipal solid waste, namely: volatile fatty acids platforms. These platforms can be integrated into the existing process of anaerobic digestion in waste treatment plants. With this technique volatile fatty acids are created which can be used as a resource for bio-based innovative products such as bioplastics and biochemicals.
- The advantage of this technique is that volatile fatty acids differ significantly from the input material (bio-waste and waste water sludge). Therefore, these acids do not need sterilisation or a high cost pre-treatment step when they are used as resource.
- The EU legislative framework is restrictive towards facilitating this innovative waste treatment technique. For example, the Waste Framework Directive, the Landfill Directive, and the Sewage Sludge Directive do not take volatile fatty acids platforms into account. Moreover, the treatment requirements in product specific legislation do not support or mention the use of volatile fatty acids platforms as treatment technique.
- In this example it is clear that although new technologies and new bio-products can offer higher protection against contamination, the EU legislative framework does not always facilitate this.



## Making EU legislation support the circular (bio-)economy in cities

The transition to a circular economy is a tremendous opportunity to transform our economy and make it more sustainable and preserve the world's resources. It can also help create local jobs and generate competitive advantages for Europe in a world that is undergoing profound changes.

Cities play an essential role in the development of a circular economy; as producer of public services, as demander of goods and services through public procurement and they act as enablers of potential measures by which they can influence both consumers and businesses. Moreover, overall governance, enabling businesses, public procurement, consumption and resource management are all themes with a bearing on the development of circular economy concepts within cities.

European cities are uniquely positioned to address complex problems through practical experimentation and innovation. The transition to a circular economy requires multi-level governance and new visions of what the city of the future could look like. Therefore, involvement at a local level is crucial for the transformation from a traditional linear approach to a circular strategy.

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