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SEN4CE
Seniors for Circular Economy

SEN4CE Course Overview (EN)

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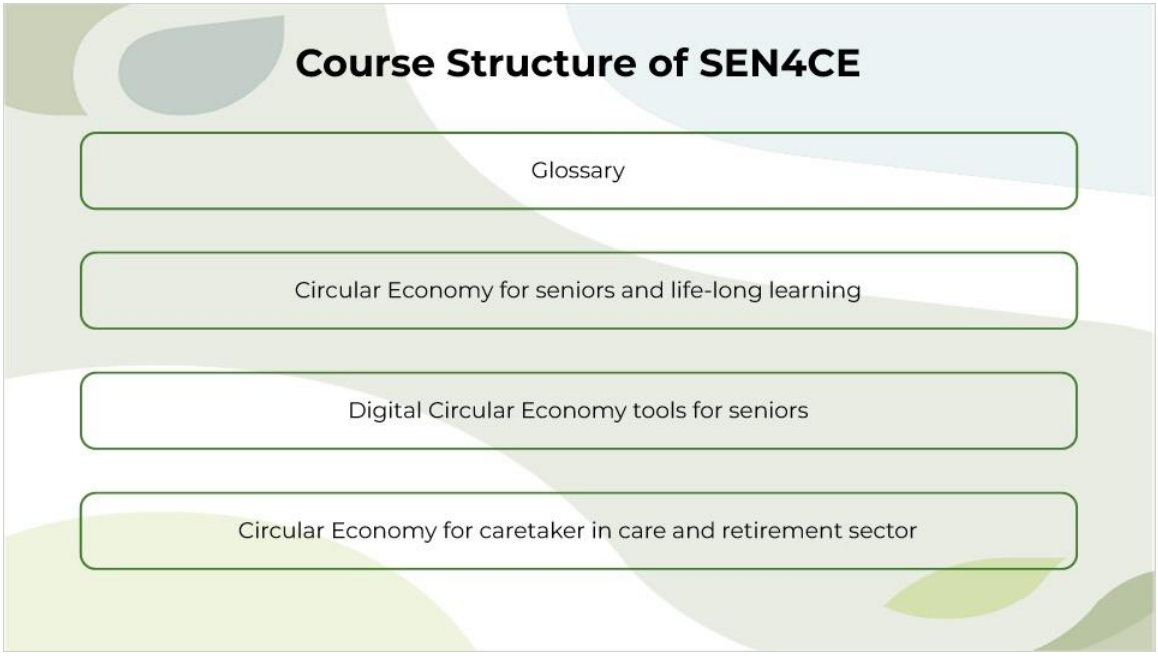
1. Introduction SEN4CE

1.1 Welcome Page

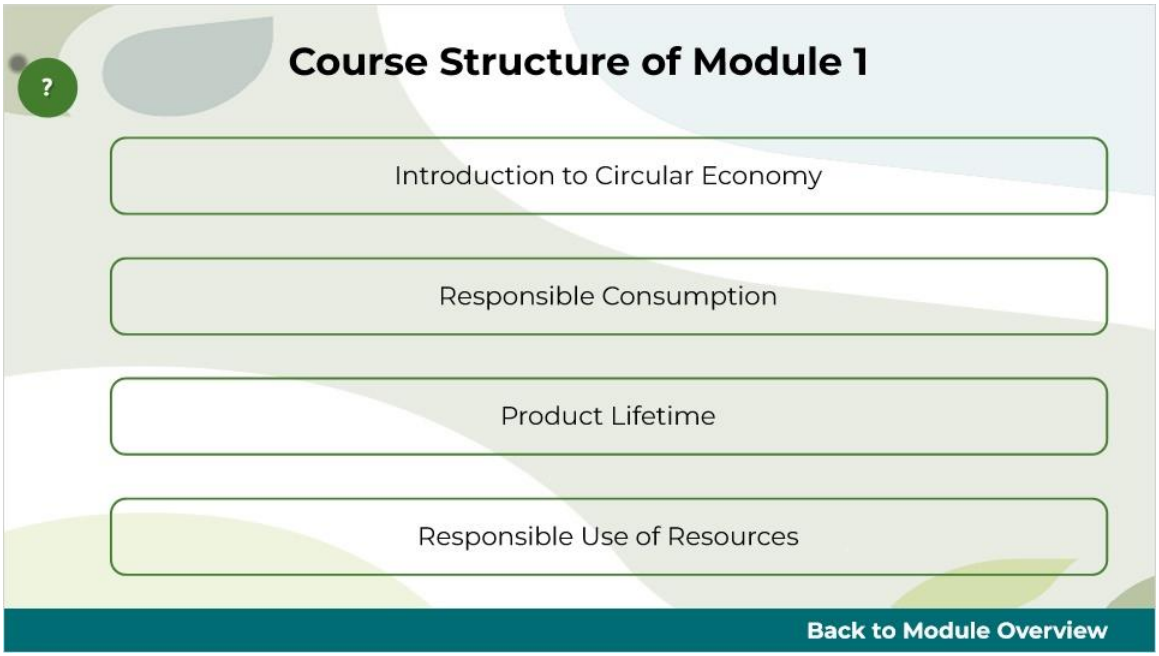
1.2 Project partners

1.3 Introduction to the SEN4CE course

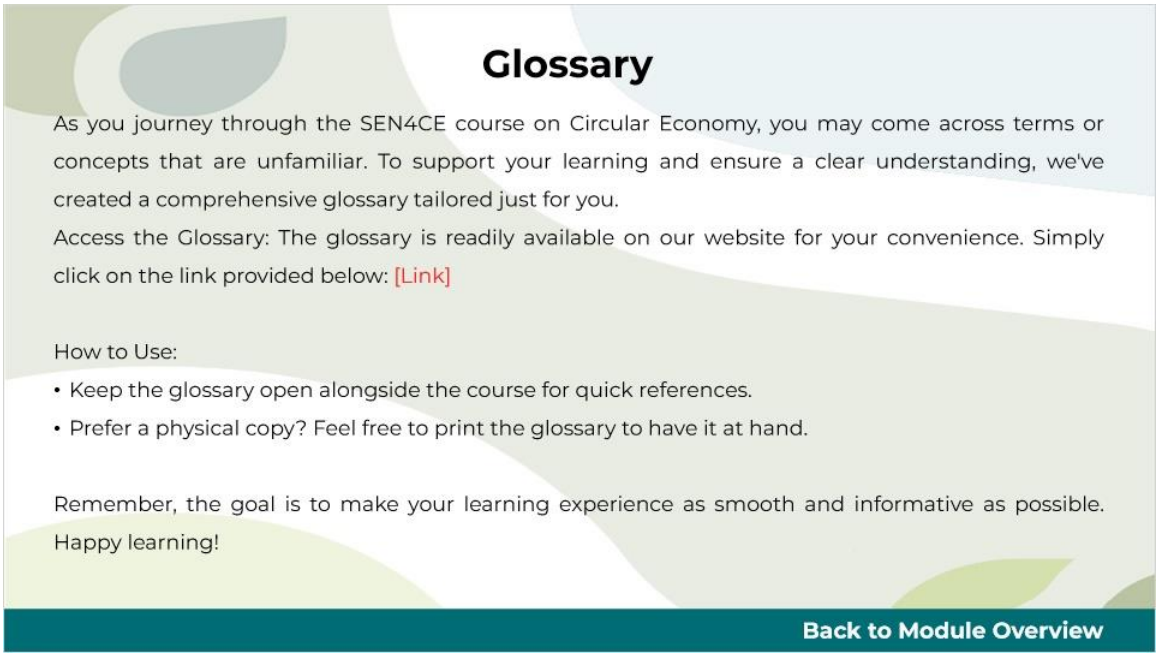
1.4 Overview of the SEN4CE Modules



1.5 Module 1 Overview

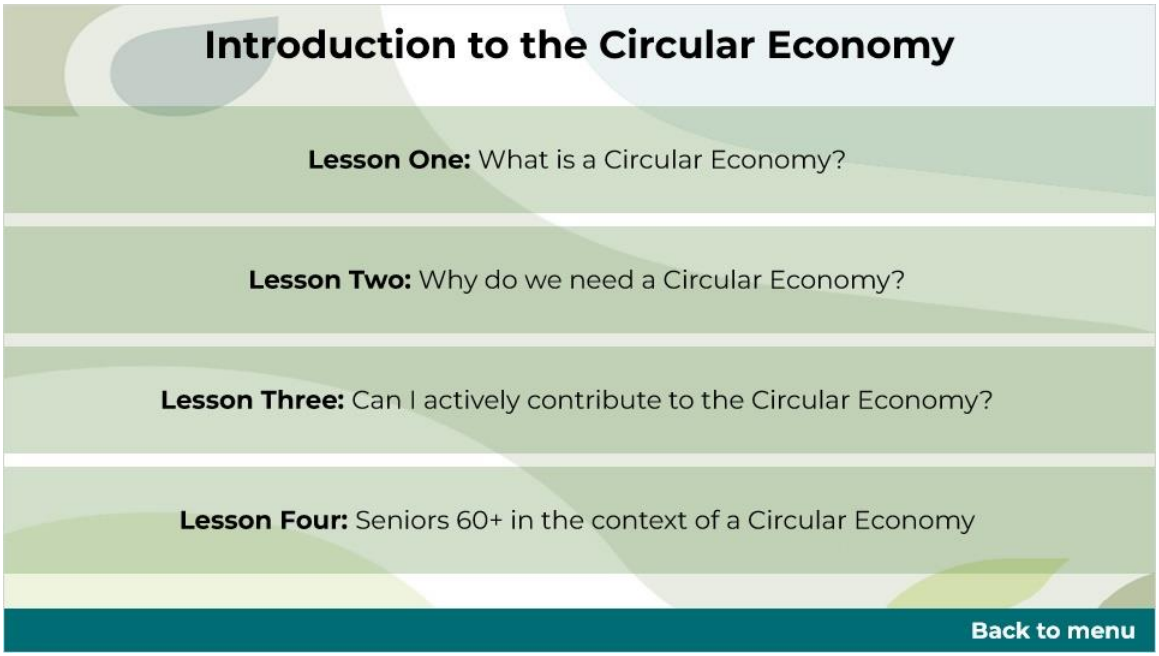


1.6 Glossary



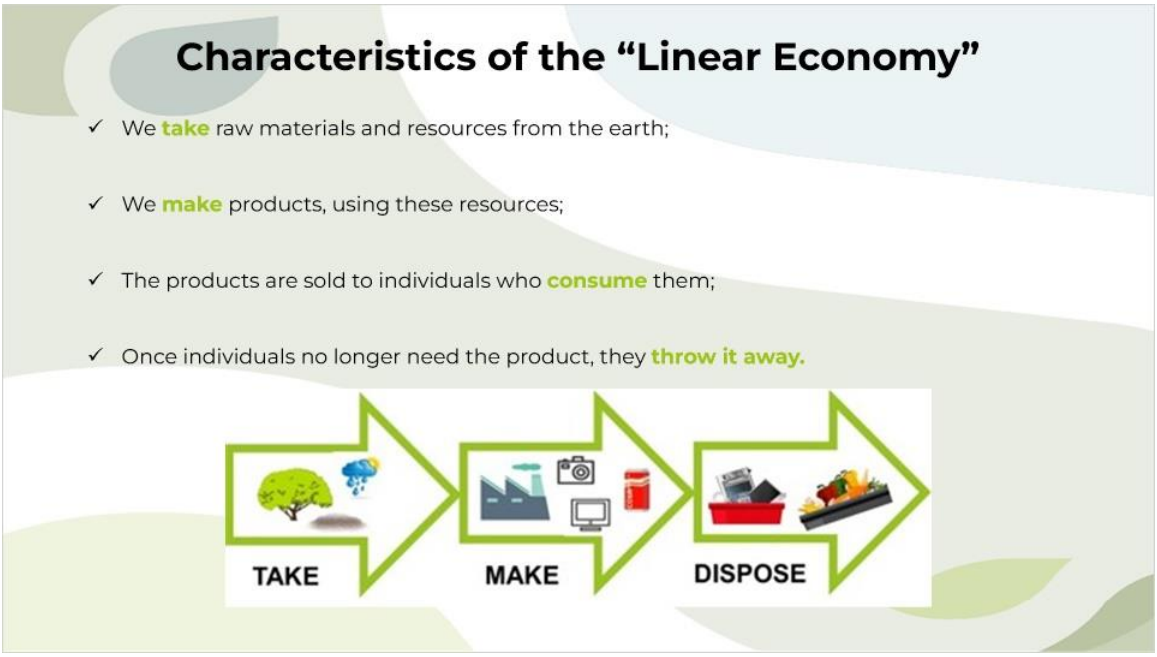
2. Introduction to Circular Economy

2.1 Introduction to the Circular Economy

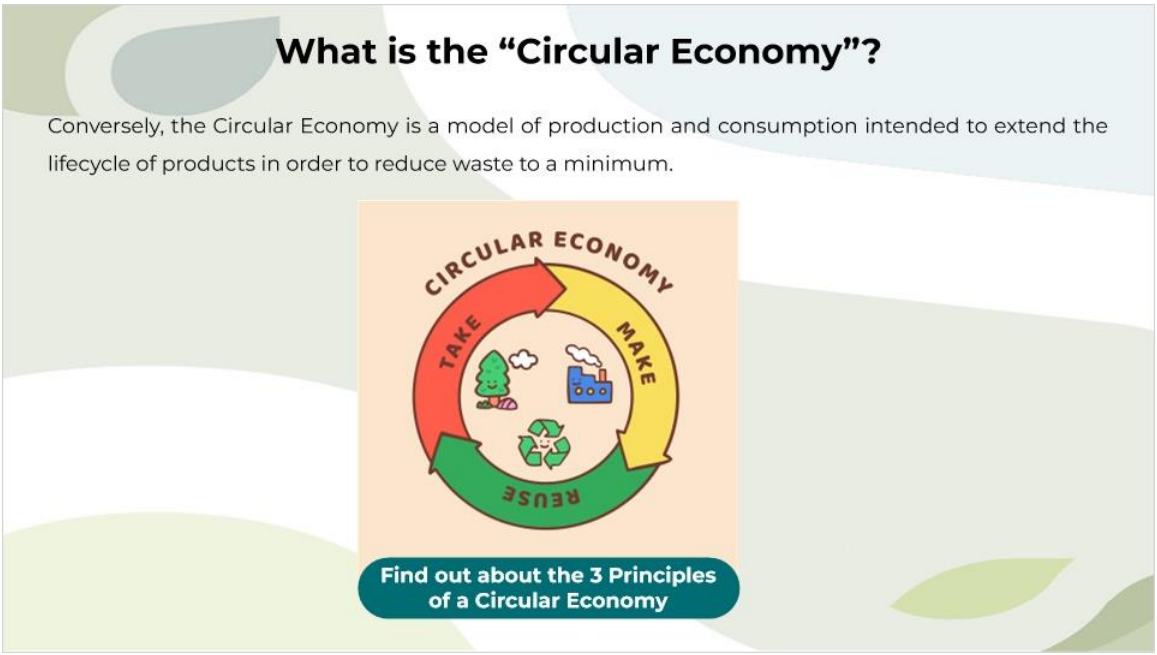


2.1.1 What is the “Linear Economy”?

2.1.2 Characteristics of the “Linear Economy”



2.1.3 What is the “Circular Economy”?



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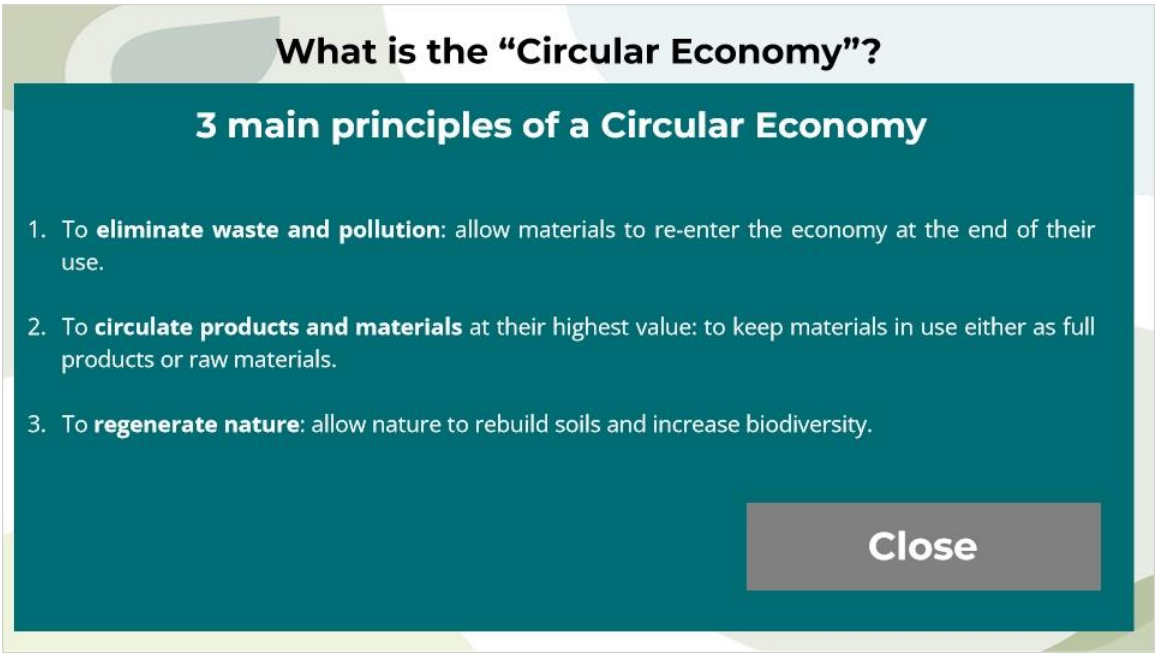
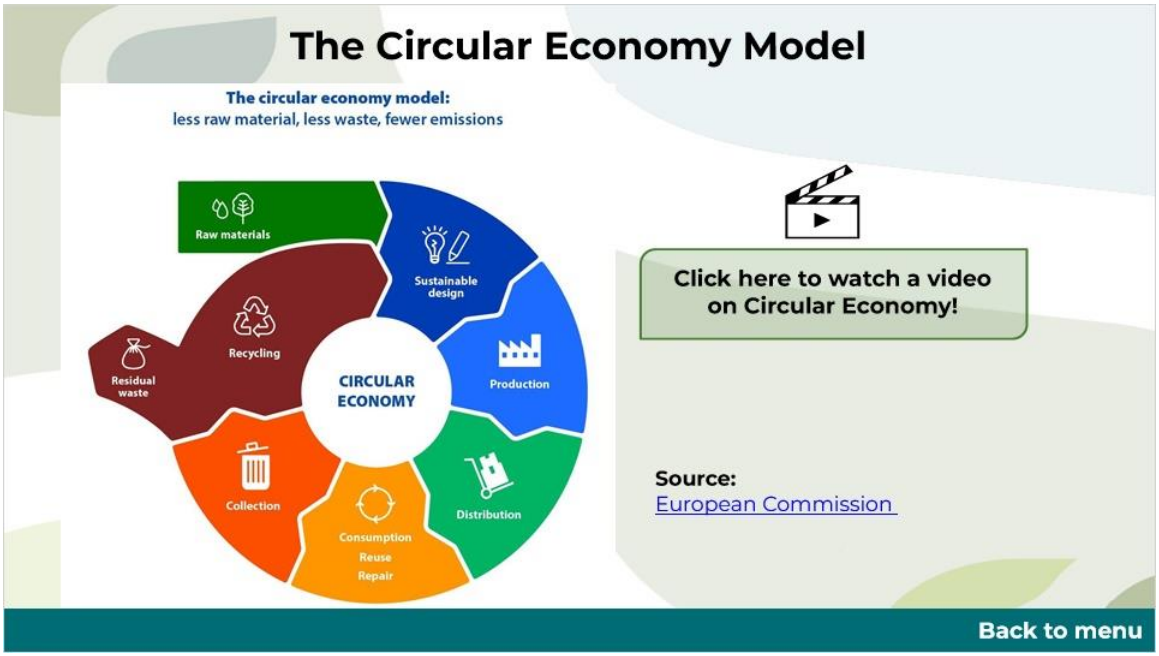
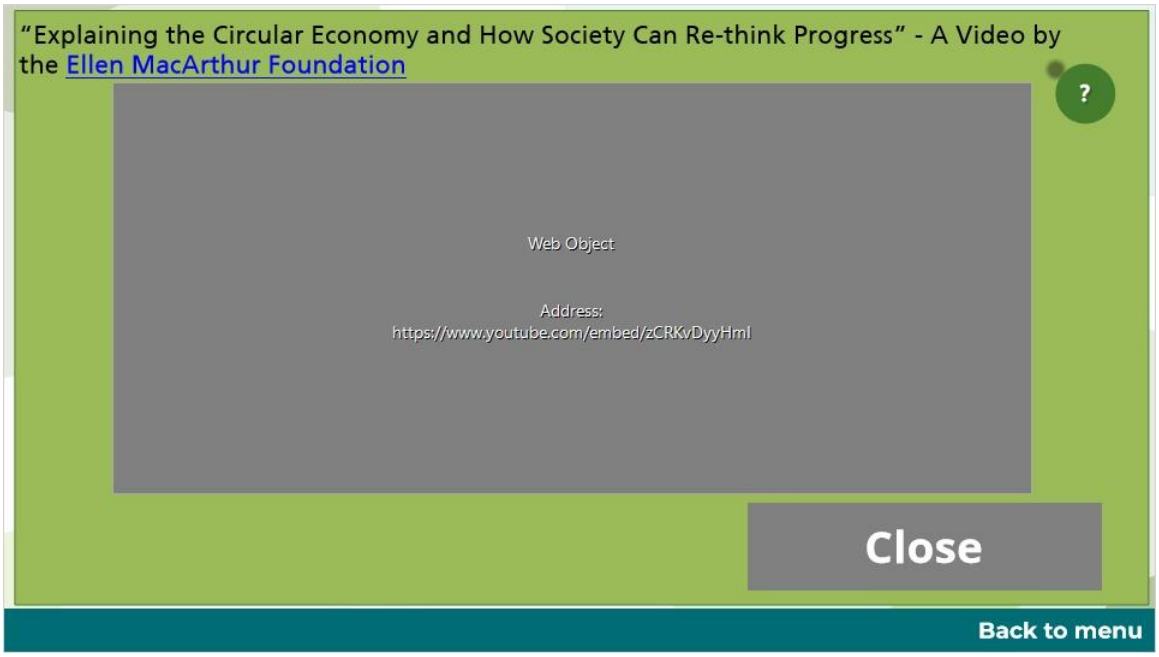


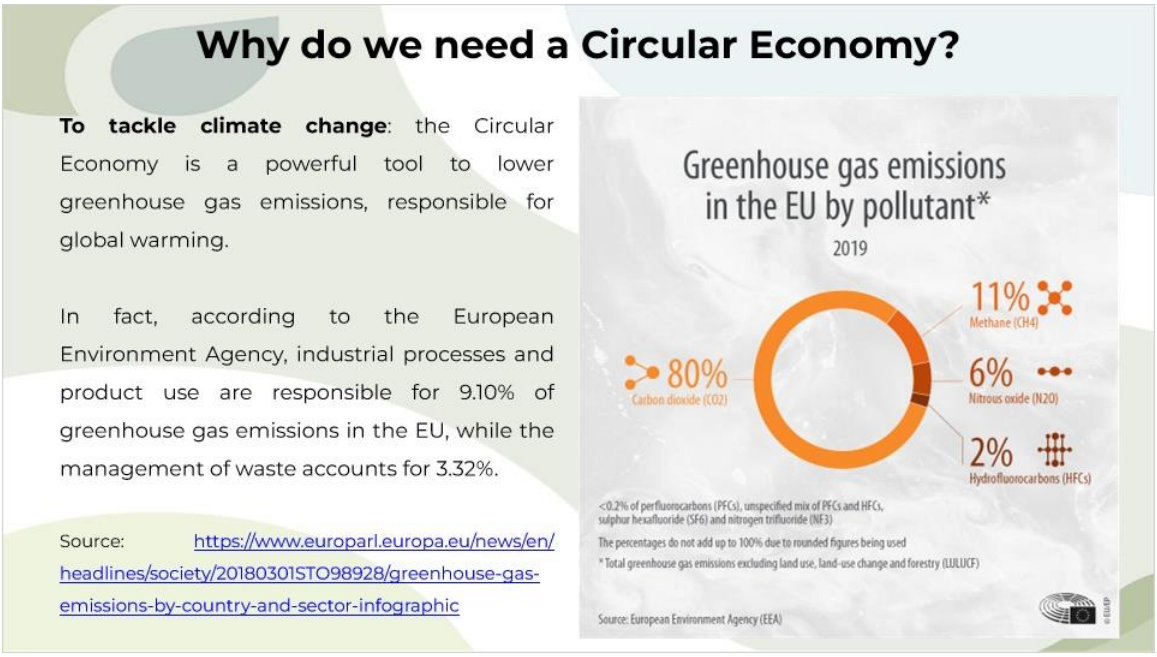
2.1.4 The Circular Economy Model



EMF Video (Slide Layer)



2.2.1 Why do we need a Circular Economy? (1)



2.2.2 Why do we need a Circular Economy? (2)

Why do we need a Circular Economy?

To minimise environmental harm and biodiversity loss: reusing and recycling products would slow down the use of natural resources and reduce landscape and habitat disruption.

2.2.3 Why do we need a Circular Economy? (3)

To provide for our growing population's needs: the world population is growing and earth resources are finite. The Circular Economy is necessary to **provide for everyones' needs.**

To increase **competitiveness, stimulate innovation, boost economic growth** and **create jobs!**

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2.3.1 Can I contribute to a Circular Economy? (1)

Can I contribute to a Circular Economy?

Implementing a Circular Economy means that our **entire current system needs to be rethought** and readapted to limit our resource use and reduce our waste.

Thus, governments and businesses have a big role to play: it is through legislation and a change in the way **we produce and consume** that our system can change.

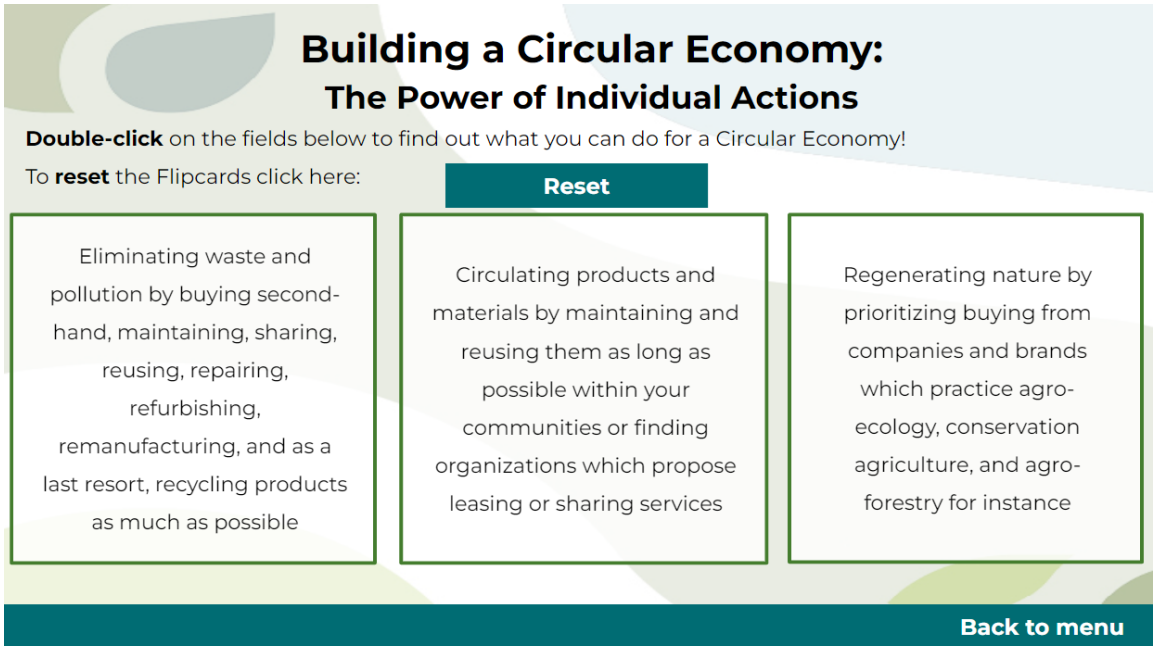
2.3.2 Can I contribute to a Circular Economy? (2)

Individuals also have an important role to play. It is necessary to re-frame the systems of thought that currently dominate society in order to conduct transition towards a healthier and more sustainable mode of consumption. And this starts with the awareness of citizens, like you, and the daily actions that you can put in place in this direction.

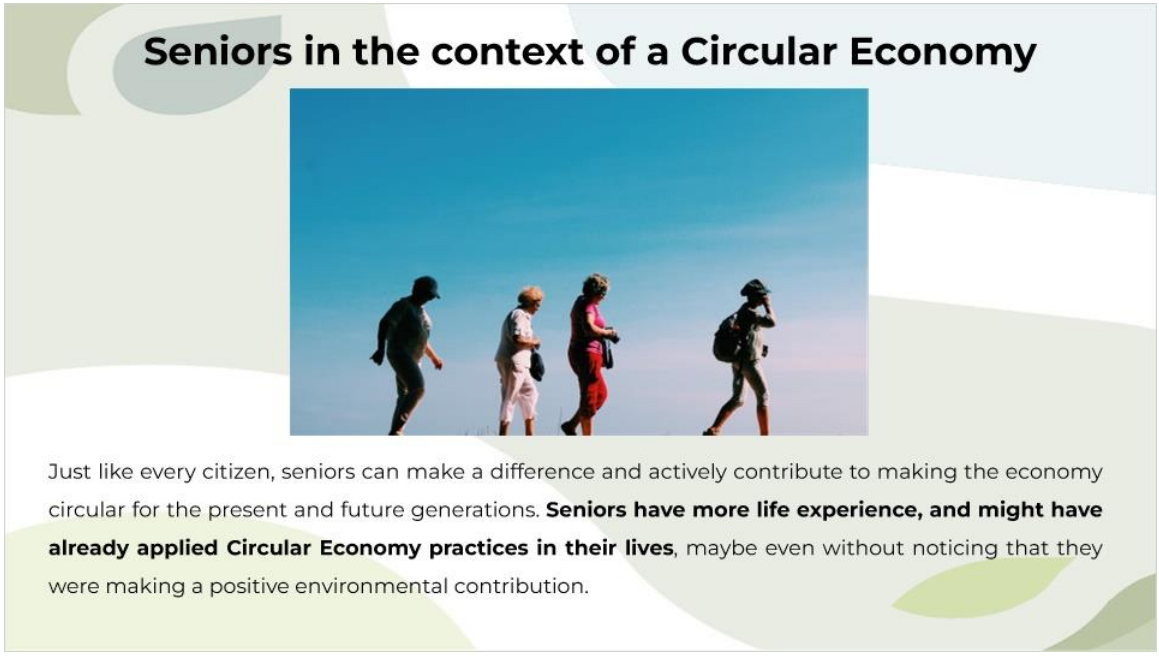
2.3.3 Can I contribute to a Circular Economy? (3)

2.3.4 Building a Circular Economy

Building a Circular Economy (Slide Layer)



2.4.1 Seniors in the context of a Circular Economy



2.4.2 You can make a difference!

You can make a difference!

By making these contributions, **you can actively participate in the Circular Economy** which is a great way to promote good practices, and learn about new ones we might have forgotten or never heard about!

Join us in this curriculum to embark on your empowering **journey** towards a **Circular Economy future**.

2.4.3 References - Introduction to Circular Economy

References

- Circular Economy Introduction
  Available on: https://ellenmacarthurfoundation.org/topics/circular-economy-introduction/overview

- European Commission: Circular Economy: Definition, Importance and Benefits (2023)
  Available on: https://www.europarl.europa.eu/news/en/headlines/economy/20151201STO05603/circular-economy-definition-importance-and-benefits

- European Environmental Agency (2019)
  Available on: https://www.europarl.europa.eu/news/en/headlines/society/20180301STO98928/greenhouse-gas-emissions-by-country-and-sector-infographic

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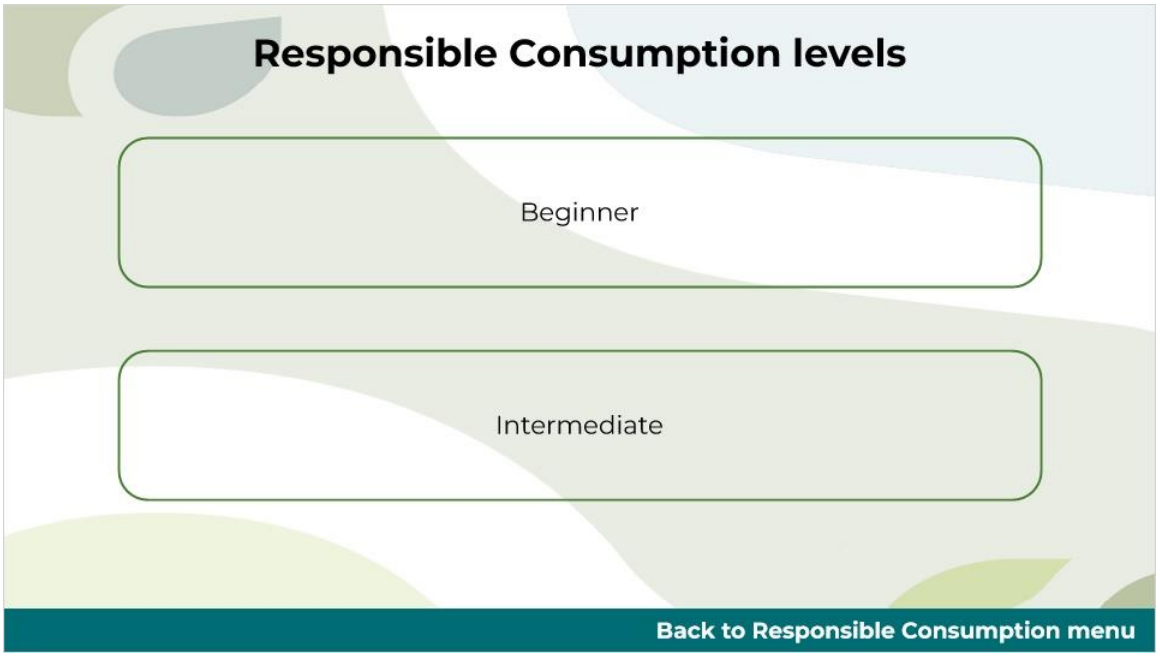
3. Responsible Consumption

3.1 Responsible consumption (RC) - Menu

3.1.1 RC Introduction

3.1.2 RC Introduction

3.1.3 RC - Overview Level

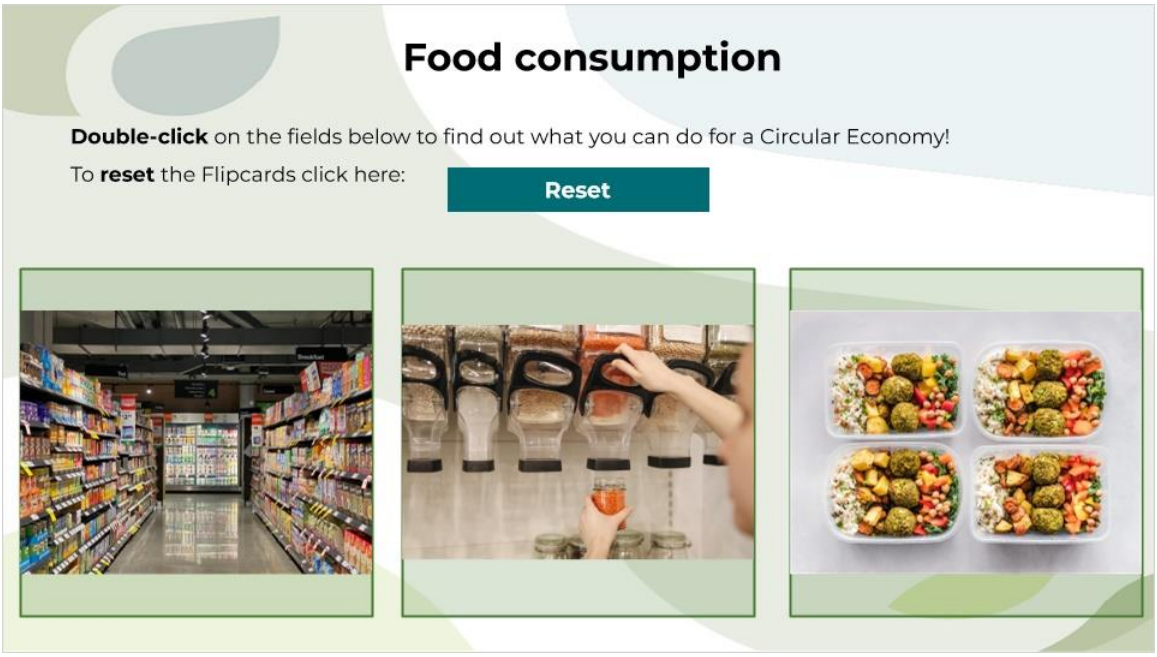


Responsible Consumption – Beginner level

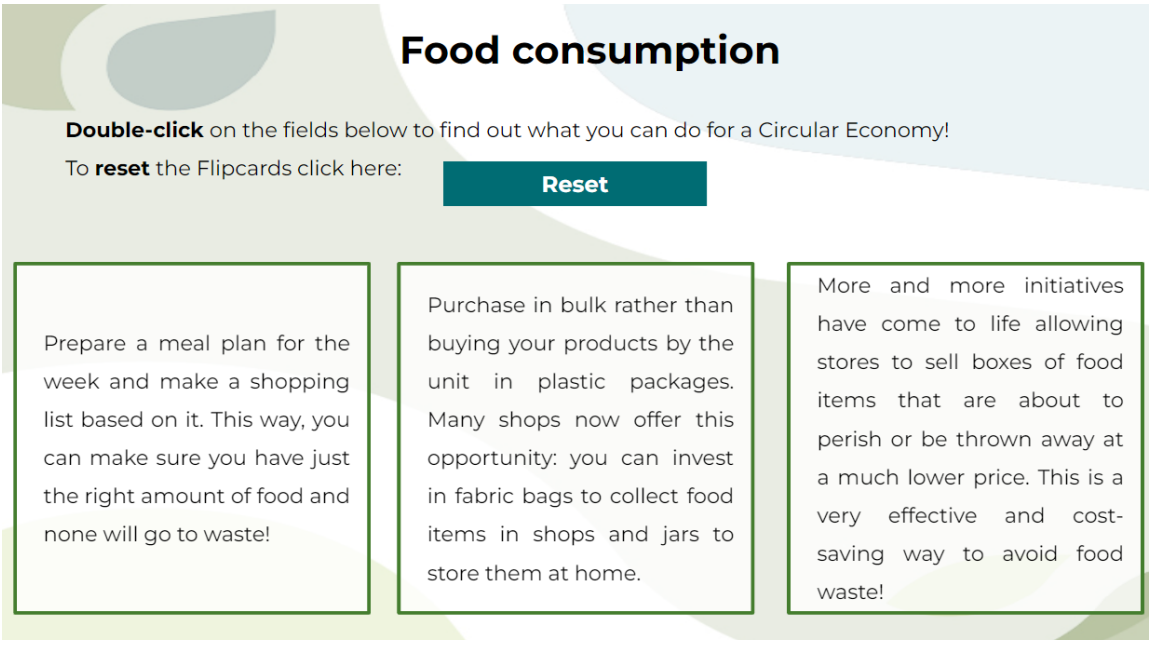
3.2 Avoiding Waste (1)

3.2.1 Avoiding Waste (2)

3.2.2 Food Consumption

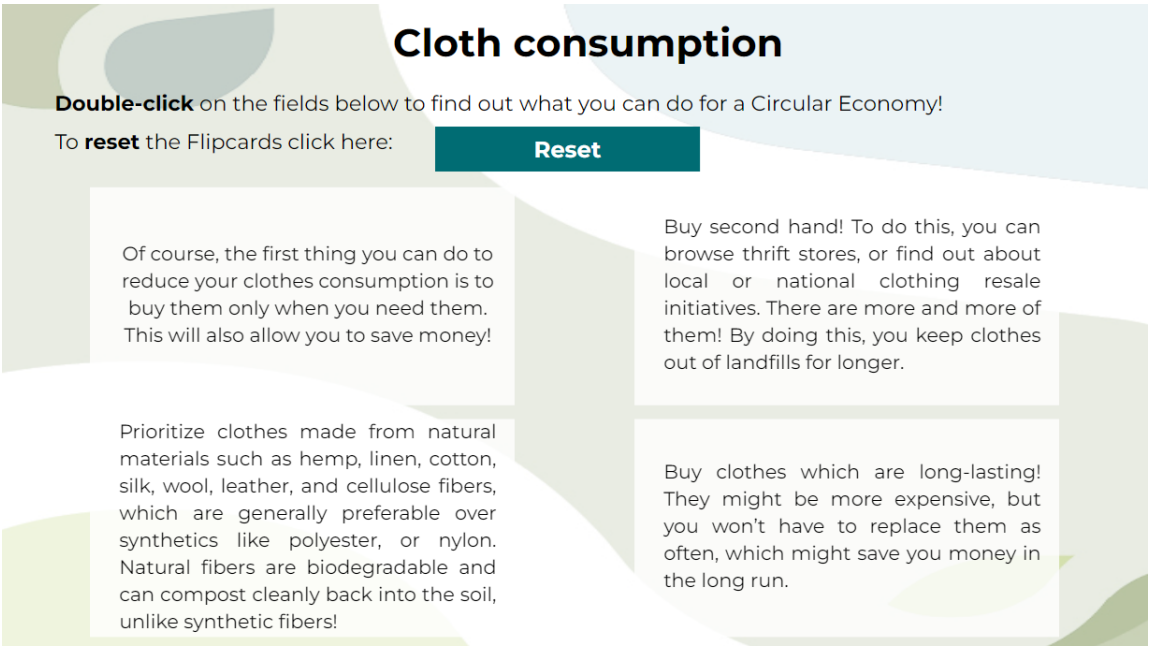


Food Consumption (Slide Layer)

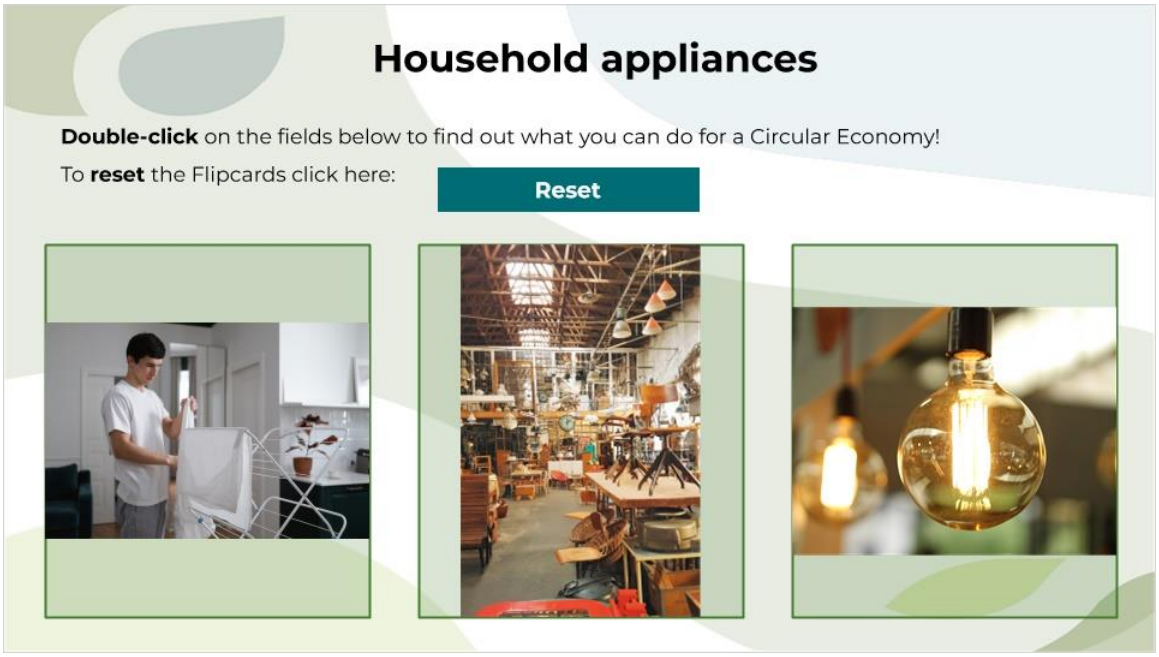


3.2.3 Cloth Consumption

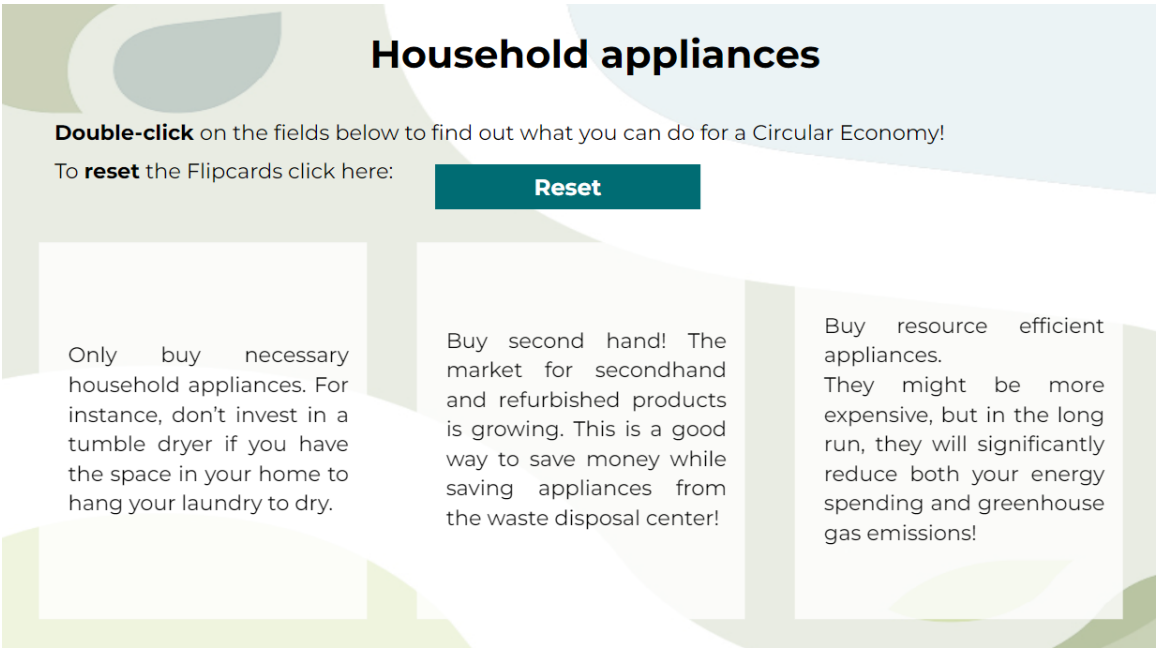
Cloth Consumption (Slide Layer)



3.2.4 Household Appliances



Household Appliances (Slide Layer)

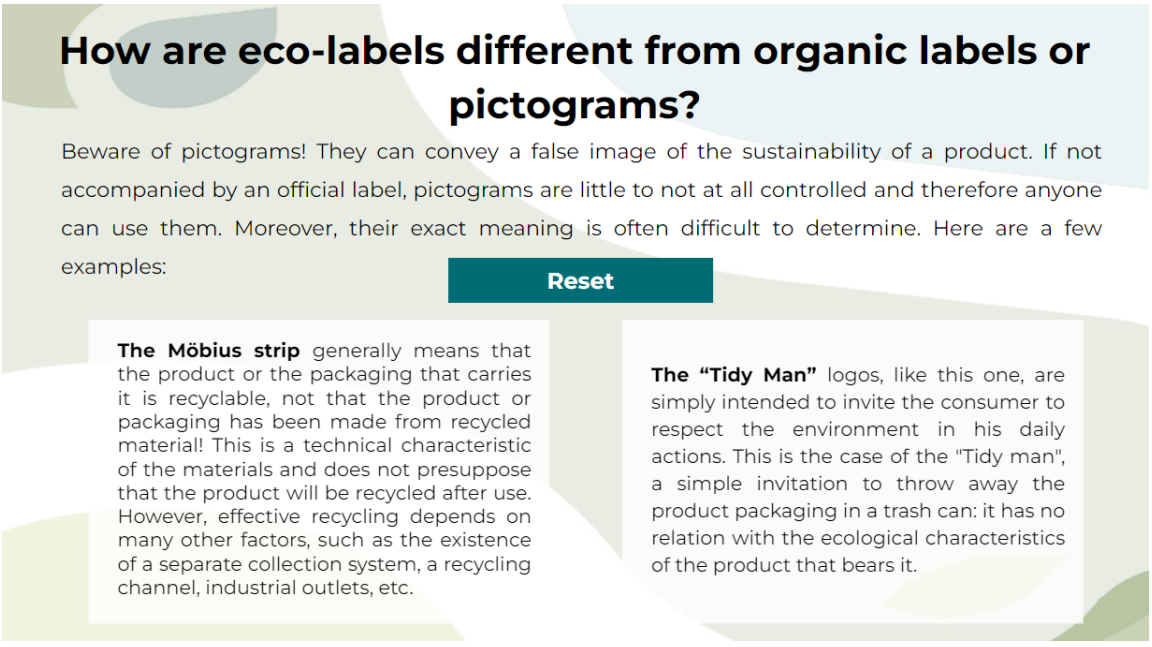


3.2.5 All about Labels

3.2.6 Organic Labels

3.2.7 Difference in Labels

3.2.7 Difference in Labels

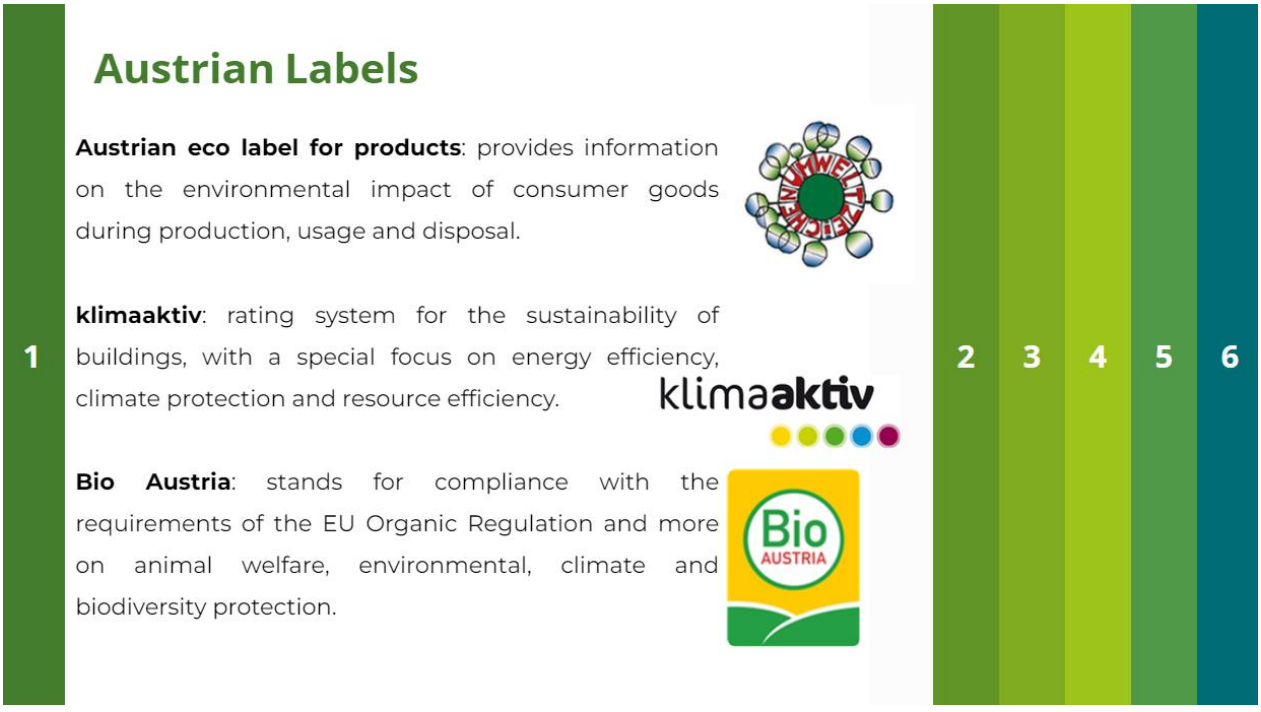


3.2.8 Trust Eco-Labels (1)

3.2.9 Trust Eco-Labels (2)

3.2.10 Examples of Eco Labels

Austrian Labels (Slide Layer)



French Labels (Slide Layer)

1 2

French Labels

NF environment: issued by AFNOR Certification, this label certifies the conformity of various products or services to certain specific requirements of quality of use and ecological quality.

Label français agriculture biologique: created by the Ministry of Agriculture. It certifies that a product contains at least 95% of certified organic agricultural ingredients.

3 4 5 6

German Labels (Slide Layer)

1 2 3

German Labels

Blauer Engel: eco label of the German Federal Government, it is an independent and credible label that sets stringent standards for environmentally friendly products and services.

The Green Button (Grüner Knopf): a government seal for sustainable textiles. What makes it special: It is the first seal that systematically checks whether companies take responsibility for respecting human rights and environmental standards in their supply chains.

4 5 6

Portuguese Labels (Slide Layer)

1 2 3 4

Portuguese Labels

The Green Point Symbol indicates that the product's packaging is recyclable and part of a national sustainability cycle. Manufacturers with this symbol are clients of Sociedade Ponto Verde and contribute financially to ongoing recycling efforts.

Biological agriculture: The Organic Production Mode uses techniques and products compatible with economically viable agriculture and the obtaining of quality products.

5 6

Spanish Labels (Slide Layer)

1 2 3 4 5

Spanish Labels

Certificación Residuo Cero y Desperdicio alimentario cero: recognizes organizations that valorize the different fractions of waste they generate, within the defined scope, preventing them from being disposed of in landfills.

Environmental labels for cars:

6

Conculsion (Slide Layer)

1 2 3 4 5 6

Conclusion

In conclusion, the existing eco-label and organic labels in the EU are vital for promoting sustainable consumption. Eco-labels guide consumers toward eco-friendly products, encouraging businesses to reduce their environmental impact. Meanwhile, organic labels supports organic farming, enhancing biodiversity and animal welfare. Both types of labels drive demand for responsible products, fostering a greener and more ethical future.

3.2.11 Think Global, Act Local! (1)

Think global, act local!

Buying locally supports both community growth and sustainability, making it a key step toward a Circular Economy.

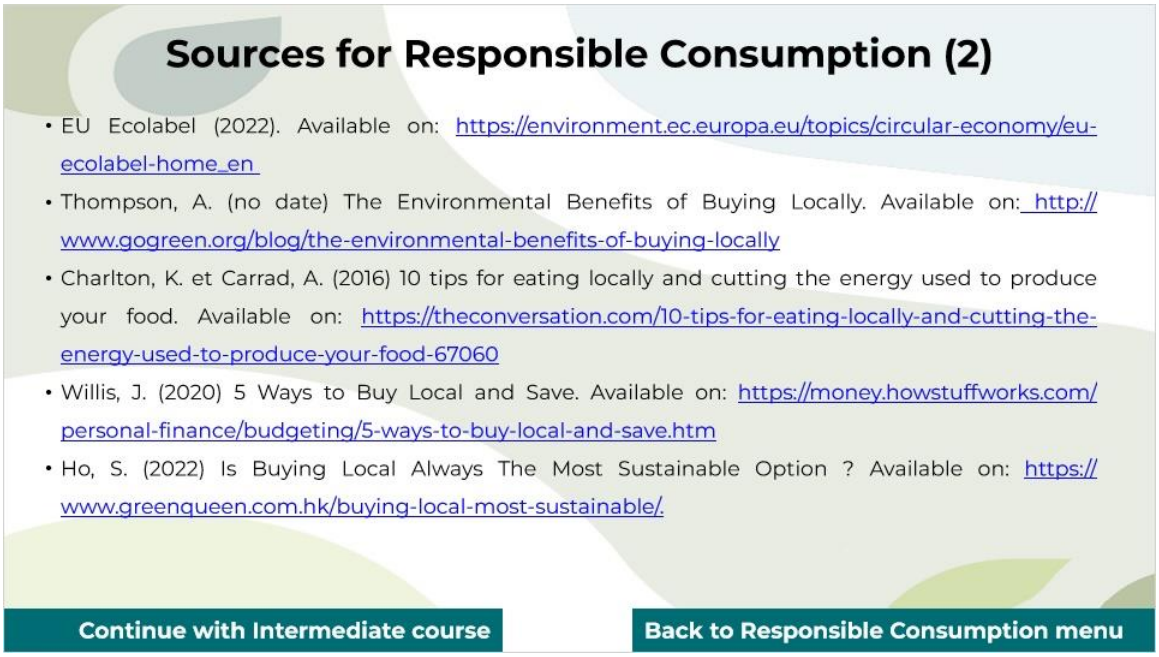
How does it work?

- By **reducing the distance** between the **production site and your plate**, you **reduce the amount of transports** needed for your product to reach its destination, therefore **reducing greenhouse gas emissions** and contributing to improving our carbon footprint.
- A lot of packaging is needed for transportation and distribution. **Buying locally means less packaging**, and less waste!
- It facilitates **tracking the supply chain** back to the point of origin to evaluate ecological practices. It's easier to obtain information on how **items are produced in your town, region or country** than when it is scattered around the world.

3.2.12 Think Global, Act Local! (2)

3.2.13 RC: Beginner Sources (1)

3.2.14 RC: Beginner Sources (2)



Responsible Consumption – Intermediate level

3.3 Greenwashing (1)

How to avoid being tricked by greenwashing

What is greenwashing?

"Behaviour or activities that make people believe that a company is doing more to protect the environment than it really is" - The Cambridge Dictionary

Essentially, it is when a **company conveys a false impression or misleading information about how their products are eco-friendly or sustainable**. It is meant to gain favors with consumers who are willing to support businesses acting in favor of protecting our planet. It is a great **way to attract customers**, and since green products usually have a higher value, it **allows companies to sell them at higher prices on the market**.

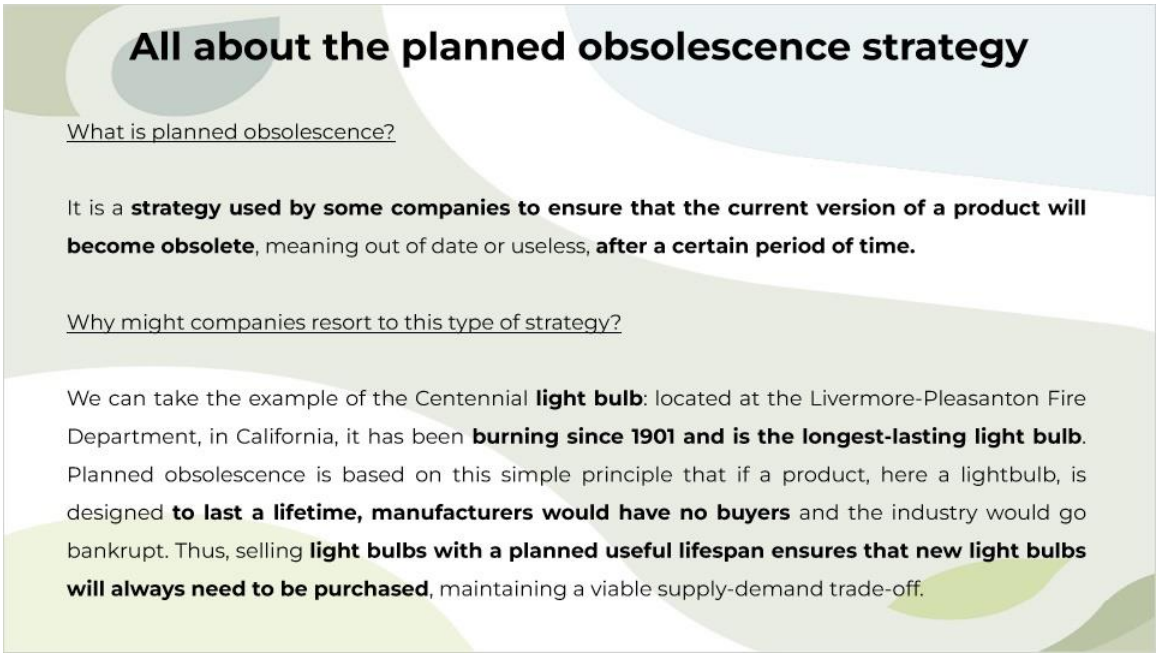
3.3.1 Greenwashing (2)

Examples of Greenwashing techniques

- A curtain is labeled **"50% more recycled content than before**." In fact, the manufacturer **increased the recycled content to 3% from 2%.** Although technically true, the message conveys the false impression that the curtain contains a significant amount of recycled fiber.
- A **plastic package** containing towels is **labeled "recyclable**." It is **not clear whether the package or the towels are recyclable**. In either case, the label is deceptive if **any part of the package or its contents,** other than minor components, cannot be recycled.
- A **trash bag** is labeled "**recyclable**." Trash bags are **not ordinarily separated from other trash** at the landfill or incinerator, so they are **highly unlikely to be used again for any purpose**. The claim is deceptive because it asserts an environmental benefit where **no meaningful benefit exists**.

3.3.2 Greenwashing (3)

3.3.3 Planned Obsolescence (1)



3.3.4 Planned Obsolescence (2)

All about planned obsolescence

There are two ways for companies to implement such a strategy:

- Introducing a **new, superior product**, making the **previous one seem useless;**
- Intentionally designing a product to **cease functioning after a certain period of time.**

Planned obsolescence is **frequently used for electronic devices** such as computers or smartphones, which **usually have a lifespan of 2 or 3 years**. It is also **very common for nylon stockings or cars**, for instance.

3.3.5 Planned Obsolescence (3)

All about planned obsolescence

Here are some examples of planned obsolescence:

- **Making goods irreparable**: some electronic **products are designed so that they cannot be repaired** or that some of their parts cannot be replaced. Therefore, if the product is faulty, you have **no other choice than to replace it**.
- **Incompatibility**: technology can advance fast, and sometimes comes a point when we can **no longer update the software of our device**, because it **becomes incompatible**. Some apps and programs, which require the update, therefore **become slow and unstable**.
- **Irreplaceable batteries**: many electronic equipment use batteries that are subject to **wear-and-tear and sometimes can't be directly replaced by the user**. As the **replacement by a technical service can be costly**, it leads many users to simply consider the **purchase of a new device.**

3.3.6 Planned Obsolescence (4)

All about planned obsolescence

So what can you do to fight planned obsolescence?

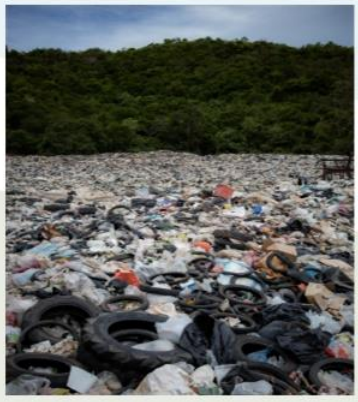
- Accept that your smartphone or computer might work a little slower, but keep it as long as it functions.
- Try to avoid brands which are known for using planned obsolescence as a strategy. Instead, turn to brands that are more sustainable. For example, the brand Fairphone developed a smartphone which is built from sustainable material and whose parts can be individually replaced very easily, instead of throwing away your phone when it doesn't work!

3.3.7 Zero-Waste (1)

What if we tried going zero-waste?

What is zero-waste?

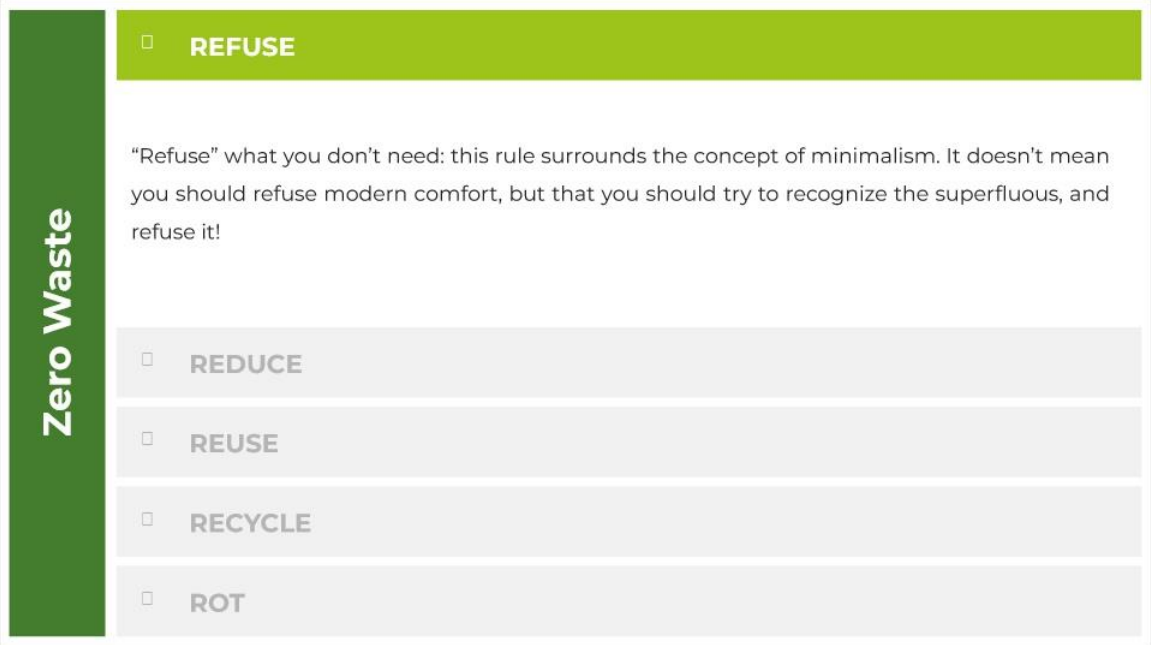
"Zero waste: The conservation of all resources by means of responsible production, consumption, reuse, and recovery of products, packaging, and materials without burning and with no discharges to land, water, or air that threaten the environment or human health." - The Zero Waste International Alliance (ZWIA)



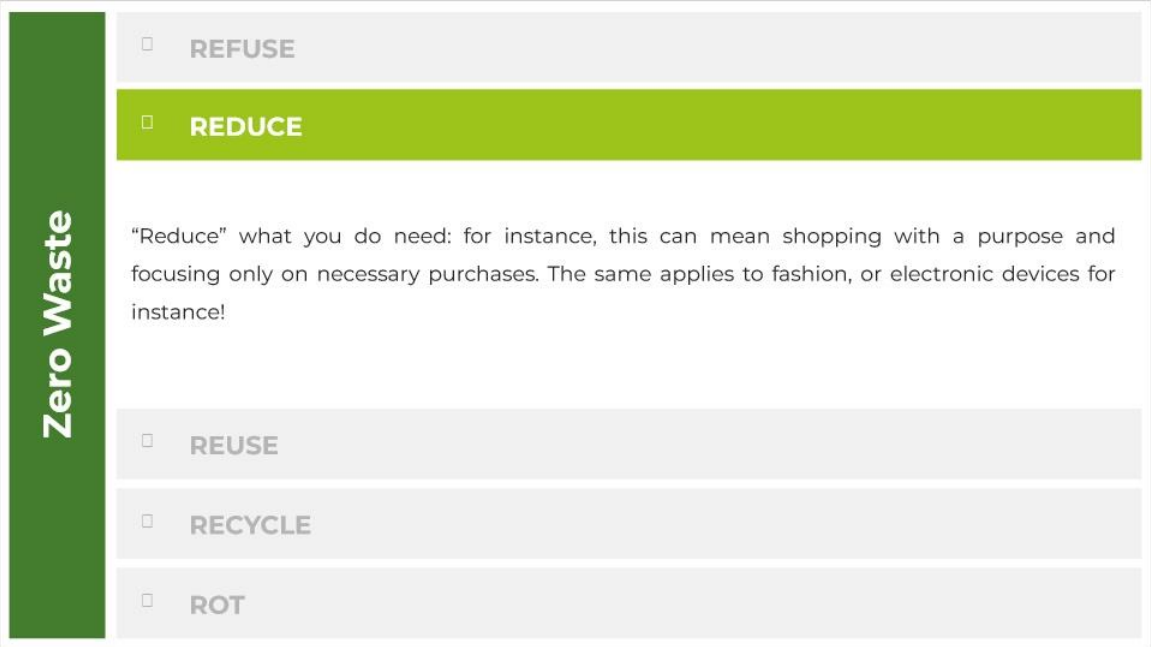
Disclaimer: Zero-waste is a goal, not an overnight change. It's about reducing waste step-by-step by following the 5 Rs, which we'll detail on the next page as part of the Circular Economy.

3.3.8 Zero-Waste (2)

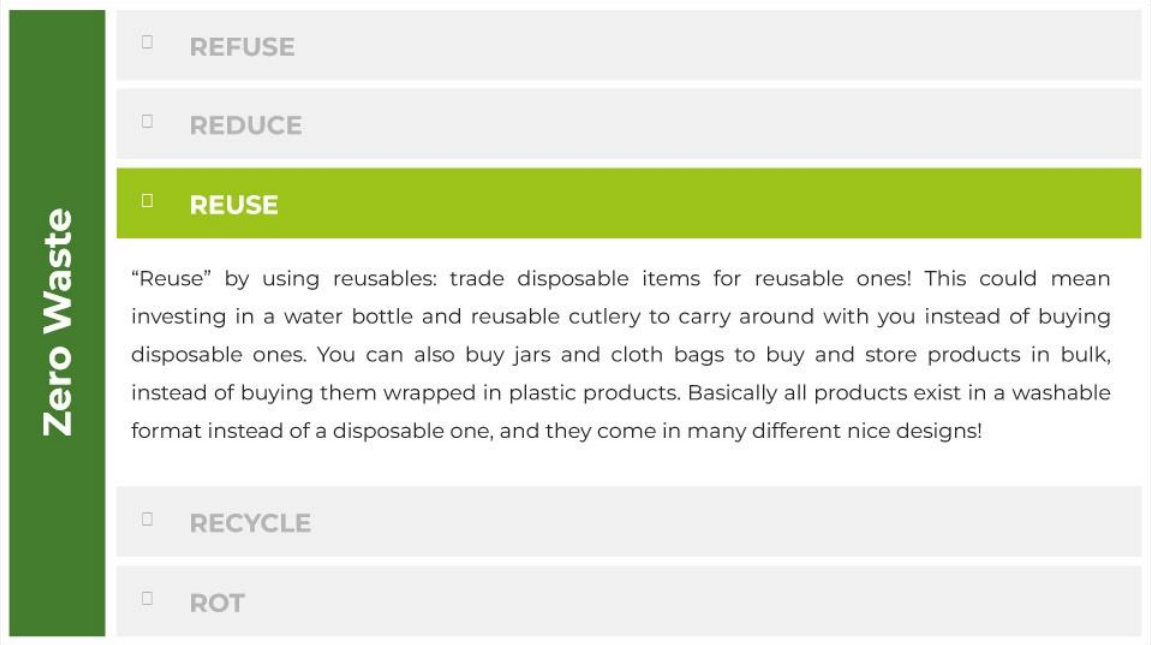
Refuse (Slide Layer)



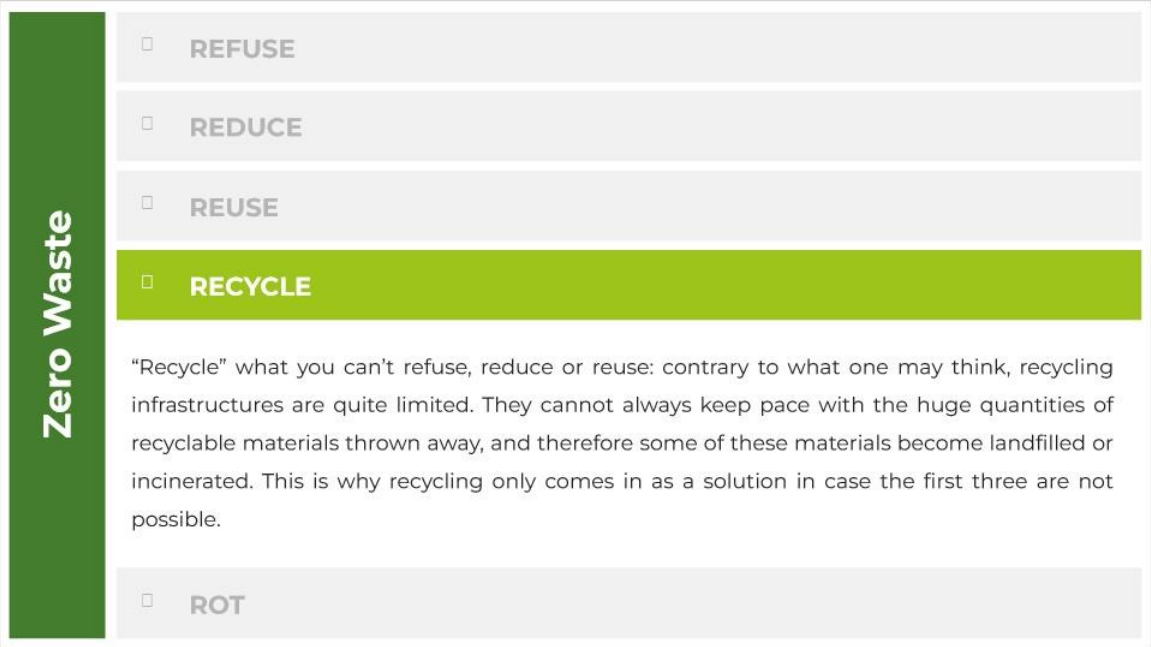
Reduce (Slide Layer)



Reuse (Slide Layer)



Recycle (Slide Layer)



Rot (Slide Layer)

3.3.9 Collaborative Consumption (1)

Let's talk collaborative consumption!

The collaborative economy, also called the sharing economy, peer-to-peer economy or collaborative consumption, has been there for centuries. Knock at your neighbor's door if you need to borrow their lawnmower or give a ride to your colleague on your way home from work.

Such examples are endless, but this offers a new business model to consumers who are now used to ownership and buying.

3.3.10 Collaborative Consumption (2)

Collaborative consumption

The **sharing economy** is based on the **sharing of human and physical resources** such as creation, production, distribution, trade and consumption of goods and services. Thanks to internet platforms as well as information and communication applications, **more individuals can rent, share, swap, barter, trade, or sell access to products or services without any limitations** to our circle of friends, family, or even strangers in our geographic location. These **efforts** can be a great way:

- **To consume less**: no need to buy if you can borrow!
- **To reduce waste:** if 5 families decide to buy and share 1 bicycle pump, it's 4 less bicycle pumps that will end up in the trash can!
- **To create communities** and bring people closer together!

3.3.11 Collaborative Consumption (3)

Car-pooling & car-sharing (Slide Layer)

Lending and borrowing (Slide Layer)

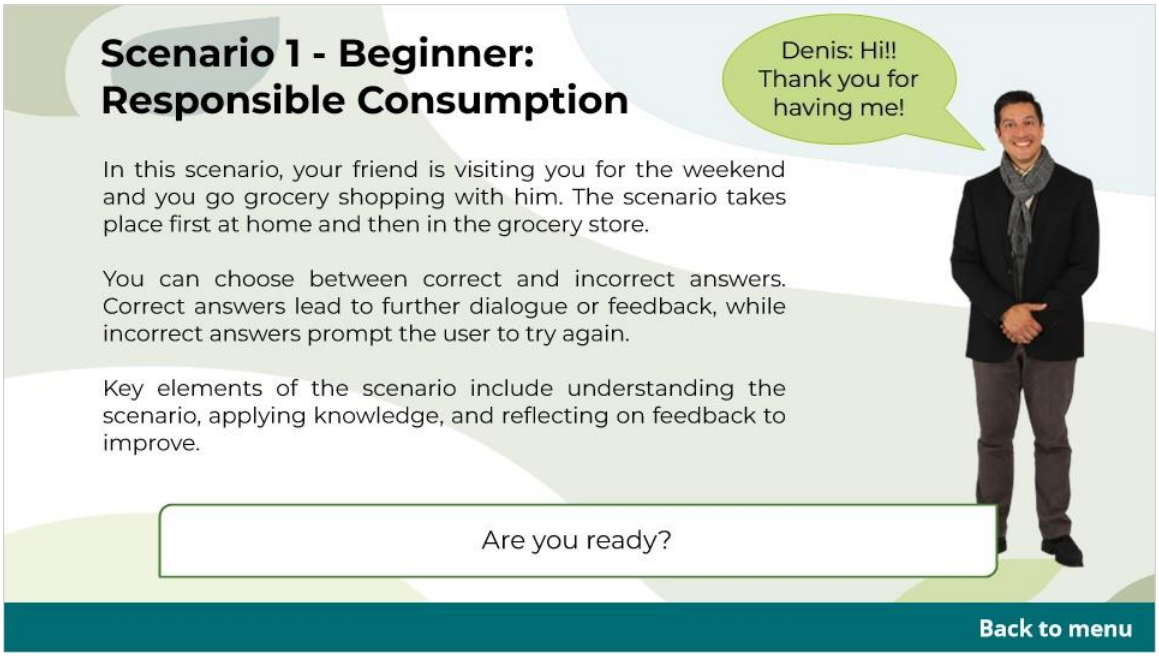
Create a review process (Slide Layer)

3.3.12 RC: Intermediate Sources (1)

3.3.13 RC: Intermediate Sources (2)

3.4 Beginner Scenario Responsible consumption

3.4.1 RC: Scenario - Beginner



3.4.2 RC: Scenario - Beginner

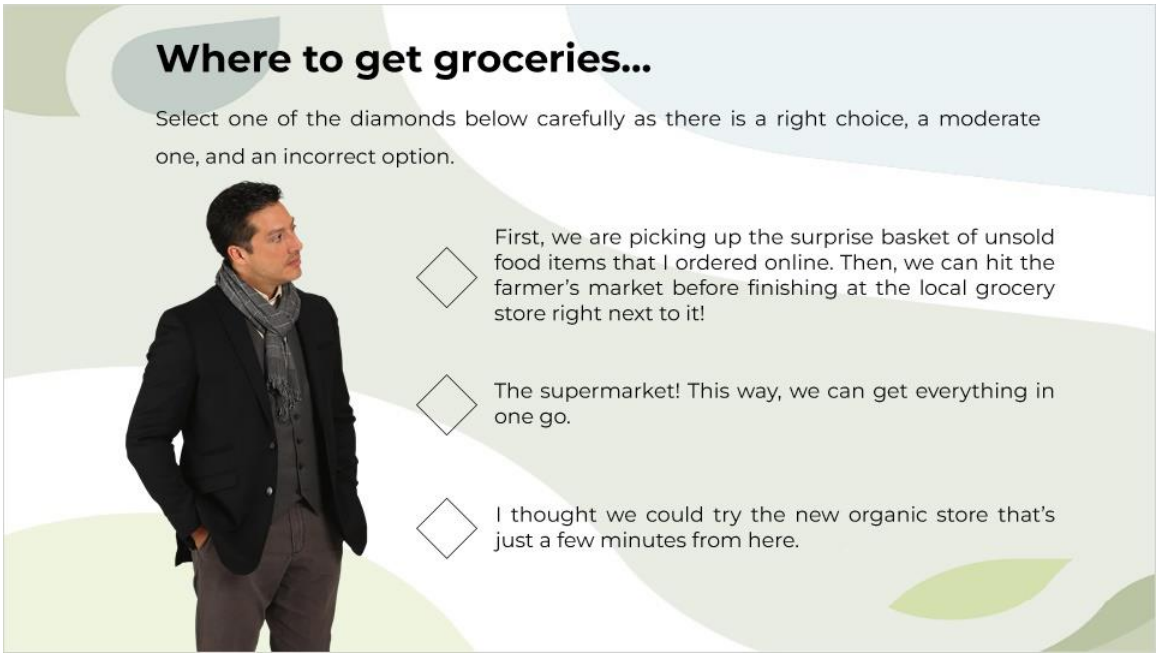
3.4.3 RC: Scenario - Beginner: Question 1

(Pick One, 10 points, 2 attempts permitted)

3.4.4 RC: Scenario - Beginner

3.4.5 RC: Scenario - Beginner: Question 2

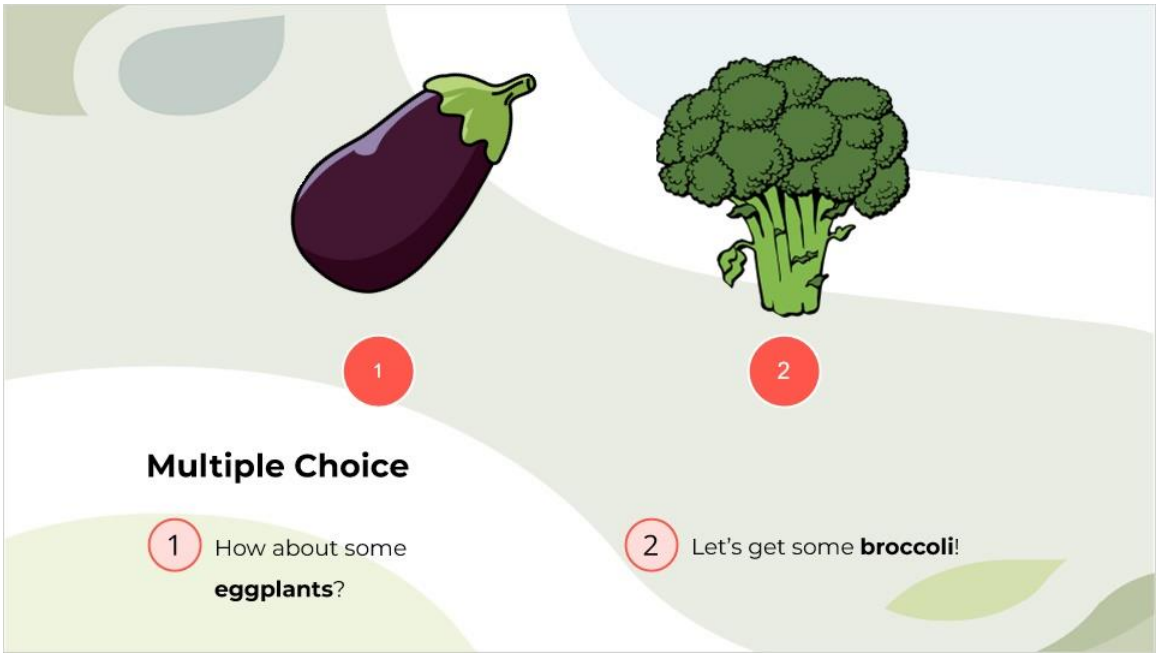
(Pick One, 10 points, 2 attempts permitted)



8.6 3.4.6 RC: Scenario - Beginner

3.4.7 RC: Scenario - Beginner: Question 3

(Pick One, 10 points, 2 attempts permitted)



3.4.8 RC: Scenario - Beginner

3.4.9 RC: Scenario - Beginner: Question 4

(Pick One, 10 points, 2 attempts permitted)

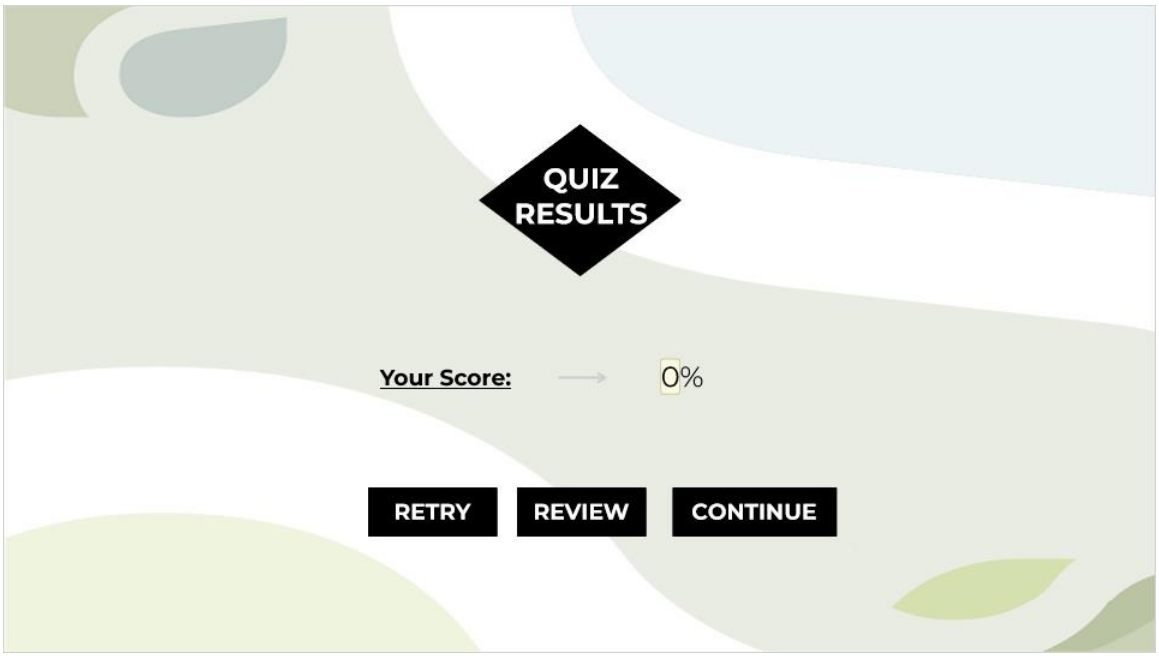
3.4.10 RC: Scenario - Beginner

3.4.11 RC: Scenario - Beginner: Question 5

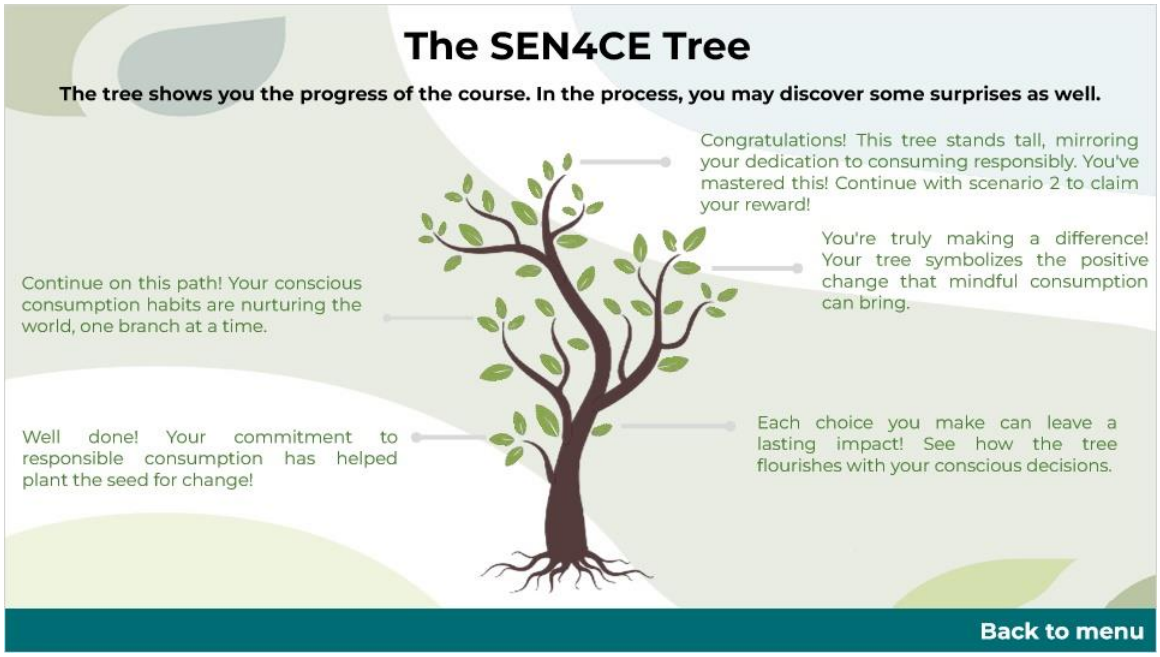
(Pick Many, 10 points, 1 attempt permitted)

3.4.12 RC: Scenario - Beginner (Quiz results)

(Results Slide, 0 points, 1 attempt permitted)

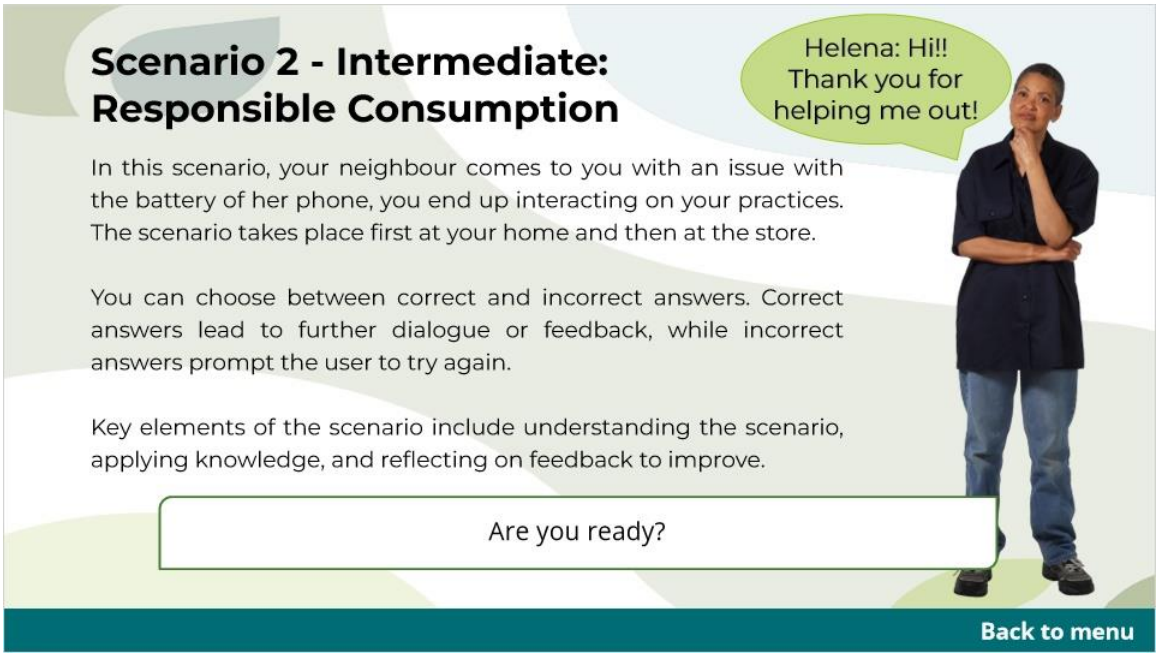


3.4.13 RC: Scenario - Beginner (SEN4CE Tree)



3.5 Intermediate Scenario Responsible consumption

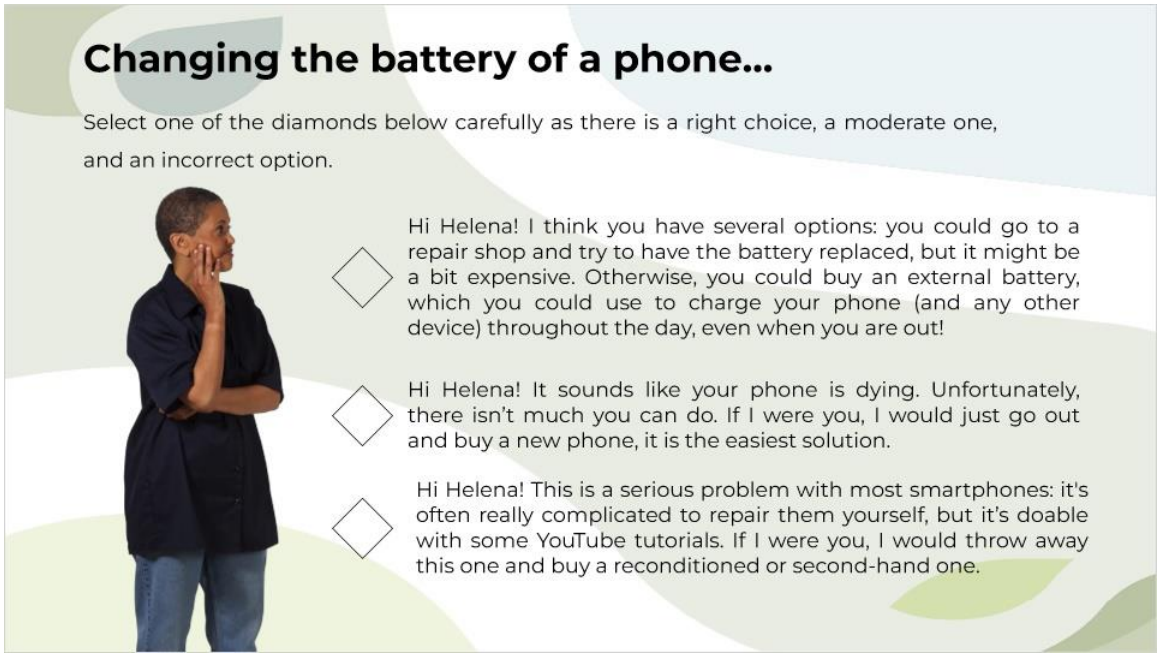
3.5.1 RC: Scenario - Intermediate



3.5.2 RC: Scenario - Intermediate

3.5.3 RC: Scenario - Intermediate: Question 1

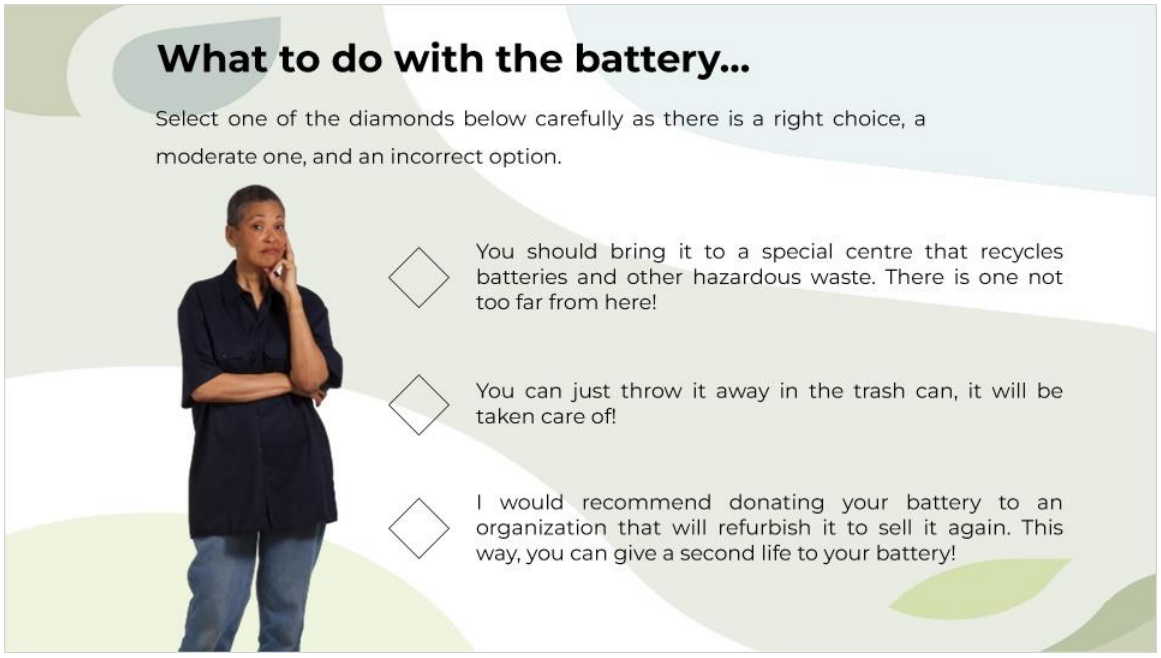
(Pick One, 10 points, 1 attempt permitted)



3.5.4 RC: Scenario - Intermediate

3.5.5 RC: Scenario - Intermediate: Question 2

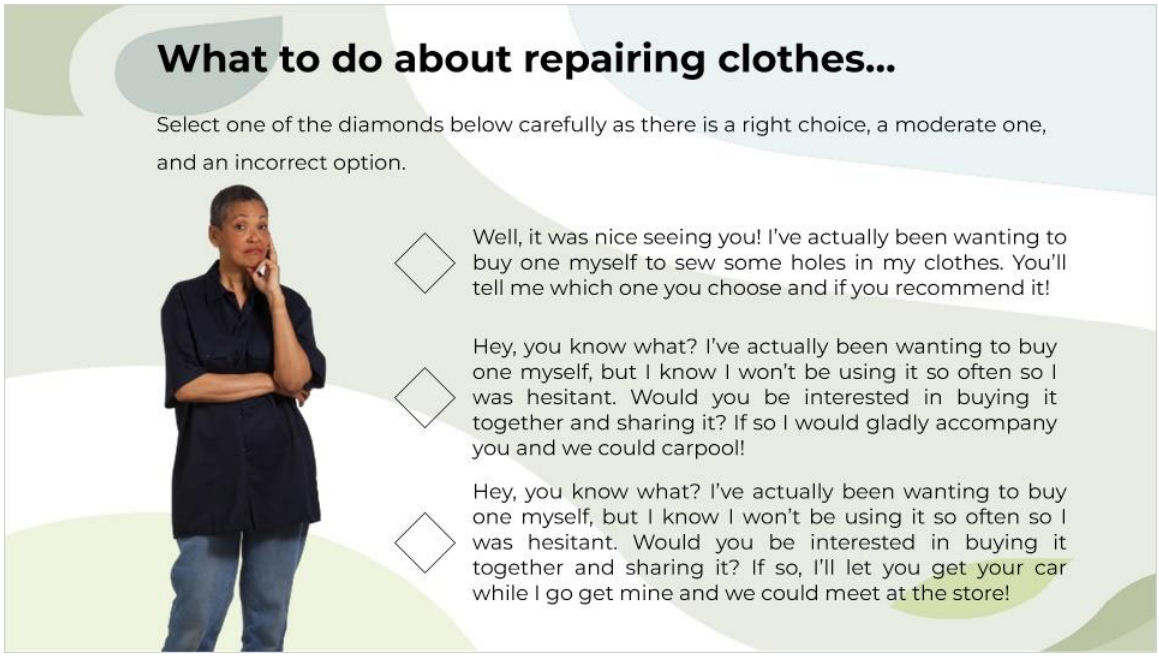
(Pick One, 10 points, 1 attempt permitted)



3.5.6 RC: Scenario - Intermediate

3.5.7 RC: Scenario - Intermediate: Question 3

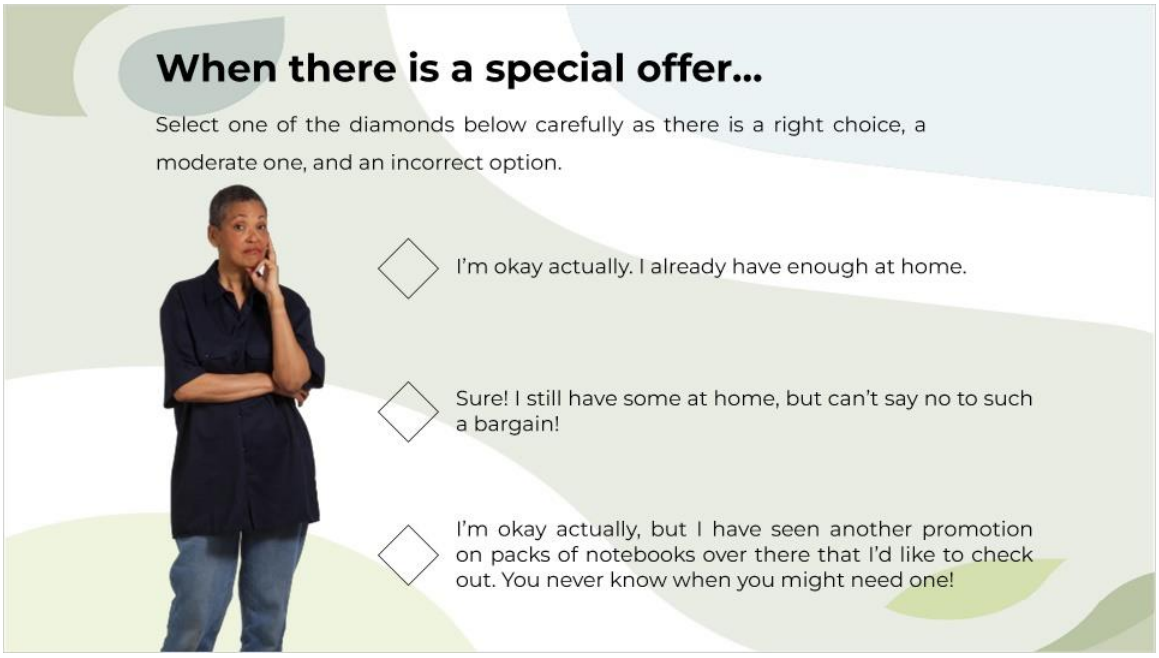
(Pick One, 10 points, 1 attempt permitted)



9.8 3.5.8 RC: Scenario - Intermediate

3.5.9 RC: Scenario - Intermediate: Question 4

(Pick One, 10 points, 1 attempt permitted)



3.5.10 RC: Scenario - Intermediate

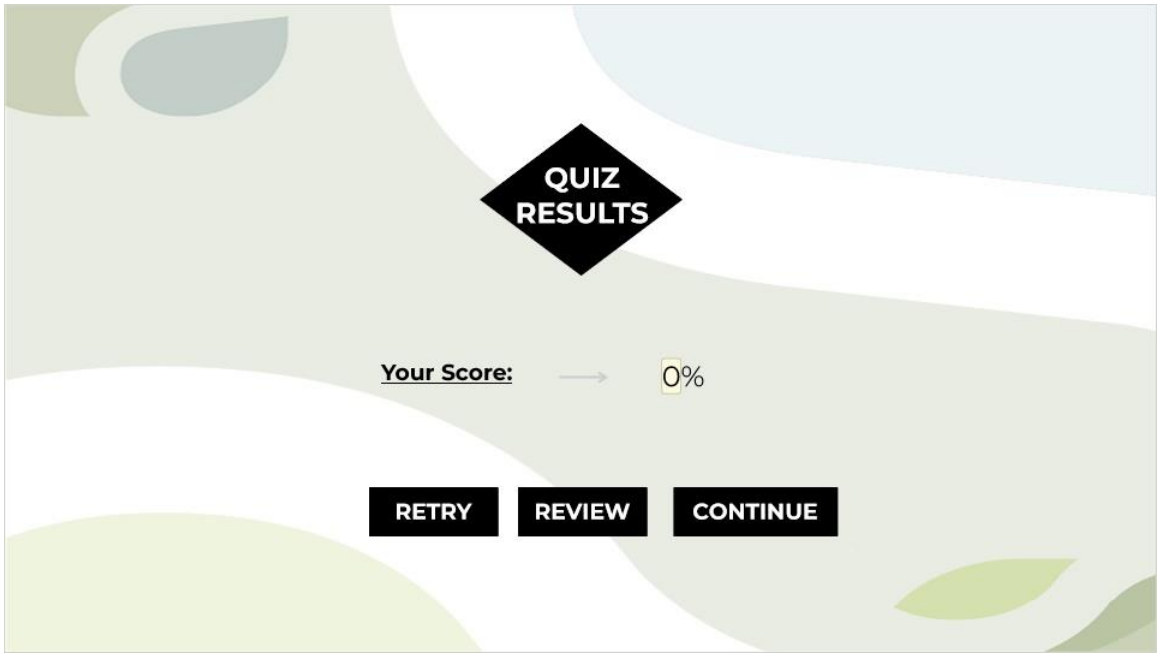
3.5.11 RC: Scenario - Intermediate

3.5.12 RC: Scenario - Intermediate: Question 5

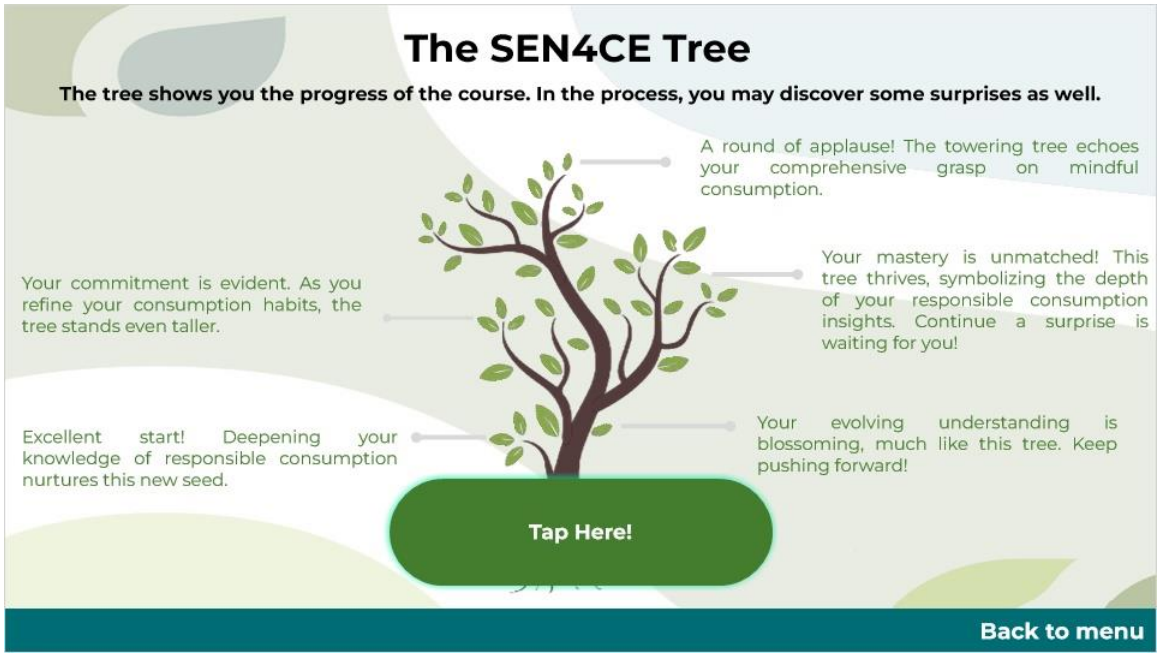
(Pick One, 10 points, 1 attempt permitted)

3.5.13 RC: Scenario - Intermediate (Quiz Results)

(Results Slide, 0 points, 1 attempt permitted)



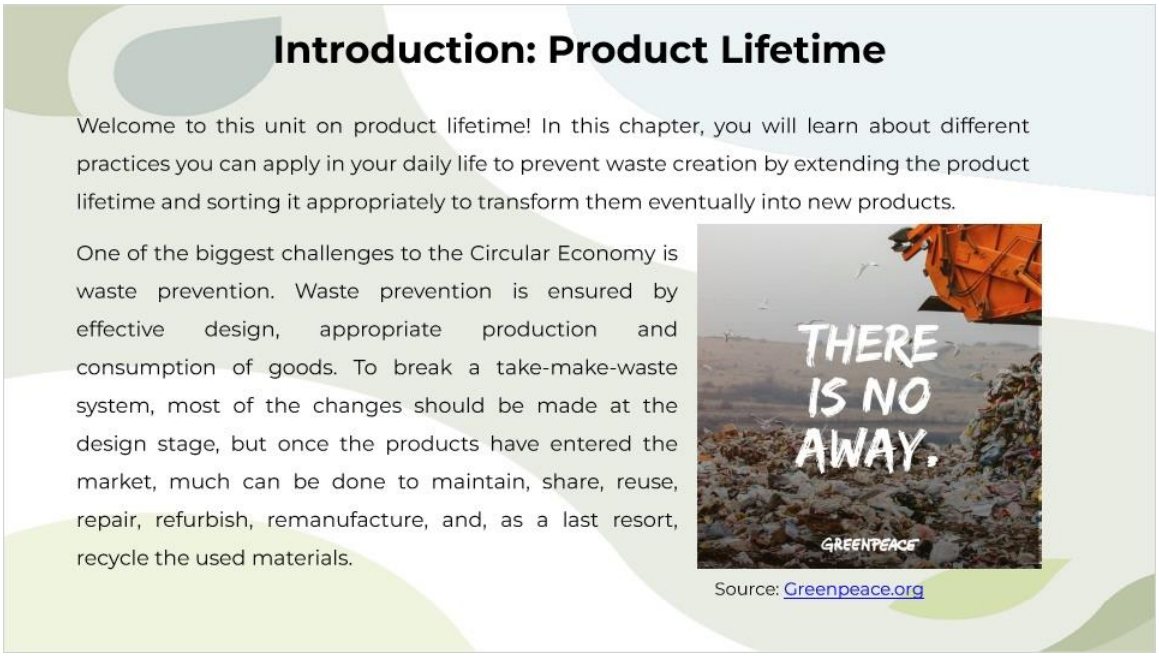
3.5.14 RC: Scenario - Intermediate (SEN4CE Tree)



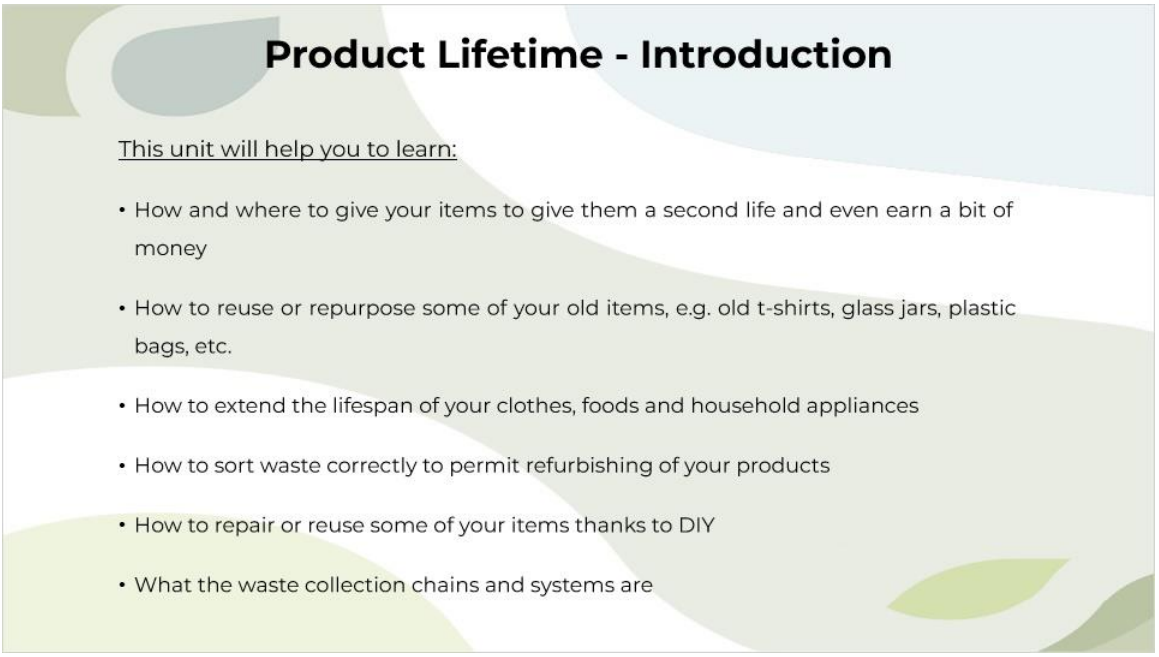
4. Product Lifetime

4.1 Product lifespan (PL) Menu

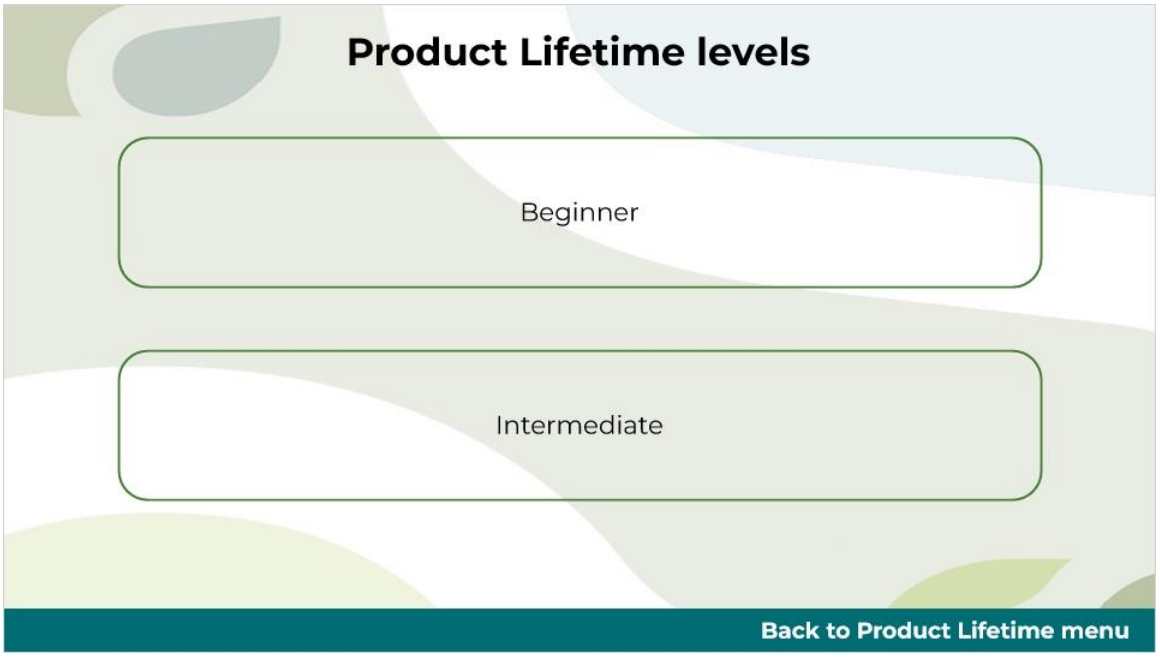
4.1.1 PL Introduction



4.1.2 PL Introduction



4.1.3 PL - Overview level



Product Lifetime – Beginner level

4.2 Share it to prevent waste! (1)

Share it to prevent waste!

The **sharing economy** is based on the **sharing of human and physical resources** such as **creation, production, distribution, trade and consumption of goods and services**. Thanks to Internet platforms as well as information and communications applications, more individuals can **rent, share, swap, barter, trade, or sell access to products or services** without any limitations to our circle of friends or geographic location. These efforts **prevent waste creation** since **fewer individuals possess and purchase items**, and thus brings our **society closer to the Circular Economy.**

Image retrieved from: Freepik.com

4.2.1 Share it to prevent waste! (2)

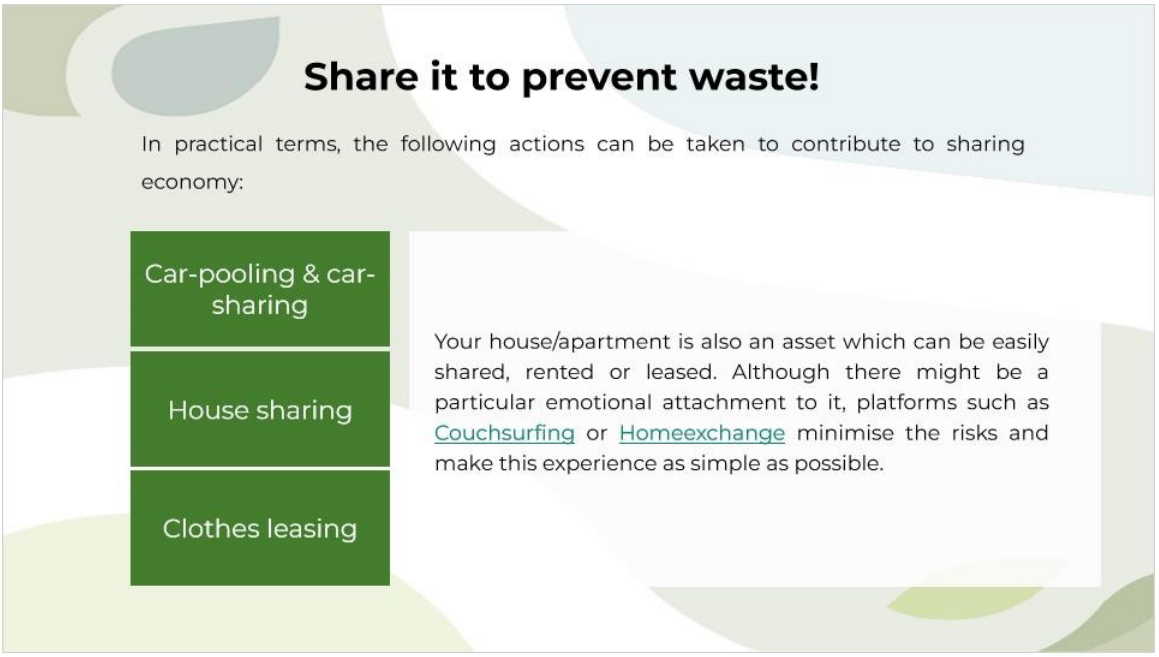
Share it to prevent waste!

In practical terms, the following actions can be taken to contribute to sharing economy:

- Car-pooling & car-sharing
- House sharing
- Clothes leasing

Car-pooling & car-sharing (Slide Layer)

House renting (Slide Layer)



Clothes leasing (Slide Layer)

4.2.2 Material donations (1)

4.2.3 Material donations (2)

4.2.4 Reuse and repurpose strategies

Old glass jars (Slide Layer)

1

Old glass jars

Glass jars can be used as containers for cereals, jewelery or spices, vases, candles, cups, fermentation crock, shaker for dressings or DIY cosmetics, sewing kit or button holder;

2 3 4 5 6

Old textile (Slide Layer)

1 2

Old textile

Old T-Shirts can become rags, dusters, face wipes, toys for your pets, bowl covers, even a tote bag if you add up a bit of creativity;

3 4 5 6

Paper (Slide Layer)

1 2 3

Paper

Old newspapers can be used for packaging, cleaning windows or any other glass, lining pet cages or bins;

4 5 6

Plastic (Slide Layer)

1 2 3 4

Plastic

Plastic bags can be used to line bins, keep dirty or wet clothes, put your shoes in suitcases, and buy fruits and vegetables in stores.

5 6

Organics (Slide Layer)

1 2 3 4 5

Organics

Coffee grounds are a marvelous thing to reuse in the garden, for cosmetic purposes or for everyday cleaning. For example, by mixing coffee grounds with very hot water we can make the water drain better in the sink, and by rubbing them we can deodorise our hands and other surfaces such as the fridge.

6

Household items (Slide Layer)

1 2 3 4 5 6

Household items

Repurposing Toothbrushes: Toothbrushes make ideal scrubbers for hard-to-reach-places. They allow me to clean in and around sink fixtures and the hinges on the toilet seat, in and around the keys on my computer keyboard, into all sorts of corners, and into the smaller parts of my bicycle (including the chain). They scrub mud (and worse) from the treads of athletic shoes and boots.

4.2.5 Extend products lifetime (1)

4.2.6 Extend products lifetime (2)

Dates (Slide Layer)

1

Dates

Grasp the difference between use-by dates and best-before dates: some of the products can be easily eaten after an expiration date safely. Usually, the “sell-by” date indicates how long the product can be sold, the “best if used by” date applies to the best quality, while the “use-by” date signifies when the product is no longer at peak quality, according to the manufacturer. The best way to check whether a food has gone bad is to smell it or inspect it carefully.

2 3 4 5 6

Apps (Slide Layer)

1 2

Apps

Get informed on different applications which put in contact professionals and regular users on unsold surplus food, flowers and other items. Among the most famous apps are TooGoodToGo and Phenix available in numerous countries, but there are surely some other ones to be discovered to save money and expand the product lifetime (available in Project Result 3 - Digital CE tools for seniors).

TOO GOOD TO GO

Phenix

3 4 5 6

Storage (Slide Layer)

1 2 3

Storage

Understand which food should be stored in a refrigerator or in a dry cupboard place to keep it fresh longer. In addition, it might be worth checking out how to place your food better in a refrigerator, i.e. putting the most resistant to spoiling food on the doors, placing leftovers, drinks, and ready-to-eat foods at the upper shelves, whereas putting raw meat, eggs, seafood, and other dairy at the lower shelves with the coldest temperatures.

4 5 6

Vegetables (Slide Layer)

1 2 3 4

Vegetables

Check out some tips on how to store different types of vegetables to keep them fresh longer. According to some data, more fruits and vegetables are thrown away than consumed. Placing apples away from other fruits and veggies (or protecting them with some plastic bags), putting paper towels in the salad drawer, or freezing some veggies such as chopped dry green onions or some berries may also be a great solution to keep your products last longer.

5 6

Seasonal food (Slide Layer)

1 2 3 4 5

Seasonal food

Seasonal food. Consuming seasonal vegetables and fruit, grown when the climate is favourable for them, has many advantages, not only for our health but also for our planet, as the carbon footprint of food production is lower for seasonal products. A good example of the difference in how produce has its carbon footprint is tomatoes. When we grow them locally, but out of season, i.e. in heated greenhouses, their carbon footprint is higher and then they are transported.

6

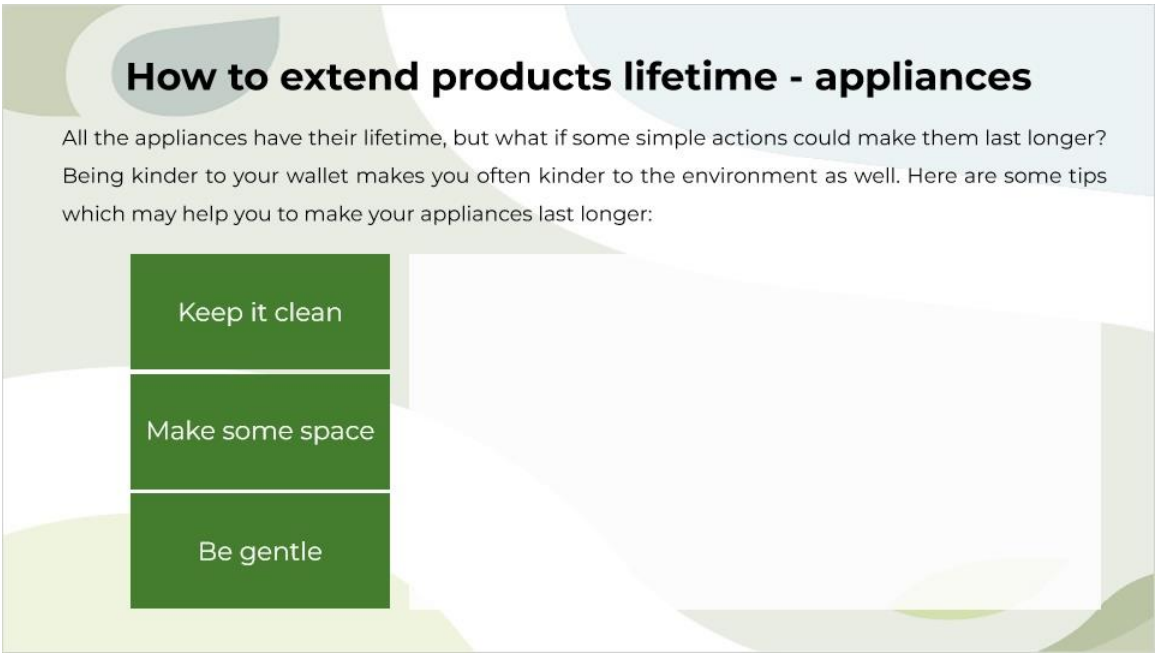
Food scraps (Slide Layer)

1 2 3 4 5 6

Food scraps

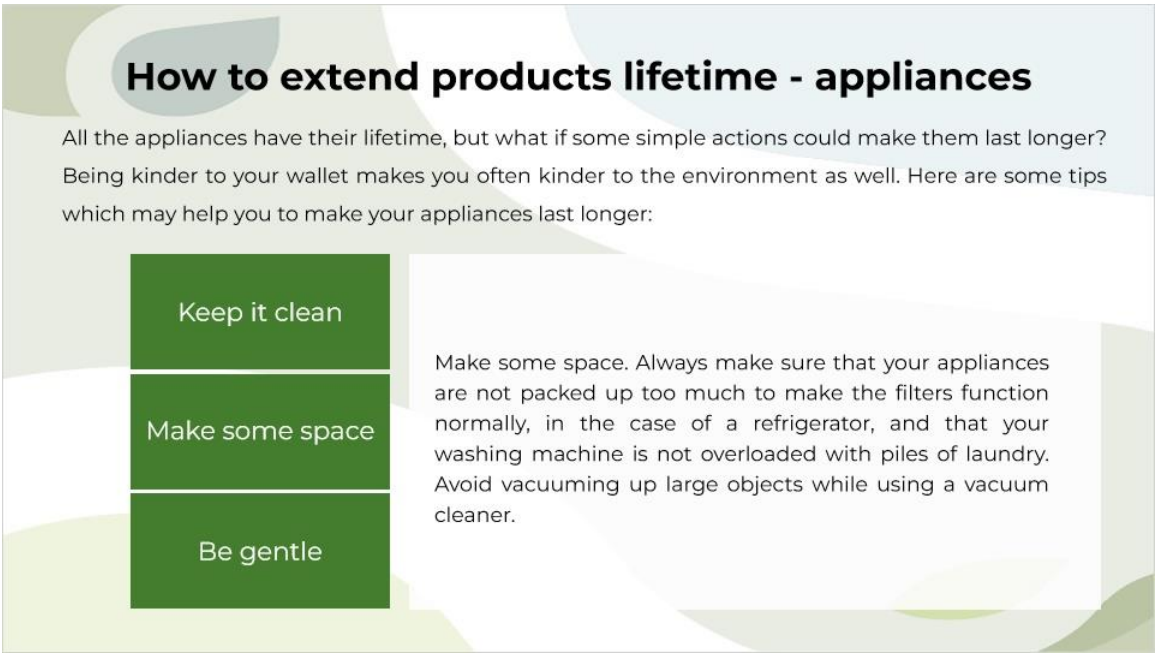
What to do with food scraps? Peels of vegetables can be used to cook vegetable soup, some plants can even be regrown from scraps. Non-meat scraps can be composted, either in the municipality or you can start your own compost. Check out more tips and ideas on how to do it in the Further reading section.

4.2.7 Extend products lifetime (3)



Keep it clean (Slide Layer)

Make some space (Slide Layer)

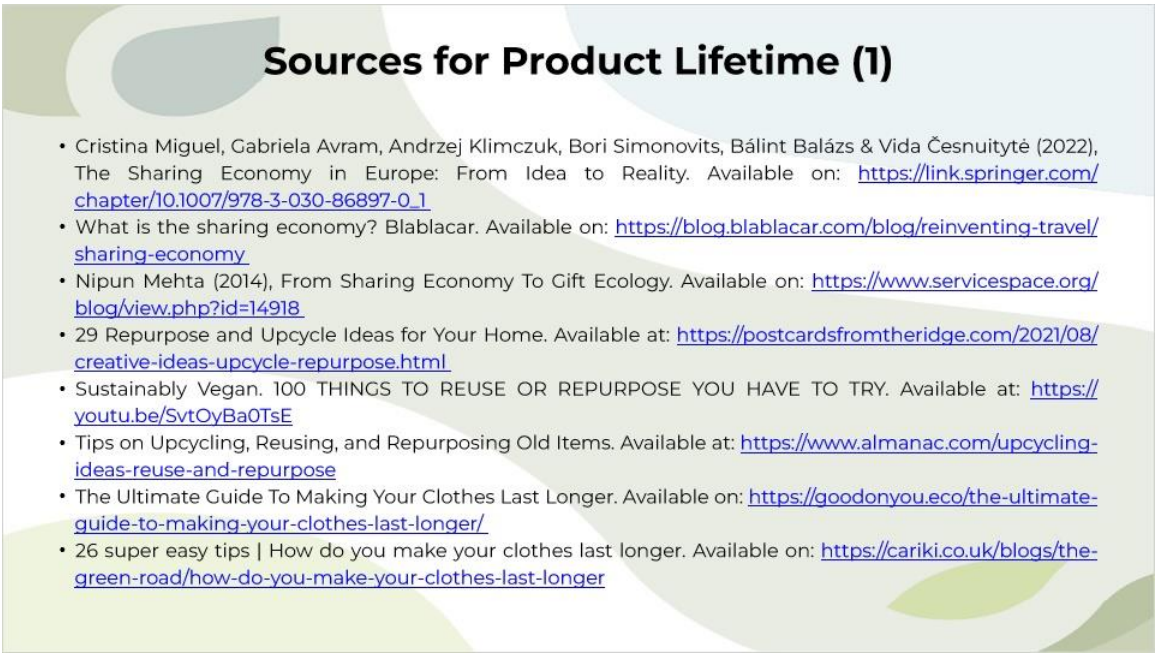


Be gentle (Slide Layer)

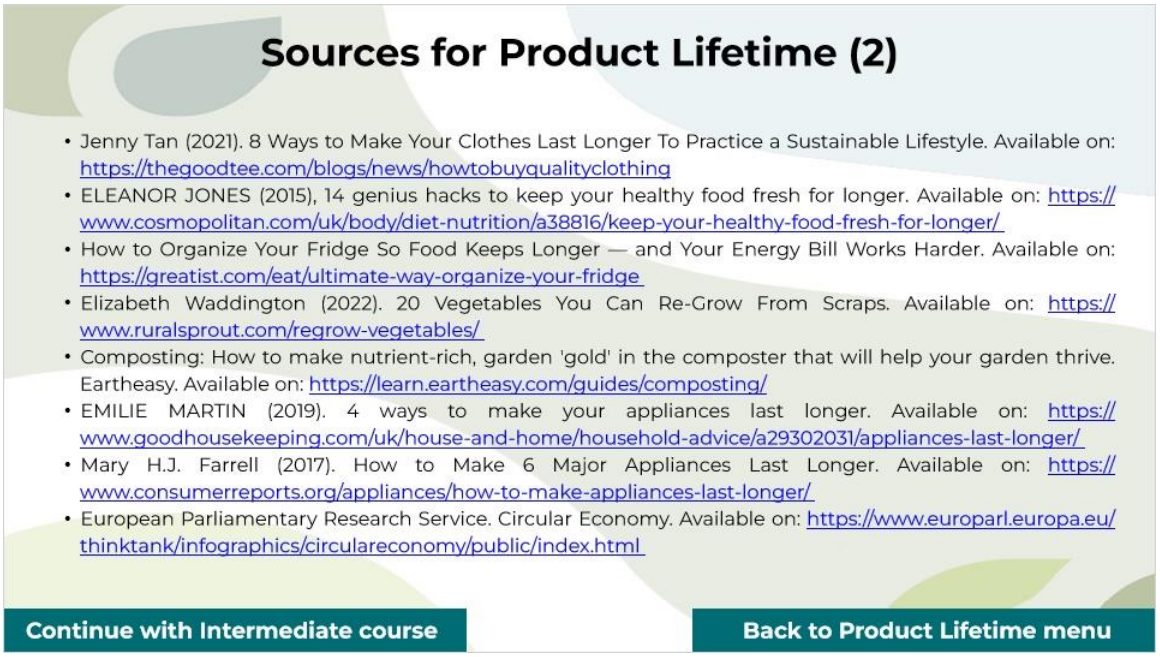
4.2.8 Waste sorting

4.2.9 Waste seperation

4.2.10 PL Beginner Sources (1)



4.2.11 PL Beginner Sources (2)



Product Lifetime – Intermediate level

4.3 Repair & Repurpose (1)

Repair & repurpose (Do-it-yourself)

If you are ready to take up a bit more effort on **repairing and reusing** activities to embrace a Circular Economy and save up on your expenditures, here are **some tips** which may be of good use to you:

- **Old clothes** can be used for **oven mitts, doll clothes, packaging for gifts or as materials** for creating new clothes if you know how to sew. For those who want to go further, some **embroidering or patching** can be done to **hide a stain or make your old clothes special**, giving them a **second life**. Just type DIY ideas on your search engine and you'll find a lot of ideas on how to turn your pants into a dress and vice versa.

4.3.1 Repair & Repurpose (2)

Repair & repurpose (Do-it-yourself)

- **Furniture**: swap out a **chair seat with some fabric, paint your bookshelf or a table, create hanging space, or attach your baskets to the wall** to create some extra space for your towels. The ideas are endless, just look around you and think of how you could give your furniture a distressed look or use it differently with the tools you already have.
- Millions of **ideas on DIY home decoration** are available on Pinterest and require nothing but your interest and time. Putting some **dry flowers into glass jars or a bottle** can make a lovely decoration object bringing up some life and joy into your apartment. The same goes for old newspapers and cartons which can be easily used to **make up some decoration elements**.

Remark: Do not forget to share your results with the others, either on social media or while talking, to inspire them to do some fun and interesting sustainable DIY activities.

4.3.2 Waste management

Waste collection (Slide Layer)

Waste incineration (Slide Layer)

Waste incineration

Waste incineration implies that waste can be used as fuel when it is burnt and heat is recovered properly. This energy can be used for electricity production, whereas ashes can be employed in roads and metal production. Incineration reduces the amount of waste up to 95%, which is particularly relevant for densely populated countries. However, according to some studies, while incinerating, energy is frequently not recovered properly, whereas some elements emitted during this process have negative effects on human health, i.e. respiratory issues, cancer, etc. In addition, waste incineration is not a cheap solution, and entry and maintenance costs do not make it ideal either.

Hover over the following option to find out possibilities to save energy at home!

Waste collection	Waste incineration	Landfills	European waste separation

Landfills (Slide Layer)

Landfills

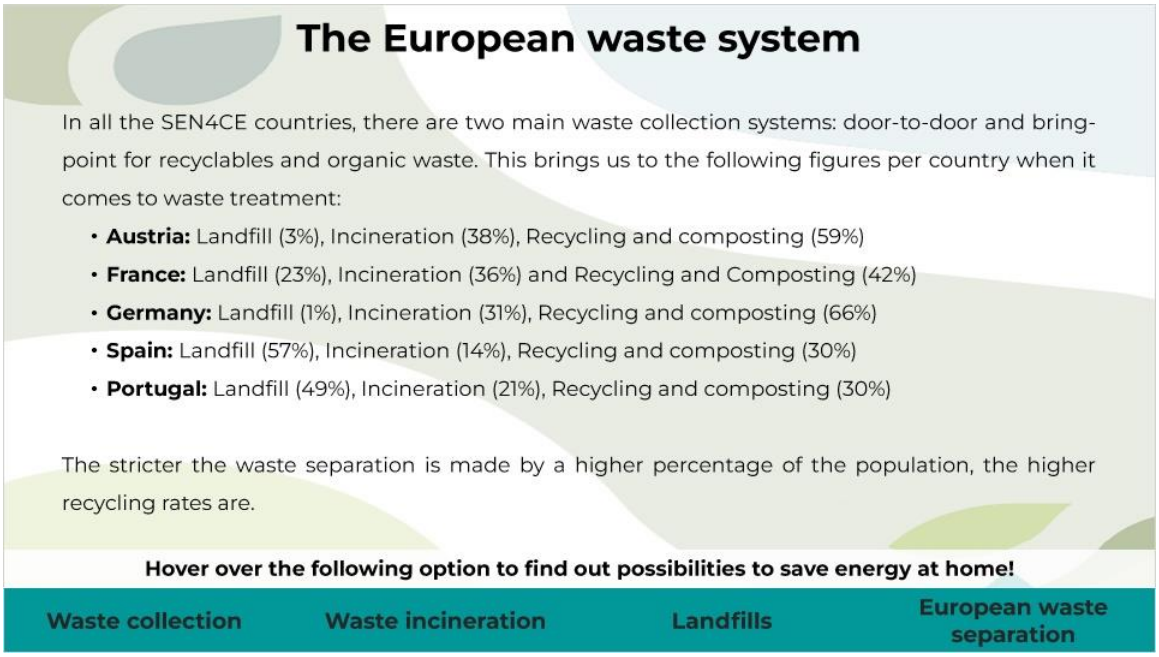
Landfills, in the meantime, are a more affordable solution, since they do not require complex equipment or procedures and are easier to use. Nevertheless, landfilled waste produces methane gas, which is harmful to the environment and dangerous because of its inflammable characteristics. Landfills contaminate soil, water, threaten wildlife and affect human health for those who are exposed to them for a prolonged period of time as for the workers or people living nearby, increasing risks of cancer, respiratory issues, etc.

Dumping trash into landfills is definitely not a solution if we want to keep our planet a livable and decent place for present and future generations. Better sorting can help recycle stuff more appropriately.

Hover over the following option to find out possibilities to save energy at home!

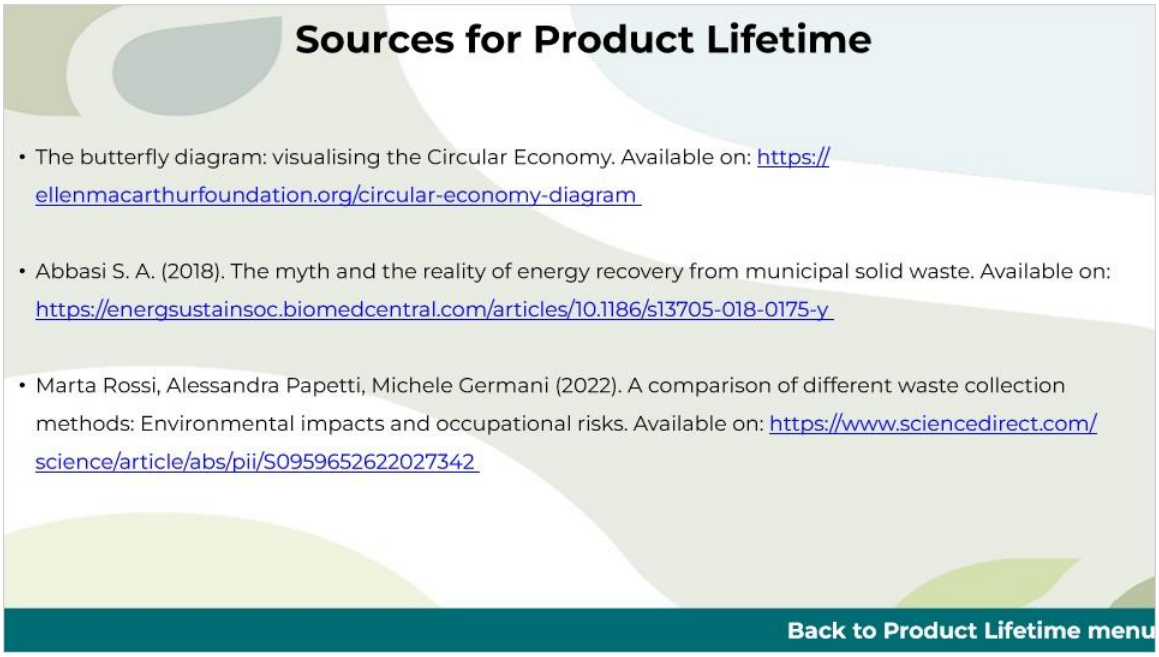
Waste collection	Waste incineration	Landfills	European waste separation

The European waste system (Slide Layer)



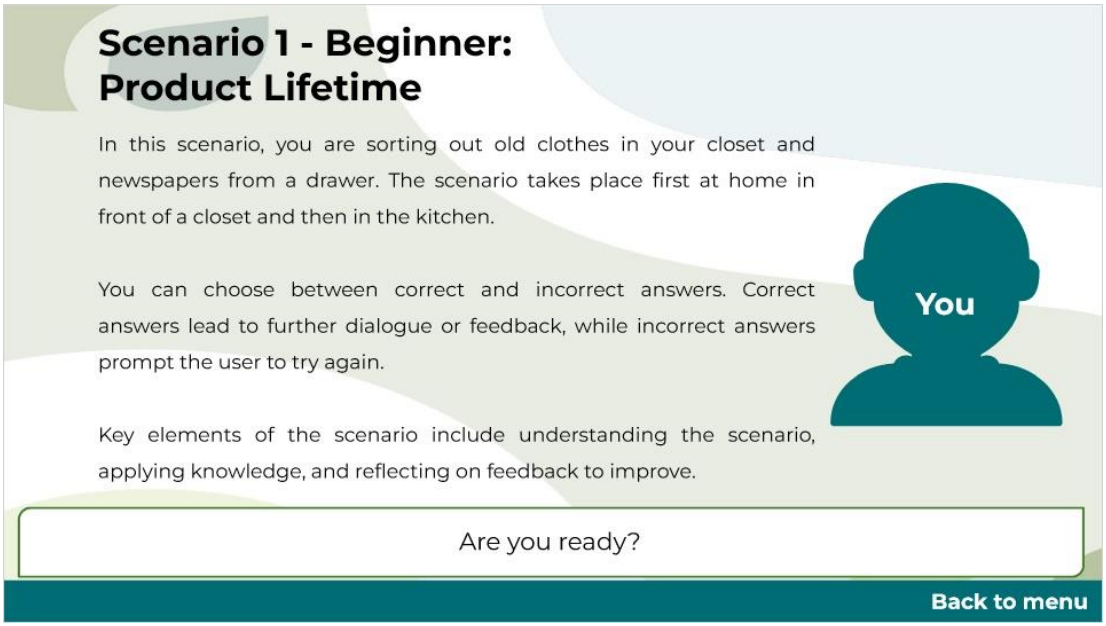
4.3.3 Recycling rate improvements

4.3.4 PL Intermediate Sources



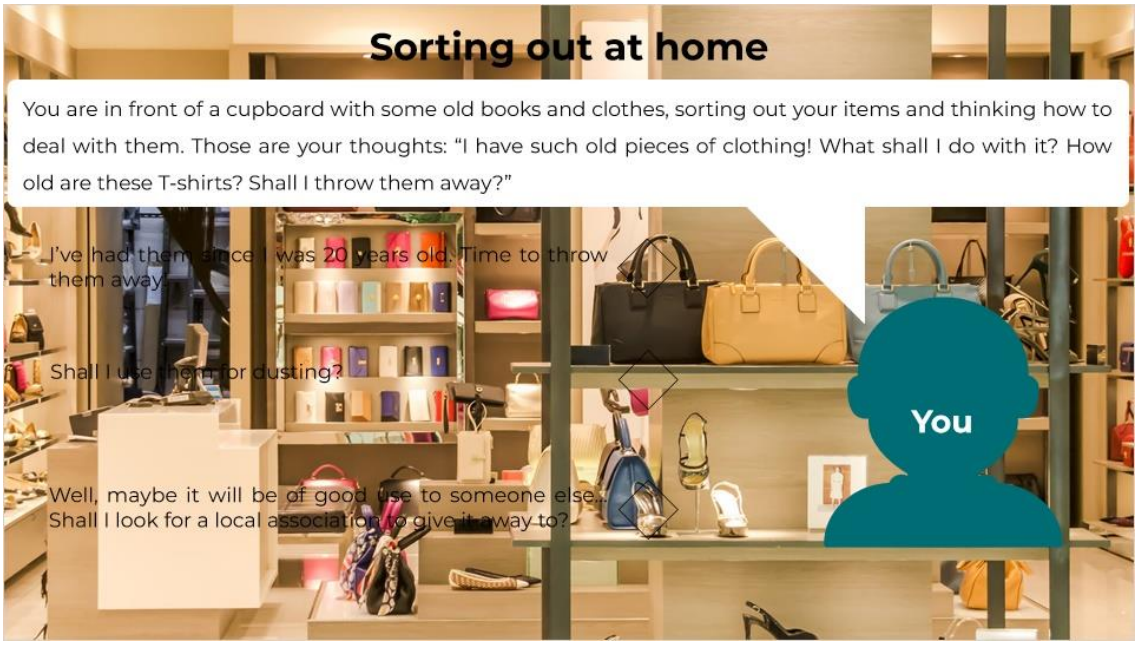
4.4 Beginner Scenario Product Lifetime

4.4.1 PL: Scenario - Beginner



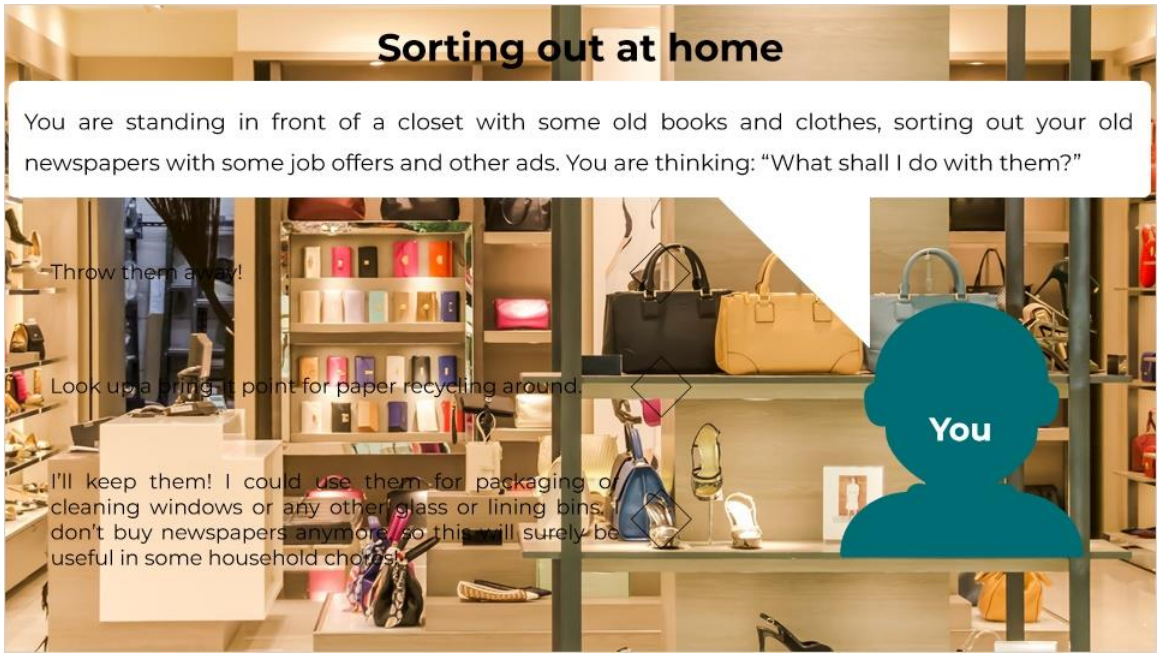
4.4.2 PL: Scenario - Beginner: Question 1

(Pick One, 10 points, 1 attempt permitted)



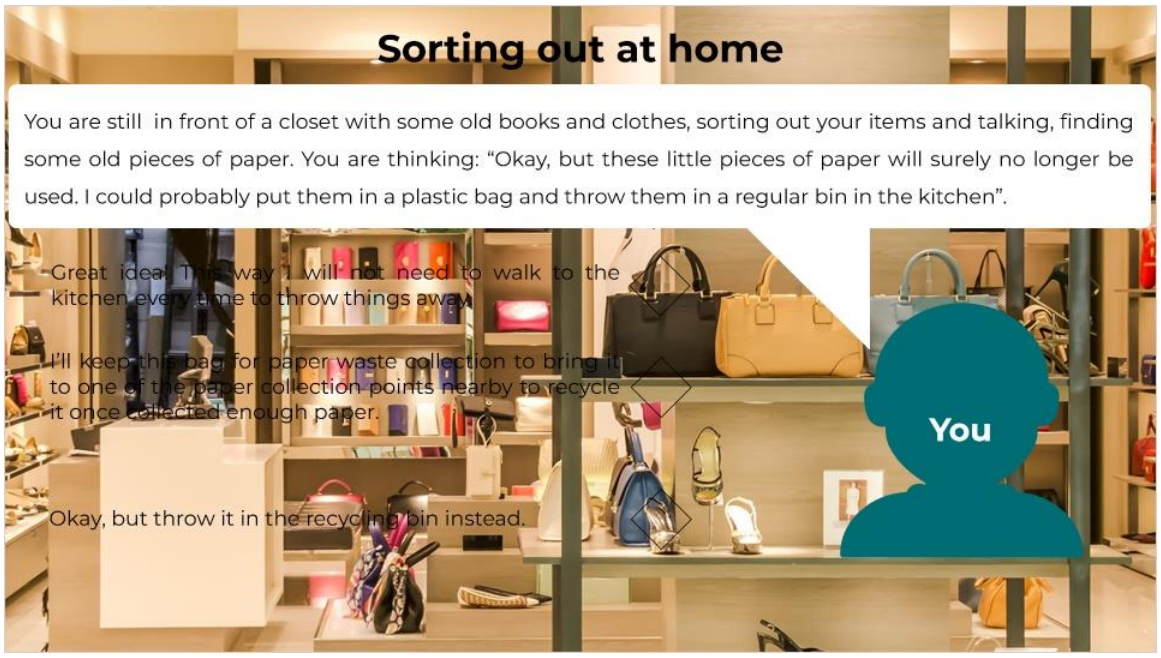
4.4.3 PL: Scenario - Beginner: Question 2

(Pick One, 10 points, 1 attempt permitted)



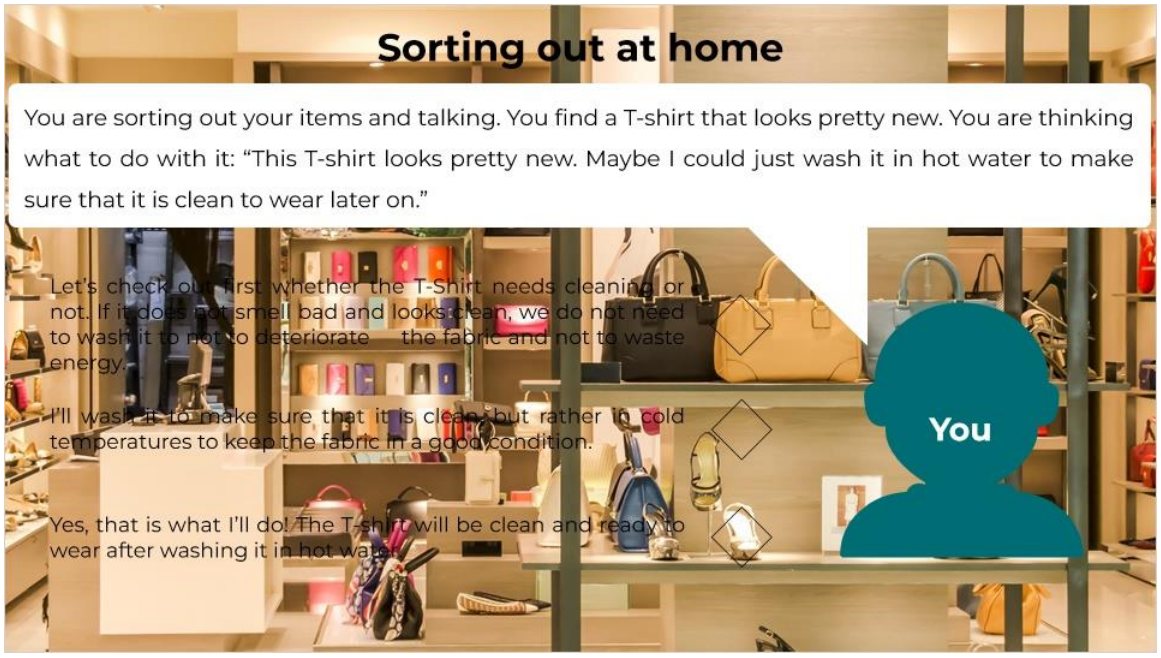
4.4.4 PL: Scenario - Beginner: Question 3

(Pick One, 10 points, 1 attempt permitted)



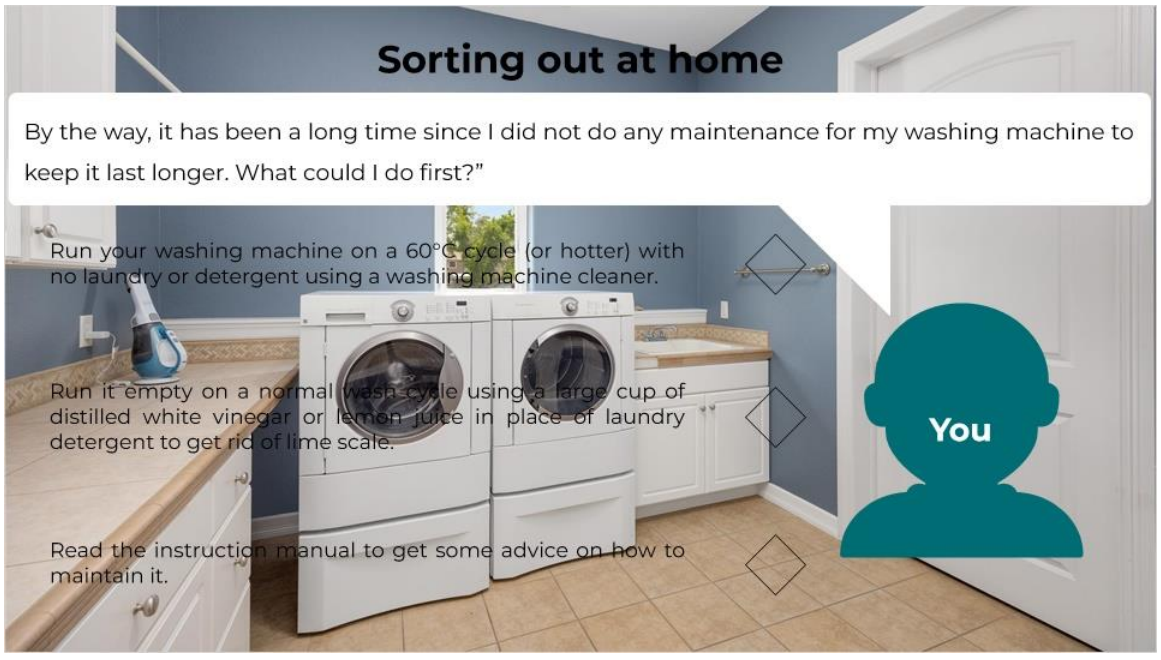
4.4.5 PL: Scenario - Beginner: Question 4

(Pick One, 10 points, 1 attempt permitted)



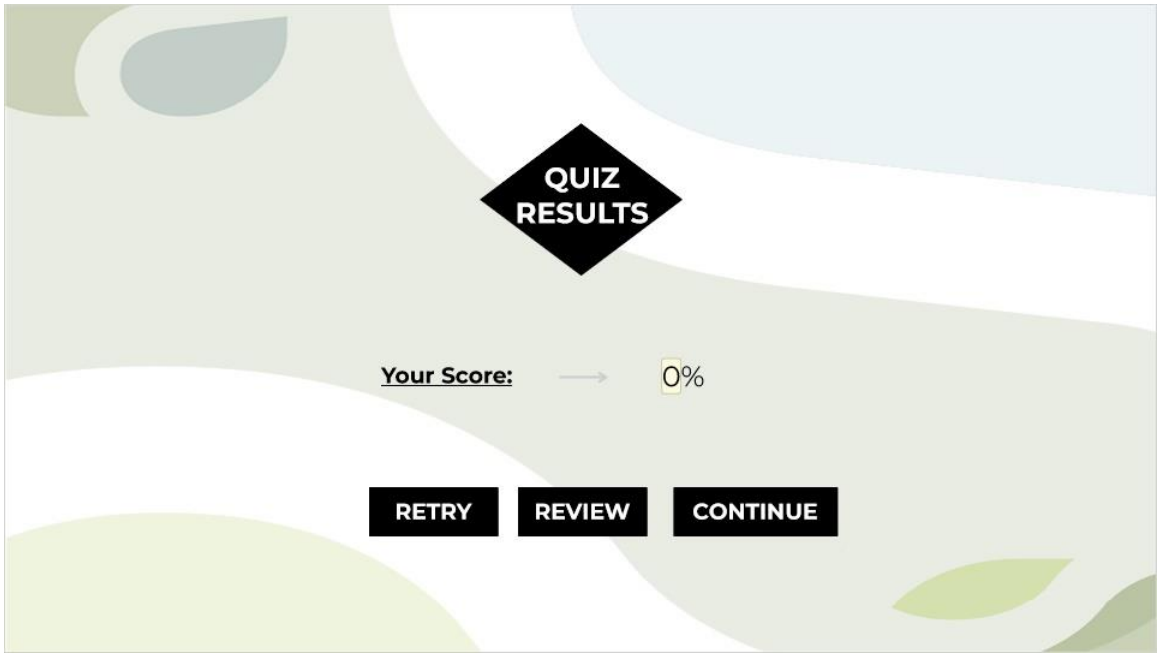
4.4.6 PL: Scenario - Beginner: Question 5

(Pick Many, 10 points, 1 attempt permitted)

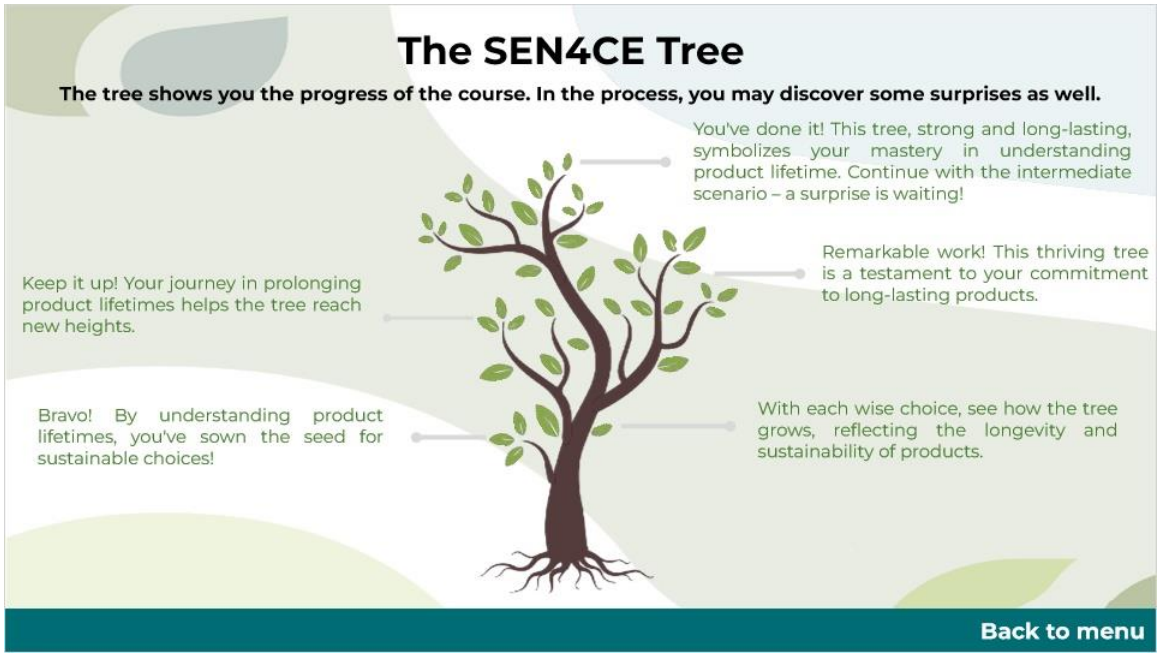


4.4.7 PL: Scenario - Beginner (Quiz results)

(Results Slide, 0 points, 1 attempt permitted)

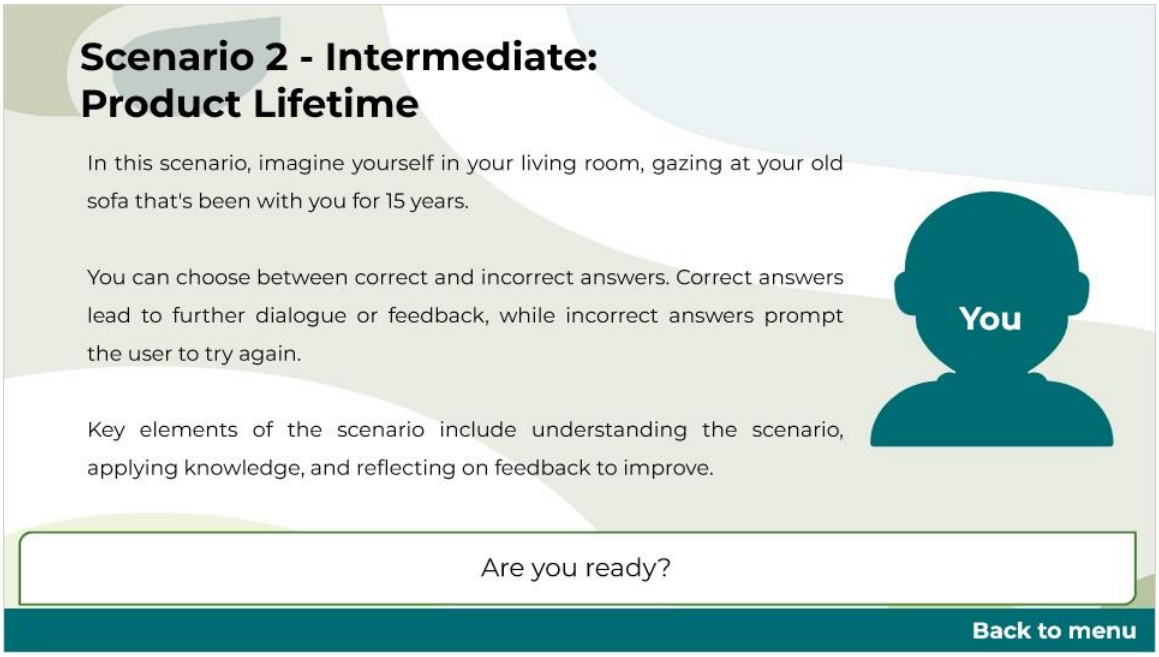


4.4.8 PL: Scenario - Beginner (SEN4CE Tree)



4.5 Intermediate Scenario Product Lifetime

4.5.1 PL: Scenario - Intermediate



4.5.2 PL: Scenario - Intermediate: Question 1

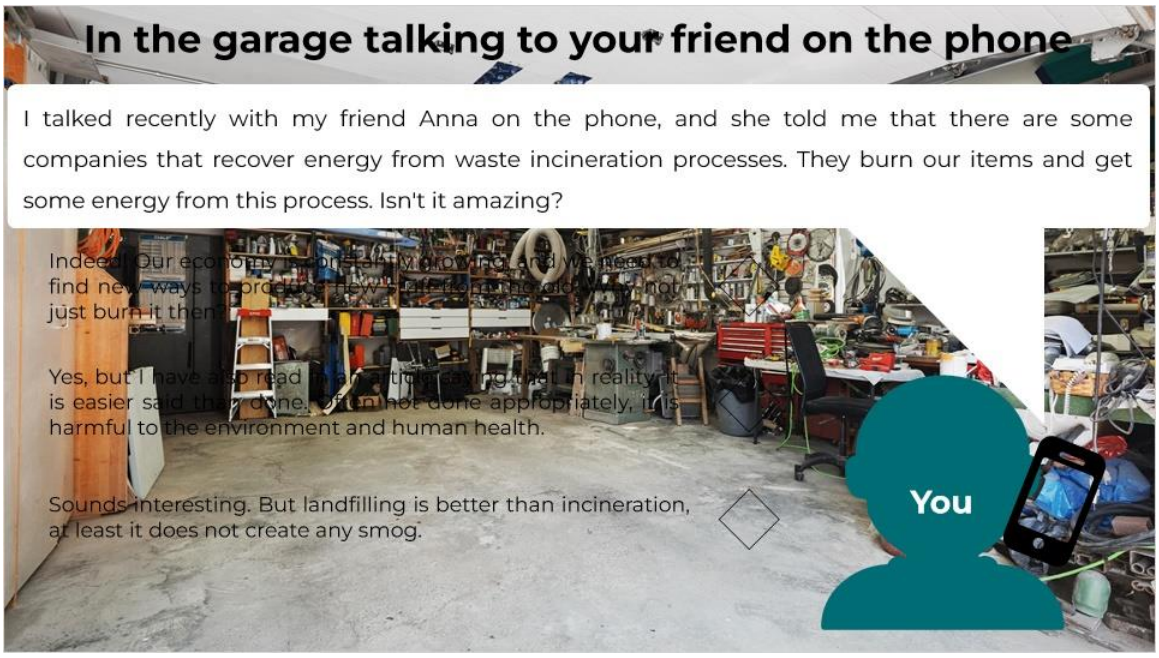
(Pick One, 10 points, 1 attempt permitted)

4.5.3 PL: Scenario - Intermediate: Question 2

(Pick One, 10 points, 1 attempt permitted)

4.5.4 PL: Scenario - Intermediate: Question 3

(Pick One, 10 points, 1 attempt permitted)



4.5.5 PL: Scenario - Intermediate: Question 4

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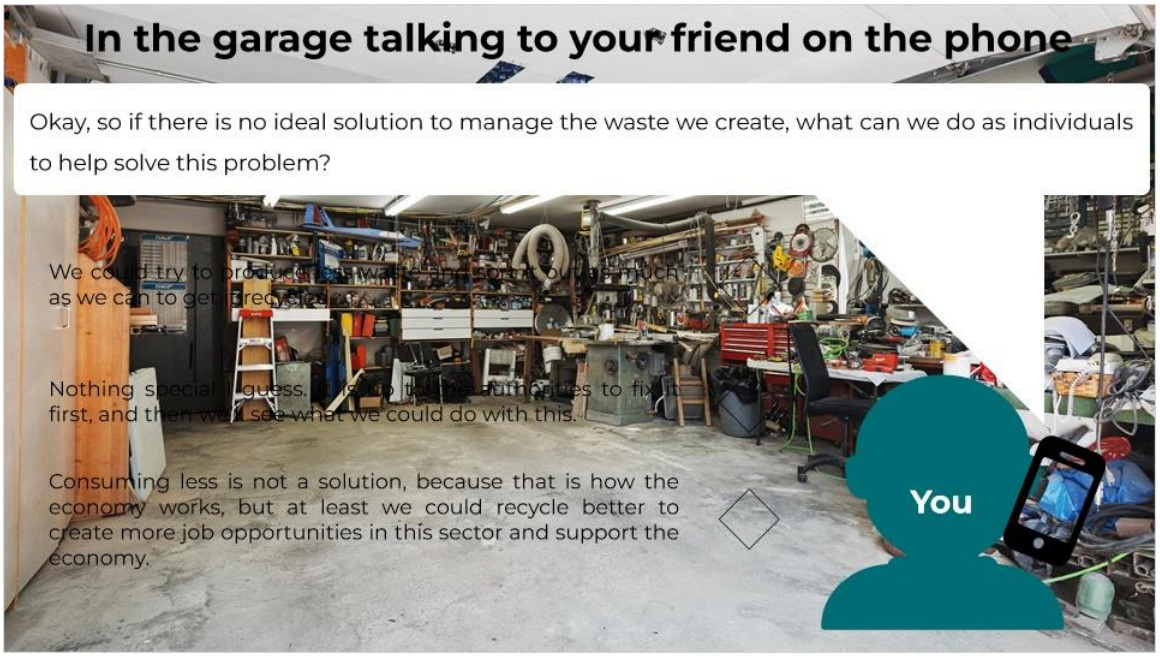
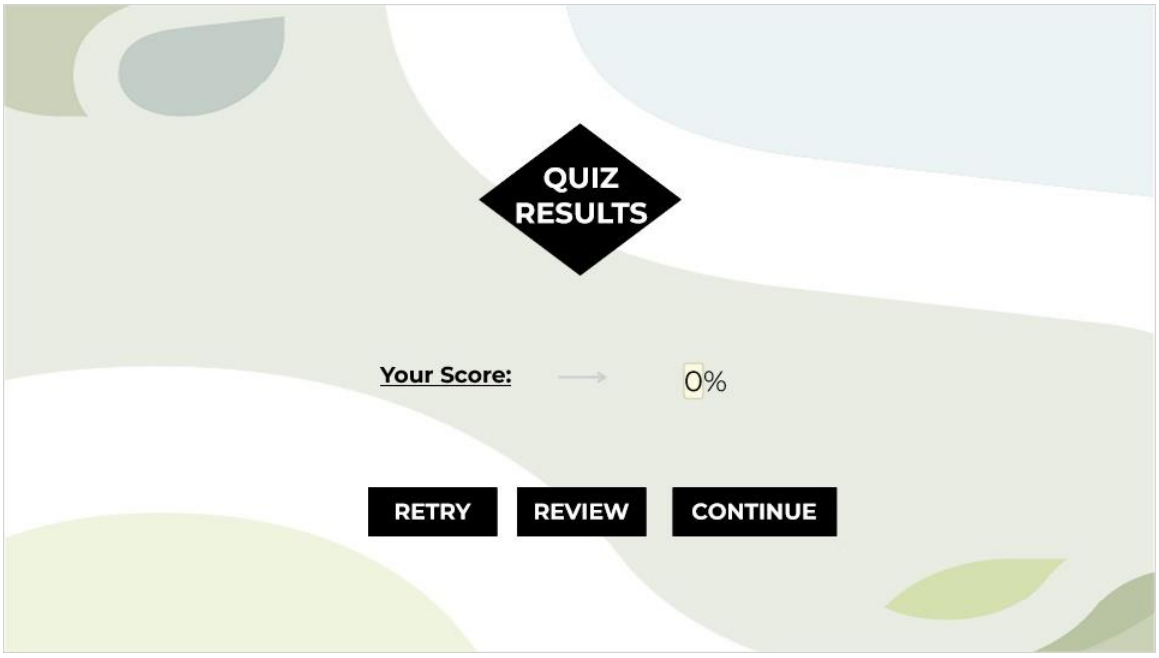


4.5.6 PL: Scenario - Intermediate: Question 5

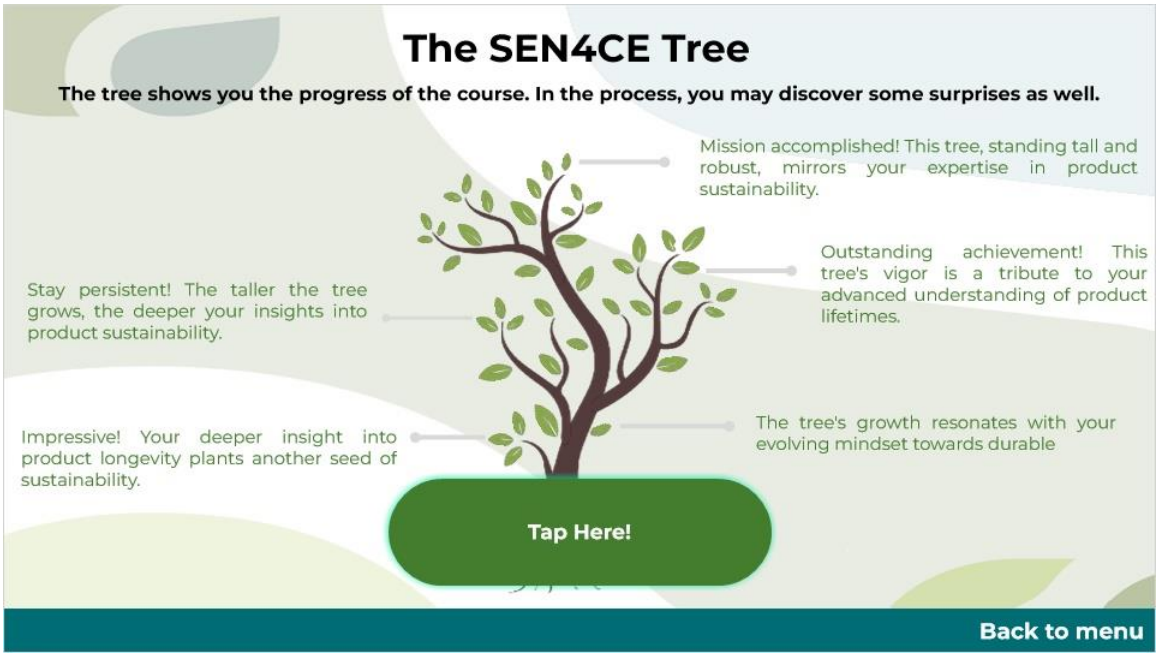
(Pick Many, 10 points, 1 attempt permitted)

4.5.7 PL: Scenario - Intermediate (Quiz results)

(Results Slide, 0 points, 1 attempt permitted)

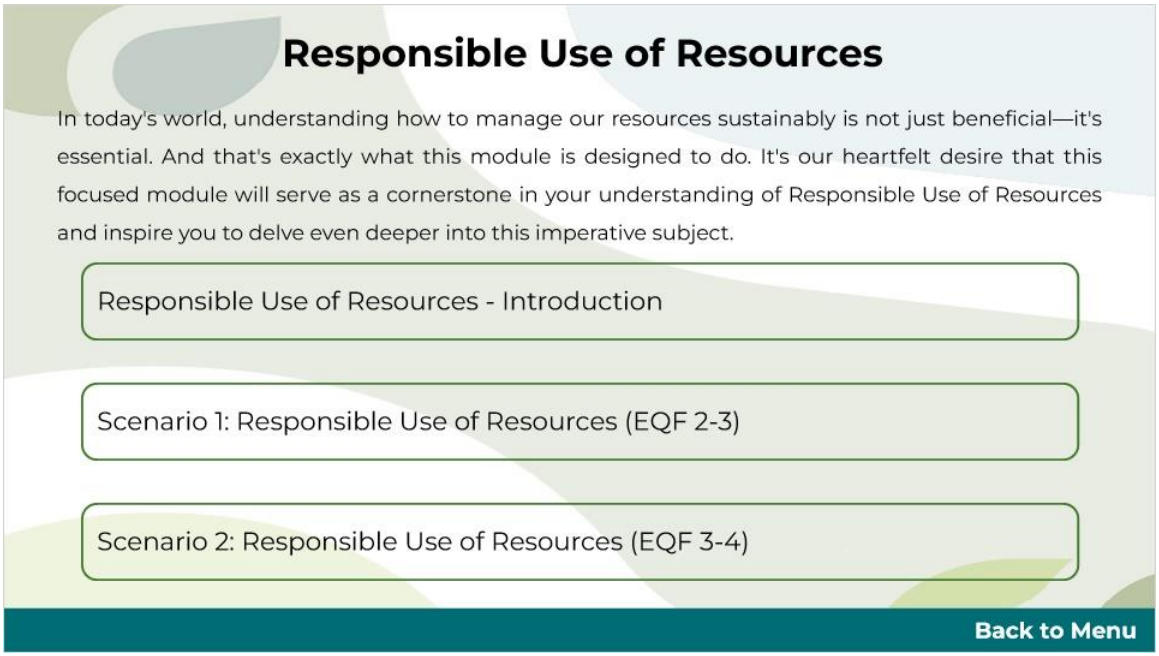


4.5.8 PL: Scenario - Intermediate (SEN4CE Tree)

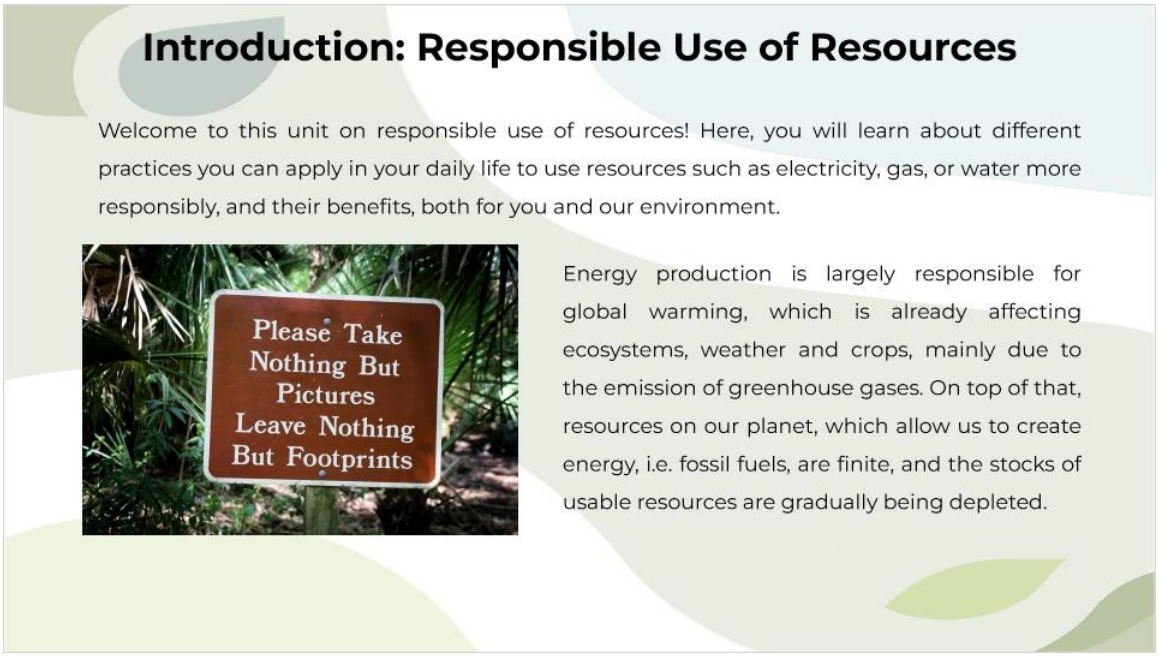


5. Responsible Use of Resources

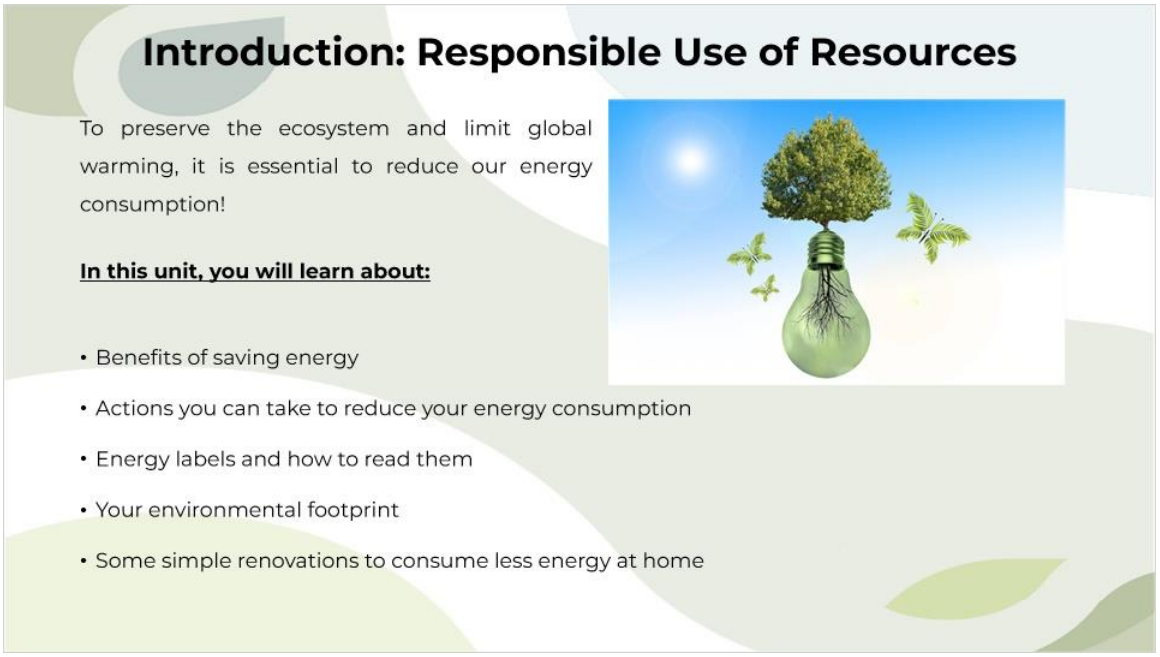
5.1 Responsible use of resources (RUR) Overview



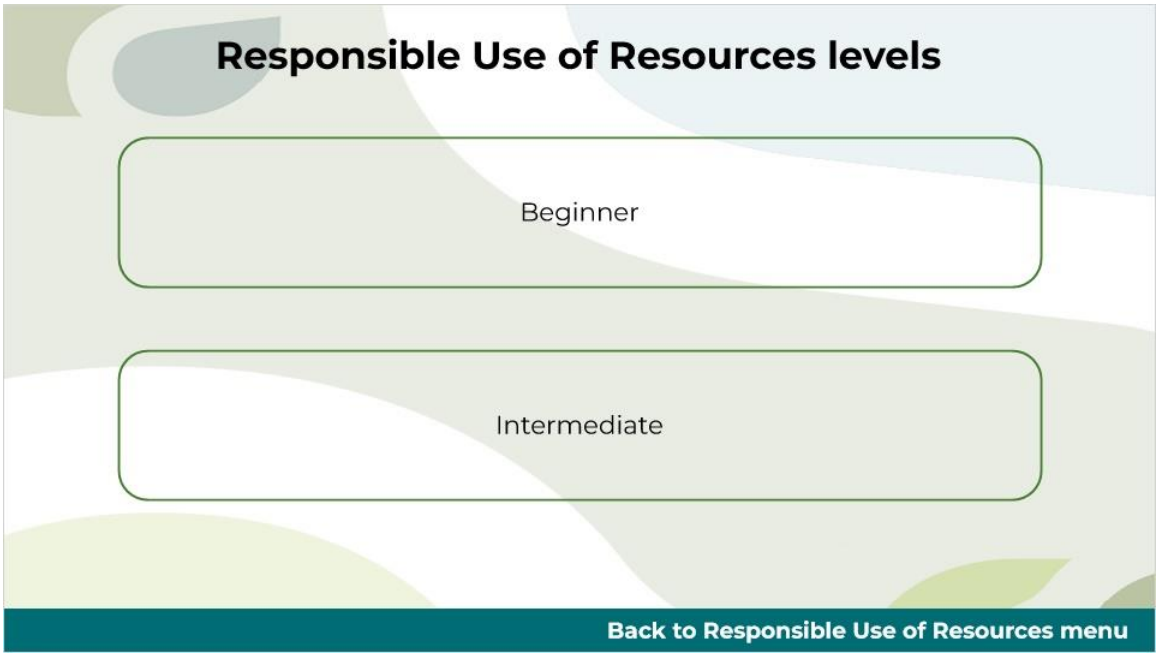
5.1.1 RUR Introduction



5.1.2 RUR Introduction



5.1.3 RUR - Overview levels



Responsible Use of Resources – Beginner level

5.2 Benefits of saving energy (1)

Benefits of saving energy for our environment

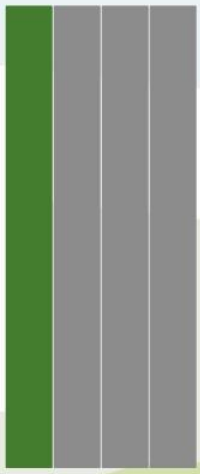
- Nearly **70% of the energy available in the EU is fossil-fuel-based**, which encompasses oil (30%), gas (22%) and coal (11%).
- **Renewable energy**, while increasingly used, only **represents about 22%** of the final energy consumption in the EU in 2020.
- **Nuclear energy** accounts for about **13%** of the energy available in the EU.

Thus, reducing our energy consumption can be beneficial for our environment in many ways. Let's begin this enlightening journey and discover the steps we can take right now to make a positive change. Dive in, and let's unlock the secrets to saving energy at home on the next pages!

5.2.1 Benefits of saving energy (2)

Benefits of saving energy for our environment

Protecting the air and preventing climate change: Most power plants create electricity by burning fossil fuels like coal and oil. These processes are polluting, emitting byproducts such as carbon dioxide, sulphur dioxide, and nitrogen oxides. Carbon dioxide is a greenhouse gas contributing to the greenhouse effect.



GHG (Slide Layer)

Benefits of saving energy for our environment

Greenhouse gases are vital for the Earth average surface temperature on the Earth by absorbing and radiating . However, by creating more energy, power plants emit extra carbon waste, which traps too much heat in our atmosphere and causes global temperature to rise. Some of the effects of this phenomenon are:

- Rising temperatures, heat waves and droughts
- Sea levels rising
- Extreme weather events
- Natural disasters becoming more intense
- Apparition of smog and acid rain

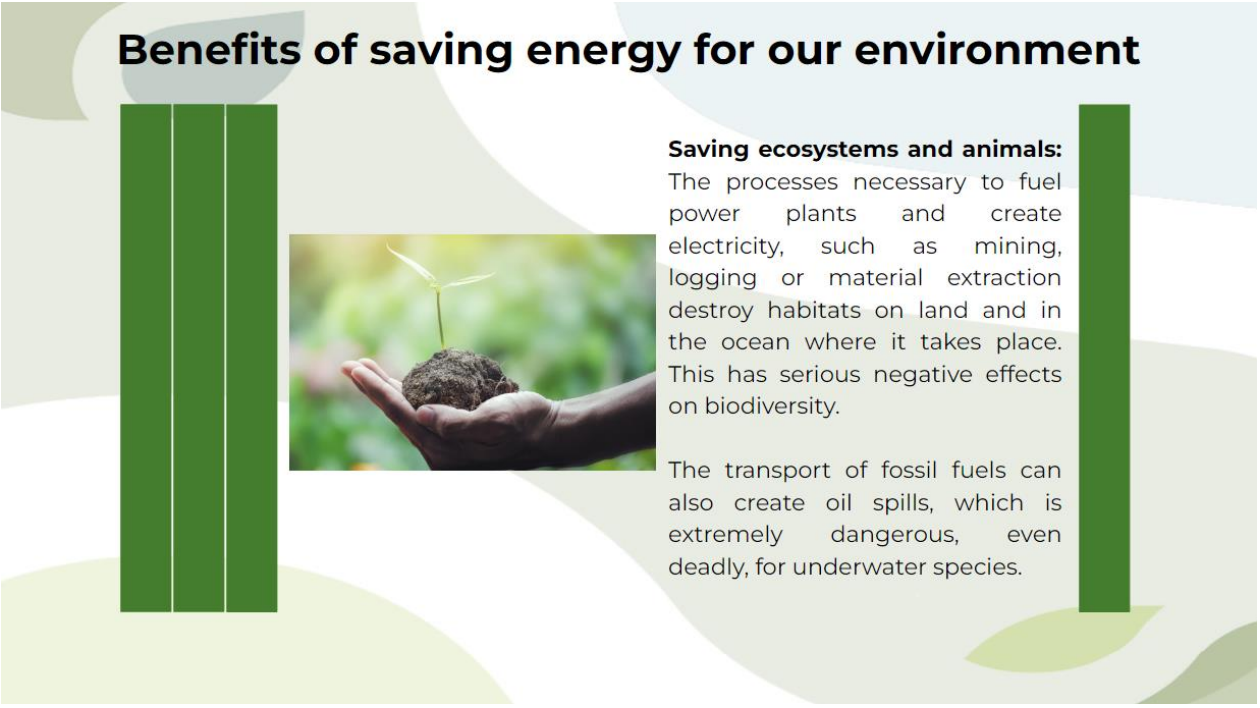
By cutting back on your energy consumption, you help to reduce the amount of electricity that has to be created, reducing carbon dioxide emissions.

Conserve (Slide Layer)

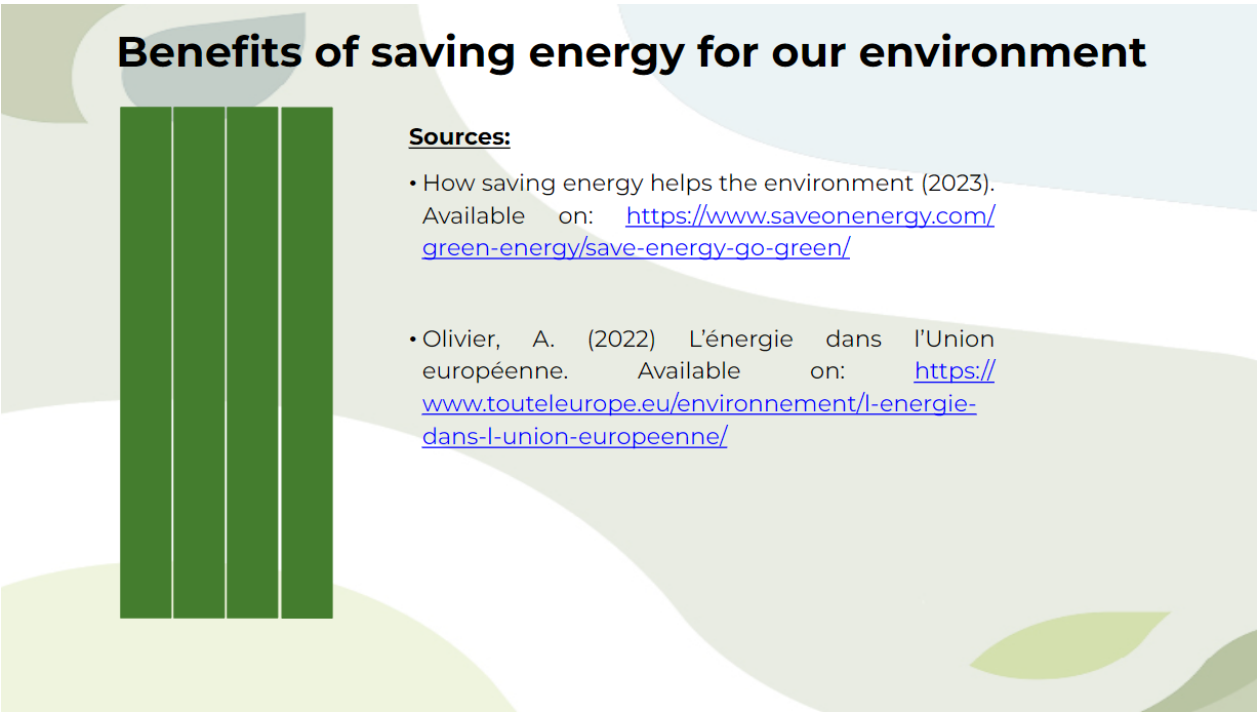
Benefits of saving energy for our environment

Cutting back on your energy consumption is also a great way to help **preserve limited natural resources.** In fact, we have seen that to create electricity, most power plants consume a great amount of natural resources. Fossil fuels, especially, such as gas or oil, are becoming increasingly scarce, which is why it is vital to reduce our energy consumption. By turning off the lights at night or washing your clothes in colder water, you can help save trees, coal, natural gas and many more resources.

Ecosystem (Slide Layer)

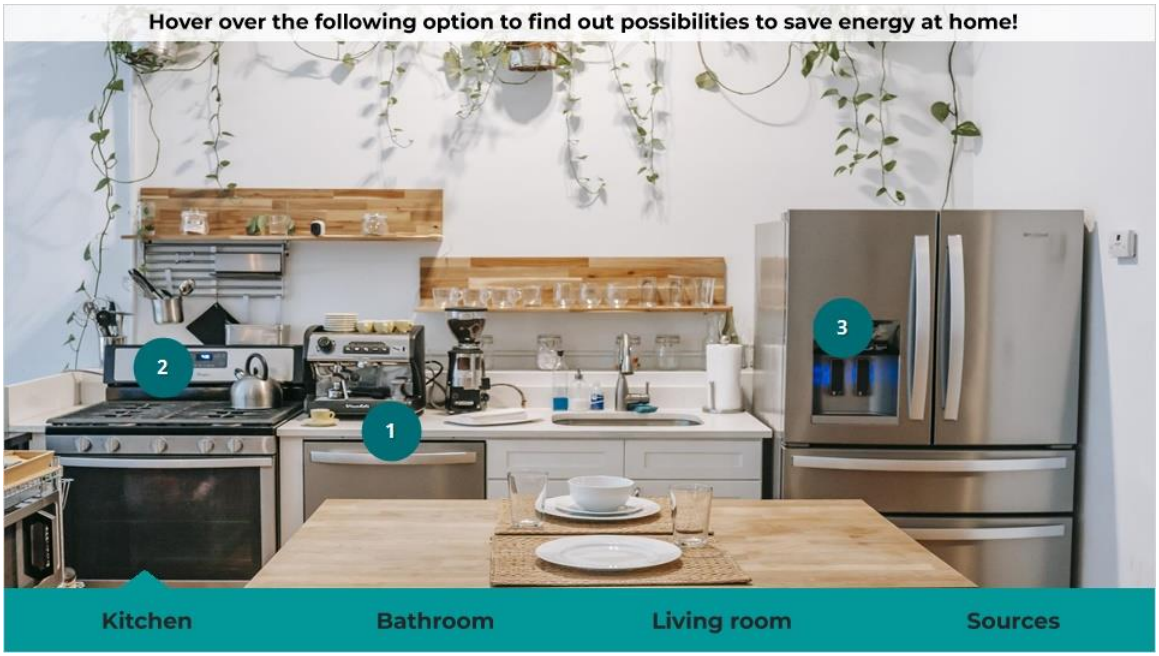


References (Slide Layer)

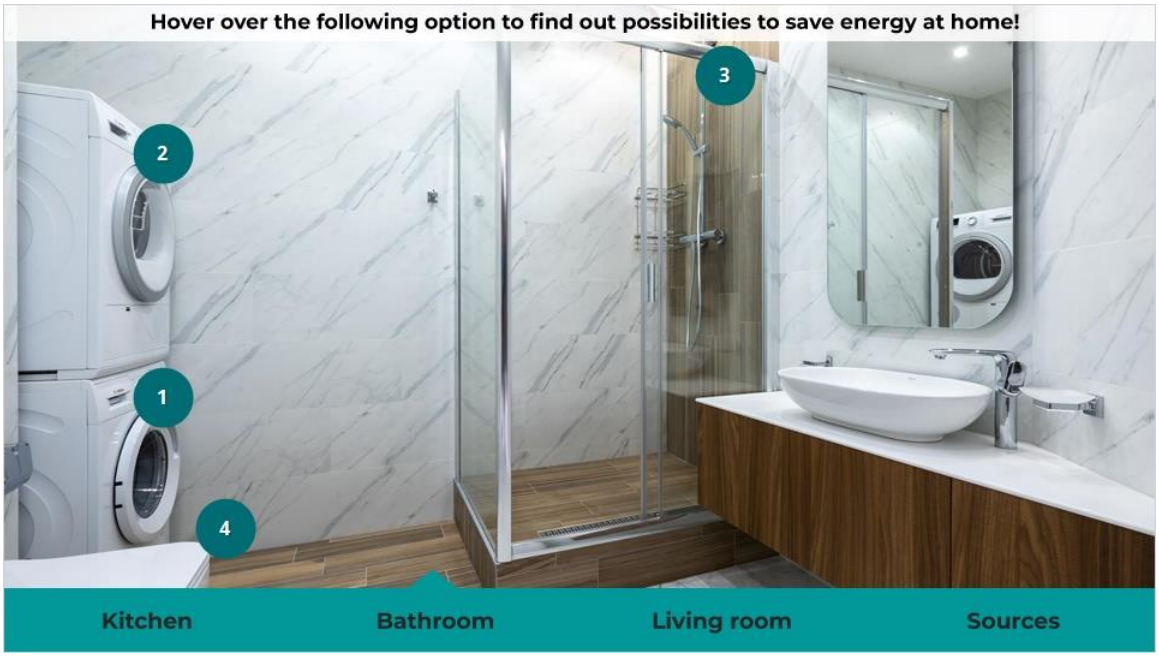


5.2.2 Benefits of saving energy (3)

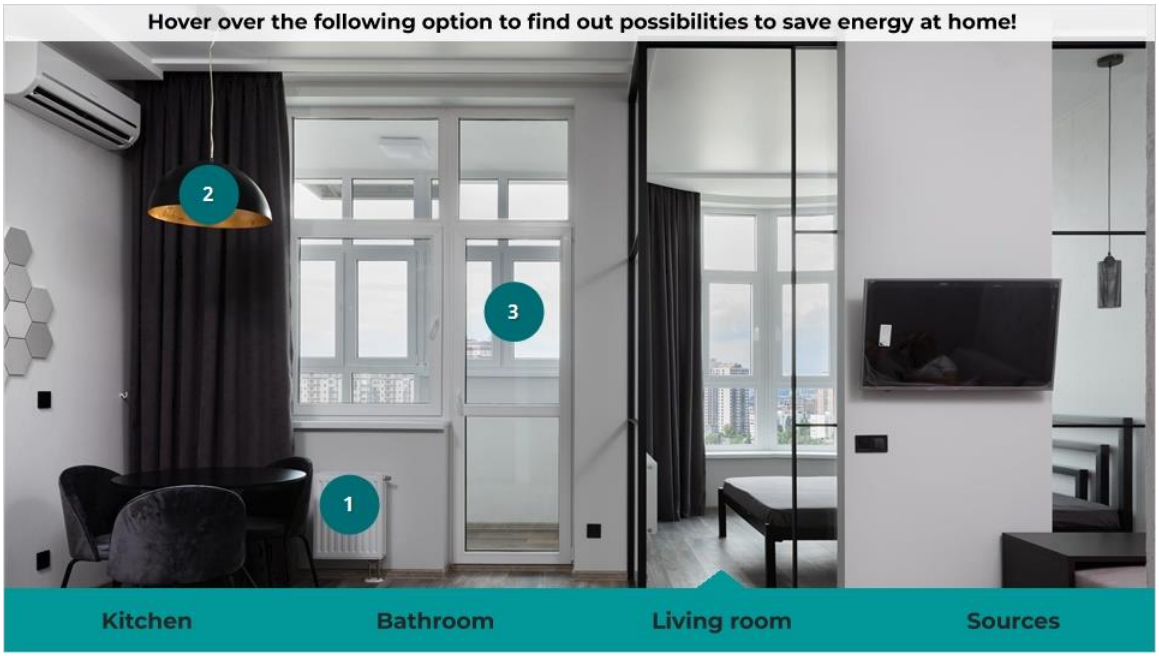
Kitchen (Slide Layer)



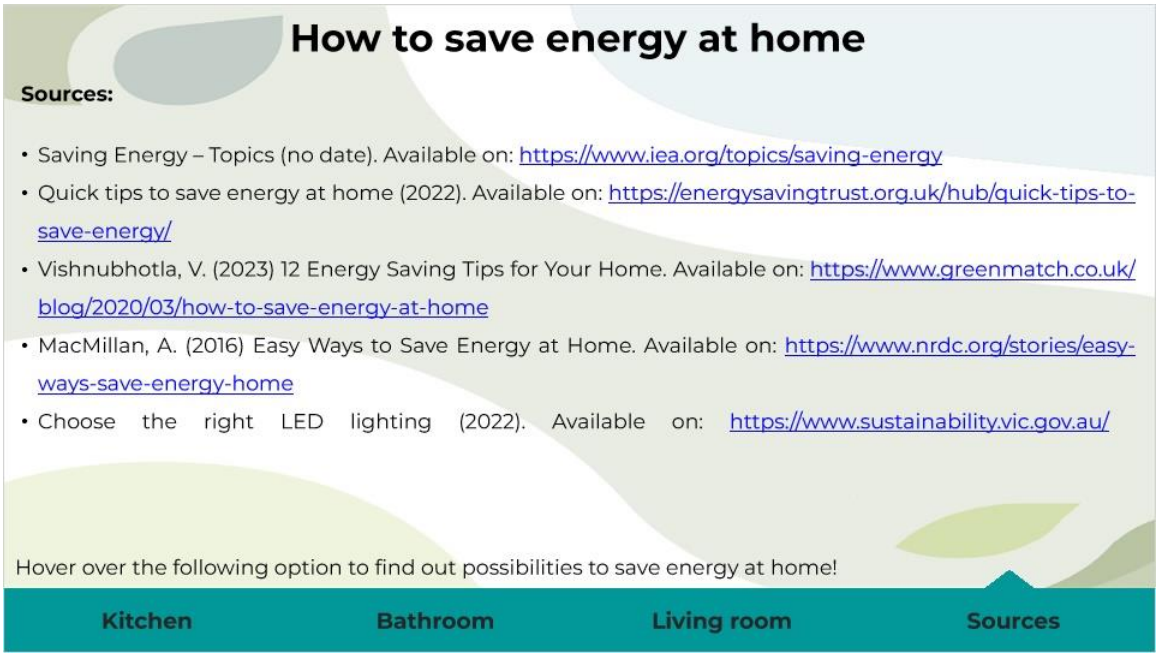
Bathroom (Slide Layer)



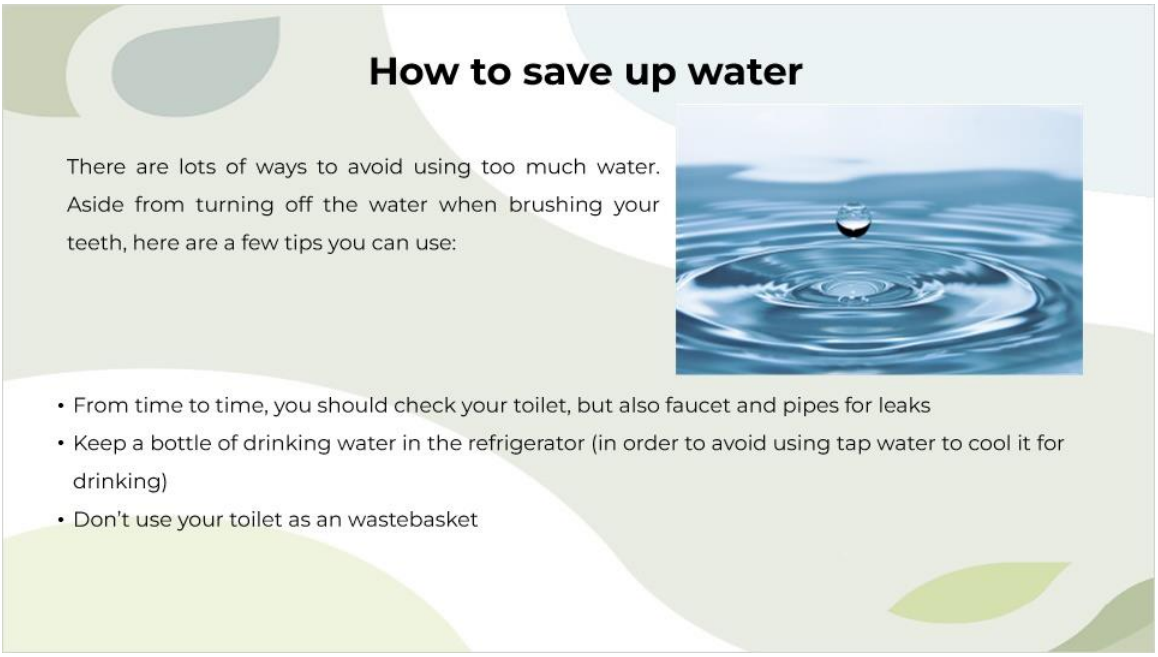
Living room (Slide Layer)



Sources (Slide Layer)



5.2.3 How to save water (1)



5.2.4 How to save water (2)

How to save up water

- Plant drought-resistant trees and plants, or use leftover cooking water, or water from rinsing your vegetables – to water your plants
- Use a broom to clean driveways, sidewalks and steps, rather than using a hose
- Use a water footprint calculator added in the further reading to evaluate your water consumption and find out other ways to cut it down

You can share your knowledge about saving water with people around you! Obviously, there are many more ways to save water, and without even noticing it, you are probably doing something to save water every day. Let's continue saving up water!

5.2.5 Save up money

Save up money

Last but not least, most of the tips that were given here are good for the planet, but also for your bank account! Indeed, reducing water and energy consumption will make sure your bill drops down. Also, buying second-hand products is a very good solution: since they have already been used, they are probably going to be cheaper than brand new ones. Therefore, buying new products can be quite interesting if they are environmentally-friendly and long-lasting. **Either way, it will do some good to your wallet!**

5.2.6 Energy labels (1)

All about energy labels

A great and easy way to save energy is to check out labels before buying appliances or buying/ renting a home. In fact, the EU has set several standards for energy labeling, which give you valuable information on the energy efficiency and other key features of the product you are willing to buy. On top of being better for the environment, energy-efficient appliances and homes often mean lower energy costs, and more comfortable living!

Appliances

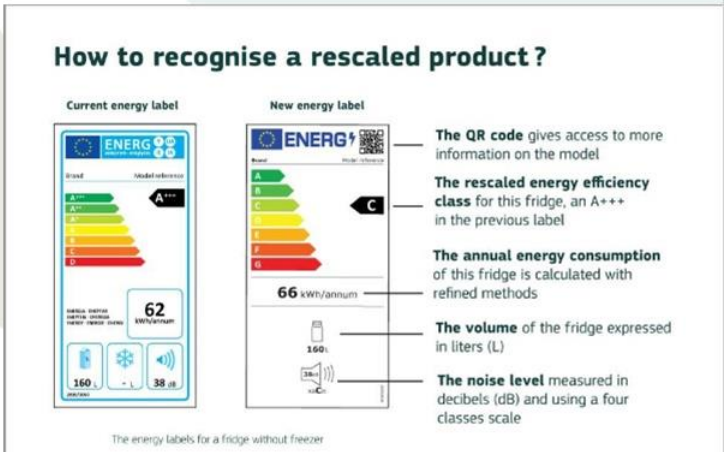
In terms of appliances, the EU legislation requires the following products to have energy labels:

- Light bulbs and lamps
- Heaters
- Fridges and freezers
- Washing machines and dryers
- Air conditioners and fans
- Electronic displays, including televisions
- Kitchen appliances
- Tyres

5.2.7 Energy labels (2)

All about energy labels

Currently, the EU energy-label scales products from class A+++ (the most energy efficient) to D (the least energy efficient). However, these categories are currently being adjusted to reintroduce a simpler A to G scale. These labels also provide some specific data about other relevant features such as the product's noise emissions, or water consumption.



Source: How to recognise a rescaled product ? European Commission. Available in all EU languages on: https://ec.europa.eu/commission/presscorner/detail/en/ip_21_818

5.2.8 Homes and buildings

Homes and buildings

The scale is the same for energy-labels of buildings! The label provides information on the energy and climate performance of a home or building (labels A to G), evaluating its energy consumption and its impact in terms of greenhouse gas emissions. The calculation is based on a variety of technical characteristics such as building, heating, insulation, windows, etc.

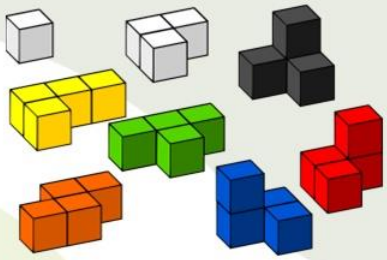
According to Eurostat, the main use of energy by households in Europe is for heating their homes (62,8% of final energy consumption in the residential sector). By living in a home with better insulation, you reduce your heating use, which is a great way to save energy.

Therefore, when looking to buy or rent a home, pay close attention to this label: choosing a more energy-efficient home has every chance of lowering your energy consumption, and by the same token, your bills!

5.2.9 Pack it smart (1)

Pack it smart

On average, each European generates almost 180 kg of packaging waste per year. Packaging is one of the main users of virgin materials as 40% of plastics and 50% of paper used in the EU is destined for packaging. The Commission is proposing new EU-wide rules on packaging, which are supposed to ensure reusable packaging options, get rid of unnecessary packaging, limit overpackaging, and provide clear labels to support correct recycling. The European Union is working on it, but we can all try to do some little things to make sure we also contribute.



5.2.10 Pack it smart (2)

5.2.10 RUR Beginner sources (1)

5.2.11 RUR Beginner Sources (2)

Responsible Use of Resources – Intermediate level

5.3 Environmental footprint (1)

Calculate your environmental footprint

Climate change is frequently measured as a temperature increase all around the globe. According to some studies, if our society continues to exploit a linear economy, a 3- to 6-degree temperature increase is expected, with around 65 billion tonnes emission of Greenhouse Gas Emissions (GHGs) in 2030, bringing catastrophic consequences for certain countries and unleashing far more severe climate change impacts, such as more frequent and severe droughts, heat-waves and rainfall.

The Paris Agreement on Climate Change aims to hold "the increase in the global average temperature to well below 2°C above pre-industrial levels" and pursue efforts "to limit the temperature increase to 1.5°C above pre-industrial levels" to combat climate change. This figure averages the CO2 emission per capita to around 2 tonnes per person per year by 2030, which is frequently difficult to visualise in practical terms and thus cut down your carbon footprint.

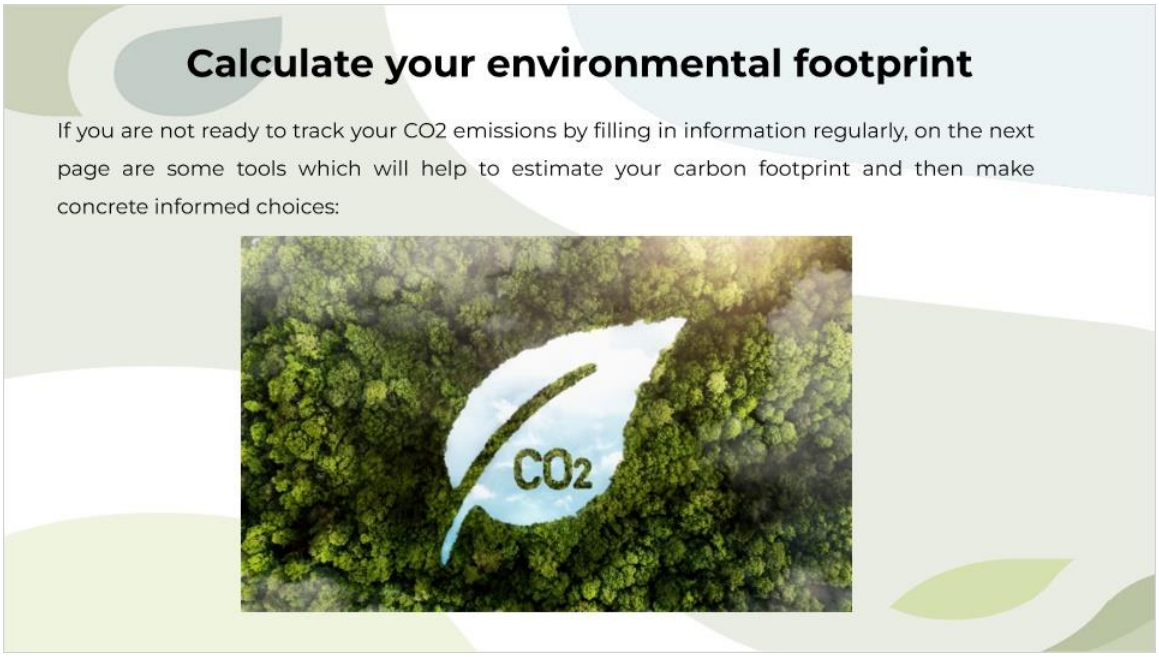
5.3.1 Environmental footprint (2)

Calculate your environmental footprint

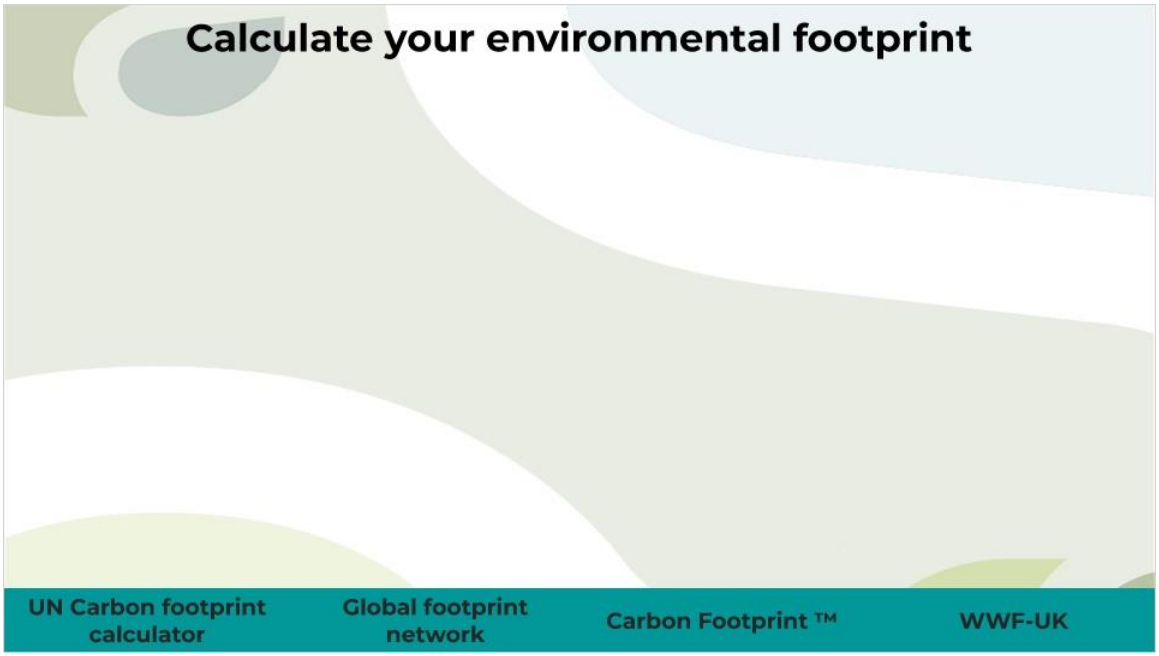
Carbon footprint is the total amount of greenhouse gases, including carbon dioxide and methane, that are generated by our actions, e.g. purchases, transportation methods, eating habits, etc. In a nutshell, whatever an individual does has an environmental trail on the planet. To cut down the carbon footprint to 2 tones does not happen overnight, but making some small informed actions does make a difference.

To assess your carbon footprint, numerous tools were developed to empower users to make informed choices. Usually, such tools include a number of questions regarding travel habits, diet, shopping, etc. Some tools collect the information under users' consent from various applications, such as Linky in France, Uber, etc. to simplify tracking.

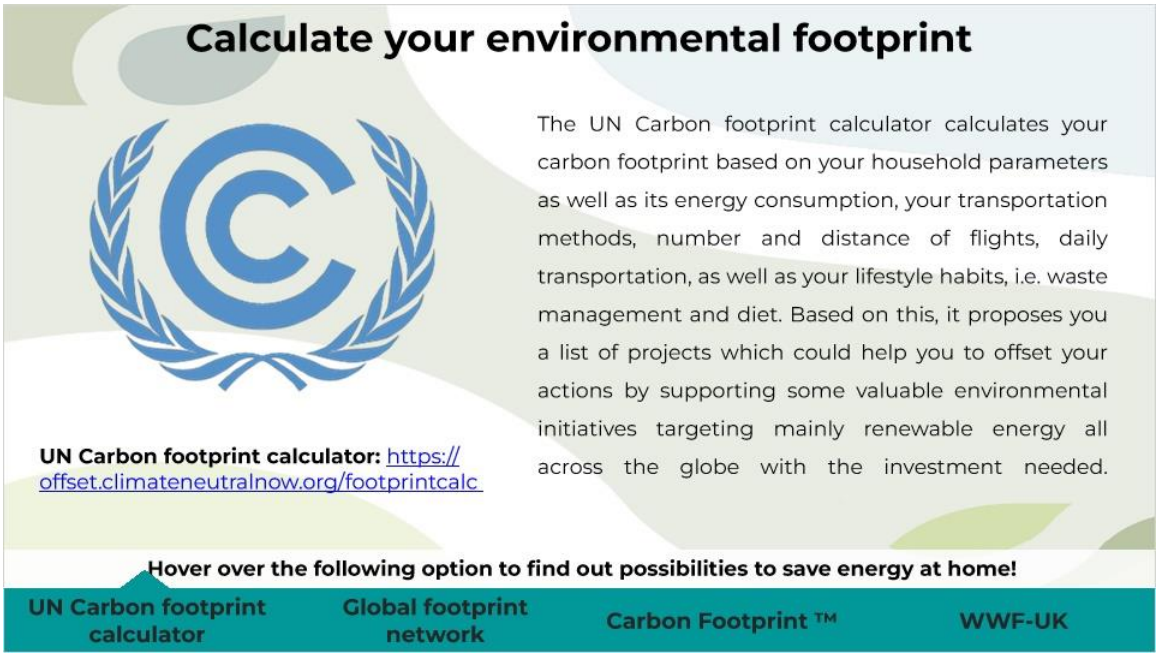
5.3.2 Environmental footprint (3)



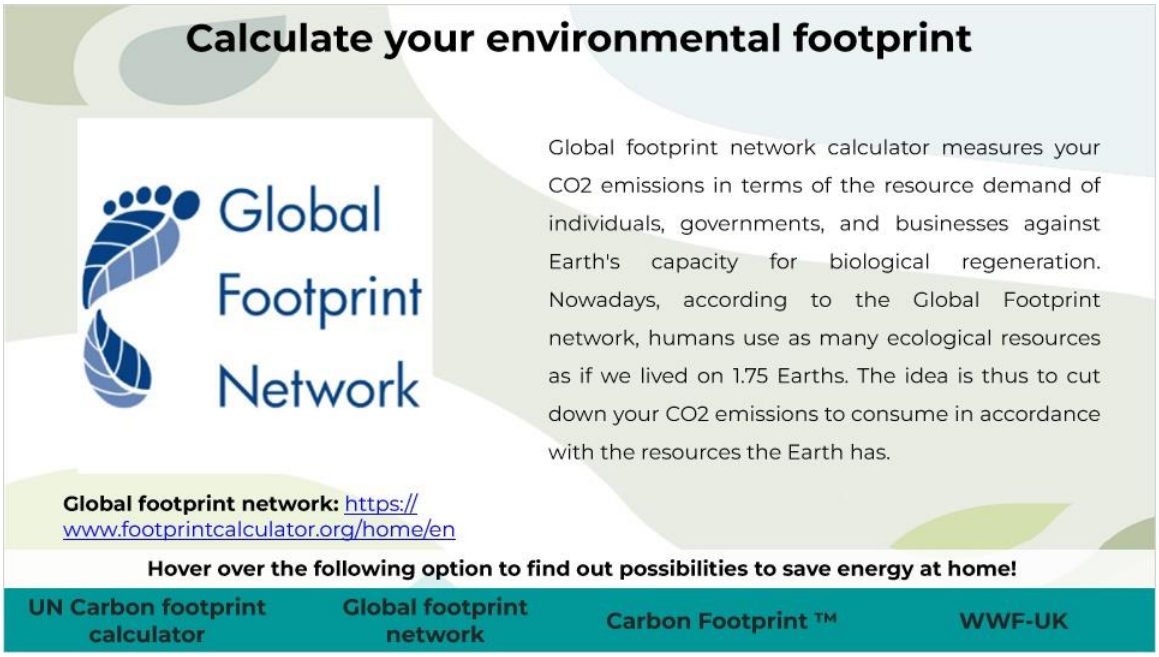
5.3.3 Calculate your environmental footprint (1)



UN Carbon footprint calculator (Slide Layer)



Global footprint network (Slide Layer)



Carbon Footprint ™ (Slide Layer)

WWF-UK (Slide Layer)

5.3.4 Calculate your environmental footprint (2)

What's next?

Once you have **calculated your carbon footprint**, you can start reducing it by **adapting some of the advice** given in our learning modules or the tips given in each of the above-mentioned websites.

Another method to cut down your carbon footprint is to finance the projects which need **investment and which will help to offset your actions**. Choose the international or local project from trust-worthy reliable sources which strikes you most and make a contribution to combat climate change.

Another great idea would be to **donate for tree planting** instead of buying gifts for birthdays or support local, **national and international organisations** in the name of a birthday person. If you want to go further, you can set up some CO2 emissions measuring equipment available in your country gathering **information on your electricity, water and gas consumption** (often, it is already proposed by your energy provider), vehicle usage, food choices, and shopping patterns.

5.3.5 Calculate your environmental footprint (3)

What's next?

It might be more time-consuming, but some free of **charge applications can calculate your carbon footprint daily** based on the data you provide.

- **Check out the applications** available in your country on Google Play for Android and AppStore on IOS, and download a few applications best rated in your country.
- **Test them** then for a few days to see which application fits you best and appears to be the most user-friendly and comprehensive in terms of the data treated. Informed Means Armed. Now it is time to adapt some little changes!

5.3.6 Environmental friendly home

Environment-friendly home: simple renovations works to consume less energy

Most of the Circular Economy principles are hidden back in the design components. Properly designed products are easier to reuse, refurbish, remanufacture, share and recycle.

Same applies to our households: intelligently designed homes can help you to significantly lower your energy bills, thus consuming less energy.

Whereas some ideas might require more time, money and effort, there are still some simple solutions easily applicable to any household to make it more energy efficient.

1 2 3 4 5 6

Design your home smart (Slide Layer)

1

Design your home smart

Design your house in an energy-efficient manner taking into account your location, climate and needs of your family. In most cases, professionals' assistance is needed to calculate the current energy-efficiency performance of your house, as well as to receive some recommendations on possible improvements and savings potential.
The house's structure, hot water system, as well as cooling and heating are essentials to consider.

Some suggestions are to place bedrooms close to south facing windows to use it as a heating source during the winter, while taking into account summer season and ways to cool your space.

2 3 4 5 6

Consider heat loss reducing measures (Slide Layer)

1 2

Consider heat loss reducing measures

There are numerous ways to insulate your home thus lowering your utility bills. Even some little fixes can make a big difference in terms of your house energy-efficiency performance.

- About a third of all heat loss can be prevented by **cavity or solid wall insulation**. Most heat escapes through walls, so either with professional assistance or on your own, try to investigate whether your house has cavity wall insulation or not, and how you could set it up. According to some estimates, most installation costs can be made back in five years or less due to the yearly energy bill savings.

- If you live on a ground floor or above an unheated space, such as a garage, parking, etc. consider **floor insulation** for keeping up heat in your apartment.

3 4 5 6

Consider heat loss reducing measures (Slide Layer)

1 2 3

Consider heat loss reducing measures

- Around a quarter of warmth is lost through **roof insulation.** If you have easy access to it, some renovation works can be made to fix this problem, and it will be paid back a lot of times once installed through your energy bills.

- **Windows and doors:** installing secondary or third glazing or using heavy curtains can help you to cut down your carbon footprint and make your home resilient to streets' noise. Changing the doors to insulate your house better or even using silicon rubber or door draft stopper, which cost close to nothing given the savings you will make, will make your house more energy efficient.

4 5 6

Boost Home Efficiency (Slide Layer)

1 2 3 4

Boost Home Efficiency: Choose Smart Heating and Go Renewable

- **Choose energy-efficient heating and cooling systems:** depending on your climate, house characteristics, budget, get informed on what kind of heating and cooling systems would better fit your needs and opportunities. Usually, this investment is easily paid back thanks to the decreased energy bills.

- **Think of renewable energy:** what about generating electricity yourself? Depending on your house characteristics, consider installing solar panels, wind turbines, or hydroelectricity. The government often proposes different financial aids in compliance with your income to support households in setting up renewables. More opportunities are available out there. Why not produce your own energy to charge your phone?

5 6

Make your home smart (Slide Layer)

1 2 3 4 5

Make your home smart

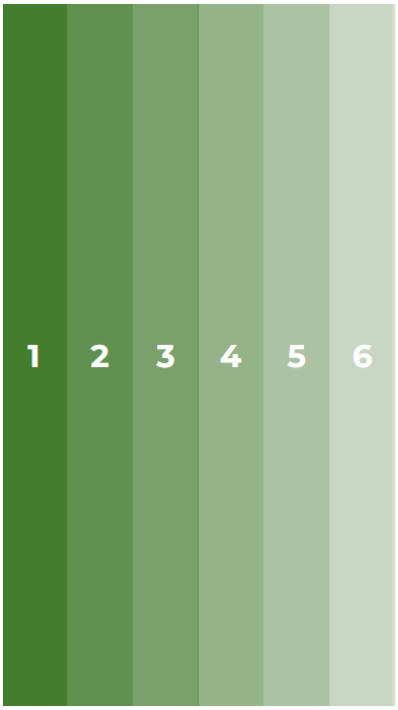
Investing in some smart home devices can help you not only with monitoring your energy, water and gas consumption, but also detect some potential leaks and inform you on energy-efficient choices. Some concrete examples of the smart devices for an eco-friendly home are given in the further reading section.

- **Smart appliances** help you to use them by sending reminders on when they should be repaired, maintained, closed, etc. If you tend to forget a refrigerator's door or want to know when your washing machine should be repaired to avoid some future expenses, this might be a good investment for you.

- **Smart plugs** are inserted into regular plugs and allow you, using some applications, to control energy consumption, power level and turn off and on times for each device connected, and to demonstrate how much energy was already used. All is controlled remotely, and thus can be easily monitored when you are away from home.

6

Make your home smart (Slide Layer)



Make your home smart

- **Smart thermostat** is also controlled remotely and adapts perfectly to your needs by turning off heating when you are away from home and heating it up before your arrival. You can program heating or cooling in certain rooms while deactivating it in others to cut down on your energy bills.
- **Smart light bulbs** can be controlled through WiFi network and can be easily adapted to your needs, thus cutting down energy use.

5.3.6 RUR Intermediate Sources

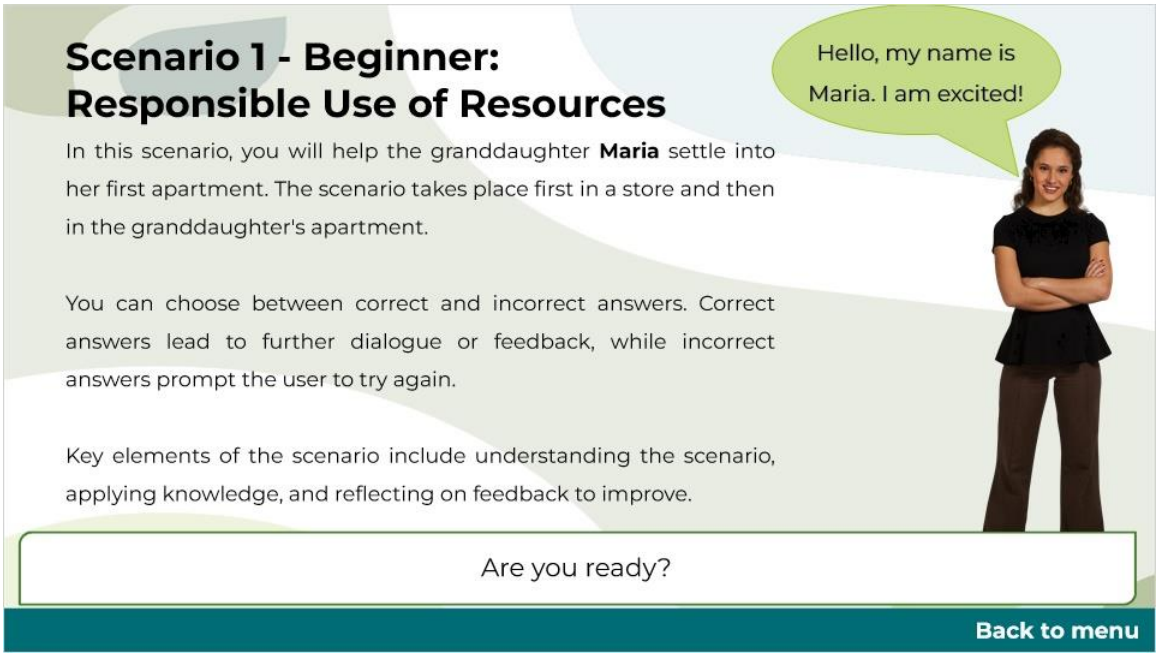
Further Sources for Responsible Use of Resources

- UNFCCC. What is the Paris Agreement? Available on: https://unfccc.int/process-and-meetings/the-paris-agreement
- The circularity gap report 2023. Available on: https://circularity-gap.world/2021
- Inspiration for my next home improvement project. Available on: https://energysavingtrust.org.uk/hub/inspiration-home-improvement-project/
- Affordable zero energy home design & construction in 12 steps. Available on: https://zeroenergyproject.com/build/twelve-steps-affordable-zero-energy-home-construction-design/
- Energy-Efficient Home Design. Available on: https://www.energy.gov/energysaver/energy-efficient-home-design
- Ashley deHaan. 8 Ways Your Smart Home Can Save Energy. Available on: https://www.enercare.ca/blog/
- 10 AMAZING PRODUCTS FOR ECO-FRIENDLY HOME AUTOMATION. Available on: https://elemental.green/10-amazing-products-for-eco-friendly-home-automation/

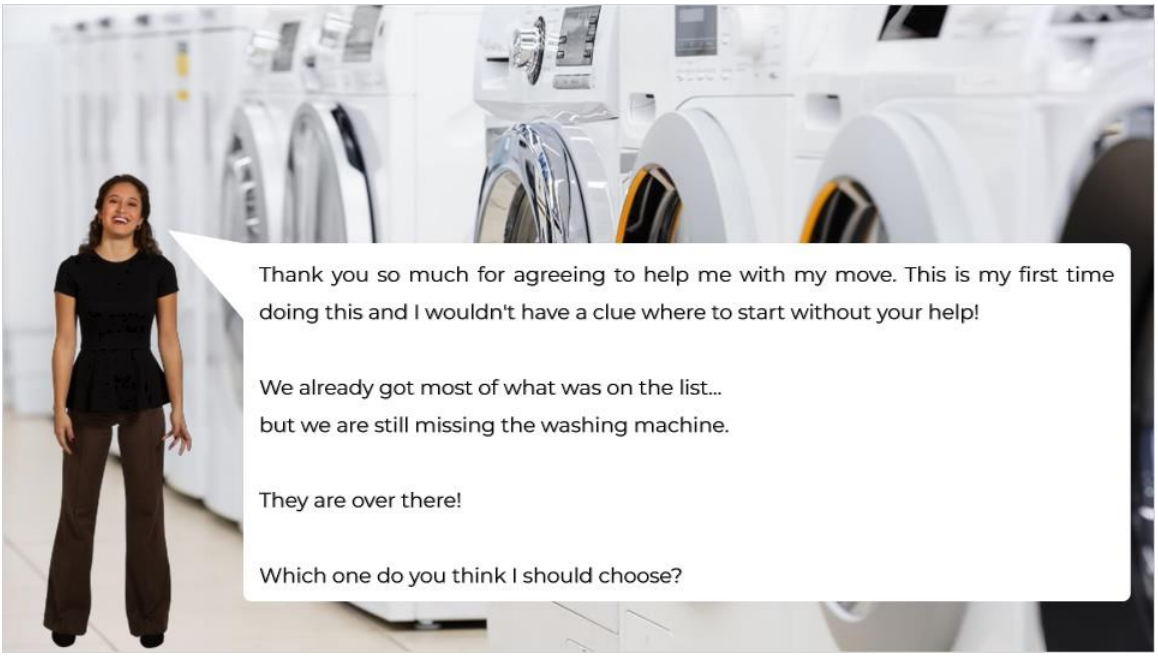
Back to Responsible Use of Resources menu

5.4. Beginner Scenario Responsible Use of Resources

5.4.1 RUR: Scenario - Beginner

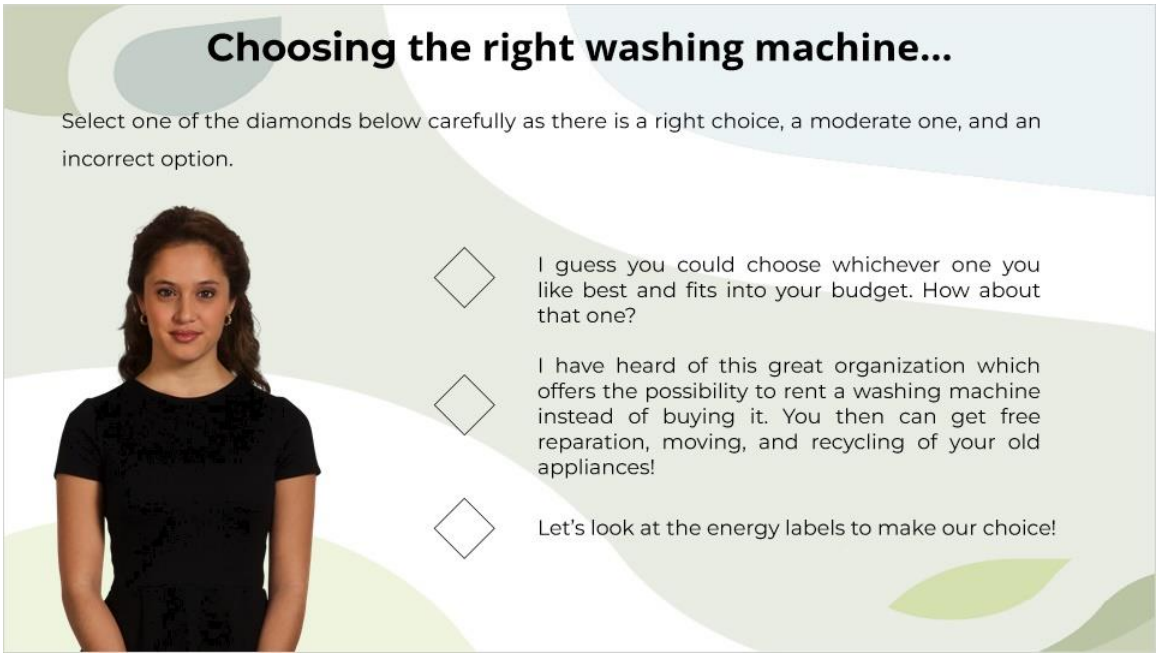


5.4.2 RUR: Scenario - Beginner

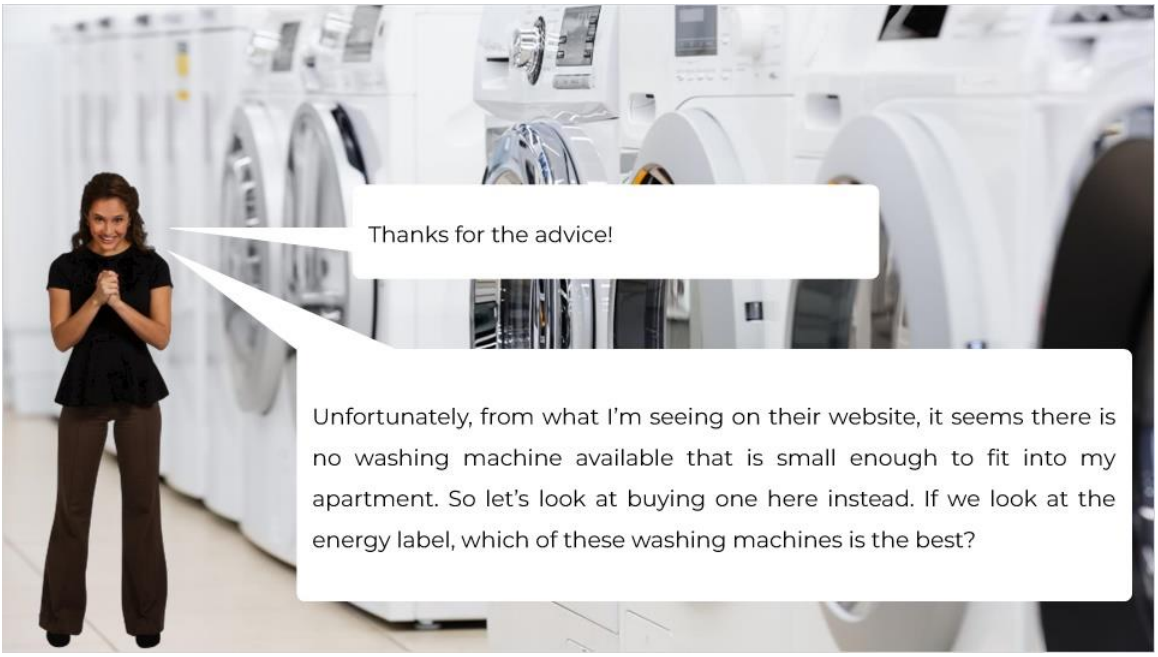


5.4.3 RUR: Scenario - Beginner: Question 1

(Pick One, 10 points, 1 attempt permitted)

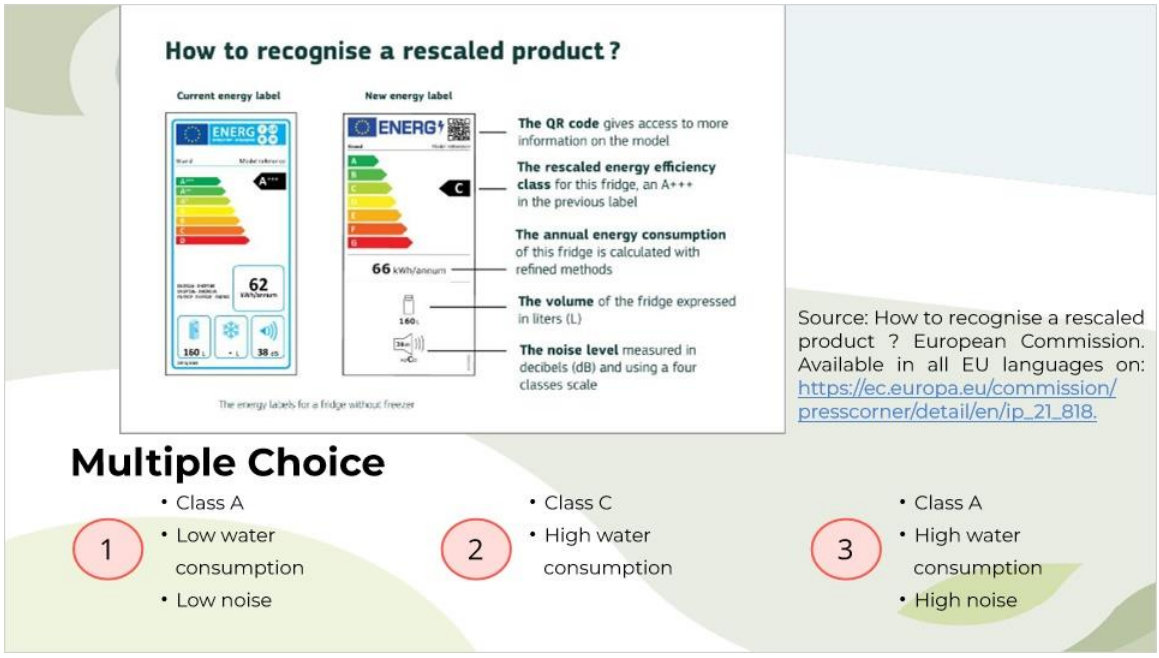


5.4.4 RUR: Scenario - Beginner

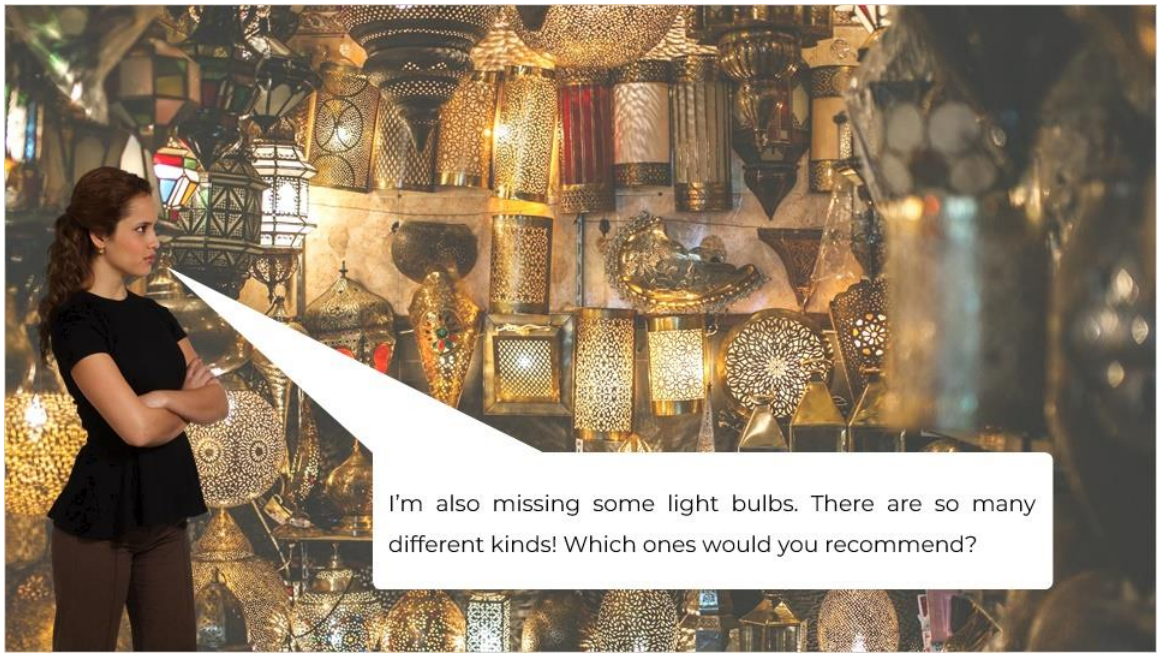


5.4.5 RUR: Scenario - Beginner: Question 2

(Pick One, 10 points, 1 attempt permitted)

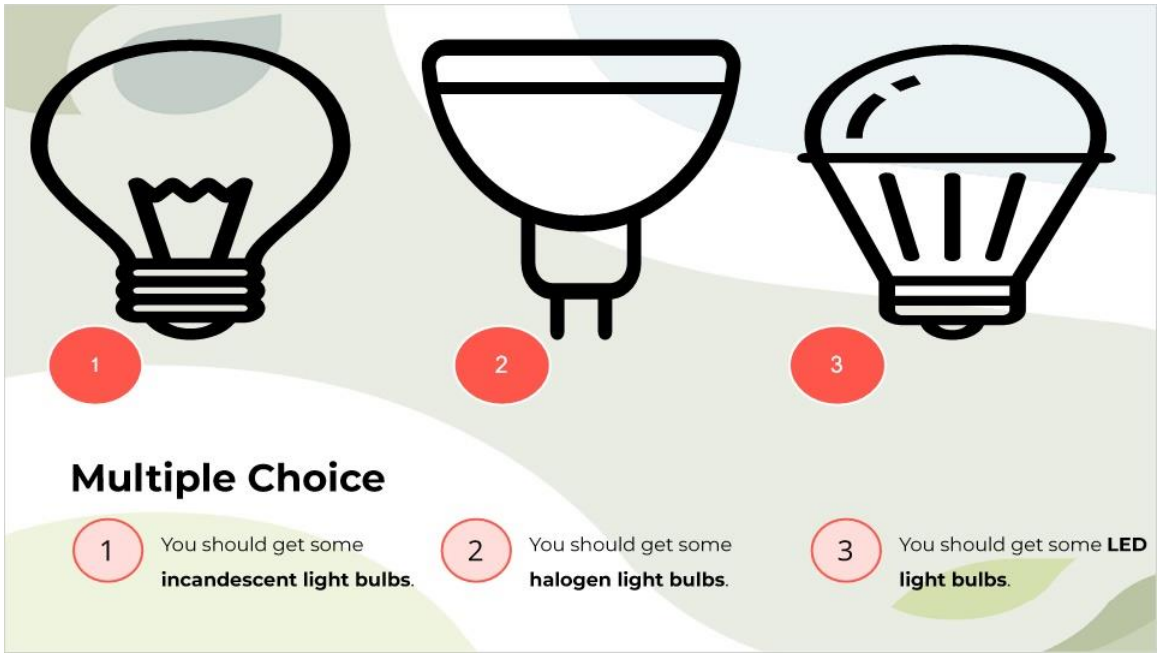


5.4.6 RUR: Scenario - Beginner

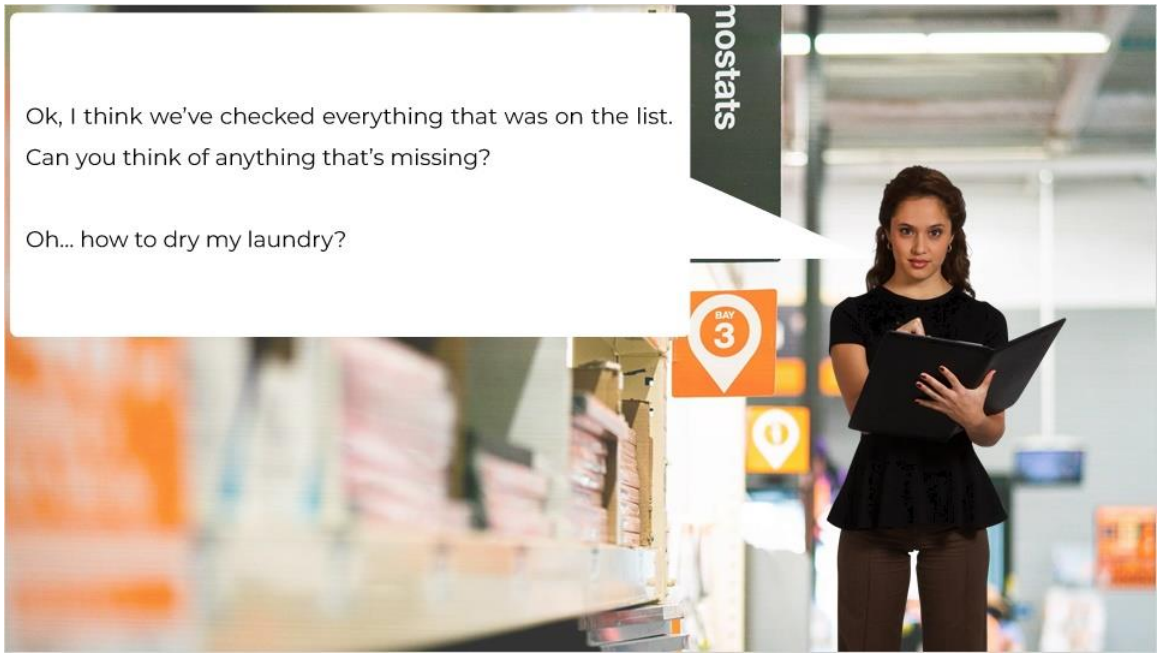


5.4.7 RUR: Scenario - Beginner: Question 3

(Pick One, 10 points, 1 attempt permitted)

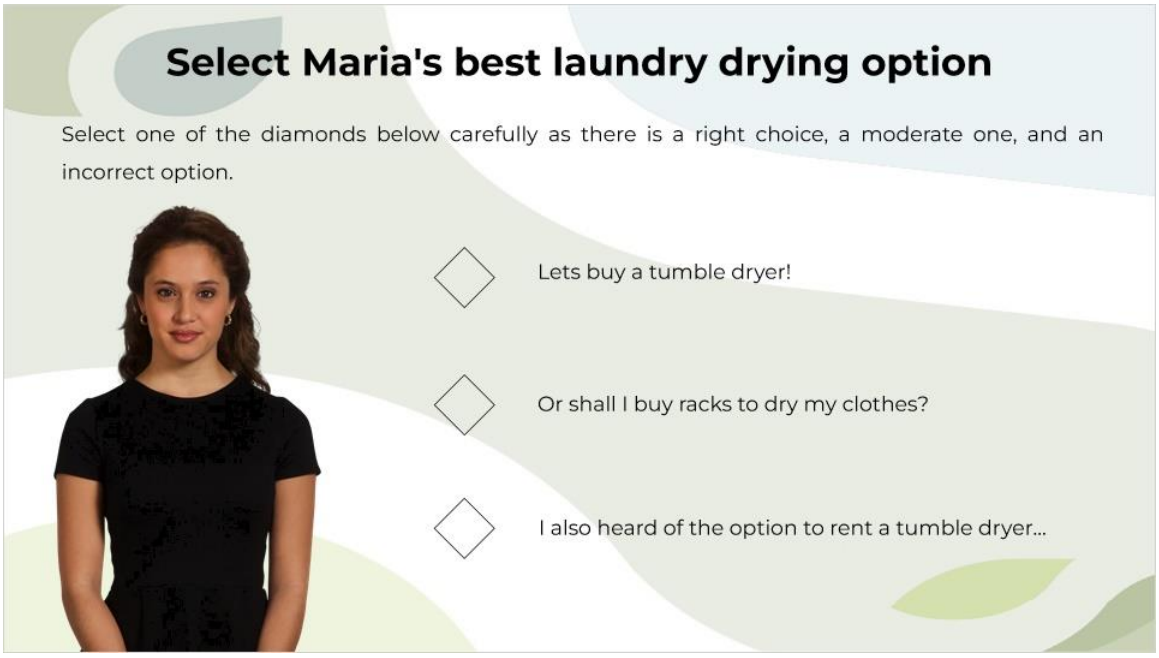


5.4.8 RUR: Scenario - Beginner



5.4.9 RUR: Scenario - Beginner: Question 4

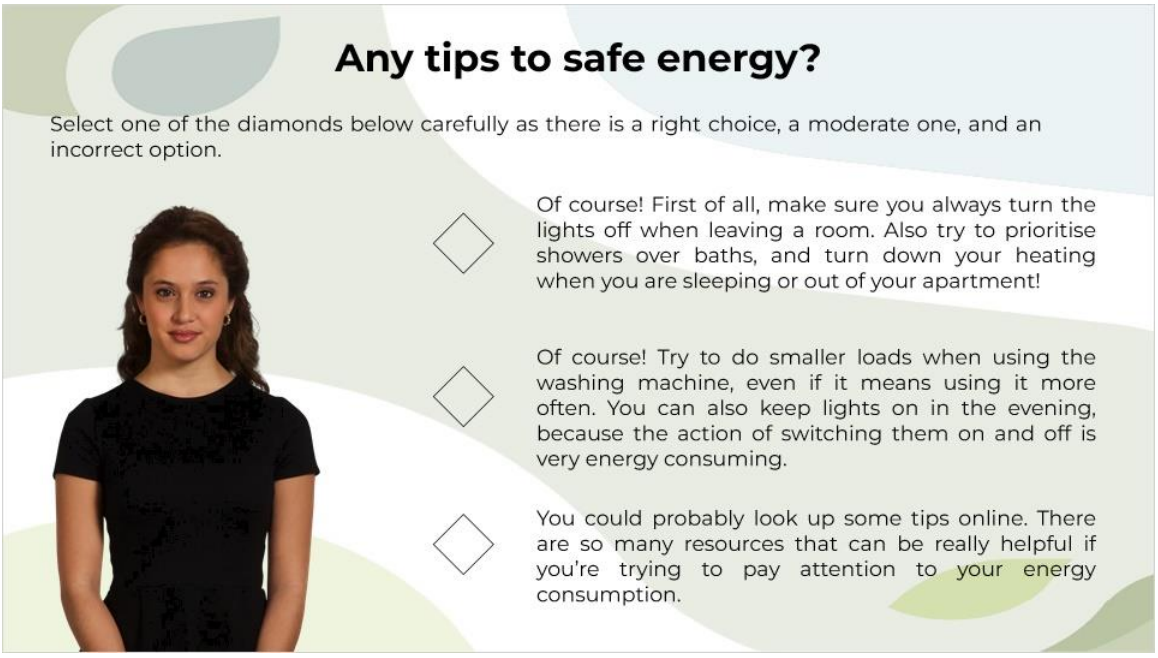
(Pick One, 10 points, 1 attempt permitted)



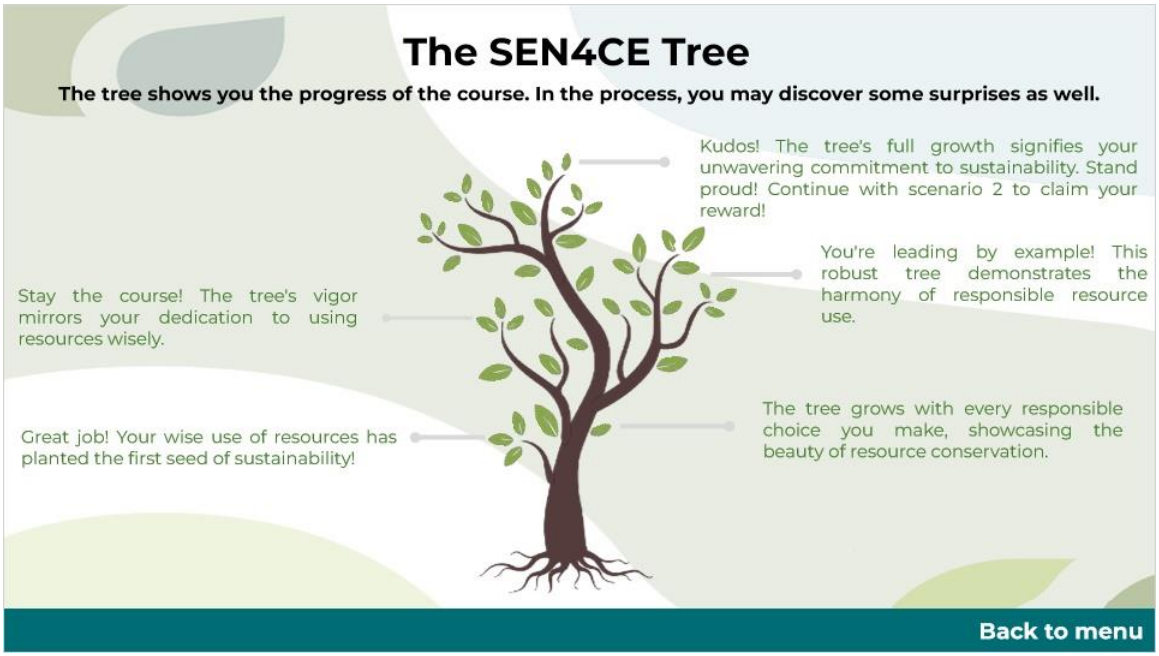
5.4.10 RUR: Scenario - Beginner

5.4.11 RUR: Scenario - Beginner: Question 5

(Pick One, 10 points, 1 attempt permitted)

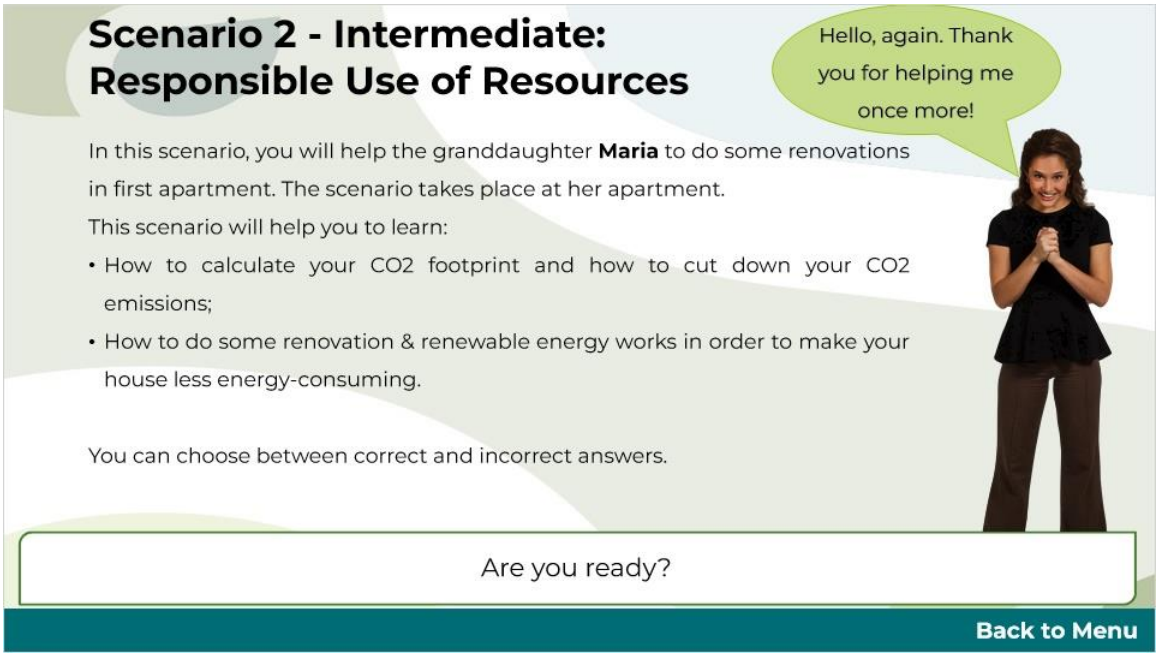


5.4.13 RUR: Scenario - Beginner (SEN4CE Tree)

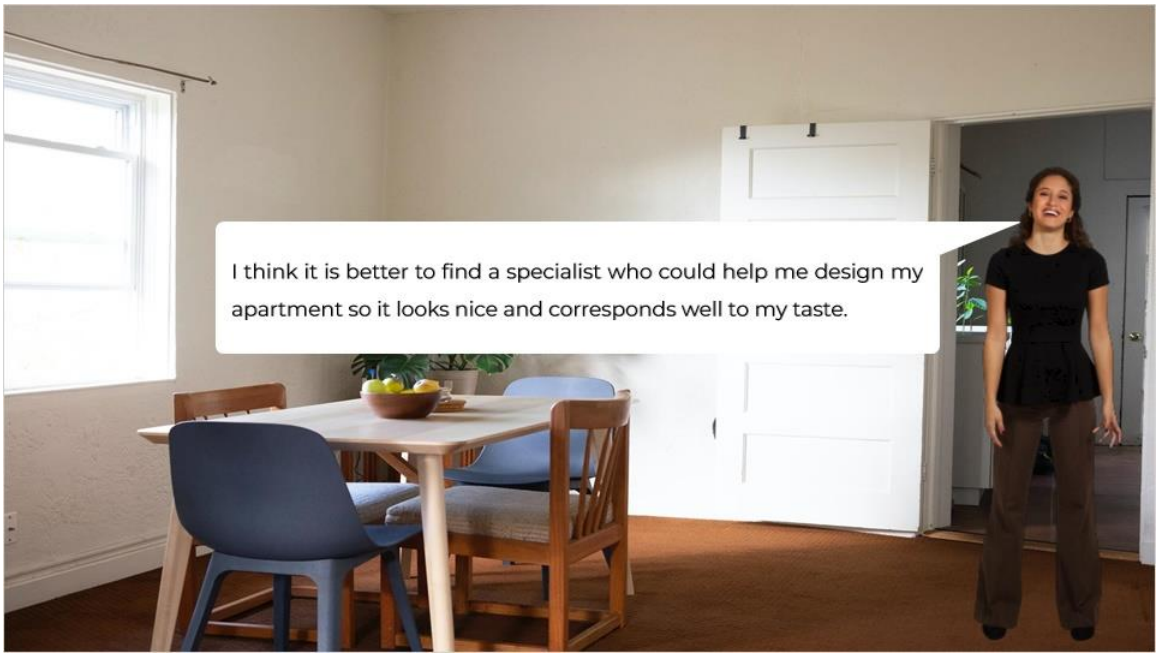


5.5 Intermediate Scenario Responsible Use of Resources

5.5.1 RUR: Scenario - Intermediate

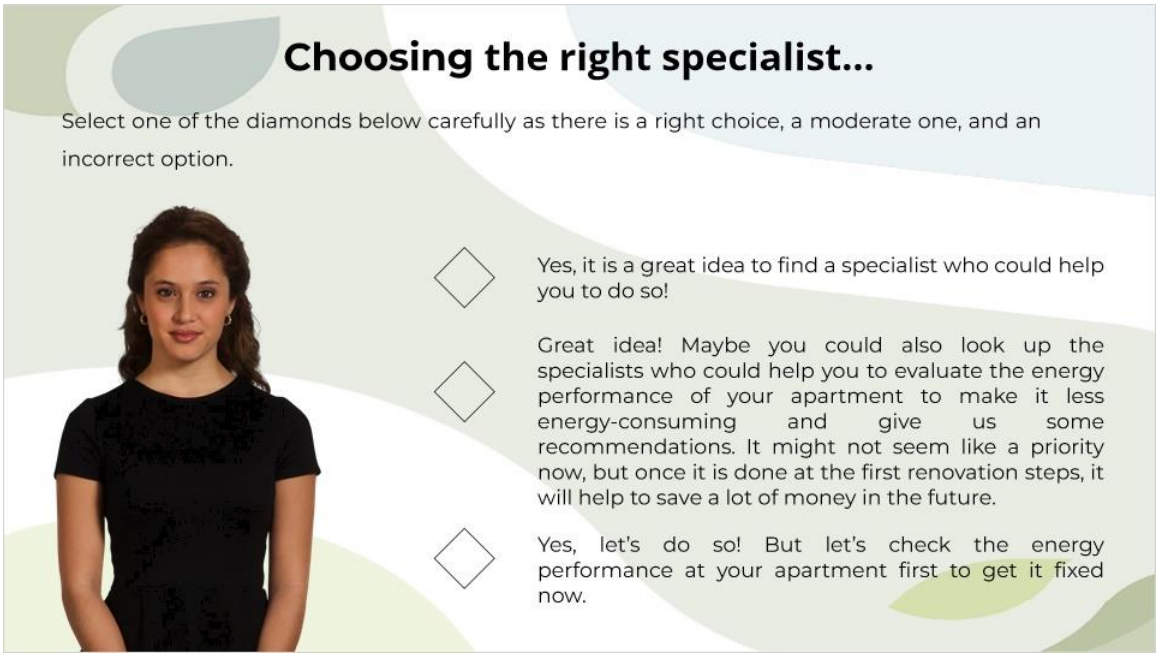


5.5.2 RUR: Scenario - Intermediate

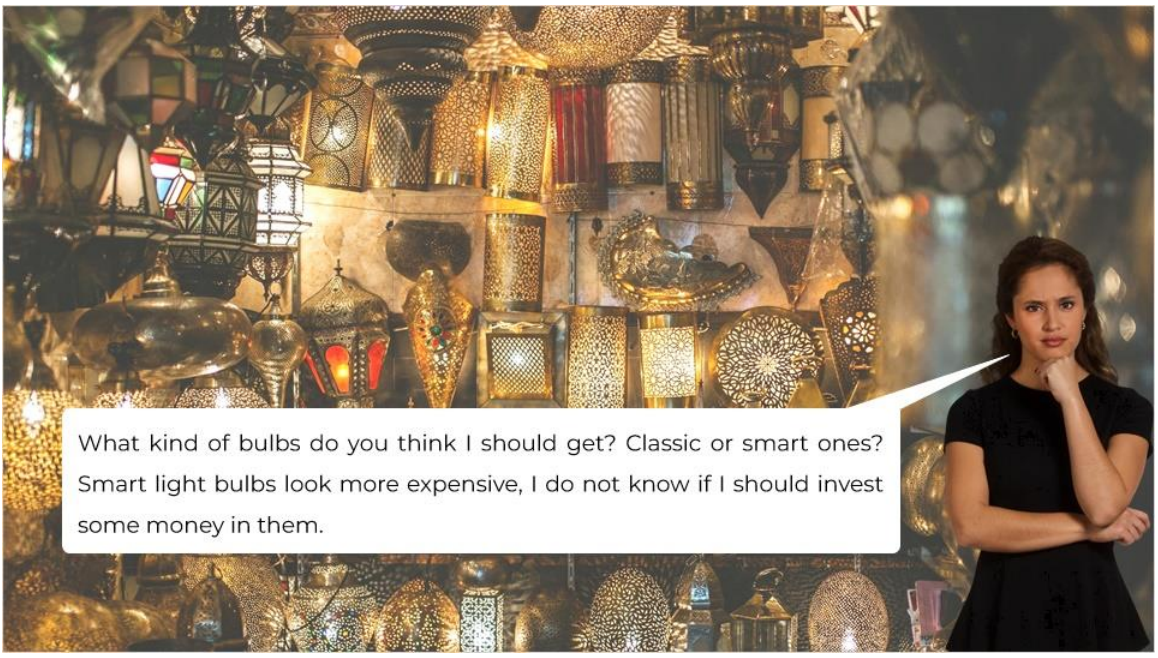


5.5.3 RUR: Scenario - Intermediate: Question 1

(Pick One, 10 points, 1 attempt permitted)

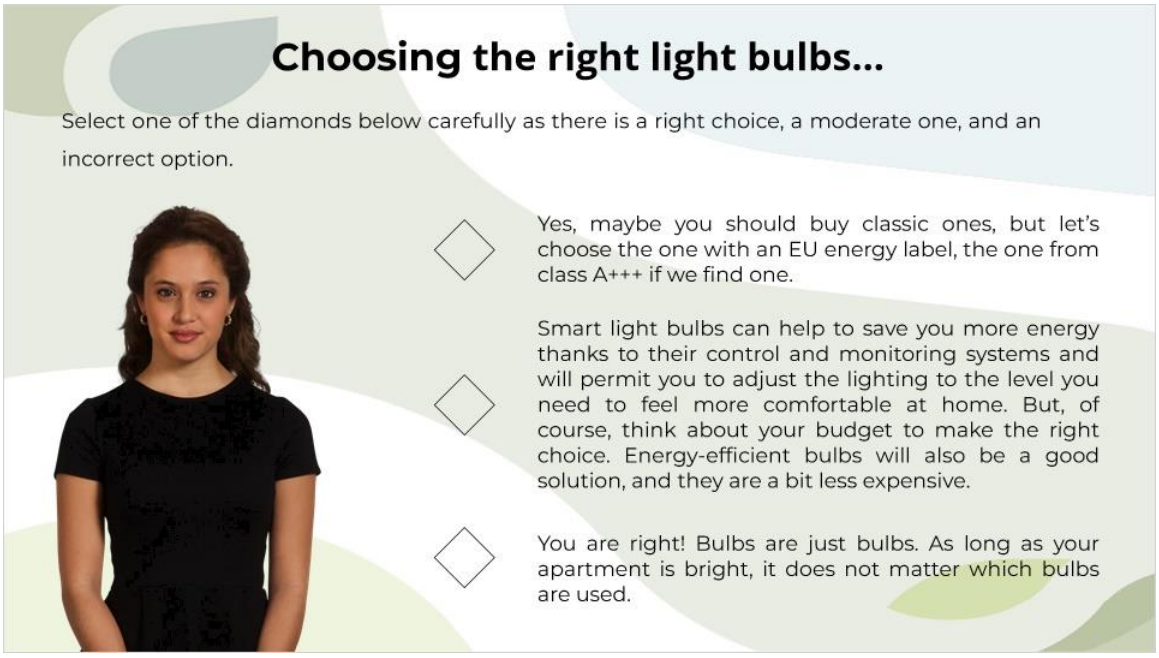


5.5.4 RUR: Scenario - Intermediate



5.5.5 RUR: Scenario - Intermediate: Question 2

(Pick One, 10 points, 1 attempt permitted)



5.5.6 RUR: Scenario - Intermediate

5.5.7 RUR: Scenario - Intermediate: Question 3

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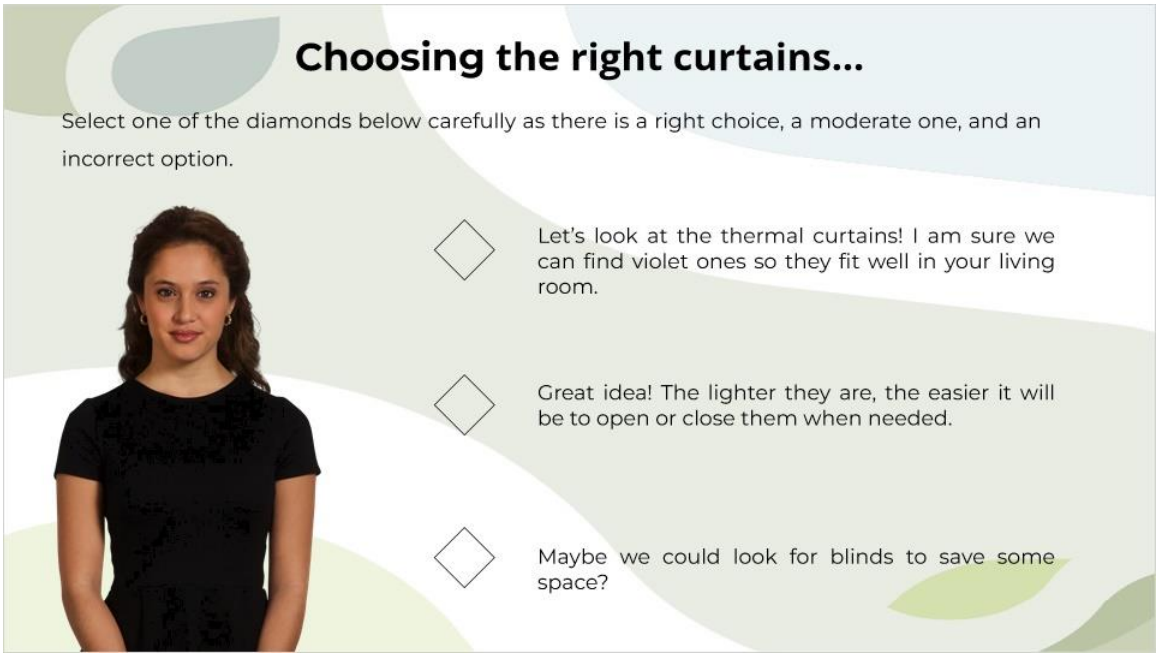
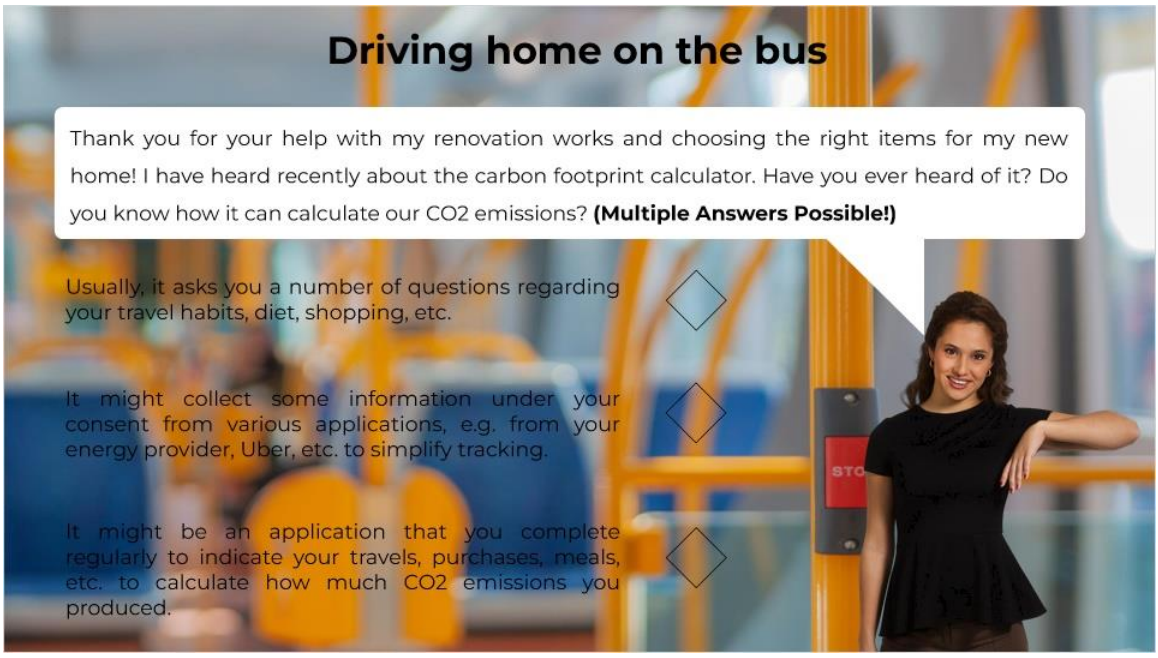


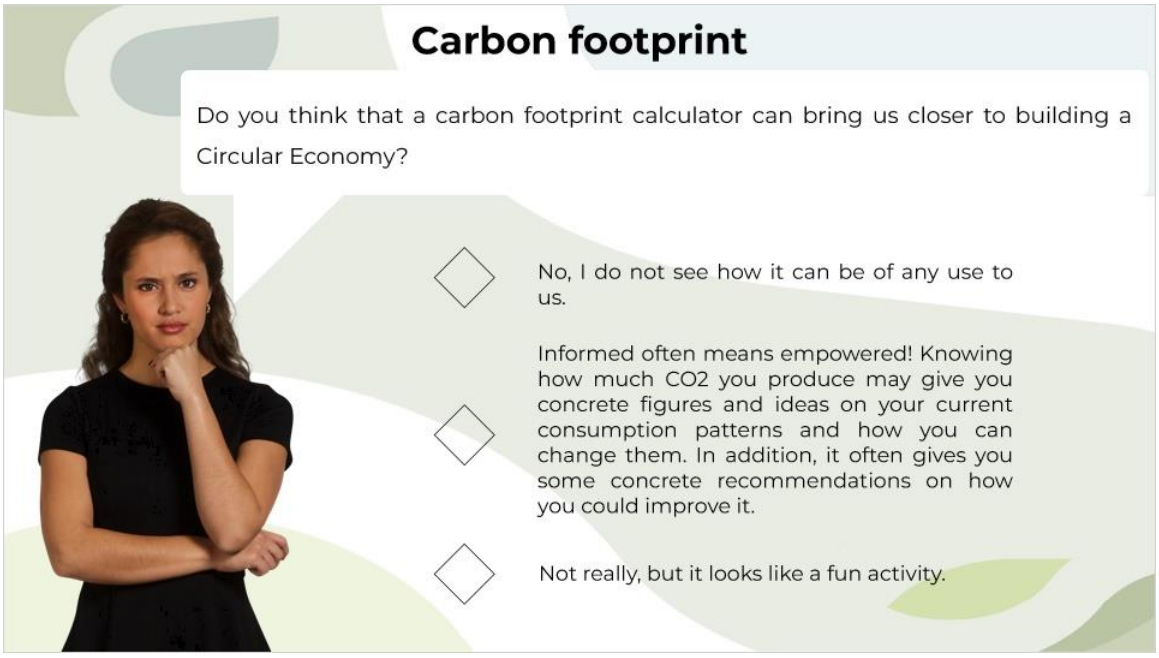
5.5.8 RUR: Scenario - Intermediate

(Pick Many, 10 points, 1 attempt permitted)



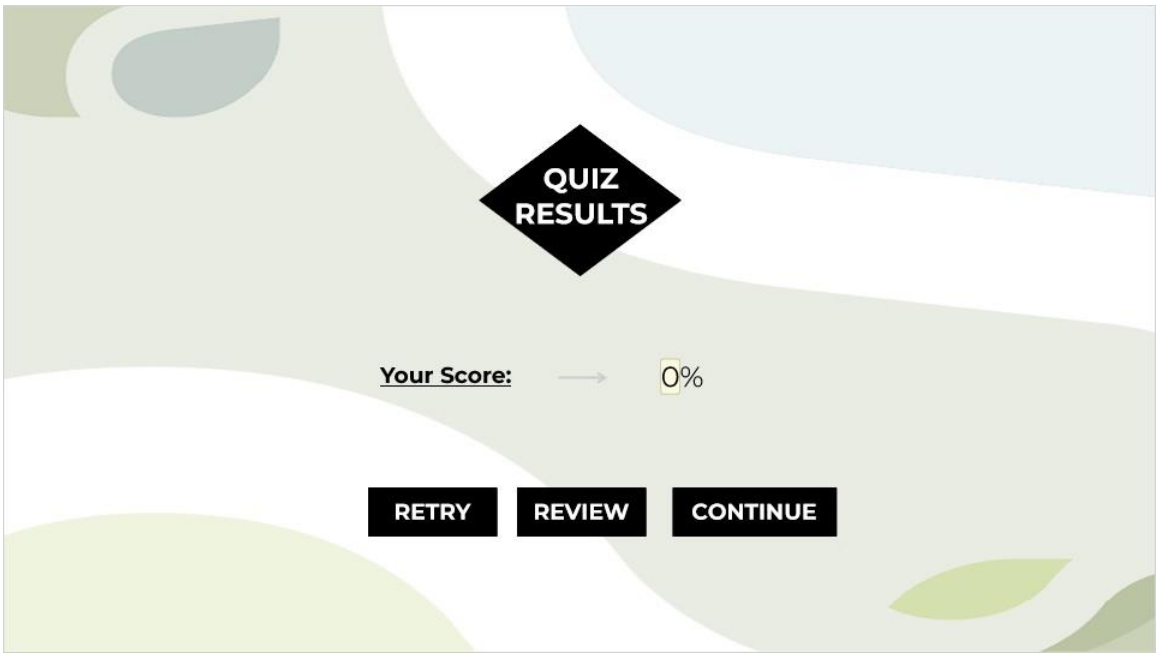
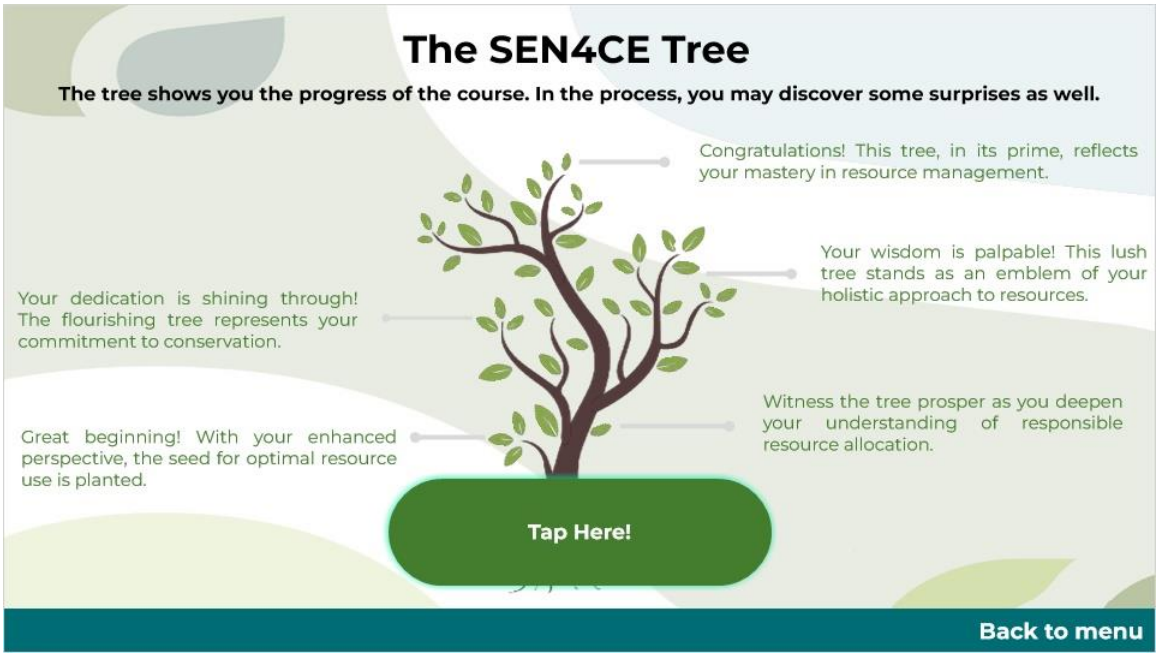
5.5.9 RUR: Scenario - Intermediate: Question 4

(Pick One, 10 points, 1 attempt permitted)



5.5.10 RUR: Scenario - Intermediate (Quiz Results)

(Results Slide, 0 points, 1 attempt permitted)



5.5.11 RUR: Scenario - Intermediate (SEN4CE Tree)