

Individual Portfolio in Sustainable Development

On Nature-based Solutions & Waste Management in Belgium

José Antonio Borbolla Maroño

Learning goals

Learning goal 1

Learning goals 1: To explore the implementation of Nature-based Solutions (NbS) as a tool for sustainability and their dual role in both deriving use from environmental processes, and in promoting the conservation of local ecosystems.

Motivation:

The field of sustainability focuses on creating long-lasting human societies that can satisfy their needs without compromising the needs of future generations. In trying to implement sustainability, especially in the face of current global crises, various tools have been developed to combat humanity's impacts (such as carbon capture or desalination, among others). But many of these tools rely exclusively on technological solutions to replace natural systems and don't necessarily create lasting resilience to the impacts of climate change. Often times, these technological solutions come at the cost of natural ecosystems due to their dependence on resource extraction or energy generation. And as one of the fundamental pillars of sustainability, the environmental aspect is relevant in building truly sustainable and resilient societies.

However, technological solutions don't necessarily have to replace natural systems. Nature-based Solutions (NbS) make use of the natural processes to counteract environmental impacts and bring about solutions to current sustainability problems, relying on the resiliency of ecosystems. Using nature in a way to support efforts to implement sustainability is an interesting possibility, and with NbS gaining popularity as sustainability tools, learning about them aids in my professional development. As such, I would like to gain insight into the implementation of Nature-based Solutions, to see how these natural processes can be used as tools for sustainability, all the while promoting the conservation and restoration of natural ecosystems.

Learning goal 2

Learning goal 2: To gain an understanding of waste generation and the waste management system in Belgium, and based on the existing situation, promote actions towards more sustainable waste management practices.

Motivation:

Waste is a result of any human activity, but with increased affluence the waste generated is generally also increased. This increased generation of waste can cause negative environmental and social impacts, such as pollution, health issues, or increased GHG emissions, as well as reducing the livability of human spaces. Thus, the reduction of waste generation, and the proper management of any generated waste is an important aspect of implementing sustainability in modern industrialized societies.

Belgium currently has some effective initiatives for waste management, such as the separation of waste by type and ample access to recycling facilities. Nonetheless, there is still space to decrease the amount of generated waste and promote more sustainable practices in terms of waste management in the country.

Learning activities

Learning goal 1 - Learning activity 1

Learning activity 1: “Nature-based Solutions for Sustainable Development and the Role of the IUCN Global Standard.” Webinar organized by IUCN to promote their standards for the implementation of projects based on Nature-based Solutions (NbS).

Date/time/place (include link if possible):

4th of November (link to the webinar recording: <https://youtu.be/fj7duZVal1c>)

Nature of involvement:

Attendee to the webinar.

Motivation (including link with learning objectives):

Nature-based solutions is a widely implemented strategy for using ecosystems as tools for sustainability, all the while fomenting conservation. The IUCN Standard for Nature-based solutions is a relevant framework in the application of such initiatives. This can help to standardize their implementation, set common goals and measure their efficacy as tools for sustainability. Additionally, it is interesting professionally, to learn a way to implement or what to look for in projects like these.

This webinar by the IUCN served as an introduction to their framework, presenting the history of Nature-based solutions, basics about the framework implementation and evaluation, and pointed to some examples of its implementation.

Collaboration with other students to organize the learning activity (add their names): N/A

Title product (add a small description of the product, including its intended audience):

“The IUCN Standard for Nature-based Solutions”: An infographic about the IUCN Global Standard for Nature-based Solutions. To be kept as a summary of the webinar and for future reference both for myself and other colleagues in the field of sustainability, seeking to be introduced to NbS.

Did you publish this product? If yes, add link:

Not published.

Collaboration with other students in the development of the product (add their names):

N/A

Learning goal 1 - Learning activity 2

Learning activity 2: Field visit to natural sites of interest in Ensenada, Baja California. Organize a field visit to natural sites of interest for sustainability and conservation in and around the locality of Ensenada, Baja California. Includes a discussion with a local expert about the possible implementations of Nature-based solutions of these sites, and their suitability as a tool to promote sustainability in the city.

Date/time/place (include link if possible):

Late December 2024 – Early January 2025

Nature of involvement:

Self-organized individual activity. It involved the selection of sites in the city for discussion, and interviewing a local expert on the field of environmental science and conservation.

Motivation (including link with learning objectives):

I am interested in exploring the different natural sites of my hometown, and in this exploration, discover their importance to the city in their provision of ecosystem services.

Additionally, it is interesting to see if there is an opportunity to foment the protection and conservation of these sites as a local implementation of sustainability, by exposing the services these provide to the community, and establishing opportunities for the development of Nature-based Solutions in the city.

Collaboration with other students to organize the learning activity (add their names): N/A

Title product (add a small description of the product, including its intended audience):

Publishing of a Youtube video (short documentary format) to display the visited natural sites in the area, and a summary of the discussion with the interviewed expert about the importance of the sites, and the feasibility or viability of using them as tools for sustainability for the city.

Did you publish this product? If yes, add link:

<https://youtu.be/DpZDHzPT4tA?si=7Gf2k7WYGk2WkzNI>

Collaboration with other students in the development of the product (add their names):
N/A

Learning goal 2 - Learning activity

Learning activity 1: The Waste Week.

Week of activities dedicated to different topics relating to waste management, waste types, and waste reduction activities.

Date/time/place (include link if possible):

Week of the 16th to 22nd of March.

Nature of involvement:

Organizing and planning the overall week, presenting one of the workshops.

Motivation (including link with learning objectives):

Waste is an often-ignored topic, despite how common it is in daily life. However, it concerns everybody how waste is managed locally and how to adequately manage it, and if possible, to reduce it. The Waste Week was thus created to make different types of waste and their management systems more visible. In this way, people participating in the activity can be more familiarized with how to deal with their own residues (sorting them, using them, or transforming them in a useful way), and in turn to be aware of the waste that they produce. And with increased awareness, as well as also recommending specific actions, people can also reduce the number of residues they produce.

Collaboration with other students to organize the learning activity (add their names):

Maya Roxanne, John Paul Jose, Derya Kütüker, Tania Villarroel López & Margot Dops.

Title product (add a small description of the product, including its intended audience):

Waste Management Manual for Leuven summarizing the workshops and learnings from the waste week, to make waste sorting and management easier and clearer, as well as recommending different ways of reducing and reusing waste within the city. The Manual is intended mainly for newly arrived people to Leuven, particularly English-speaking ones, though the general information may be applicable elsewhere in Belgium.

Did you publish this product? If yes, add link:

Published as an [Instagram Post](#) by the Green Office. Currently awaiting, but will (soon) be uploaded in the [Green Office Website](#).

Collaboration with other students in the development of the product (add their names):

Maya Roxanne, John Paul Jose, Derya Kütüker & Tania Villarroel López.

Learning Goal 1: Relating to Nature-based Solutions

Learning Activity 1: “Nature-based Solutions for Sustainable Development and the Role of the IUCN Global Standard” Webinar.

Process portfolio:

For this activity, I attended the webinar organized by the International Union for Conservation of Nature (IUCN), in which three presenters associated with the organization spoke about Nature-based Solutions (NbS). The speakers delved into the concept and very recent origin and history of NbS, explained its role as a sustainability tool and in discussion in international conferences such as the Conferences of the Parties (COP) of various bodies of the United Nations. They also presented some example projects, using these to explain the goals of the IUCN Global Standard for Nature-based Solutions, and its implementation. Finally, they discussed the actual criteria of the Global Standard and the specific conditions that make a good NbS project. From the webinar, I learned that Nature-based Solutions is a much more recent concept in the field of sustainability than I had expected. Particularly in the explanation about its history as a concept, discovering that the definition and standards for NbS originated from 2020 onwards. However, it seems that the concept is developing an important role in the international discussions as a tool for sustainability, gaining notoriety in the more recent COPs.

This webinar served as a good introduction to the topic chosen for my first learning goal, giving a good summary of information on the tool. It presented the concept clearly, and gave relevant examples that can serve as an inspiration for later activities or learning opportunities related to NbS. Given its more informational role, the activity served as foundation-building for the concept and its implementation for a later activity. And though the information presented in the webinar is possibly available online, it provided multiple valuable sources on the topic in the same space. It also gave me a coherent idea of the concept and built a basis on which I can search for more specific information, making it easier to filter for later additional sources.

For this webinar, my participation was limited to attending and note-taking for the construction of the product. Given that I took this activity to build some background knowledge on a topic that is new to me, I think this participation was adequate, even if a bit passive. However, while I appreciate that they facilitated the information and sources about NbS, I believe that actively searching for other sources about the topic could've provided a similar level of learning to the webinar. Perhaps an activity with more participation, such as a discussion or workshop could provide a more dynamic learning experience. This activity did however give a good introduction and provided free sources of information, while other more interactive activities come at higher monetary and time cost.

For future activities, even beyond the portfolio, the webinar provided an overview of a standard used to evaluate actual sustainability initiatives, for which one can be certified. This has potential for my future professional development, giving me options to grow my portfolio of sustainability skills, besides introducing me to an increasingly popular tool.

The developed product, an infographic, will serve as an overview of the information provided in the webinar. It could be published through a social media account dedicated to sustainability education and information sharing or shared personally with specific people or a given community for sustainability. In a similar manner to the activity, this should serve as a brief introduction to the topic of NbS, providing some background information and important concepts in one single place, giving a clearer idea for building a knowledge base on this sustainability tool.

Product Portfolio:

Infographic intended for sustainability professionals or other people familiarized with the concepts of sustainability. Image [linked here for higher quality](#). The image displayed below is split in two for ease of formatting in this document.

THE IUCN STANDARD FOR NATURE-BASED SOLUTION
 JOSÉ ANTONIO BORBOLLA MARONO

NATURE-BASED SOLUTIONS

"Actions to protect, sustainably manage and restore modified ecosystems that address societal challenges effectively and adaptively, simultaneously providing human well-being and biodiversity benefits"

A very new concept in Sustainability (post-2015), it tries to establish no-regret solutions to be deployed alongside other climate actions or other sustainability interventions.

THE IUCN GLOBAL STANDARD

The International Union for Conservation of Nature recognizes the need for a standardized framework for Nature-based Solutions. This allows for NbS projects to be implemented and evaluated more consistently, allowing for their inclusion as policy, and for the continuous improvement of NbS initiatives.

The standard has eight criteria to follow, with particular indicators, but these are not intended as rigid norms, but rather as a mechanism for the application and constant improvement of NbS projects.

1: EFFECTIVELY ADDRESS SOCIETAL CHALLENGES
The NbS project must be designed by relevant stakeholders as a response to a pressing societal challenge.

2: DESIGN INFORMED BY SCALE
An NbS project recognizes the various scales of different attributes (societal, biophysical, geographical, economic, etc.) and the interactions between these levels.

3: A NET GAIN TO BIODIVERSITY AND ECOSYSTEM INTEGRITY
Based on nature, and NbS avoids harming the natural systems on which it depends, and seeks their protection and improvement.

4: ECONOMIC VIABILITY
The implementation of an NbS should be implemented in a financially effective, efficient and equitable manner, considering viability throughout.

5: BASED ON INCLUSIVE, EMPOWERING & TRANSPARENT GOVERNANCE PROCESSES
A governance structure that considers the various stakeholders, should be established, leading to engagement and empowerment.

6: EQUITABLE BALANCE OF TRADE-OFFS
Accepting that Trade-offs between benefits and their differing value to stakeholders will exist, the NbS project acknowledges and balances these equitably.

7: MANAGED ADAPTIVELY, EVIDENCE-BASED
The NbS carried is implemented adaptively, based on scientific, traditional and local knowledge, and with continuous monitoring and evaluation.

8: SUSTAINABLE AND MAINSTREAMED
An NbS is designed to align with its local context and policy frameworks, using strategic communication to ensure long-term sustainability.

EXAMPLE PROJECTS OF THE IUCN GLOBAL STANDARD

- Integrated Water Management in Dakar, Senegal**
 This project involves concrete measures, like the implementation of water table contracts, and the application of different measures like agricultural practices, erosion controls, and retention ponds, as a way to manage the area's water more sustainably. The project also involves the sharing of knowledge and establishing a commitment to the protection of water resources by the involved stakeholders.
- REPRISÉ in Houailou, New Caledonia**
 A project focused more on the prevention of natural risks through ecosystem restoration and enhancing the provision of ecosystem services. It sprung up after a set of landslides in the region, which led to increased visibility of natural risks caused by environmental degradation. This project emphasizes the importance of process measuring, and the structuring of partnerships for adaptive governance structures.

THE IUCN STANDARD FOR NATURE-BASED SOLUTION



NATURE-BASED SOLUTIONS

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EXAMPLE PROJECTS OF THE IUCN GLOBAL STANDARD

- *Integrated Water Management in Dakar, Senegal*

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A project focused more on the prevention of natural risks through ecosystem restoration and enhancing the provision of ecosystem services. It sprung up after a set of landslides in the region, which led to increased visibility of natural risks caused by environmental degradation. This project emphasizes the importance of process measuring, and the structuring of partnerships for adaptive governance structures.

Learning Activity 2: Nature-based Solutions and Field visit in Ensenada, México.

Process Portfolio:

With my interest for Nature-based Solutions inspired by the relevance of ecosystem services and the interconnection of environmental and social issues, I wanted to apply what I had been learning about these to my native city, Ensenada. However, given the recency of the concept and general lack of institutionalized or reported implementation of sustainability in my home country, it would be hard to find an existing NbS project in the limited time to do the portfolio. And besides, the activity to be performed upon finding such a project would not be entirely clear.

As such, given my lack of knowledge, I decided to pivot this activity towards exploration of the idea of Nature-based Solutions within my hometown. The developed activity contained various actions to be done towards this. Initially, I did some background research and analysis about Ensenada's natural areas, its existing socio-ecological challenges, and the context of sustainability within the city. Following that, I looked up experts in the field of sustainability, environmental science, ecology, and social sciences within my city. Given the existence of educational and scientific institutes dedicated to these fields of study, there was a number of appropriate experts, so I selected the individual who I considered closest to what I wanted to learn about the ecological and social status of the city, and Nature-based Solutions and their possible implementation given the context of the city.

After that, I established contact and settled a date for speaking with this person, then developing a small unstructured interview to guide the conversation and topics to discuss with the expert. The final step in this activity was to visit the discussed natural sites and reflect on the found information and discussion with the expert, as to how or even if Nature-based Solutions could be implemented in the context of Ensenada. In the end, the resulting research concluded in finding NbS as a viable sustainability solution to be implemented.

By delving more concretely into the context of one city, its given socioecological challenges, the natural areas it possesses, and discussing this with a local expert, it allowed me to evaluate the concept of Nature-based Solutions and their implementations in the real world from a more practical perspective, exiting the realm of theory. However, as I kept advancing in research and development of the activity and product, the intricacies of real NbS implementations became more apparent. Not disregarding my previous notions about sustainability projects, this activity increasingly served as a reminder of the complexity of implementing sustainability in the real world. Particularly during the conversation with the local expert, political and social contexts to which I had grown unaccustomed were presented as aspects to be considered. Additionally, the level and time of dedication required to create a well-developed solution also became clear.

Thus, this established a limit as to the depth that could be achieved with the selected activity and product.

Given that this activity was organized and designed personally, my involvement was more active and required time dedication towards researching, analysis, establishing contact and an interview with an expert and the subsequent work on the activity's product. Additionally, given the personal nature of the topic, the activity was carried out individually, though with support from the interviewed expert, and other local colleagues in my research process. The main issue with my involvement in this activity was the individual amount of work required within the activity's time limit, making the creation of the product more straining than it could've been, or potentially limiting the scale or quality of the resulting product.

As such, I believe that longer implementation time, or for the case of the portfolio a more limited scope or collaboration with other classmates, would've aided carrying out the activity and achieving a more in-depth product. For future implementations of a similar project, I would instead discuss with other colleagues of the master's to collaborate, choosing a site to study collectively and working together towards a similar product. Nonetheless, I believe the learning from the activity to be relevant in both exploring more practical applications of Nature-based Solutions, and in learning more about the socio-ecological context of my hometown. Additionally, establishing contact with an expert in the city establishes a point of contact for further collaboration or interconnection in the network of environmental conservation and sustainability in Ensenada.

The resulting product of this activity was the creation of a video. Originally intended to create a proposal for the implementation of Nature-based Solutions, the scope of the video was changed to being more informative and to serve as a call to action, given the discovered complexity in developing and implementing a full Nature-based Solution project within the given timescale. As such, the final product is mainly intended for local inhabitants, local sustainability experts and local policy makers, to inspire further implementation of sustainability in Ensenada. The product could also serve to inspire other cities (particularly in Mexico and the surrounding ecoregion) to consider implementing Nature-based Solutions, though this audience is secondary.

Product Portfolio:

A video presentation intended for both local inhabitants and people interested in the natural environment of Ensenada, Baja California. The main purpose of the video is to serve as a presentation of NbS as a possible sustainability solution to be used in the city's context, and to serve as a call to action to further implantation of sustainability in Ensenada.

https://youtu.be/DpZDHzPT4tA?si=HNyDMQvCVphOC_bs

Learning Goal 2: Relating to Waste Management

Learning Activity: The Waste Week!

Process portfolio:

For the second learning goal, relating to waste management, a single learning activity was carried out, in the form of a week themed around waste. This activity was carried out in conjunction with other classmates who also had related learning goals. Given that each student had a slightly different focus under the wider topic of “Waste”, the week was organized to emphasize the particular themes for each student on a given day of the activity. As such, the Waste Week (as it was called) was carried out in the following manner: each student of the group selected a day of the week which fit their schedule, and they proposed one or two activities relating to their selected goal. In my case, given my goal’s focus on waste management systems in Belgium, I proposed to carry out a workshop and presentation explaining the management of waste in Leuven. This included an explanation of waste sorting strategies, the explanation of how the waste is managed in the municipality, and recommendations for more sustainable waste management and waste reduction.

The actual work carried out consisted of the organization phase and after, actually designing the workshop. First, the organization of the waste week involved establishing a schedule for the week, designing promotional material, publishing this material, getting in contact with participants, all while regularly meeting with my fellow students and organizing the division of tasks for the overall Waste Week. Regarding the design of the workshop, this involved a research phase, finding information about the waste management system in Leuven, and summarizing all of this information. Some contact was also established with actors such as the main waste management company in Leuven, to further enrich the information obtained. All of this was then summarized in a presentation, and material was gathered to make a simulation of waste sorting. In the end, I became well acquainted with the local waste sorting management while preparing and carrying out the workshop, and the overall waste week familiarized us with different topics related to waste and how they might interconnect, as well as being a practical experience in organizing events such as these.

As waste is a factor that often goes unnoticed in daily life, the point of the Waste Week was to increase visibility and knowledge of it. The activity was, thus, designed for people besides us, the students planning it. We believe it did achieve its goal in making waste more visible, as even just discussing with other students from the master about our activity, describing what and why it was being done, made them more aware of the topic. Nonetheless, though attendance was satisfactory enough, the waste week could’ve included more participants if more time was given for its promotion and planning.

Similarly to my previous goal, the main limitation in the implementation of the waste week was the short time frame available for implementing it. In this case, this was expressed as the differing and increasingly complicated schedules of all participating students towards the end of the semester, and thus an external pressure to have the Waste Week implemented and already carried out by the end of March. This made the available time for planning the activity much shorter and gave a shorter window of time to promote it, thus limiting the spread of how well known it might've been beyond other Sustainable Development Students. However, contrary to the previous learning activity, the collaboration with students made the implementation quite well formed in the given time frame. There was a variety of activities all related to the learning goal, and pooling resources and made any planning and promotion much easier and widespread.

As this activity required active planning, I, alongside my other colleagues, worked actively in designing the waste week and its implementation, and the design of the promotional and supplementary material for each day of the week. Additionally, given that it was originally 5 students planning the activities, it was decided to allot one day of a work week to each student for an activity relating more specifically to their specific waste-related goal. In my case, focusing more on waste management systems, I prepared a waste management workshop, as mentioned above, dedicated to explaining waste sorting and management in Leuven. Each day, one colleague was in charge of leading the activity, while other available and participating colleagues were in charge of supporting the activity and the leader, as well as documenting the activity.

I believe that the Waste Week overall achieved its goals satisfactorily. The activities were well attended enough, and each day of the week was well designed focused on each of the specific goals of each of the organizing members. The activities were also varied, making it more interesting for people to participate in multiple days. Additionally, each day led to discussion with the attending public regarding the highlighted topic, making it clear that people were actively engaging out of interest, and letting us know their opinion and experiences with the given waste types. The same people attending also commented on changes they would implement or details they had never noticed about dealing with waste, which they found relevant to their own lives. But finally, it was mostly the learning achieved by us, the students who planned and organized the Waste Week, which I believe is the greatest goal achieved. Not only did we create activities and teach other people, but we also learned ourselves about our selected topics, and with discussion and participation in other members' activities, we also learned more about each waste type and their management.

During the planning stage of the Waste Week, many activities were proposed, and some were cut due to time or capacity constraints. However, in the discussion and planning of these and the actually implemented activities, we performed a sort of networking, by coming in contact with many professionals focused on the management of waste and on

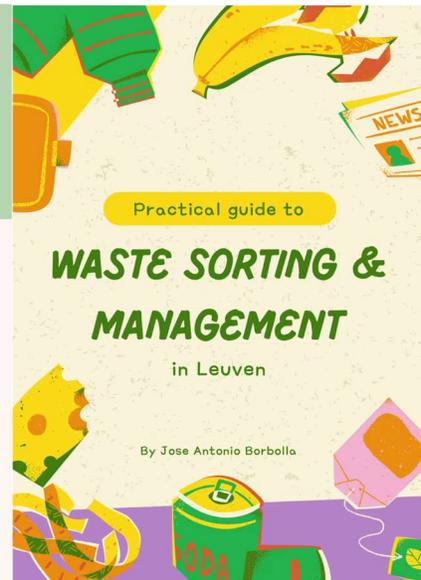
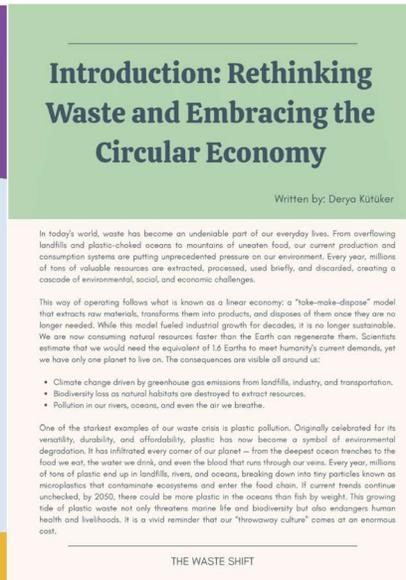
particular waste types. Initiatives related to cleaning of rivers and natural areas , urban farms and compost producers, companies focused on municipal waste management, and researchers focused on plastic waste, to name a few. These contacts, besides helping us to some level in our planning, also provide future contacts for professional activities and networking possibilities.

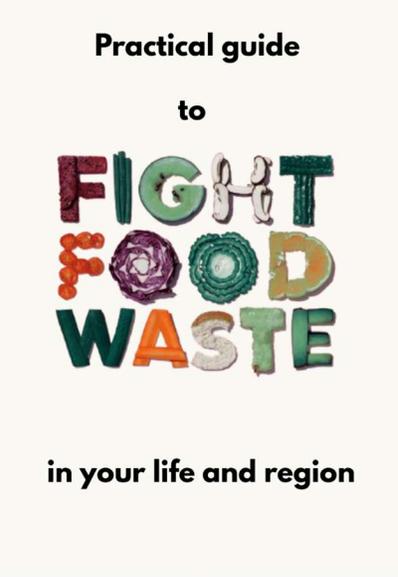
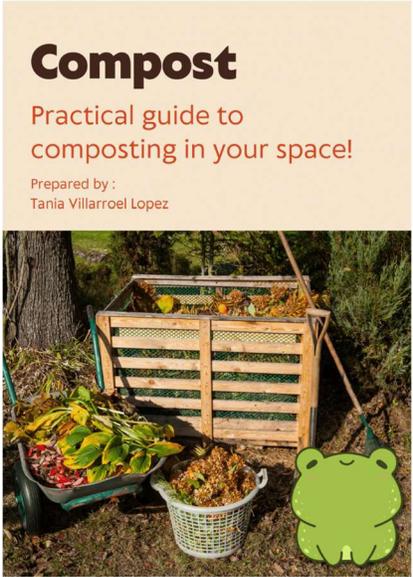
Finally, the product for our Waste Week is a manual focused on explaining waste management in Leuven for newcomers to the city/municipality, particularly those who speak English. This was decided as a good way to synthesize the learnings from each member who participated in planning and organizing the waste week. As a way to promote what we learned, and aiming for collaboration in publishing our product, we participated in the Green Office's Sustainability Week for one last activity showing the manual and explaining it. It was also later published (after review) with the Green Office, aiming it at new students in Leuven.

Product Portfolio:

The product for this activity was the creation of a [Waste Management Manual](#), inspired by the activities from the Waste Week. This manual contains five articles with learnings from each of the topics of waste management, giving tips and recommendations of how to implement proper waste management (in sorting, using particular waste types like organics or food waste), and providing context and more information on the types of waste and efforts to reduce their production.

[Sample cover pages for each article within the manual. Full manual in the link above].



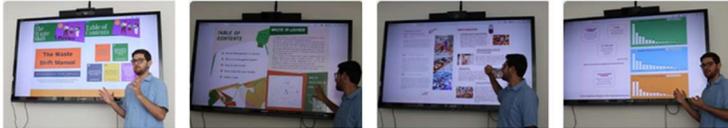
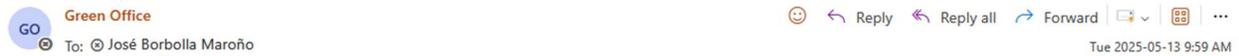


The product itself was presented during the Green Office's Sustainability Week and shared on a collaborative [Instagram](#) post. The manual is shared with the public through that same post.



Additionally, the Green Office indicated the desire to include this document as part of its waste management guides for international students and in [its website](#). As of May 15th, the file is still not up but, it is in the process of being uploaded

[below, proof of the communication from the Green Office].



4 attachments (4 MB) Save all to OneDrive - KU Leuven Download all

Hi José,

Thank you for the material and for making the time to present it during Sustainability Week.

As I had mentioned, we will be using this guide to teach international students about trash separation in the beginning of next semester. For the publishing I have contacted Stuvo, since they are precisely missing an English waste recycling guide on their [Preventing and Sorting guide](#) page. Ideally, it will be added there. Otherwise we will make a separate page for it in which we will also include pictures of the activity that is being planned for next semester.

Find some pictures of the presentation attached.

Kind regards,

Valentina (zij/haar - she/her)

Green Office for KU Leuven

[LinkedIn](#) | [Instagram](#) | [Facebook](#) | [Website](#)



The Waste Shift



Leuven

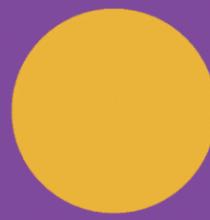
P R E S E N T :

The Waste Shift Manual

R E T H I N K I N G O U R I M P A C T

A MANUAL FOR MANAGING, SORTING AND DEALING WITH THE DIFFERENT TYPES OF WASTE IN AND AROUND LEUVEN.

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By Maya Roxanne

Introduction: Rethinking Waste and Embracing the Circular Economy

Written by: Derya Kütüker

In today's world, waste has become an undeniable part of our everyday lives. From overflowing landfills and plastic-choked oceans to mountains of uneaten food, our current production and consumption systems are putting unprecedented pressure on our environment. Every year, millions of tons of valuable resources are extracted, processed, used briefly, and discarded, creating a cascade of environmental, social, and economic challenges.

This way of operating follows what is known as a linear economy: a “take-make-dispose” model that extracts raw materials, transforms them into products, and disposes of them once they are no longer needed. While this model fueled industrial growth for decades, it is no longer sustainable. We are now consuming natural resources faster than the Earth can regenerate them. Scientists estimate that we would need the equivalent of 1.6 Earths to meet humanity's current demands, yet we have only one planet to live on. The consequences are visible all around us:

- Climate change driven by greenhouse gas emissions from landfills, industry, and transportation.
- Biodiversity loss as natural habitats are destroyed to extract resources.
- Pollution in our rivers, oceans, and even the air we breathe.

One of the starkest examples of our waste crisis is plastic pollution. Originally celebrated for its versatility, durability, and affordability, plastic has now become a symbol of environmental degradation. It has infiltrated every corner of our planet – from the deepest ocean trenches to the food we eat, the water we drink, and even the blood that runs through our veins. Every year, millions of tons of plastic end up in landfills, rivers, and oceans, breaking down into tiny particles known as microplastics that contaminate ecosystems and enter the food chain. If current trends continue unchecked, by 2050, there could be more plastic in the oceans than fish by weight. This growing tide of plastic waste not only threatens marine life and biodiversity but also endangers human health and livelihoods. It is a vivid reminder that our “throwaway culture” comes at an enormous cost.

Meanwhile, food waste represents another silent yet devastating crisis. Despite producing enough food globally to feed the entire population, roughly one-third of all food ends up wasted: either lost during production or thrown away by consumers. This waste has a massive environmental footprint: when food decomposes in landfills, it emits methane, a potent greenhouse gas that accelerates climate change. Moreover, the resources used to produce that wasted food – including land, water, energy, and labour – are squandered. At the same time, millions of people around the world continue to suffer from hunger and food insecurity. Food waste exemplifies the inefficiencies and injustices of our current system and highlights the urgent need for a more sustainable and equitable way of managing resources.

The Circular Economy: A New Vision for a Sustainable Future

The circular economy offers a bold, hopeful alternative to our current systems. It challenges the idea that economic growth must come at the expense of the environment and proposes a model where resources are kept in use for as long as possible, waste is minimised, and nature is regenerated.

At its core, the circular economy is built on three key principles:

1. Design out waste and pollution: Products are created thoughtfully to prevent waste from the start, using durable, reusable, and recyclable materials.
2. Keep products and materials in use: Items are reused, repaired, refurbished, and remanufactured, extending their lifecycle indefinitely.
3. Regenerate natural systems: Instead of simply taking from nature, businesses and individuals find ways to restore and replenish ecosystems.

In a circular system, waste is not seen as a burden but as a valuable resource. Materials from old products can become the raw materials for new ones, food scraps can be turned into compost or renewable energy, and innovation thrives in designing new solutions that close the loop.

Transitioning to a circular economy could have enormous benefits:

- It could generate trillions of dollars in new economic opportunities.
- It could drastically reduce greenhouse gas emissions.
- It could protect ecosystems and help preserve Earth's finite resources.
- It could create millions of new jobs in areas like recycling, repair, sustainable design, and renewable energy.

A Global Movement and Your Role in It

Around the world, businesses, governments, and individuals are already taking steps toward circularity. Entrepreneurs are creating biodegradable packaging from seaweed, engineers are designing facilities to recycle all kinds of plastics, and farmers are turning food waste into energy and natural fertilisers. Cities like Singapore and Amsterdam are investing in large-scale systems to recycle organic waste and reduce single-use plastics. Startups are finding innovative ways to reuse materials that were once considered worthless.

But this is just the beginning, and everyone has a part to play.

Reducing your own waste, especially food waste, is a powerful way to make a difference. Composting your kitchen scraps, choosing reusable over disposable products, supporting companies that design for sustainability, and advocating for better waste management policies in your community are all steps toward building a circular world.

Every action matters. Every small choice adds up.

In this booklet, you will find practical tips, inspiring examples, and simple ways to start living more circularly – from making your own organic compost to cutting down on single-use plastics and embracing a zero-waste mindset.

By rethinking waste and reimagining our relationship with the materials we use daily, we can move closer to a world where nothing is wasted – and everything has value.

The future is not linear.
The future is circular.
And it starts with us.





Practical guide to

WASTE SORTING & MANAGEMENT

in Leuven

By Jose Antonio Borbolla

TABLE OF CONTENTS

- Waste Management in Leuven
- What are the waste types?
- How to sort trash
- Extra tips for your Waste
- Useful Links

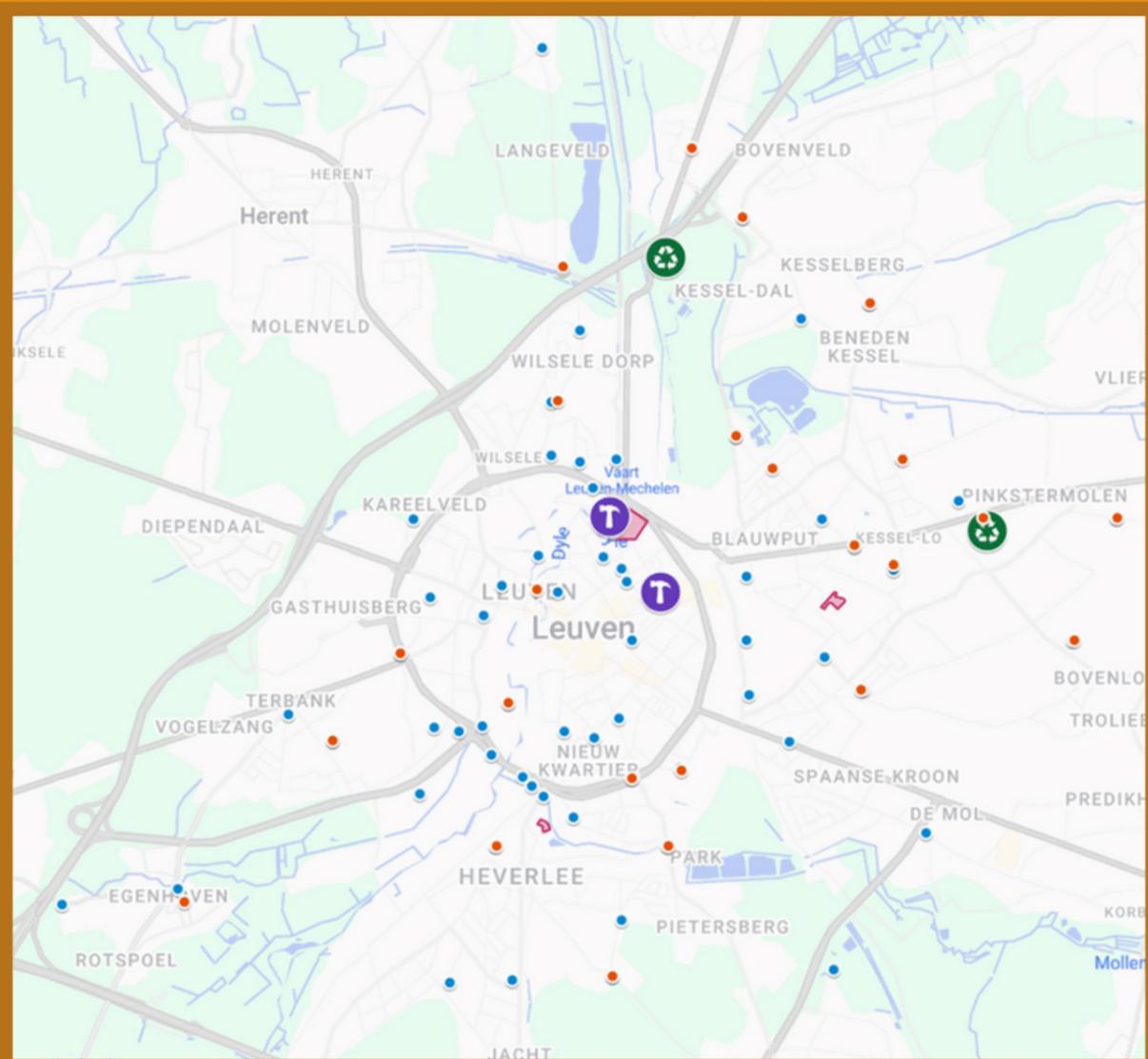
WASTE IN LEUVEN

In Belgium, waste is managed by individual municipalities. Leuven, has EcoWerf as their waste management company.

Municipality-wide, waste is collected at home on different days for most waste type. The collection calendar is available from the Municipality Website, but also in the form of the Recycle App, which might additionally have tips on waste separation. Bags for the different waste categories are available in the City Office and at most supermarkets.

Some streets are "Sorteerstraten", where residents have to directly deposit their waste in street containers. Glass and Textiles also have particular depositing points for all the municipality, and thus don't have a particular bag type.

Finally, Leuven also has three recycling centers for special waste types, alongside two repair centers for specific item types.



WASTE FACILITIES IN LEUVEN

(Scan for the map)



WASTE CLASSIFICATION

In Leuven, waste is classified into 5 general categories, and a number of other special waste categories. Each waste type has its own management strategy, collection dates, and includes and excludes certain items.

RESTAFVAL

General household waste. Dedicated for waste that might not fall under the other categories. Sorted into the brown bag.

GFT - COMPOSTABLE

Compostable and Biodegradable material, such as food or garden scraps. Sorted into the light green bags or a special container.

PMD - RECYCLABLES

Individual recyclable materials, particularly containers and packaging, though not exclusively. Sorted into the blue bags

PAPIER & KARTON

Paper and cardboard, the category for Cellulose-based waste. Particularly, it doesn't have its own bag type.

GLASS CONTAINERS

For glass bottles and containers. Not collected at home, but with particular containers throughout the city.

SPECIAL WASTE

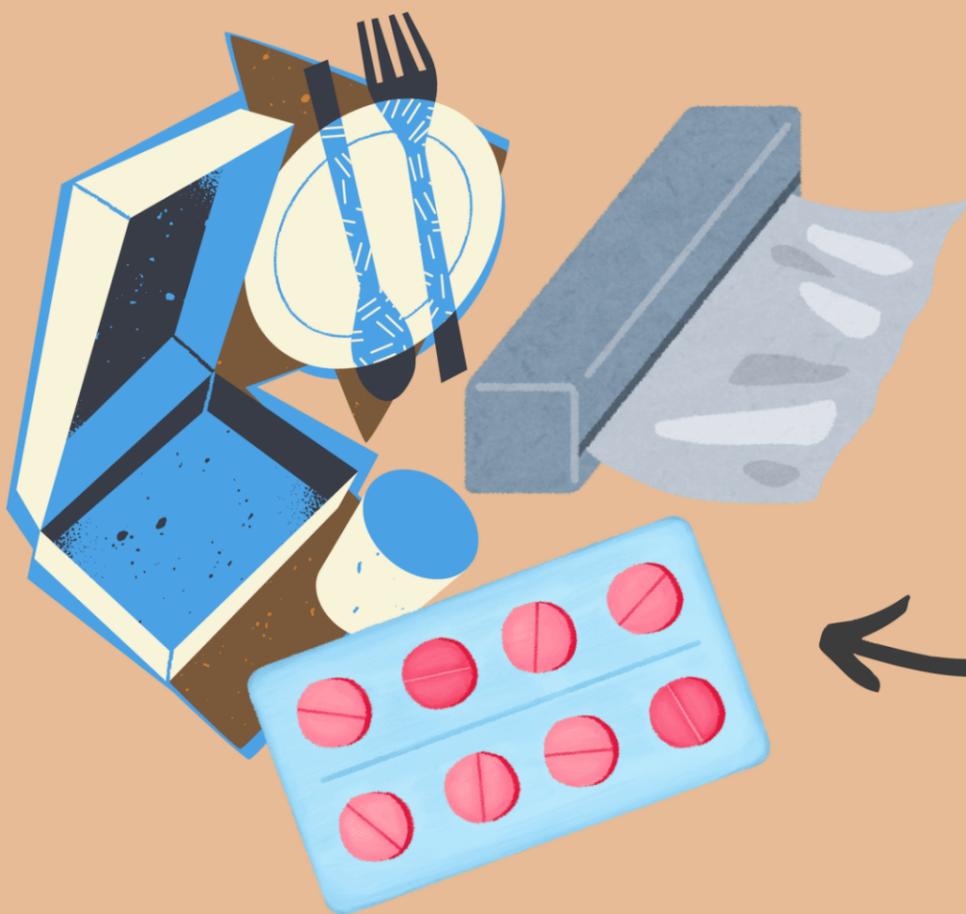
Various categories with their own particularities for management. It Might include dangerous or cumbersome refuse.

***AND NOW ON TO
SORTING EACH TYPE..***



RESTAFVAL

"Restafval", also sometimes called "Huisvuil" includes basically all household waste. When disposing waste, however, most items can be sorted under other types, so this waste type should only include unsortable items, such as those with mixed materials (blister packs, stained food containers), or with particularities in sorting (aluminum paper, non-container glass). This type of waste is deposited into and collected in the brown bag.



Yes!

Mixed or stained material waste, and other unsortables

Pas Op!

Avoid recyclables or compostables, they have their own categories



GFT - COMPOSTABLE

GFT stands for "Groente-, Fruit- en Tuinafval" (Veggie, Fruit and Garden refuse). This category includes compostable and biodegradable material, such as most food scraps, vegetable scraps, leaf litter and other garden residues. This waste type is separated into light-green bags in neighborhoods inside the ring, and into designated containers (with a special sticker) for neighborhoods outside of it, both collected at home.



Yes!

Food scraps, veggie and fruit waste, and other garden waste

Paas Op!

Avoid some food scraps (bones, fats, liquids) and plastic wrapping (coffee pods and tea bags)



PMD - RECYCLABLES

PMD stands for "Plastic, Metal and Drink Containers", and includes these materials, particularly for packaging and wrapping. Most plastics and metals, as well as drink containers can be recycled and sorted into this category. For this category, it is important to remove large stuck-on residue from the waste, and separating the different materials (lids, labels, wrappers), even if coming from the same container. It is sorted into the blue bags.

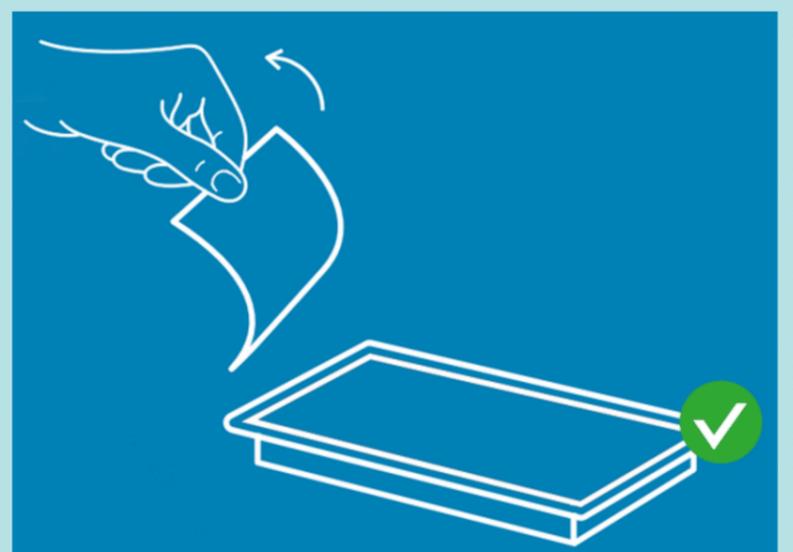


YES!

Plastic packaging, soda cans, drink containers, and other plastics

PaS Op!

Avoid aluminum paper and don't forget to clean and separate materials



PAPIER & KARTON

This category includes most cellulose-based materials that are in a relatively clean state, such as cardboard packaging or tubes, newspapers, regular paper sheets, etc. Stained cellulose-based material, such as used tissues, kitchen towels or stained food boxes, should not be included. This category doesn't have its own bag color. Instead, it must be deposited into a cardboard box or arranged into a small parcel for home collection.



YES!

Unwrapped newspaper, cereal boxes, toilet paper tubes, office paper.

Paş Op!

Avoid used and stained tissues, toilet or kitchen towels, and pizza boxes.



GLASS CONTAINERS

This category encompasses bottles, jars and other containers made of glass. For sorting, lids and labels should be removed, leaving only glass. Additionally, broken household glass or ceramics (such as light bulbs, plates and glass cups) should be sorted into household waste and not with glass containers, due to them being made of different glass types. These are not collected at home but instead deposited in designated containers, separated by color.



YES!

Beer bottles, cleaned jars, other glass containers.



Paş Op!

Remove lids and labels.
Avoid light bulbs, broken glasses or ceramics.



SPECIAL WASTE

There are other waste categories with particularities in their management strategies. Generally, special waste has to be dealt with directly with the municipality or local waste manager, and may have additional costs in their treatment.

BATTERIES

Batteries of various types are sorted and managed by the company Bebat. They have collection points in most supermarkets.

TEXTILES & ELEKTRO

Textiles have specified containers (similarly to glass), and electronics are taken to recycling parks directly, but repair workshops are available for both.

BULKY REFUSE

This includes rubble, wood prunings, and large waste like furniture. Collected by the municipality if requested.

ADDITIONAL TIPS!



REFUSE

Don't make unnecessary purchases



REDUCE

Try to buy products with less packaging



REUSE

Most containers can be cleaned and used again



REPAIR

There are repair hubs and repair cafes in Leuven



RECYCLE

Give it a try and return materials to the cycle

Try to use the 5 Rs to deal with waste more consciously!

Adequate waste management is not only about putting trash in its right place, but also about minimizing the amount of stuff that gets thrown out. The Municipality of Leuven promotes the repair, reuse and recycling of items. Additional resources on repair events, and more in-depth sorting guides are located on the next page.

EXTRA LINKS



*RECYCLE
APP*



*HELP IN
SORTING*



*REPAIR
CAFÉS*



*WASTE IN
LEUVEN*

Compost

Practical guide to
composting in your space!

Prepared by :

Tania Villarroel Lopez



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1. Introduction
2. Understanding Composting
3. Setting up you composting system
4. What can (and can't) be composted?
5. The composting process: How to do it right?
6. Harvesting & using your compost

Welcome Message



Composting has been a journey of discovery for me, shaped by my experiences in my own country with a project that is part of an ongoing study exploring how composting can be improved and play a crucial role in tackling climate change, especially in the highlands, where soil health is vital for sustainability.

I invite you to consider making your own compost, not just as an eco-friendly habit but as a way to connect with the natural cycle of organic matter. By doing so, we become more responsible consumers, reducing waste and nourishing the earth.



Tania

Student of Master in
Sustainable
Development.



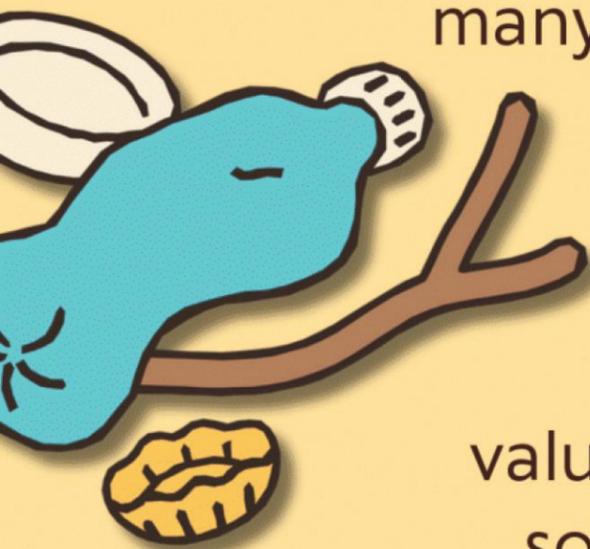
1. Introduction

Why Compost?



The Problem: Organic Waste in Landfills

Tons of food scraps and yard waste end up in landfills daily, creating methane, a powerful greenhouse gas contributing to climate change. In many urban areas, food waste accounts for up to 40% of total household waste.



Not only does landfill waste pollute our environment, but it also represents a loss of valuable nutrients that could be returned to the soil. Instead of throwing away food scraps and garden clippings, composting ensures that this organic matter is put to good use.

The Solution: Composting as Climate Action

Instead of throwing organic waste away, composting transforms it into nutrient-rich soil that helps plants grow and reduces the need for chemical fertilizers. It's like nature's way of recycling!

Composting is not just about reducing waste; it also contributes to soil health, improves biodiversity, and enhances resilience against droughts and extreme weather.

How Composting Helps You and the Planet

Composting is more than just waste management, it is a tool for resilient and self-sufficient cities. Here's how:

Urban Resilience & Climate Adaptation

- Composting enhances soil health, increasing water retention and stability, making urban soils more resistant to extreme weather events such as droughts and floods.



- It reduces methane emissions from landfills while promoting green infrastructure in urban areas.
- Compost helps restore degraded soils, improving their capacity to absorb carbon and support vegetation in city landscapes.

Autonomy & Circular Economy in Cities:

- Cities become less dependent on synthetic fertilizers, reducing costs and pollution.
- Composting closes the loop in food systems, allowing urban gardens and farms to flourish with locally produced soil amendments.
- Decentralized composting hubs reduce waste transport emissions, making cities more efficient and sustainable.

Supporting Urban Farming & Community Resilience:

- Composting fuels urban agriculture, providing nutrient-rich soil for local food production, increasing food security.
- Community composting projects empower neighborhoods to take control of their organic waste, promoting civic engagement and local sustainability.
- Encouraging composting in schools, parks, and community gardens fosters environmental education and green spaces.



2. Understanding composting

What is Composting?



Composting is a biological recycling process where organic materials (food scraps, leaves, and garden waste) break down into rich soil thanks to tiny decomposers like bacteria, fungi, and worms.

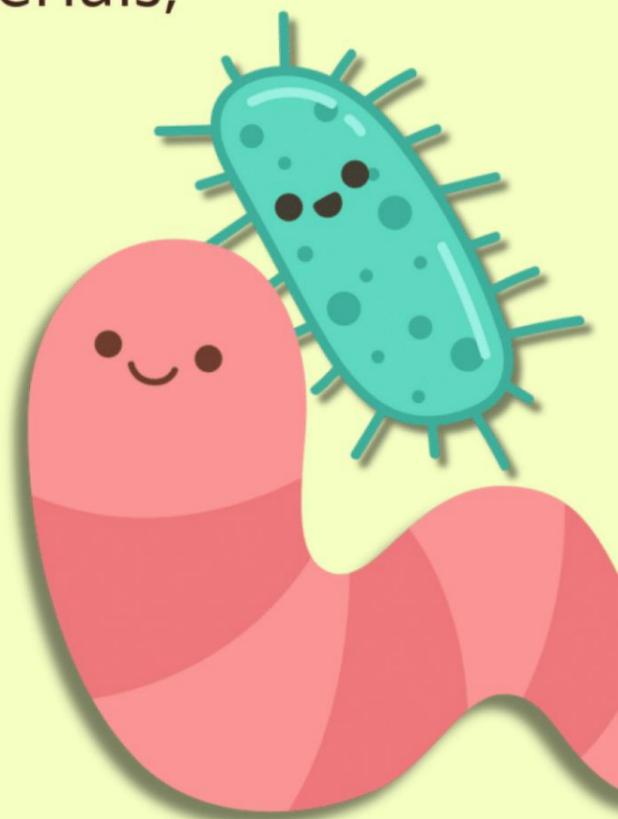
The process transforms raw organic waste into humus-like material, full of essential nutrients and beneficial microbes that help restore soil fertility.

Who's in Charge?

(Microorganisms, Worms & Decomposers)

- **Bacteria & Fungi:** Break down complex organic matter into simpler compounds.
- **Worms & Insects:** Help mix the materials and speed up decomposition.
- **Heat & Time:** Aid in breaking down materials, creating nutrient-rich compost.

Decomposers are the hidden heroes of composting, working around the clock to ensure that food scraps and yard waste are transformed into nutrient-packed compost that plants can thrive on.



The Composting Cycle

(From Waste to Rich Soil)

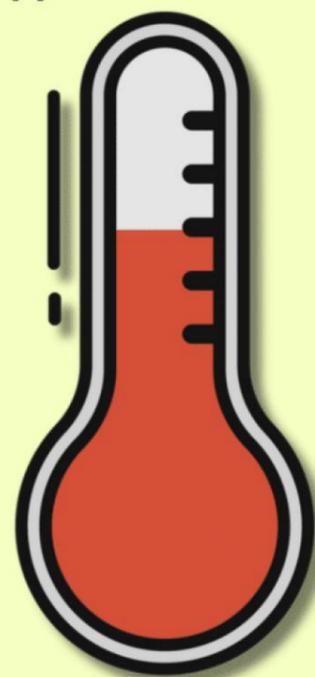
Composting follows a natural cycle influenced by temperature changes, each stage hosting different organisms that break down organic matter efficiently:

Mesophilic Phase (Weeks 0-2, 20-40°C)

- Bacteria and fungi start breaking down sugars and proteins.
- Heat begins to rise as microbial activity increases.
- The compost pile needs oxygen and proper moisture for decomposition.

Thermophilic Phase or Hygienization phase (Weeks 2-8, 50-80°C)

- The highest decomposition rate occurs here! Fungi and thermophilic bacteria break down cellulose, pectin, and fats.
- The pile heats up, killing weed seeds and pathogens.
- Turning the pile ensures aeration and prevents overheating.

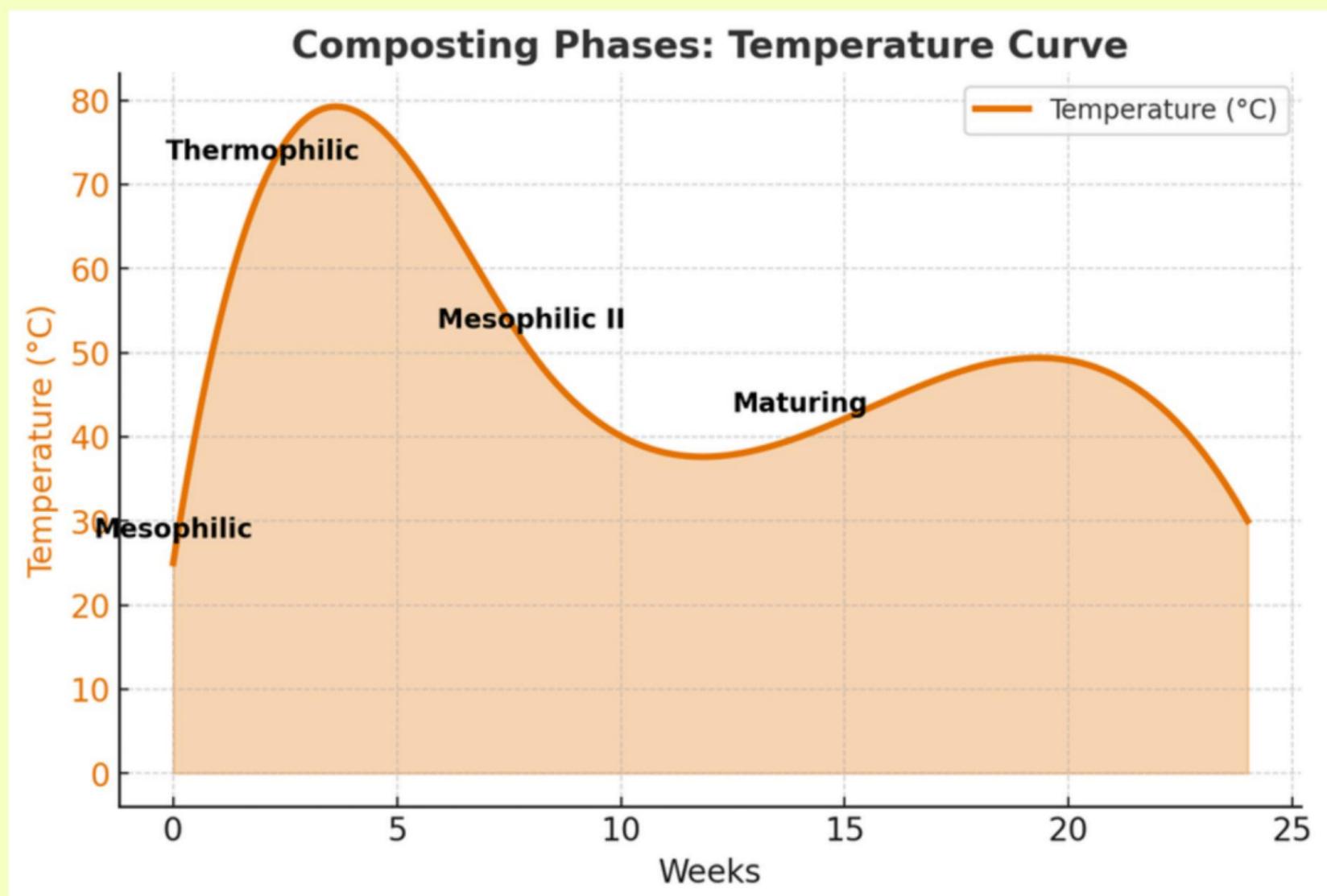


Cooling & Mesophilic II Phase (Weeks 8-14, 40-50°C)

- As microbial activity slows down, the temperature drops.
- More complex materials like lignin start decomposing.
- Decomposers such as ray fungi and microorganisms remain active.

Maturing Phase (Weeks 14-24, 30-40°C)

- The compost stabilizes, developing into humus-rich material.
- Beneficial organisms like worms, mites, beetles, and woodlice appear, helping refine the compost.
- This phase is essential for developing stable humic substances, which improve soil structure and fertility.





3. Setting Up the compost system

Choosing the Right Method

Indoor Composting:

- Worm bins (vermicomposting)
- Bokashi composting (fermented food waste)

Outdoor Composting:

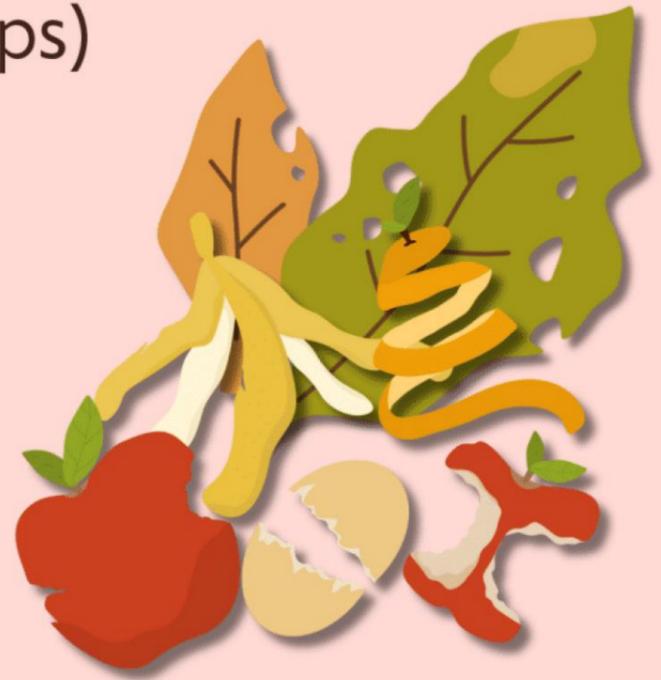
- Compost heaps (simple, free, requires space)
- Compost bins (contained, faster decomposition)
- Trench composting (buried waste)

The right method depends on available space, climate, and the amount of organic waste you generate.



What do we need?

- A compost bin or pile
- A mix of "greens" (food scraps) and "browns" (leaves, paper, wood chips)
- A pitchfork or stick for mixing
- A spray bottle or watering can to maintain moisture.



Where?

- Apartment dwellers: Indoor worm bin, Bokashi bucket.
- Balcony composters: Small bin with good drainage.
- Gardeners: Compost heap or bin in a shady, well-drained spot.

When selecting a location, ensure that it is easily accessible for adding materials and turning the compost.





4. What Can Be Composted?

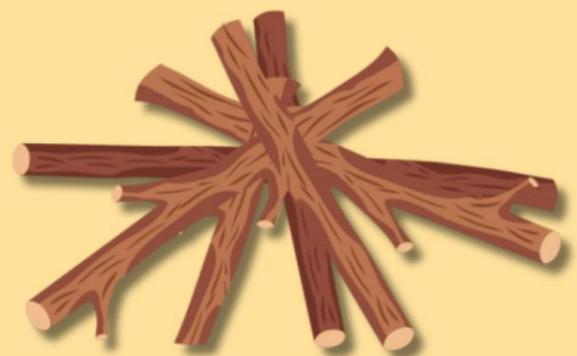
The Perfect Mix:

Greens (Nitrogen) & Browns (Carbon)

- Greens: Fruit & veggie scraps, coffee grounds, fresh grass clippings.



- Browns: Dry leaves, paper, cardboard, wood chips, straw.



Balancing greens and browns is key to a healthy compost pile. Greens provide nitrogen, while browns provide carbon, ensuring an efficient breakdown process.

Avoid these:

- Meat, dairy, and oily foods
 - Attract pests.
- Plastic, metal, and glass
 - It won't break down.
- Diseased plants or weeds with seeds
 - Can spread problems.



Myth-Busting:

Common Composting Misconceptions

- ✗ "Composting smells bad" → Only if done incorrectly! Proper compost smells earthy.
- ✗ "You need a big garden" → No! Small bins work in apartments.
- ✗ "Worms are gross" → Worms are nature's best recyclers!



5. The composting process

Step-by-Step Composting



We will follow the sandwich method.

1 Start with a base layer of coarse material (sticks, dry leaves).



2 Alternate layers of greens and browns.

3 Keep the pile moist, like a wrung-out sponge.



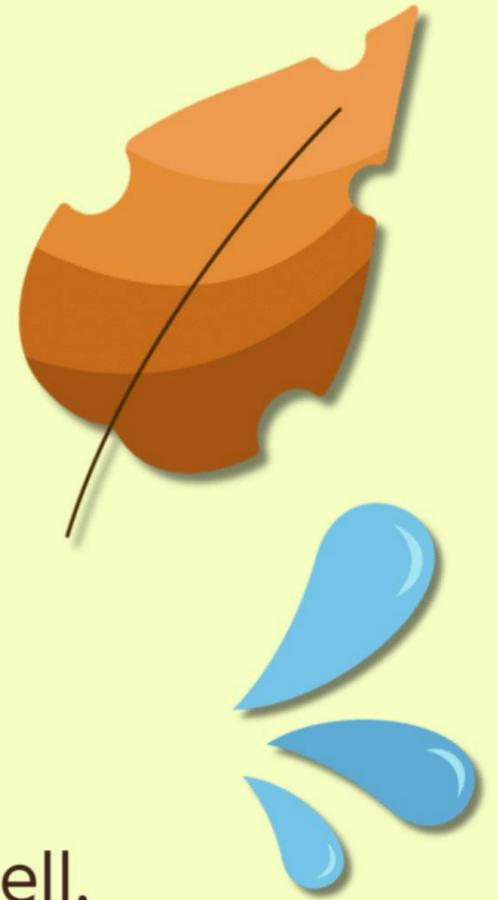
4 Turn the pile regularly for aeration.



Key Parameters for Successful Composting

Parameter	Optimal range	Why It's Important
Temperature	35°C (65 °C max)	High temps kill pathogens and speed decomposition
Moisture	45–60%	Microbes need water to break down materials.
Oxygen & Airation	5–15% oxygen	Prevents anaerobic conditions and odors.
C:N ratio	25:1 to 35:1	Balances energy (carbon) and nutrients (nitrogen)
pH Level	5.8-7.2	Ensures healthy microbial activity.
Particle size	5–20 cm	Smaller pieces break down faster-
Rurning and mixing	Every 1-2 weeks	Helps oxygen flow and prevents bad smells.

How to Keep Your Compost Healthy



- **Too wet?** Add more browns.
- **Too dry?** Sprinkle with water.
- **Smelly?** Add more browns and mix well.

Troubleshooting Guide

Problem	Cause	Solution
Bad smell	Too much wet material	Add dry browns and mix

Pests (rats, flies)	Wrong food (meat, dairy)	Avoid animal products

Slow decomposition	Too dry or too compacted	Add water and mix more

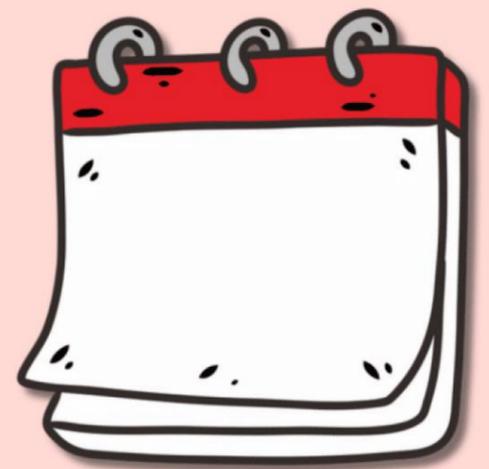
A well-maintained compost system is efficient, odor-free, and beneficial for soil health.



6. Harvesting & Using your compost

How to Know When Your Compost is Ready?

The finished compost is dark, crumbly, and earthy. It should no longer resemble food scraps or leaves. The breakdown process typically takes 3 to 6 months, depending on temperature, aeration, and the balance of materials.



How to harvest?

- **Sift the compost**

Use a mesh screen to remove large, undecomposed pieces, which can then be returned to the pile for further composting.

- **Let it cure**

If your compost is slightly unfinished, please let it sit for a few weeks before you use it.

- **Store properly**

Keep your compost in a breathable container to maintain moisture balance.

Ways to Use Your Compost

In Gardens:

Mix compost into garden beds to improve soil structure and fertility.

For Houseplants:

Add compost to potting soil to provide essential nutrients.

As Mulch:

Spread compost around plants to help retain moisture and suppress weeds.

Make Compost Tea:

Soak compost in water to create a nutrient-rich liquid fertilizer for plants.

Compost isn't just for gardens, it can be used for houseplants, community green spaces, and even urban farms.





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Practical guide

to



in your life and region

**1.05 BILLION
TONNES**

FOOD WASTED A YEAR
WHILE 783 MILLION
PEOPLE WENT HUNGRY
WORLDWIDE

8-10%

GLOBAL GREENHOUSE
GAS EMISSIONS ARE
FROM FOOD WASTE

\$1 TRILLION

IS THE COMBINED
WORTH OF GLOBAL
FOOD WASTE
ECONOMY

- UNITED NATIONS

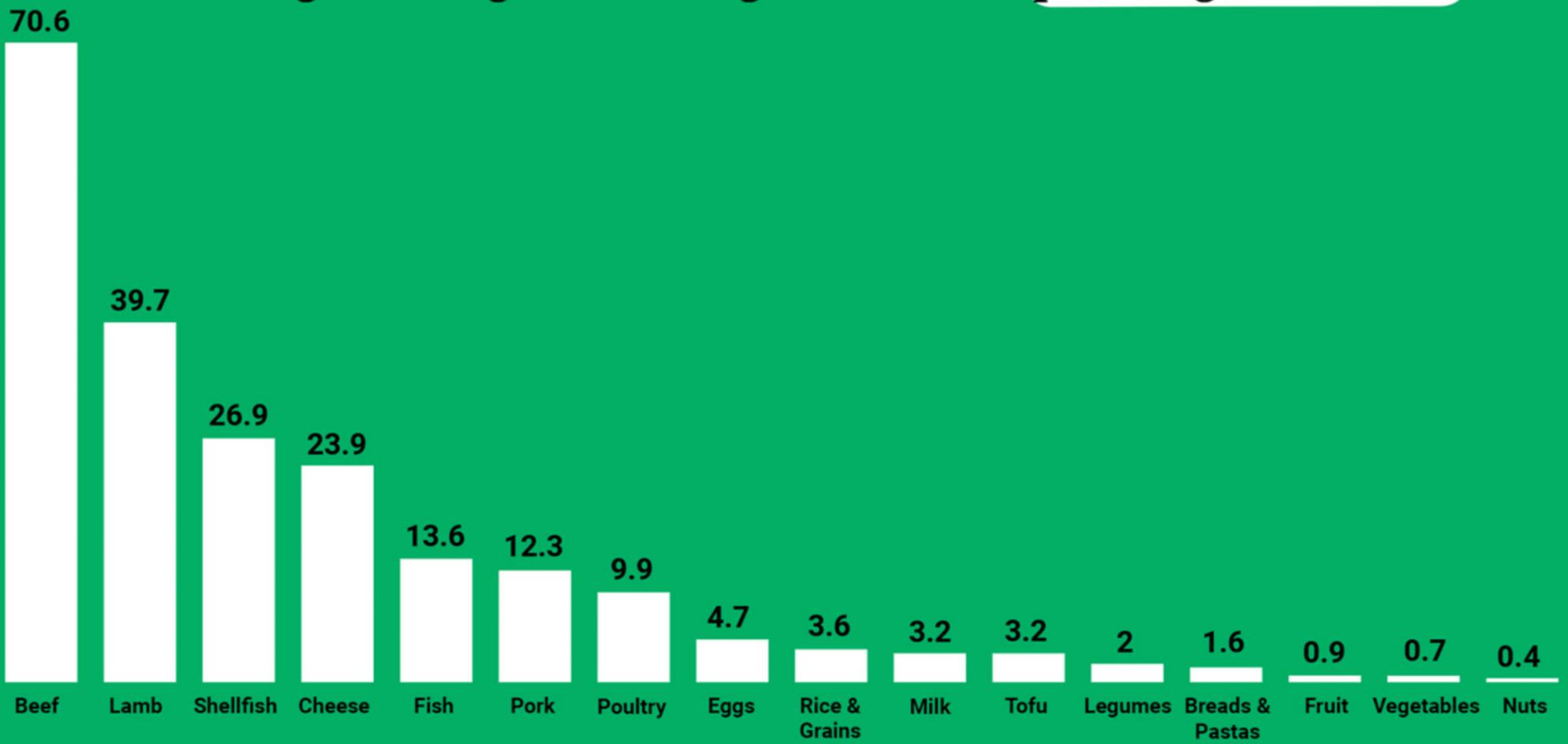
Most of the food is wasted at consumer level

**345 KILOS PER
PERSON**

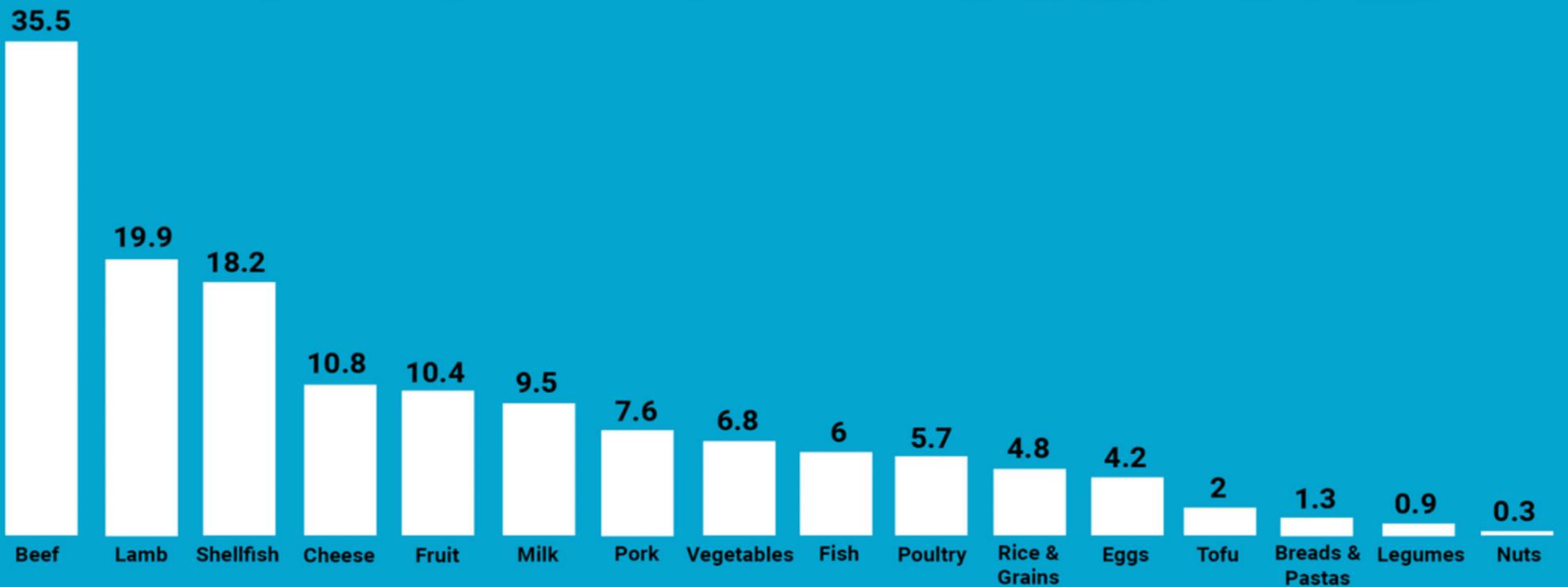
Belgium is the second
most food wasting
country in the Europe

Half of students in Belgium suffer from food insecurity

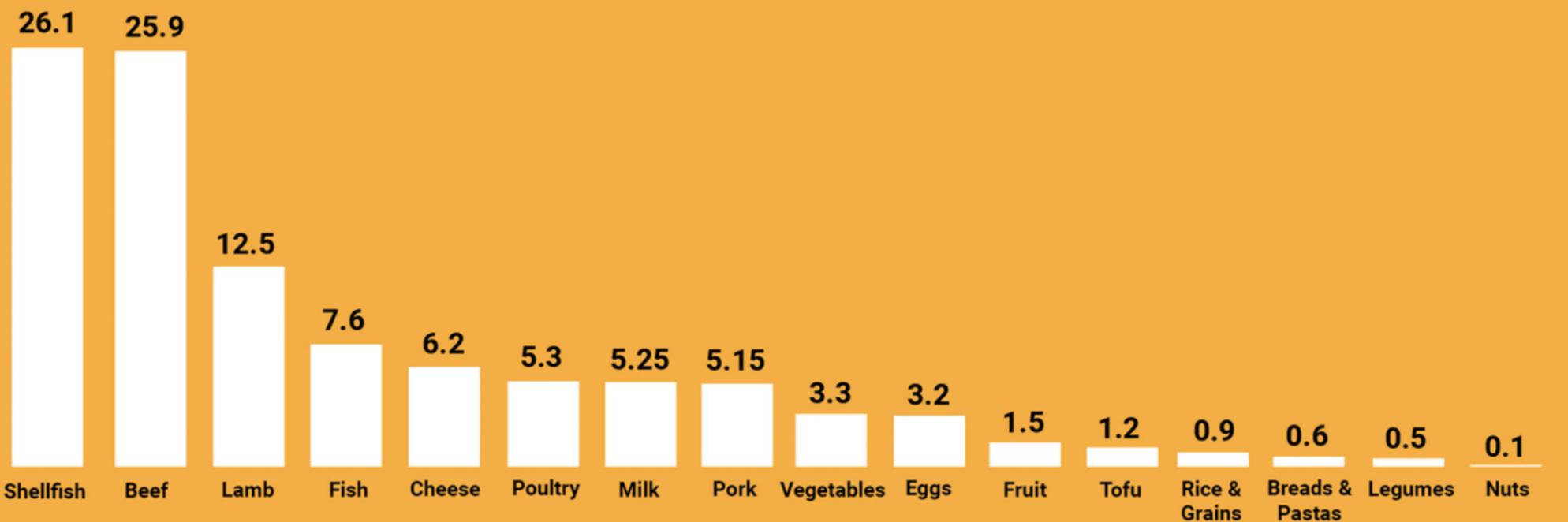
Kilograms of greenhouse gas emissions per kilogram of food



Kilograms of greenhouse gas emissions per 100 grams of protein



Kilograms of greenhouse gas emissions per 1000 kilocalories



How to

REDUCE

FOOD WASTE

Imperfect
picks
are cheaper
but taste the
same!

reduce
food waste
& hunger

shop, store,
& consume
smarter

know
where
food is
wasted

SOME MINOR ADJUSTMENTS IN YOUR LIFE

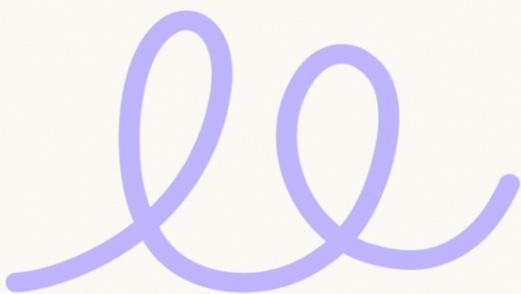
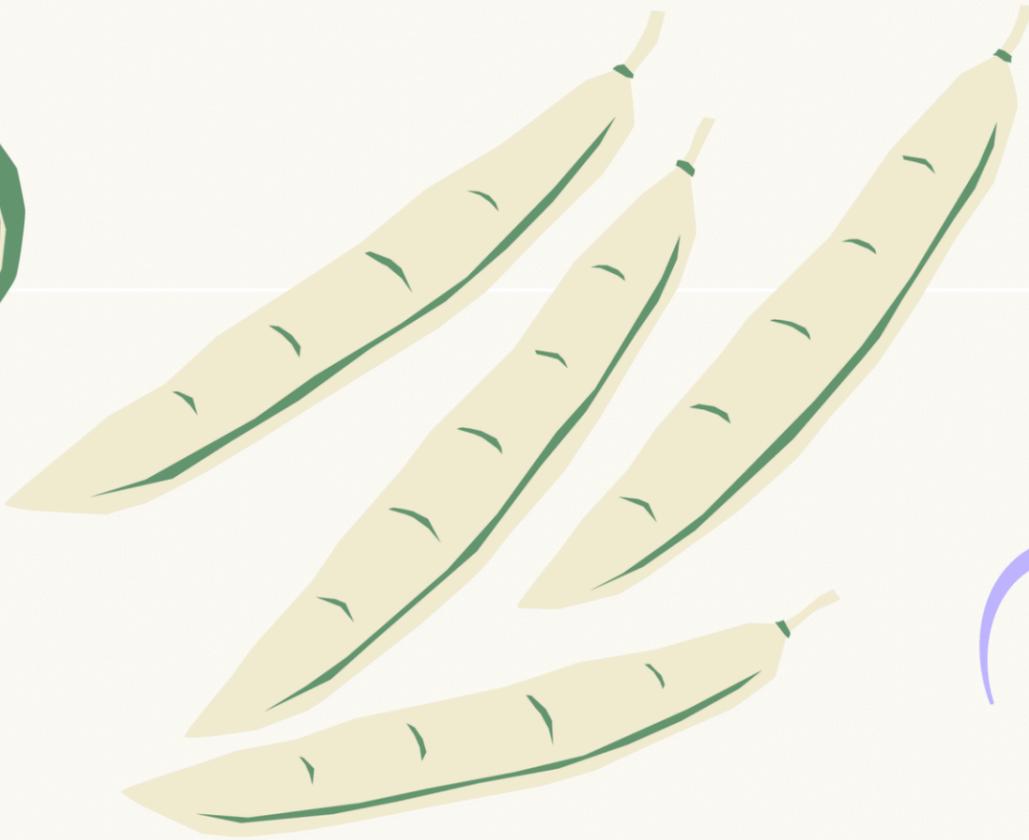
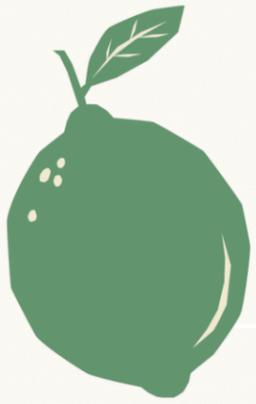
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01 Main Sources of Food Waste

02 How to Save Food

03 Best Initiatives to Support



WHERE FOOD BECOMES WASTE



01 SUPERMARKETS, GROCERY STORES AND BAKERIES

Not all foods in supermarkets are sold. Some packaged products get damaged during unloading, and some sets, like egg cartons or packs of cookies, may have missing items. Additionally, some products approach their expiration dates before they can be sold. As for fruits and vegetables, many are discarded due to unattractive shapes or spots. However, some of these items are sold at reduced prices with yellow or green stickers, while others are shared among employees.



02 EVENT AND HOTEL BREAKFASTS

After events, a significant amount of food goes to waste due to two main reasons: many attendees do not like the food, and there aren't enough participants. As a result, the food ends up being discarded unless there are food-sharing practices in place. Another short-term source of food waste occurs during hotel breakfasts. Although the food is prepared and refilled based on bookings and expected attendance, excess food is often left over due to expiration, as it cannot be stored for the following day, and fewer customers may show up after the last refill. In these situations, implementing a food-sharing system for free or at lower price and distributing the surplus among employees is considered one of the best options to prevent waste.



03 OUR RESIDENCES AND HOMES

Our homes have become the largest inventory of food items. With weekly shopping, food storage in some households can accumulate into a sizable stockpile. While some items are used regularly, others go to waste due to lack of use or expiration. Similarly, in student residences or short-term rentals, food often goes unused and is wasted due to the transient nature of living arrangements, frequent moves, or shifting houses. The best solution is to share these items with neighbors or post on social media, allowing others to come and collect the food before it goes to waste.



HOW TO SAVE FOOD



CONSCIOUS SHOPPING

Make a list of food items you regularly use and want to make the most of in your daily meals. When shopping, focus on quality rather than appearance—don't worry about the shape or color of fruits and vegetables. As long as the food is fresh and safe to eat, it's worth buying. Embracing imperfect produce not only helps reduce food waste but also supports a more sustainable and mindful way of consuming.



ORGANISING YOUR INVENTORY



Organize your food so that items with the earliest expiration dates—and those you use most often—are placed at the front. This simple habit helps you keep track of what needs to be used first, reducing the chance of waste. Store everything in suitable spaces and containers to keep your food fresh for longer. Smart storage not only preserves quality but also supports a more efficient and sustainable kitchen.

SHARING

Do you often cook large amounts of food at home? Are you going on vacation or planning to move? Do you have items nearing their expiration date or food you no longer use? Instead of letting it go to waste, consider sharing it with someone in need. Donating surplus food is a simple yet powerful way to help others and make a positive impact in your community.



COLLECTING



Do you eat a lot of bread and vegetables? Do you like pastries, packaged items, or other useful products? What if they are about to expire, or the shop is closed for a break? Or maybe the restaurant has leftover food from the day? Platforms like Too Good To Go allow you to pay and collect a bag of saved food. Take your bag and box with you. You can also sign up for voluntary food pickups at supermarkets and shops through Food Saving Leuven. Take your bag, fill it with what they offer, and you'll have food for yourself or to share. Excess bread and pastries can be dropped off at Agora, where you can also collect surplus breads and pastries for yourself.

HOW TO SAVE FOOD



STORAGE HACKS

Some of the foods you collect or have can be stored longer by extending their lifespan. You can pickle vegetables, turn fruits into spreads or jams, freeze bread, or repurpose it into pudding or sandwiches. Additionally, you can preserve herbs by drying them, or make smoothies and freeze them for later. Another idea is to make homemade soups and freeze them in portions. These methods help reduce waste and give you more time to enjoy your food



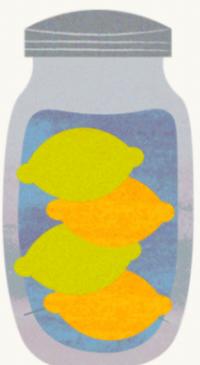
SUPPORT LOCAL INITIATIVES



Volunteer for initiatives like Food Saving Leuven to collect, use, and share free food. You can also use food from platforms like Too Good To Go for your daily needs, or even for a party or event you're organising or participating in

A FOOD SAVER

Sometimes, having an extra bag or container can make all the difference. You never know when you'll have the opportunity to be a food saver—whether you're enjoying a meal and have leftovers, or you're simply hungry and need something on the go. By carrying a reusable box or bag, you can collect leftovers, save uneaten food, or even pick up rescued meals. It's a small step that helps reduce food waste and makes a big impact on both the environment and your wallet.



Best Initiatives to Support

**SPEND SOME TIME AND MONEY
- TOO GOOD TO GO**



**SPEND SOME TIME FOR FREE FOOD
- FOOD SAVING LEUVEN**



Too Good to Go

Pay and Collect
from 10000+
shops in Belgium



1 PAY LESS, WASTE LESS:

With Too Good To Go, you pay a reduced price for food that would otherwise go to waste. It's a win-win—you get delicious food, and local businesses reduce their waste while still making a return.

2 SUPPORT YOUR LOCAL FAVORITES:

Save your favorite spots or nearby stores and restaurants. Many places list their surplus food daily—often closer to the end of their working hours.

3 CHECK AVAILABILITY & TIMING:

Each store sets specific pickup times. Check the app for available “Magic Bags,” see the estimated contents, and reserve a slot.

4 MAKE THE PURCHASE:

Pay directly through the app to secure your spot. Quantities are usually limited, so it's a good idea to check early and act quickly.

5 PICK UP IN THE EVENING:

Most businesses prepare Magic Bags toward the end of the day. You simply swing by during the given time slot to collect your surprise meal.

6 ENJOY A VARIETY OF FOODS:

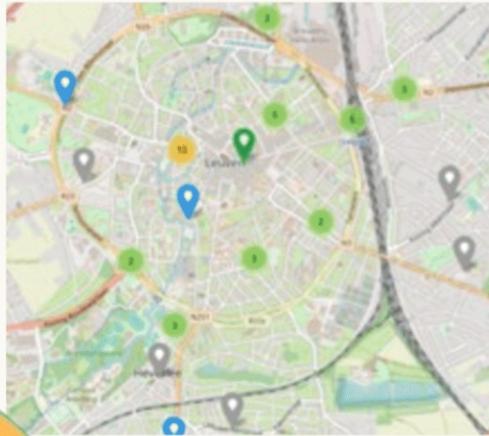
From snacks and cookies to full meals and dinners—what you get can vary daily, making it a fun and affordable way to try something new.

7 BREAK OUT OF THE ROUTINE:

If you're always reaching for bread or the same quick meal, this is a great way to add variety to your diet while doing something good.

Food Saving Leuven (FSL)

180+ volunteers
saving saving
9847+ kg of food
Since 2019 –
Collect free food
when you have
time



HOW IT WORKS:

- Join for free on Karrot World
- Food includes bread, pastries, veggies, packed items, meats, and more.
- Check collection times and sign up for pick-up slots in advance.
- Groups usually consist of 2–6 people depending on the store size.
- Larger locations = more food, so teamwork is key!

DO'S: THE FOOD SAVER CODE

- Sign up in time and commit to your pickup.
- Show up promptly at the scheduled time.
- Wait patiently for your turn.
- Collect everything the supermarket gives.
- Bring your own bags—pack smart and responsibly.
- Sort and share, take what you need,
- Ask for help via WhatsApp or the group chat if there is excess food.
- Drop off excess items like bread and pastries at Agora.
- Give feedback to help improve the system.



DON'TS: WHAT TO AVOID

- Don't sign up and then skip the pickup—this leaves others with extra work and risks food going to waste.
- Don't leave items behind—all food should be sorted or shared.
- Don't hoard food you won't use—share with others in the group or community.

THINK BEFORE YOU THROW OUT

Start composting



Grow your own food



Eat healthy



SOME KEY FACTS:

Plastic takes more than 450 years to decompose

Only 9% of the plastic used around the world is recycled

11 million tons of plastic are poured into the ocean every year

WE NEED TO REDUCE
PLASTIC POLLUTION

A simple guide for students and communities in Leuven

LEUVEN ISN'T JUST A UNIVERSITY TOWN — IT'S OUR SHARED HOME.

From the cobbled streets to the Dijle River, every corner of this city deserves to stay clean and thriving. But plastic waste threatens that. When it ends up in our parks, waterways, or bins overflowing after a night out, we all feel the impact.

Plastic pollution is a global crisis — but the solutions can start small, right here.

In the choices you make at the supermarket. In the cup you bring to class. In the conversations you have with friends.

This booklet is a starting point. It's not about being perfect — it's about being aware, making simple changes, and inspiring others to do the same.

BECAUSE WHEN WE ACT TOGETHER, WE CREATE A CITY WE'RE PROUD TO LIVE IN.

So, what's one thing you can do differently starting today?



Waste Week
'Community Cleanup'
22 March 2025

WHY PLASTIC WASTE MATTERS

Every year, over 300 million tons of plastic are produced globally. Nearly half is single-use. In Leuven, plastic pollution impacts our environment, urban spaces, and waterways. Most of it isn't recycled—it's either burned, dumped, or ends up in rivers and oceans.



DID YOU KNOW?

From student housing and takeaway food to festival cups and supermarket packaging—plastic is everywhere. You might have seen plastic litter along the Dijle River, in parks, or outside campus buildings. Belgium generates over 60 kg of plastic waste per person every year. Plastic takes 400+ years to degrade.

HOW PLASTIC AFFECTS US

Plastic waste doesn't just "disappear", it can break into microplastics that enter water, soil, and even our food. Burning plastic releases harmful toxins. Wildlife mistakes it for food. It's a public health issue too.



DID YOU KNOW?

Plastic that is carelessly discarded and may be carried into rivers will flow into the sea. Some of it ends up on the beach, carried by the wind and waves, while the rest floats in the ocean, breaks down into microplastics, is eaten by fish, and eventually consumed by humans (Schlehe & Yulianto, 2020, p. 41).

Microplastics have even been found in tap water, beer, and human blood.

UNDERSTANDING THE SYMBOLS ON PLASTIC PRODUCTS

Not all plastics are created equal — and not all are easily recyclable. The triangle with a number inside tells you what kind of plastic you're dealing with.



RECYCLING CODES	1	2	3	4	5	6	7
	PET	HDPE	PVC	LDPE	PP	PS	OTHER
RECYCLABILITY	EASY	EASY	DIFFICULT	RECYCLABLE	RECYCLABLE	PROBLEMATIC	PROBLEMATIC

Quick Tip for Leuven Residents:

Check PMD (Plastic, Metal & Drink Carton) guidelines via [leuven.be/afval](https://www.leuven.be/afval) to see what belongs in the blue recycling bag!

LEUVEN RECYLING CENTRES

Leuven is a highly dynamic and fast-growing city with a population of over 100 000 people and hosts a world-renowned university which has a student population of 60 000 people. Leuven is committed to becoming a climate neutral city by 2050 (with a 55 % reduction by 2030). Therefore, beyond regular waste collection, Leuven offers Recycling Centres where residents can drop off various waste types for proper disposal and recycling.



FREE OF CHARGE

- Asbestos cement (Eternit)
- Discarded electrical and electronic devices
- Small hazardous waste (e.g., paint residues, frying oil)
- Candles
- Mattresses

FOR A FEE

- Tree trunks, grass, leaves
- Aerated concrete
- Plaster and lime
- Glass (container glass and glass sheets separately)
- Bulky refuse
- Hard plastics
- Reusable goods
- Ceramics
- Cork
- Scrap metal
- Paper and cardboard
- Polystyrene
- PMD (in the blue PMD bag with the EcoWurf logo)
- Demolition wood
- Wood cuttings
- Brick waste
- Textiles (clean and in bags)

Locations & Hours & Fees:

Visit [EcoWurf's website](#).

Sources:

European Commission. (2024). Leuven. Circular Cities and Regions Initiative.

<https://circular-cities-and-regions.ec.europa.eu/fellows/leuven>

EcoWurf. (n.d.). Sorteewijzer. EcoWurf. <https://www.ecowurf.be/sorteewijzer>

CIGARETTE BUTTS IN LEUVEN: A TINY WASTE WITH A BIG IMPACT

They may be small, but cigarette butts are one of the most common and harmful forms of litter in Leuven — and worldwide.

A single cigarette butt can take 10 to 15 years to fully decompose. That's because filters are made of plastic fibers (cellulose acetate) — not paper — and break down very slowly.



Cigarette butts are commonly found in Leuven, whether its near the bus stops, campus buildings, outside bars and cafés, and along the Dijle River. While they may seem harmless due to their size, they accumulate quickly and are a major source of urban and waterway pollution. The City of Leuven has made littering cigarette butts a fineable offense, but prevention starts with awareness and better habits — especially among students and nightlife-goers.

Just one cigarette butt can pollute up to 1000 liters of water, posing a serious threat to fish, aquatic life, and the health of urban ecosystems.

WHAT YOU CAN DO?

Use portable or pocket ashtrays

Encourage cafés and bars to provide outdoor ashtray bins

Join a local cleanup event

Spread the word: a cigarette is plastic too!

Our planet is our home.
Let's protect it and ensure a sustainable future for all!



OUR CITY, OUR RESPONSIBILITY
**BE THE CHANGE
IN LEUVEN**

Concluding Thoughts

The Portfolio in Sustainable Development was an interesting undertaking which tested various skills (both soft and hard) generally not applied in other subjects. The activities being planned and implemented on our own initiative was an interesting proposal, allowing for a greater freedom in activity selection. This, however, also challenged the ability to establish cohesion between the different activities, while simultaneously balancing the scheduling and implementation of these activities with our additional responsibilities beyond the Portfolio.

Nonetheless, as an overall evaluation of my personal performance, I am satisfied with the selected goals and their respective activities. I believe that they enriched my own interests in particular sustainability topics that I had less interaction with during the academic portion of the master's program. Additionally, I believe the implementation of the activities within each goal demonstrated adequate thematic cohesion. For example, the first goal's activities served first as an introduction to the topic in general, and afterwards as a more in-depth discussion of the NbS on a specific case. In terms of my second goal, the single activity was very connected with its stated goals and the developed product, and its targeted audience was appropriately reached.

The main challenges during the individual portfolio, as hinted before, had to do with scheduling and planning of activities. Specifically in relation to the two bigger projects of the study program, the Living Lab and Thesis, given that these took up considerable portions of time. The portfolio sometimes took up more time than what was desired considering the two larger responsibilities happening concurrently. However, I believe that in this testing of my planning abilities I succeeded in doing interesting and fulfilling activities.

In conjunction to this, I believe my activities made a relevant impression on the targeted groups. For my goal related to Nature-based Solutions, I began a dialogue with sustainability and environmental professionals local to my hometown and sparked some interest in acquaintances and friends. For my second goal, the developed manual was planned as aid for newer students coming to the city, as I noticed that myself, and my colleagues during said learning activity, were unfamiliar with some aspects of waste sorting in the city we are living in. By sharing the manual with the Green Office, they demonstrated interest in sharing it further as an official learning resource for newer students, which fulfills the purpose of its creation.

Each learning goal can be evaluated separately in terms of how it was carried out. Firstly, regarding Nature-based Solutions, as this was the first learning goal and activities, their development and implementation faced some hurdles. The initial lack of clarity regarding the beginning of the portfolio led to two smaller, though still sufficient and satisfactory learning activities. Additionally, carrying this out individually, though with limited external

support, was more restricted in terms of the magnitude of what could be achieved. Contrastingly, the second goal had much clearer development and goals from the start, also benefiting from having an additional semester to consider what could be done with it. Having been developed alongside other colleagues, it also benefited from being able to attain a larger scope and wider reach.

Regarding the utility of the selected goals and activities, these differ in scope by each goal. Learning about Nature-based Solutions and their principles, as well as their possible implementation and evaluation serves a more professional purpose. Especially considering further certifications that I discovered and could pursue further on my own, the fulfillment of this goal opened a new door of professional development that is of my own interest. In addition, this activity led me to make more professional contacts in my hometown, opening up even more opportunities for professional collaboration. By contrast, learning about waste management in Belgium had a more practical purpose and daily usefulness. As waste management affects daily life and my current residence being in the country, the knowledge obtained can be usefully implemented at home and also served to further educate other students and colleagues in a very practical manner that affects them directly.

The portfolio additionally served to expand the breadth of knowledge on different topics related to sustainability that weren't studied directly in a class or as part of the thesis or Living Lab, yet that were of interest to me. I particularly focused my goals and activities on topics which I believe deserve more attention within the study of sustainability; in the case of Nature-based Solutions, these are a newly developed tool that appears to have promise as a future implementation of the principles of sustainable development for nature restoration. Their novelty is of interest to me, as I believe they might be a valuable area on which to develop professionally, as well as having a possibly wide implementation. By contrast, my other goal was more practical and led to a further exploration of existing systems in Belgium, being interesting as a contrast to other waste management systems I am acquainted with and seeing the advantages and disadvantages of each.

Additionally, my selected activities initially seem more technically minded, such as evaluation tools or management of a resource (waste). They, however, are an attempt on my part to harmonize the more technical and environmental aspects of sustainability on which my previous and current studies focus, with their social implementation and intersection with societal aspects. Nature-based Solutions as a methodology emphasize the importance of nature-culture interactions. Waste management, on the other hand, affects daily life and is of importance for community well-being; even the definitions and classifications of waste itself are a social construct. Thus, both serve as a way to establish an interdisciplinary link of society and ecology through the means of technical implementations of sustainability.

Overall, the individual portfolio was an interesting exercise in expanding my sustainability knowledge of my own accord, as well as an exercise in the implementation of soft skills such as planning and communication with colleagues and professionals in the field of sustainability. The portfolio activities aided in my professional and personal implementation of sustainability and helped me go more in-depth into topics that I believed to be of interest. Finally, the products that were obtained in the end served practical purposes and had the desired reach to their respective targets. In conclusion, though it went through the hurdles of occurring at the same time as the two main projects of the study program, it nonetheless was enriching for both myself (personally and professionally) and the product's target audience, and it had the desired impact in bringing more depth to my knowledge of sustainability.