



## Future skills for a better life in a sustainable salon



## INDEX

Introduction .....	2
Sustainability.....	3
The concept: What does “sustainability” mean?.....	3
When are you sustainable?.....	9
Scans on sustainability.....	10
Climate change .....	15
Unhealthy planet .....	17
Sustainable development goals .....	20
People, planet, profit.....	24
Carbon footprint .....	26
Energy .....	28
LEVEL 1.....	28
LEVEL 2.....	36
LEVEL 3.....	45
Water .....	51
Water & sustainability .....	51
How can we be more sustainable with water in general and in a hairdresser salon (How-to’s) .....	65
Management and Water at a hairdresser salon .....	69
Waste and recycling.....	72
Waste and why it is a growing problem .....	72
How to minimize waste at a hairdresser salon (reduce / reuse / recycle) .....	80
Management and recycling .....	81
Management.....	96
1. Manage your purchase budget.....	103
2. Manage stocks .....	103
3. Always be constant .....	104
4. Avoid clutter.....	104
5. Automate management.....	104
How do I find suppliers? .....	110
What should I be looking for in a supplier? .....	111
<b>How to ask for a discount</b> .....	119

## Introduction

No one knows what the future holds. But suppose you were to be a step closer, you could make preventive adjustments to become one of the better salons in the near future.

Were you already thinking about the profile of the hairdresser anno 2030? What will be expected of you?

To be sure, the focus will be on sustainability, digitalization and entrepreneurship.

But what do you already know about these topics and how can your know-how help us to write the correct profile?

With this educational material, we will find out together. Keep in mind that it's not only the beauty of the hair you need to see, but also the beauty of our planet .



## Sustainability

The concept: What does “sustainability” mean?



What do you think “sustainability” means being a hairdresser?

Write down words or short sentences.

**SUSTAINABILITY**



Would you be able to give a definition to the word “sustainability”?

Sustainability means

.....

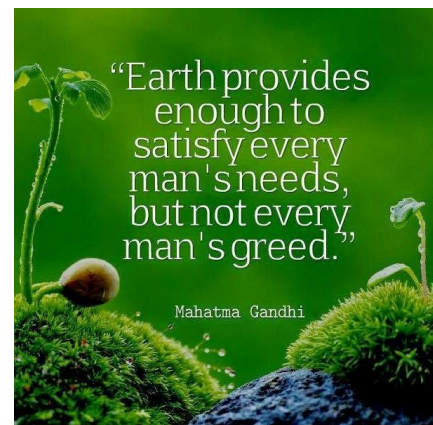
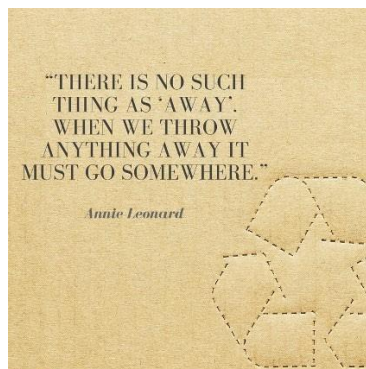
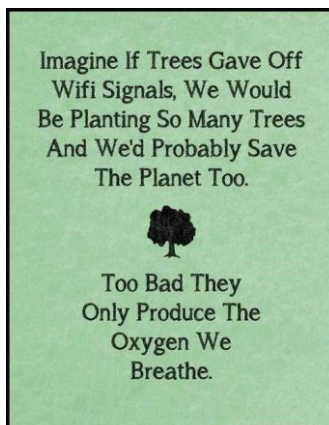
.....

.....

.....



Have a look at the following quotes. What do they say about “sustainability”?



.....	.....	.....
.....	.....	.....
.....	.....	.....
.....	.....	.....
.....	.....	.....

To have a clear idea about how to pay attention to sustainability as a hairdresser, you need to be able to properly assess the different work items.



Have a look at the pictures and name the different work stations in a salon.



.....

.....



.....

.....





- ✂ Do you have an idea about which work station produces the most waste?
- ✂ Which natural element would be polluted the most?
- ✂ What is the biggest waste produced in the hair salon, according to you?
- ✂ Do you think customers are engaged in sustainability in the hair salon?
- ✂ Could you leave out certain services in the salon to act more sustainably?
- ✂ Could you make certain sustainable choices to have a more favorable effect on pollution?
- ✂ Do you think being sustainable costs a lot of money?
- ✂ As a future hairdresser or barber yourself, have you thought about sustainable concepts?
- ✂ Do you have enough knowledge to make sustainable choices?



Have a look at the picture. Can you fill in the eco-friendly actions taken by the hairdresser?







Think about the salon where you work as a trainee or a qualified hairdresser.

Can you think of any sustainable modifications that has already been taken? If not, can you think of some yourself?

	Sustainable modifications
 Shampooing	
 Cutting	
 Colouring	
 Perming	
 Styling	
 Management	



Have a look at the following site:  
<https://www.greensaloncollective.com/>

Try to fill in the grid.

Salon waste	Ways of recycling	Positive influences on ...
Hair		
Metals		
Chemicals		
Towels		
PPE		
Plastic		
Paper		

Food		
------	--	--







## When are you sustainable?



For this assignment you need to work in pairs.

Find a salon in your neighborhood that you think is working sustainable.

Make a presentation of the salon using the guidelines below.

-  Prepare 10 questions you are going to ask the hairdresser(s) in the salon. Make sure you focus on sustainability.
-  Make a physical appointment or schedule an online conversation with camera.
-  Note the answers you get during the interview.
-  Ask for illustrative material to include in your presentation.
-  Prepare a presentation about the sustainability of the salon.
-  Present your presentation to the class group.





Which hairdresser is the most sustainable according to you and why?


What standards must a salon comply with to be considered as being sustainable?


**Sustainable?**


Yes, if ...











## Scans on sustainability

One of the main goals of the Project Future skills for a better life in Sustainable Salons is to develop self assessment tools on environment in the school and salon. We have developed 4 tools:

- two awareness tools for school and salon
- one extended tool to map the status of the environment in the school or salon
- one tool on the organizational aspects on environment.

The tools are internet based and work on telephone, tablet or PC. The languages of 3 self-assessment tools: English, Dutch, Italian, Spanish.

- Awareness scan schools: [https://zelfscan.eu/awareness\\_schools](https://zelfscan.eu/awareness_schools)
- Awareness scan salons: [https://zelfscan.eu/awareness\\_salons](https://zelfscan.eu/awareness_salons)
- Extended self assessment scan: Is your company/school sustainable?
- Scan Organization context of a sustainable salon (only in English)



We will divide in 3 groups to take the scans and process the results.

- First group: You will take the awareness scan from 5 different teachers at 3 different hairdressing schools. You keep a good record of the results of the scans to create a clear overview in charts later.
- Second group: You will take the awareness scan in 15 different salons, preferably across the country. You keep a good record of the results of the scans to create a clear overview in charts later.
- First group + second group: You will take the extended scan in 5 different salons, depending on the need and the results of the awareness scan.
- Third group: You will take the scan on organization context of a sustainable salon from 5 recently opened businesses (up to 1 year) and 5 salons that are already open for more than 1 year, but less than 5 years and 5 salons that are open for more than 5 years.



In your groups make clear graphic visuals on the results of the different scans and formulate a conclusion.

I hope the graphic visuals have given you a clear view on the results of the different scans. Write the conclusions that were made underneath:

Conclusion awareness scan schools:

.....

.....

.....

.....

.....

Conclusion awareness scan salons:

.....

.....

.....

.....

.....

Conclusion extended scan salons:

.....

.....

.....

.....

.....

Conclusion scan on organization context of a sustainable salon:

.....

.....

.....

.....

.....



Discuss about the results of the scans.

- What were you positively surprised about?
- What were you negatively surprised about?
- Did the results provide new information you didn't think about or didn't hold into consideration?
- Do you agree on the different conclusions made?
- What will be the future goals on sustainability? Chose 5 of them.

When making up goals for the future, you need to be aware of two different ways to do so. You can plan goals on a short term and you can plan goals on a long term.

For each principle it is best to use the PDCA-circle, where the P stands for PLAN, the D stands for DO, the C stands for CHECK and the A stands for ACT.

The PDCA- cycle is a four-step model for carrying out change. Just as a circle has no end, the PDCA cycle should be repeated again and again for continuous improvement. The PDCA cycle is considered a project planning tool.



### The Plan-do-check-act procedure

1. Plan: Recognize an opportunity and plan a change.
2. Do: Test the change. Carry out a small-scale study.
3. Check: Review the test, analyze the results, and identify what you've learned.
4. Act: Take action based on what you learned in the study step. If the change did not work, go through the cycle again with a different plan. If you were successful, incorporate what you learned from the test into wider changes. Use what you learned to plan new improvements, beginning the cycle again.



We divide into two groups.

Group 1: Make up a short term plan to achieve the goals set in the discussion.

Group 2: Make up a long term plan to achieve the goals set in the discussion.

Use the template on the next page, including the PDCA-principles.



Goals	Short term plan	Plan	Do	Check	Act

Goals	Long term plan	Plan	Do	Check	Act



Try to put your goals and short and long term plans into an advice.

The intention is to share your advice with the schools and hair salons that participated in the scans.

You can do this by e-mail.

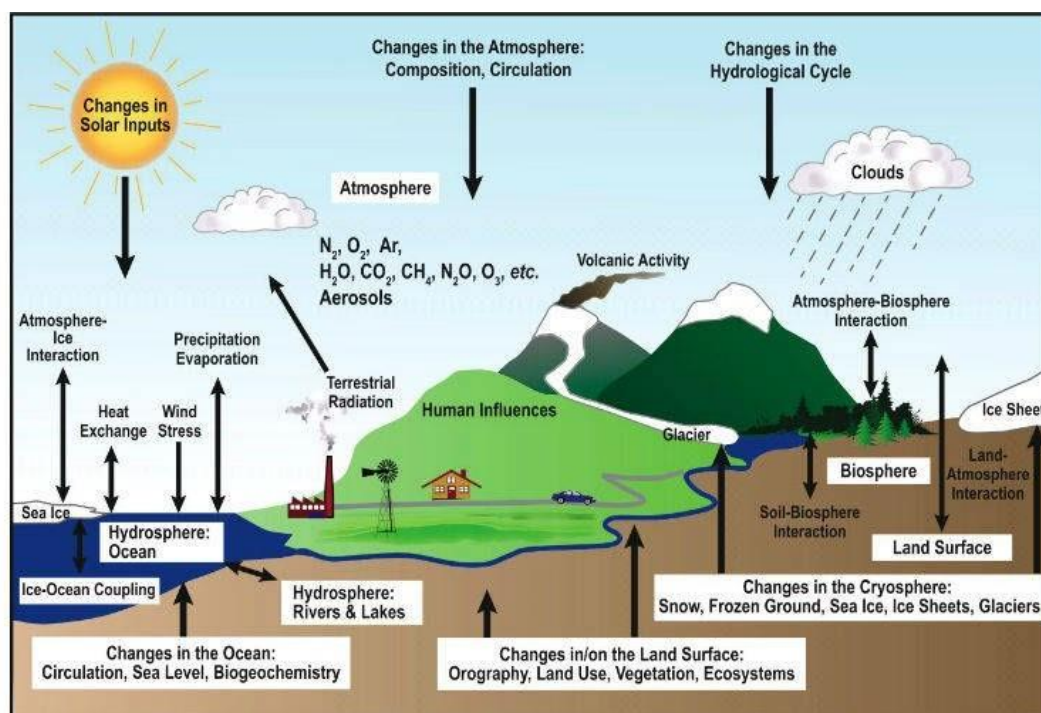
## Climate change

To determine climate, we look at the 30-year average of temperature, humidity, air pressure, wind, cloud cover and precipitation. Daily and annual variations and how often extremes occur are also important. Examples of extremes are heat waves and heavy rain with flooding or inundation.

It's important to know how the climate works.

The sun heats the earth. Part of the solar radiation bounces back, while another part is converted into heat. Greenhouse gases such as water vapour and carbon dioxide trap some of the thermal radiation from the ground. Without this warm blanket effect, the earth would be much colder.

Wind and ocean currents play an important role in distributing heat around the Earth. These heat transports ensure that the temperature difference between the tropics and the poles is not much larger than observed. The relationship between the atmosphere, the ocean, the land surface, snow and ice, and the biosphere (trees, plankton, etc.) is of great importance.





Look at the picture on the previous page.

Give a concrete example for the given changes.

CHANGES	EXAMPLE PER CHANGE	EXAMPLE PER CHANGE	EXAMPLE PER CHANGE	EXAMPLE PER CHANGE
Changes in the ocean				
Changes in/on the land surface				
Changes in the cryosphere				
Changes in the atmosphere				
Changes in the hydrological cycle				

## Unhealthy planet

We all know about the climate changes and we all know that it's really time to be taking care of our precious planet. The clock is ticking ... and it's ticking fast.



Read the article by clicking on the link <https://www.theactuary.com/features/2021/10/07/unhealthy-planet-unhealthy-people> or ask your teacher to get the text on paper.

Answer the questions below.

1. Give 3 possible impacts of climate change on health.

.....

.....

.....

2. Give 4 social and economical impacts of climate change.

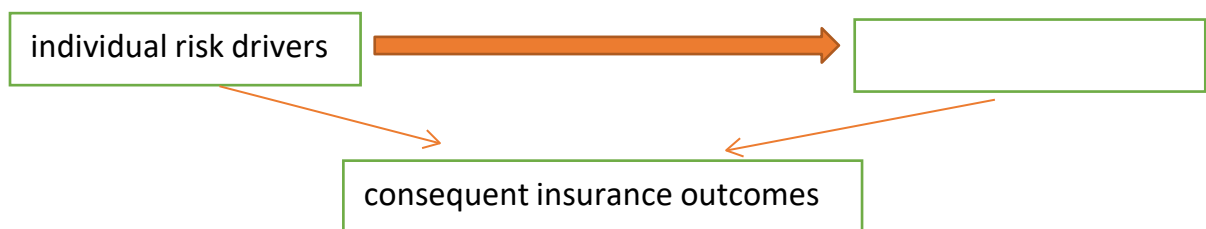
.....

.....

.....

.....

3. Note down the missing links in the framework.



4. What are the short-term health effects of air pollution?

.....

.....

.....

.....

5. What are the long-term health effects of air pollution?

.....

.....

.....

.....

6. Which impact does the use of fossil fuels have on the climate?

.....

.....

7. To which diseases will lead extreme temperatures?

.....

.....

8. Which negative effect can the use of pesticides have on the nature?

.....

9. Look at the picture on the next page. Talk about what you can see in the picture and try to give continental examples of your own country. For example: weather changes can lead to floods -> summer of 2021: extreme flooding in the Ardennes in Belgium -> people homeless -> migration

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

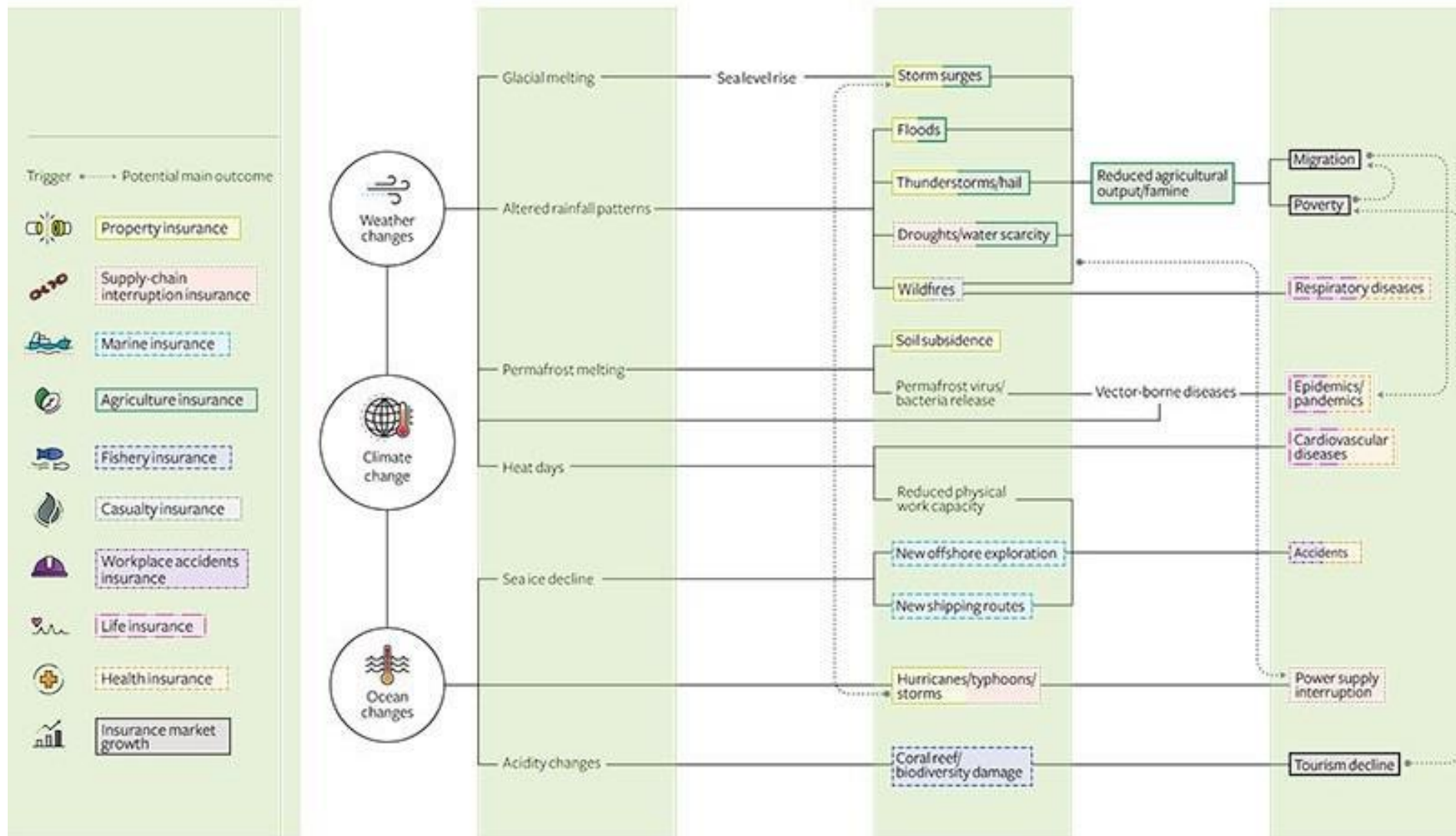
.....

.....

.....

.....







You will do corner work. On each corner is a different task that you will complete in groups of 3 pupils. After 20 minutes, each group moves on to the next corner with a new assignment. There are 5 assignments to complete.

Go to the website: [https://ec.europa.eu/clima/sites/youth/impacts\\_en](https://ec.europa.eu/clima/sites/youth/impacts_en)

On each table you will find the assignment:

- Assignment 1: measuring change
- Assignment 2: extreme weather
- Assignment 3: effects on humans
- Assignment 4: effects on biodiversity
- Assignment 5: oceans to the frontline

### Sustainable development goals

The United Nations' Agenda 2030 for Sustainable Development poses a challenge to many governments. Agenda 2030 represents an integrated approach to the various dimensions of sustainable development, with no fewer than 17 objectives and 169 sub-objectives. Goals that are also interlinked.



Look at the small video on YouTube and answer the key questions.

<https://www.youtube.com/watch?v=b6qPnu82OVU>

When did the United Nations approve the Agenda 2030?

.....

What is the main purpose of the sustainable development goals or SDG's?

.....

.....

To which 5 P's do the SDG's relate?


.....

.....







.....

.....

Define the 17 goals.

Symbol	What do they mean exactly?
	
	
	
	

 <p><b>5</b> GENDER EQUALITY</p>	
 <p><b>6</b> CLEAN WATER AND SANITATION</p>	
 <p><b>7</b> AFFORDABLE AND CLEAN ENERGY</p>	
 <p><b>8</b> DECENT WORK AND ECONOMIC GROWTH</p>	
 <p><b>9</b> INDUSTRY, INNOVATION AND INFRASTRUCTURE</p>	

 <p><b>10</b> REDUCED INEQUALITIES</p>	
 <p><b>11</b> SUSTAINABLE CITIES AND COMMUNITIES</p>	
 <p><b>12</b> RESPONSIBLE CONSUMPTION AND PRODUCTION</p>	
 <p><b>13</b> CLIMATE ACTION</p>	
 <p><b>14</b> LIFE BELOW WATER</p>	
 <p><b>15</b> LIFE ON LAND</p>	

If we go back to one of the goals of the project “Future skills for a better life”, namely sustainability and to be able to have more “Sustainable Salons” in the future, which of the SDG’s may then seem important to you? Why?

.....

.....

.....

.....

.....

### People, planet, profit

In order to make a company sustainable, you need to take 3P’s into consideration: people, planet and profit.

The people, planet and profit theory holds that a business must ensure that all people affected by it will benefit in some way. For the company's employees, this might mean paying adequate compensation, ensuring safe working conditions and even encouraging employees to understand the value of their work.

When the combination is not harmonious, the other elements will suffer, the thinking goes. For instance, when profit is given too much priority, people and the environment will suffer, for instance through poor working conditions or destruction of nature. Conversely, this mindset also sees the profit motive as an essential element of development that should not be neglected.



To give you a better understanding on what this could mean for a hairdresser salon, listen the podcast on <https://tvendange.com/paul-frasca/> or ask your teacher the full transcription of the podcast on paper.



We will divide in 3 groups.

After listening to the podcast, you have to be able to put examples in the 3 circles: people, planet and profit.



## Carbon footprint

The Consumer Footprint Calculator allows you to calculate the environmental impacts of your consumption pattern, as well as to evaluate how changes in your lifestyle may affect your personal footprint. It considers five areas of consumption, namely food, mobility, housing, household appliances, and household goods.

The tool is based on a life cycle thinking approach, meaning that it considers the impacts occurring along the entire life cycle of the products and the energy that you consume.

The Consumer Footprint calculator covers 16 environmental impact indicators related to emissions generated into soil, water, and air as well as to resource use. These 16 indicators are those adopted in the European Commission Product Environmental Footprint method and can be aggregated into a single score. This Calculator allows you to evaluate the impacts of your consumption, to help achieve SDG 12 on responsible consumption, and many other Sustainable Development Goals.

Source: <https://knowsdgs.jrc.ec.europa.eu/cfc>



How big is your carbon footprint and what can you do to improve it? Underneath there are different tests you can do on the internet.

<https://footprint.wwf.org.uk/#/>

<https://eplca.jrc.ec.europa.eu/ConsumerFootprint.html>

<https://www.nature.org/en-us/get-involved/how-to-help/carbon-footprint-calculator/>

<https://footprintcalculator.henkel.com/en>

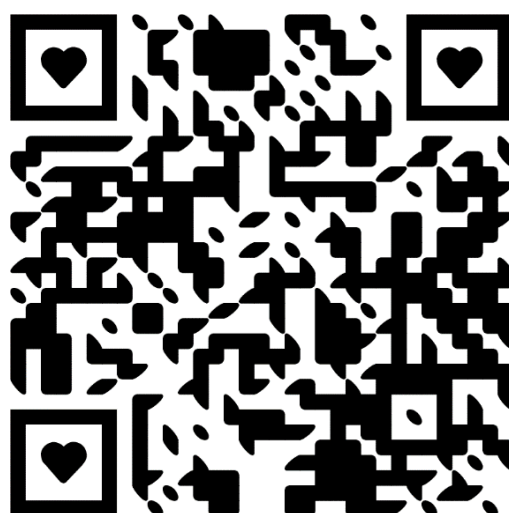


What can you tell about your carbon footprint?

Compare your results to other results from the students in the classroom who took the same test.

What advices will you pick up on?

Scan the QR-codes below and watch the videos on the ecological footprint.



Campaign to make hairdressers aware of the impact of their carbon footprint



Let's finish of this chapter with a creative assignment.

You will work in pairs.

You will start up a campaign (poster, flyer) to make hairdressers aware of the impact of their carbon footprint and how to be as sustainable as possible.

Make sure you tick of all the criteria given on the evaluation form.



# Energy

## LEVEL 1

### Energy and sustainability

In hairdressing salons, a lot of energy is used to carry out professional services (hairstyles, blow-dries, dyes...) but also to condition the premises. Can you imagine a hairdressing salon where there was no electricity or hot water? For this reason, we are going to try to familiarize ourselves with the concept and origin of energy, its consequences for the environment, and what we can do, in our day-to-day lives, to reduce consumption and save money, which is always necessary.

We are very used to using words such as renewable energies, sustainability, electricity... and perhaps we do not know very well how to differentiate between all these concepts. That is why the first thing we should address is what we are referring to when we talk about Energy and its types, as well as the different sources of energy that exist.

#### 1. General concept of energy.

Energy is the ability of matter to perform work because of its constitution (internal energy), its position (potential energy) or its motion (kinetic energy).

To understand this definition we are going to give you an example: When you are drying a client's hair, the dryer emits heat thanks to the power of its motor (internal energy), you dry the roots first (potential energy) and then you air the hair (Kinetic energy). Of course you could dry your hair using only one of these energies, but the use of all of them speeds up the process.

In short, we can say that energy is the ability of bodies to perform work and produce changes in themselves or in other bodies, allowing things to function.

If we look around us, we will see how energy is present everywhere. For example, the blades of a windmill are moved by the energy produced by the wind, people walk thanks to the energy that food provides us, bicycles move thanks to the energy produced by the movement of the pedals...

Therefore, the Energy is essential for life because it is the cause of the changes and transformations that we are constantly seeing around us.

Energy has 4 basic properties:

**It transforms.** Energy is not created, but is transformed and it is during this transformation that the different forms of energy are manifested. Example: The heat of the Sun is transformed into mechanical energy when heating the air, causing the wind. Or electrical energy is transformed into light when we turn on a lamp.

**It is preserved.** At the end of any energy transformation process there can never be more or less energy than there was at the beginning, it is always maintained. The energy is not destroyed.

**It is transferred or transported.** Energy passes from one body to another in the form of heat, waves, or work.

**It degrades.** Only part of the transformed energy is capable of producing work and the rest is lost in

the form of heat or noise (unwanted mechanical vibrations).

In short, energy is neither created nor destroyed, it is only transformed into another type of energy.

Source: <https://www.fundacionendesa.org/es/educacion/endesa-educa/recursos/que-es-la-energiao>

## 2. Type of Energy .

Energy can manifest itself in different ways and, depending on the actions and changes it can cause, we can talk about energy:

- **Thermal.** It is associated with the amount of energy that passes from a hot body to a colder one manifesting itself through heat.
- **Mechanics.** It is the energy created by bodies due to their movement.
- **Electric.** It is the energy generated by the movement of positive and negative electrons inside conductive materials.
- **Chemistry.** It is the one that manifests itself through different chemical reactions.
- **electromagnetic.** It is generated by the movement of electric and magnetic particles that move and oscillate at the same time and propagate through space.
- **Nuclear,**It is the energy coming from the disintegration of some atoms, as a consequence of the release of the energy stored in their nucleus.
- **Luminous,** it is the one that is present in the light **etc.**

## 3. The electric energy.

Of all the types of energy that exist, we are going to take a closer look at electrical energy because it is the one we use the most in our daily lives and because, in a hairdressing salon, electricity is the cause of the operation of all large and small appliances (washing machines, dryers, irons...), lighting and, in most cases, air conditioning.

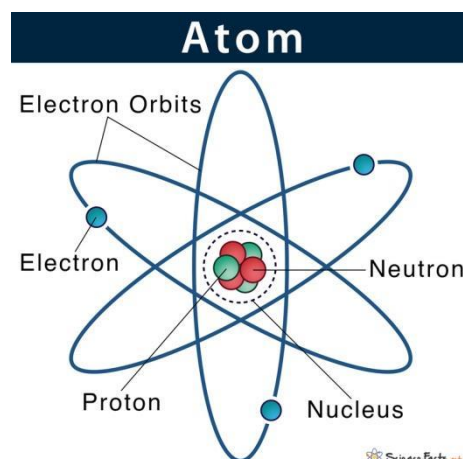
Normally we do not stop to think about how electricity is generated, how it reaches our homes or businesses and why; by flipping a switch or pressing a button, we suddenly have light, we can cook or listen to music. Around us there are all kind of devices, vehicles and appliances that work with electric current. It seems like magic, and we have become so accustomed to that magic that we cannot conceive life without electricity.

But behind any magic trick there is a scientific reason and that is what we are going to explain.

### 3.1. Concept of electrical energy

All bodies or matter are composed of atoms. The atom is the smallest part of a substance, and has a nucleus (center) made up of protons (positive particles) and neutrons (particles without charge).

Electrons (negative particles) move around the nucleus.



Precisely this movement and interaction between the positive and negative electrical charges inside the conductive bodies, generates an energy that is what we call electricity.

This energy generated by electrical charges can manifest itself within four areas: physical (nature), luminous (light), mechanical (movement) and thermal (heat).

Source: <https://www.endesa.com/es/la-cara-e/centrales-electricas/como-se-genera-electricidad>

### 3.2. Electricity production.

Electric energy, unlike the primary energies that are obtained directly from nature (sun, wind, water, gas...), requires a previous transformation before consumption, and that is why we say that it is a secondary energy.

How do we do this transformation?

The step-by-step process is as follows:

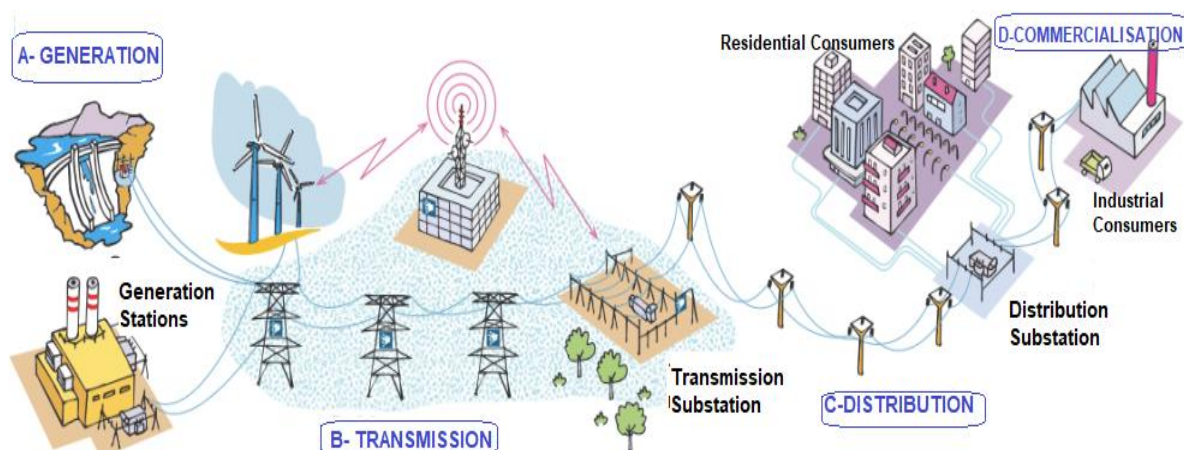
- 1- **Power generation:** Electricity is created in plants capable of obtaining electrical energy from primary energies. These electricity generating plants belong, totally or in part, to private companies that sell the energy generated to the companies that market them (commercializadoras).

**Did you know?** On a small scale and in a particular way, we can also become electricity generating plants, for example by installing a solar panel on the roof of our house. It is what is called self-consumption and even if we generate more electricity than we need, we can sell it and obtain financial compensation for it.

- 2- **Transmission of energy:** once the energy has been obtained and after being converted into electricity, it is transmitted through elevated routes (support towers) or underground, from the power plants to the substations. Substations are necessary to treat electricity and maintain the ideal voltage and are usually outdoors near power plants and/or on the outskirts of cities. If they are not large, you can exceptionally find them in the same city, inside a building.
- 3- **Power distribution:** From the substations, the electricity is sent to the nearest homes and industries. As a receiver of energy and consumer, you cannot choose which is your distribution company, since depending on the area in which you live, you will have one or the other. The company that touches you will be responsible for ensuring that the electricity reaches your home correctly and will take care of solving any breakdowns. It is also the owner of your electricity meter, and sends its readings to your marketing company (which is the one that charges you).
- 4- **Energy trading:** your trading company is the one you can always choose and it will always be the one that sends you the bills, since it is the one that buys the energy from the generation companies and sells it to you. The marketers will make various rates and offers available to you, although in Spain there is a free market where you pay according to the conditions of your contract, as in any other service rate (mobile, Wi-Fi, etc.) and a regulated market (you pay what you pay). is established through a system designed by the Government).

Source: <https://www.foronuclear.org/descubre-la-energia-nuclear/preguntas-y-respuestas/sobre-distintas-fuentes-de-energia/que-es-la-electricidad/>





*Activity 1:* Identify the types of energy that is in a hairdressing salon and details what kind of transformation or change they generate.

*Activity 2:* Look in your area of residence or your business, what is the primary energy from which electricity is obtained, where is the power plant located, and to which company does it belong.

#### 4- Power sources.

In the previous point we have indicated that we produce electrical energy from other sources of energy that we originally find in nature without having been previously transformed, such as coal, natural gas, sun, oil... These primary energies are the one we refer to when we talk about "energy sources" since without its previous existence we could not generate electricity.

We can classify energy sources into two large groups:

- Renewable energies.
- Nonrenewable energy.

**Renewable energies are a type of energy derived from inexhaustible natural sources**, either because they contain a huge amount of energy, such as the sun or the wind, or because they are capable of regenerating themselves in a short time, such as biomass.

**Non-renewable energy sources are those energies that take millions of years to form and therefore their high consumption causes their depletion** (coal, oil and gas).

##### ***4.1 Types and characteristics of Renewable Energies.***

We are going to classify renewable energy sources according to their origin in:

SOLAR	EÓLICA	HIDRÁULICA	GEOTÉRMICA	BIOENERGÍA	OCEÁNICA
					
Se obtiene del sol. Las principales tecnologías son la <b>solar</b>	Aprovecha la energía del aire	Aprovecha la energía que provoca el movimiento del agua cuando descende o se eleva de forma pronunciada	Utiliza la energía calorífica que hay en el interior de la	La energía se obtiene de diversa materia orgánica	Utiliza la energía que generan las olas y las mareas

**Did you know?** There is a type of energy that comes from the physical interaction between fresh and salt water and is called **Blue Energy**.

**Level 2:** Talk about new renewable energy sources such as Blue Energy, Hydrogen or aerothermal energy.

Therefore, renewable energies are universally accessible, they are available in all geographic areas of the planet, and within the reach of all countries regardless of their economic power.

In the following diagram you can see the advantages of renewable energies



Source: Iberdrola

#### 4.2 Types and characteristics of Non-Renewable Energies.

The majority of non-renewable energy sources are fossil fuels: coal, oil, and natural gas, and carbon is the common element in all of these fuels.



COAL



OIL



NATURAL GAS

All fossil fuels were formed in a similar way hundreds of millions of years ago, even before the dinosaurs, and therefore, once they have been consumed, we will not be able to generate them again.

**Activity:** Investigate how fossil fuels were created (can also be included in level 2)

#### **Advantages and Disadvantages:**

- +Fossil fuels are a valuable source of energy.
- +They are relatively cheap to extract.
- +They can also be stored, channeled or sent to any part of the world.

However,

- Non-renewable energy sources are located in certain places (Persian Gulf, United States, Venezuela, Russia) and the countries where these deposits are located market these natural resources and impose their economic conditions, sometimes impossible, to other poorer countries or communities. According to the UN, there are more than 790 million people who still do not have electricity.

-The burning of fossil fuels is harmful to the environment and is the main cause of climate change. When coal and oil are burned, they release particles that pollute the air, water, and land.

Therefore, a transition from fossil fuels to renewable energies is essential if we want to achieve economic prosperity for all and for all, and a nature that is safe from the crisis caused by the action of man and his participation in climate change.

**Activity:** Investigate the amount of electrical energy that currently comes from renewable energies and reflect on the reason why humanity still continues to bet mainly on non-renewable energy sources. Have a group discussion.

<https://www.un.org/es/climatechange/what-is-renewable-energy>

<https://www.accionacom.es/energias-renovables/>

<https://www.iberdrola.com/conocenos/energetica-of-the-future/renewable-energy>

<https://education.nationalgeographic.org/resource/non-renewable-energy>

#### **4.3. The nuclear energy.**

We are going to treat nuclear energy separately because there is currently a great debate about

whether it is considered renewable energy or not.

Nuclear energy is obtained from the fission or fusion of uranium and plutonium atoms. These materials are found naturally in some terrestrial rocks, and do not come from fossilization as occurs with coal. This could make us think that it is therefore renewable.

However, the tons of uranium and plutonium that man consumes to produce electrical energy, do not regenerate by themselves, and in the long term, these materials could be depleted, which is why there are those who maintain that it is non-renewable.

Another aspect that is also discussed regarding nuclear energy is whether it is a clean and sustainable energy since most nuclear reactors only emit water vapor into the atmosphere. Neither CO<sub>2</sub>, nor methane or another type of polluting gas that aggravates the climate change crisis, but that is something that we will see in the next section.

## **5- Environmental impact of energy**

We have already seen how electricity is generated and how renewable energies offer many more advantages than non-renewable ones. However, in this section we are going to stop to analyze how energy generation and consumption cause an impact on the environment and we are going to reflect on it.

From an environmental point of view, the important thing is that the energy sources we use are clean and sustainable, and it is clear that non-renewable energies are dirty and run out. Does that mean that all renewable energy is clean and “green”?

### **5.1- Clean energies.**

As we have already seen when talking about nuclear energy, there are different opinions on when to consider Clean Energy. Of course, these opinions depend on the large number of interests of all kinds that are at stake, since we must not forget that Energy is the foundation of our economic development and our present and future well-being.

For some countries and companies, Clean Energy is all that which emits few CO<sub>2</sub> emissions into the atmosphere, more specifically, that has an emissions rate of no more than 100 kg/MWh, regardless of the rest.

On the opposite side are those who defend that clean energy is only that which, in addition to coming from renewable sources, does not generate pollution, not only atmospheric but of any other type, and that in its generation processes, human rights and the ecosystems.

*Activity: Make a diagram in which you indicate the renewable and clean energy sources depending on the concept of "clean and sustainable".*

*Activity: From the broader point of view, indicate whether the following renewable energies are considered clean and justify your answer:*

- *Hydroelectric*
- *energy Solar*
- *energy Ocean energy*
- *Bioenergy.*

But let's not get lost in big debates and let's go small, to what does affect us on a day-to-day basis and in the different actions that we can carry out to reduce our energy consumption, a true key to reducing pollution in general and also save money.

## 5.2. Responsible energy consumption.

Responsible energy consumption is based on the following principles:

- Reduce the amount of energy consumed.
- Make efficient use of energy, that is, that it has less impact on the environment and that it improves the quality of life of all people.

As far as electricity consumption is concerned, we can change many habits that, although they may seem insignificant, can help us become responsible energy consumers.

Some of these practices to reduce consumption are: **(make an illustration with these 5 guidelines to make it visually more attractive)**

1. Turn off appliances when you are not using them.
  2. Turn off the lights when you leave the rooms.
  3. Do not leave appliances on standby. In this mode, they can consume around 10% of the device's potential consumption.
  4. Use sockets with a button, which you can unplug and put in "off mode" when not in use.
  5. When buying appliances, look at their energy label. Those rated with an A (up to A+++)
- consume the least energy.

<https://tesy.es/blog/que-es-el-consumo-responsable-de-la-energia/#:~:text=El%20concepto%20%E2%80%9Cconsumo%20responsable%E2%80%9D%20does,the%20amount%20of%20energy%C3%ADa%20consumed.>

*Activity: Carry out a Check list with day-to-day actions to reduce your electricity consumption.*

Action	Frequency	Objective	Achieved
Ex: Mobile charger plugged into the network	Permanently plugged	Unplug it when charging is finished	Yes No Partially

**Level 2:** Energy consumption calculators, world maps with statistics on electricity consumption per inhabitant or activities related to it



# ENERGY

## LEVEL 2

### Energy in the hairdressing salon I.

1. **Introduction.**
2. Energy providers
3. Decrease in consumption in the salon.
  - a. Lightning.
  - b. Supplies and tools (battery or plug?)
  - c. Electrical appliances.
  - d. Air conditioning.
  - e. **Water heating.**

#### 1. INTRODUCTION

Blablaba

#### 2. ENERGY PROVIDERS

As you already know, green energy, also called clean energy, is that non-polluting energy that comes from inexhaustible resources provided by nature, for this reason it is progressively acquiring greater importance since, by not producing polluting emissions, it helps combat climate change.

This energy is generated and discharged into the general electrical distribution network, where it is not really distinguished from that which is not of renewable origin. For this reason, it is the marketer that guarantees its origin by being obliged to provide the user with the Certificate of Guarantee of Origin of Light, issued by the National Commission of Markets and Competition (CNMC)



The guarantee of origin certifies that a quantity number of kilowatt hours (kWh) of electricity has been generated through renewable energy. Thus, to assure the user that the energy they are going to consume in their home is green, the Guarantee of Origin and Labeling System for Electricity was created within the European framework.

But, among the available options, how to select the best electricity supplier for my hairdressing salon?

#### SELECTING AN ENERGY SUPPLIER

To select the most appropriate supplier company, we must take into account some important factors. Obviously the price will be decisive, but there are also endless other factors to take into account.

To simplify the selection, we propose these fundamental points to take into account in order to choose intelligently and that meets all your needs:

**Analyze the profile of the available options:** in general, you should assess the characteristics of the providers, taking into account their position, activity, trajectory, prestige, quality standards, technology and infrastructure and capacity to respond to contingencies. It does not hurt to know the opinion of other companies or clients who have worked with them.

**Calculate your energy consumption:** it is essential to assess your way of using energy and whether the consumption rate is in line with the average based on the characteristics of your business. In a hairdressing salon, consumption is usually high, but compare it with previous years and assess whether it has been maintained, increased or decreased in proportion to the volume of business. Whatever your case, later we will see measures to reduce consumption and, as well, the cost that is paid on a regular basis.



**Compare the rates of the different companies:** the price is usually the most important selection criterion. The fact of determining your average annual consumption will allow you to calculate the fee you would pay with other companies. Also assess aspects such as the possibilities of payment and any discounts that the provider offers you, but always carefully study the conditions of the different contracts, making sure that they include all possible supplements or taxes.

**Be critical of quality and after-sales service:** in the energy market, as in any other, a supplier with low prices is useless if their products or services do not have quality. But, as important as this or as the price and prestige, is the after-sales service. Study the guarantees, the advice received, the response from the technical service and, very importantly, the customer service and support when you may need it.

**Values the corporate philosophy on sustainability and its ethical principles:** when deciding on a supplier, already knowing the environmental impact of the use of electricity, we must also prioritize the protection of the environment and the conservation of natural resources by choosing marketing companies that distribute green energy, with which energy consumption will be much cleaner and less polluting.

In summary, in addition to the economic and service advantages offered by marketers, the added benefits of green energy are:

- Profitability
- Easy maintenance
- Energy independence (does not depend on purchase from third parties)
- Energy efficiency
- Sustainability
- Protection of the environment
- Conservation of natural resources (energy obtained through inexhaustible energy sources)

You should bear in mind that the most powerful companies in the market already offer green energy rates to their customers, despite continuing with non-renewable sources. In addition, there are small marketers specialized in green energy that do not offer another non-sustainable product. One last option would be the renewable energy cooperatives, for which a monthly fee must be paid with which you associate with the organization.

With all this information... Which provider are you going to hire for your salon?

### 3. REDUCTION OF CONSUMPTION IN THE SALON

For too long, business and the environment have been opposite concepts and it is one of the causes of the climate change that we are clearly suffering today. For this reason, it is necessary to implement "eco-efficient" measures that achieve what we call "sustainable development", that is, achieve a reduction in the environmental impact while maintaining the level of production.

To achieve this, it is necessary, among other measures, to reduce consumption in numerous areas, energy being one of the most significant and with which, as long as we are aware, we can have an impact at all levels, one of them being, not insignificant, the financial savings achieved.

The initial fronts to work on to improve electrical performance in our room will be:

- a. Lighting.
- b. Supplies and tools (battery or plug?)
- c. Home appliances.
- d. Air conditioning.
- and. Water heating.

#### a. LIGHTING

One of the main consumptions of the room on which changes can be made to improve its efficiency is lighting. The reduction of consumption can be approached from various fronts and with different methods. Some of the most important are mentioned below:

**Use of natural light:** using sunlight whenever possible is essential, for this it is recommended to install stained glass windows and/or skylights, as well as transparent or translucent glass panels to separate spaces and use mirrors to multiply light, thus making the most of sunlight. The same concept applies to windows and/or shop windows, which should be clear, avoiding curtains or other elements that block the passage of light.



If total transparency is not desired, matt acid-etched crystals could be used, although it would be advisable to place the matt areas strategically since the flow of light is slightly reduced with them.

The only exception to this rule occurs in especially



hot climates, as it would increase consumption in air conditioning.

**Decoration and painting:** the walls and even the furniture should be light colors to reflect light, since dark paintings or furniture absorb a lot of energy.

**Volumetric:** in areas lacking natural lighting, such as bathrooms or warehouses, it would be interesting to install volumetric sensors to detect movement and prevent them from remaining on while the area is not in use.

**Artificial lighting:** considering that despite having and taking advantage of sunlight in the room, the use of light bulbs in many cases is unavoidable, the use of LED lights should be considered since their consumption is much lower and their duration is much longer. These bulbs should also be located near and/or oriented towards the mirrors so that they reflect the light, doubling its flow.

**Smart lights:** an interesting option is the use of smart lights that detect the amount of ambient light and are regulated to achieve a preset light flow, so they would be working at their maximum in the total absence of light and would be regulated until they turn off according to the intensity of natural light.

#### **b. SUPPLIES AND TOOLS... WITH BATTERY OR PLUG-IN?**



Over the years, the "modernization" of the equipment has gone through the elimination of cables, something that a priori may be comfortable but that is extremely harmful to the environment, since batteries are not only made with elements and toxic substances, but everything that works with batteries has a much shorter useful life, which implies greater waste and the need to renew equipment, generating waste that degrades and has a high polluting power.

This applies to a multitude of equipment before whose acquisition we should think about whether the environmental cost compensates (we already told you, it does not) the benefit obtained. And in this bag we can include many pieces of equipment, those of the hairdresser such as hair clippers or others such as headphones, vacuum cleaners, smart watches, etc.

In this sense, the only items with batteries that are saved are laptops, as their technology has evolved so much that on average they consume between 80 and 90% less than desktops, which means significant savings and fewer CO2 emissions. . In fact, the most efficient desktop still consumes 10 times more than many laptops.

#### **c. SMALL AND LARGE APPLIANCES**

In a hairdressing salon we can find numerous appliances, we call small those that range from classic plug-in tools such as irons, tongs, dryers or the like, to coffee makers or microwaves. Among the large appliances are usually washing machines, dryers and refrigerators, for example.

The purchase or renovation of any of this equipment, especially large appliances, but also small ones since they are investments for work, are important decisions that should not be due solely to their

design or the performance of the different devices, but energy efficiency should also be considered as a decisive selection criterion.

First of all, if you are going to renew or buy, ask yourself if you really need it. Avoiding unnecessary and/or excessive consumption is essential to alleviate the climate crisis. Make a real list of your needs: how often will it be used?, what needs are we going to cover?, how long do we want it to last?, how much space do you have?... finally, choose a sustainable and environmentally friendly appliance the environment and, if possible, that it has artificial intelligence, since home automation can help reduce the energy bill.

### The energy label.

But how to determine if an appliance is energy efficient? It has been 25 years since the EU consumer organizations created the energy label, which is an identification based on a series of technical controls and certifications that allows consumers to know the degree of energy efficiency of each appliance. European regulations oblige distributors to put it on display.

How do you read this label? previously, they were organized into 7 levels, from A to D and within A there were 3 categories, with A+++ being the most efficient label.

Therefore, the appliances were classified as follows:

- A+++, A++ and A+, green, for appliances with a high level of efficiency.
- A and B, in orange and yellow for medium consumption appliances.
- C and D, in red tones, for devices with high energy consumption.

However, in March 2021 there was a change in energy labeling, according to EU Regulation 2017/1369, now being categorized on a scale that goes from A to G.

- Categories A+, A++ and A+++ disappear.
- Category A is reserved for new appliances with greater efficiency and technology.
- Category B now includes those who were previously classified as A+++.
- A, B and C are represented with shades of green.
- D and E are represented with yellow and orange
- Categories F and G are represented with reddish colors.



Despite this, market studies show that, even today, in general, consumers continue to value price

above efficiency, since energy-efficient appliances are usually 15% more expensive on average, however, it seems that they still do not. The reality has fully permeated that, in the medium term, efficient and sustainable appliances contribute greatly not only to the environment, but also to significantly lowering the electricity bill, so the initial investment is more than compensated.

Finally, in addition to making a conscious selection with the purchase or renovation, in the maintenance or use of these devices, measures can also be implemented that encourage the reduction of consumption, such as:

- Have all those devices that are not used frequently unplugged such as coffee machines or microwaves.
- Avoid keeping the equipment on in standby mode, because although it may not seem like it, they are also consuming energy.
- At night, unplug all electrical equipment not necessary at that time, including dryers, appliances and others.
- Keep the computers in saving mode the time they are not being used (screen savers also consume energy) or turn them off if they are not going to be used frequently.
- Avoid batteries whenever possible and, if not, use rechargeable ones.
- Make sure equipment is energy efficient; even some that do not have the official energy efficiency label. Both in dryers, as irons and other electrical elements, there are "green" options that obtain the same power with much lower consumption.
- If you are going to use the washing machine, dryer or other similar appliance, always do it cold and fully loaded.
- Whenever possible, avoid using the dryer and air-dry your towels.
- Schedule as many appliances as you can, like your washer or dryer, to run during off-peak hours.
- Use programmable plugs to charge equipment that has a battery during the hours of the cheapest rate.
- Keep the maintenance of the equipment up to date so that everything works correctly and you can check that no energy is wasted.

#### **d. AIR CONDITIONING**

To function properly, the body must have an internal temperature between 36 and 37°C. When this temperature is maintained without making any physiological effort (sweating or shivering, for example) we find ourselves in the state known as thermal comfort.

The definition of thermal comfort is included in the ISO 7730 standard as "That condition of mind in which satisfaction with the thermal environment is expressed", that is, the temperature at which we are neither cold nor hot, which is paramount to when selecting or programming the air conditioning of the hairdressing salon, as it is a key element to provide well-being that allows both professionals and clients to feel comfortable.



However, by itself, air conditioning can represent around 20% of total energy consumption and, in addition, it is a large generator of carbon dioxide, so a priori it is neither economical nor sustainable; however, there are different ways to adapt air conditioning to maintain consumption that respects the environment.

## Tips for the efficient use of air conditioning:

**Properly insulate your room:** a well-insulated workplace has less energy loss, which is why it is important to study the possibilities to improve insulation both in walls, windows and doors, as well as in roofs and the covers if it is the case, which is where around 30% of the losses occur.

**Ventilate the room and take advantage of sunlight:** good ventilation is necessary to guarantee clean air, but it also has an impact on energy savings as it cools a warm environment. In addition, in hot seasons it would also be advisable to use blinds that block the passage of sunlight, while, in winter, the sun shining on the windows can cause the ideal temperature to be reached without the need to turn on the air conditioning system or maintain it. to the minimum.

**Take advantage of automated systems and promote connectivity:** the use of thermostats in air conditioning systems achieves more effective and efficient use. The thermostat avoids the constant variation of the temperature that supposes a greater expense. Study what the ideal indoor temperature is and stick to it; It is a mistake to turn on the equipment selecting the minimum or maximum temperature so that they cool or heat faster, since they will take the same time but spending much more for not stopping when the desired temperature is reached.

On the other hand, the possibility of controlling the equipment via Wi-Fi makes it possible to more efficiently automate actions such as turning on, turning off or managing the temperature of the air conditioning equipment.

**Regulates the temperature:** one of the main keys to the efficient use of air conditioning equipment is to regulate it so that the ambient temperature remains close to 21°C in winter and 25°C in summer. Keep in mind that each degree of more or less can mean an increase of up to 8% in the electricity bill.

### Do not forget about

#### **maintenance:**

regular maintenance of the equipment

its components (filters, pipes and others) preferably carried out by the Official Technical Service of the commercial house of your air conditioning system, will guarantee the correct operation, thus favoring savings. of energy, avoid damage to the units and extend the useful life of the equipment.

**Choose the best air conditioning system for your premises:** bet on comprehensive and efficient solutions that you can use both in summer and winter. Do not hesitate to consult with professionals in the sector so that they can recommend the system that best suits your salon, as there are multiple factors to take into account: location, orientation, climatic zone, surface area, distribution, number of workers and workstations. , etc. but it is also interesting that you know the two standards that determine the performance of equipment: SEER and SCOP.

The most efficient air conditioner will be the one that offers more kW of cold or heat for each kW



of  
of

an

and

consumed. This relationship is the SEER (Seasonal Energy Efficiency Ratio) data for cooling mode and SCOP (Seasonal Efficiency Ratio) in heating mode; Thus, to find out the energy efficiency of an air conditioner, you only have to compare the SEER or SCOP of the equipment, since the one that is higher will be more efficient and, therefore, will have lower consumption.

This table can serve as a guide:

	SEER	SCOP
A+++	<8.5	<5.1
A++	>8.5	>4.6
A+	>6.1	>4.1
A	>5.6	>3.6
B	>5, 1	>3.1
C	>4.6	>2.6

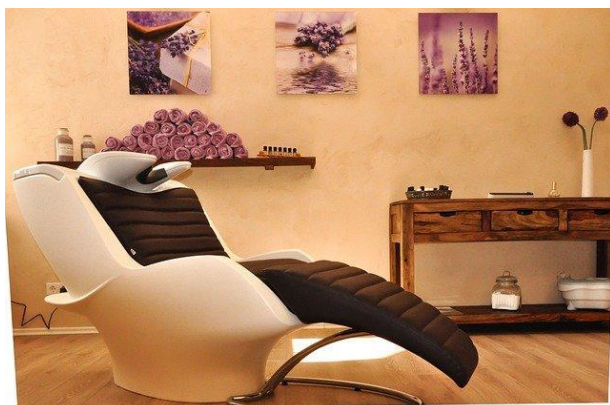
**Supplements air conditioning:** air conditioners by themselves manage to regulate the temperature and guarantee thermal comfort, but we must not disdain other equipment that reinforces its effectiveness and can even improve the quality of the air, thus benefiting health and also reducing consumption, we are talking about elements such as dehumidifiers, humidifiers and fans.

High levels of relative humidity in the air not only increase sensations of hot and cold, but also encourage the growth of bacteria, mites, mold and fungi. On the contrary, low levels of relative humidity dry out the mucous membranes of our respiratory system, also affecting the skin and hair and even the furniture, dehumidifiers and humidifiers regulate the ambient humidity so that it stabilizes at the ideal values that would be between 30 and 50%, more humidity if the weather is warm and less if it is cold.

In another category, but no less important, we find the fans that are the most economical and efficient devices with which spaces can be cooled, generating an air current that manages to reduce or increase the thermal sensation depending on whether they are used in summer or winter mode. . Unfortunately, they cannot be used in all spaces of a hairdressing salon, as there are areas, such as those where volatile chemical products are used, where their use would be discouraged but, with good design and planning of the space, their use increases significantly. the energy efficiency of the room.



#### e. WATER HEATING



The moment of hair washing is one of the most rewarding for the client in the hairdressing salon and much of the protagonism, in addition to the hands of the professional, has the flow and temperature of the water, so it is essential to always have hot water available to the client. However, it is also one of the main sources of spending in the living room since many liters of water are consumed and, for this reason, in addition to trying to reduce water consumption, which we will deal with in other units, there must be an efficient heater.

The type and capacity of the water heater to use in the salon will directly depend on the number of workers and heads washed in a salon. It is estimated that 3 workers wash approximately 9 heads per hour.

The options:

Gas heater vs. Electric heater

Mixing valves,

instantaneous production mixed boiler + specific hot water accumulator.

Instant electric water heater.

Aerothermia and hot water.

...



# ENERGY

## LEVEL 3

### Energy in the hairdressing salon II.

1. Introduction with level 1 and 2 summary.
2. Legislation (new building specifications, etc.)
3. Energy consumption calculation.
4. Decrease consumption level "pro" .Innovation and efficiency (domotics, apps, intensity regulators...).
5. Investment cost. Financing and subsidies. (At European and local level)

### 2. Legislation (specifications for new buildings, etc.)

Due to the importance and threat of climate change, all international and national institutions have issued a series of regulations to promote what is called "energy transition" , that is, the replacement of non-renewable energies with cleaner and more sustainable ones. In this sense, and in order not to bore you with too much data, we are going to try to make an outline with the most important regulations at a global, European and national level. You must bear in mind that the use and generation of energy is something that concerns all countries since the economic growth of societies and the preservation of the environment depend on it. Therefore, the greater the commitment of the different governments, political parties and citizens towards respecting the laws, Agreements and Pacts established, the more equitable, supportive and sustainable economic growth will be. We must banish the idea of "how can I pay for it, abuse of resources".



Keep in mind that the laws are continually modified and that, to the legislative framework that we have just referred to, regional and even municipal regulations must be added. Therefore, when you go to open your hairdressing salon, do not forget to consult the legal requirements that are in force and applicable regarding the electrical installation and energy saving, since in addition to complying with the law, you may find financial aid or subsidies to improve the energy efficiency of your living room.

***Activity:** Investigate the legal requirements that energy installations (electricity, heating, hot water) must meet in your locality and express your opinion on whether said regulations contribute to sustainability. (Provide a table to fill in with the information obtained)*

### **3. Energy consumption calculation.**

The references we have been making to the importance it has for the planet and for future generations are continuous, that our model of economic growth is sustainable and that the energy we use comes from renewable sources and is as clean as possible. But if, unfortunately, you are still one of those who think that "tomorrow does not matter, only the here and now", we are going to show you that the energy efficiency of your hairdressing salon or home is going to save you very significant money.

In other topics, you may have used different tools or calculators to measure your carbon footprint, water consumption or the concentration of dangerous chemicals in cosmetics. What we now propose is a tool to know exactly the energy consumption and its economic cost. It is true that the receipts from the electricity companies sometimes show us statistics of our spending and we know that electrical appliances such as washing machines or heating are very expensive in terms of energy. But if we really want to save money, we have to know what each and every one of the equipment we have in our living room consumes and, from there, look for cheaper alternatives.

To do this, I present this table in which, as you can see, the energy characteristics of all our facilities are detailed. We invite you to use it and analyze your energy cost structure to know to what extent your money is or is not being wasted (Green salon- learning material). (How it works will be explained in the teacher's manual)

### **5. Cost of investments. Financing and subsidies. (At European and local level)**

As you have already learned, there are many alternatives and innovations that currently exist to improve the energy efficiency of buildings and companies. You have also analyzed your energy cost structure and which of your facilities or equipment you should modify, but of course, the problem is always the same:

Is it profitable to undertake these investments in my hairdressing salon?

How much is it going to cost me?

Where do I get the money for that transformation?



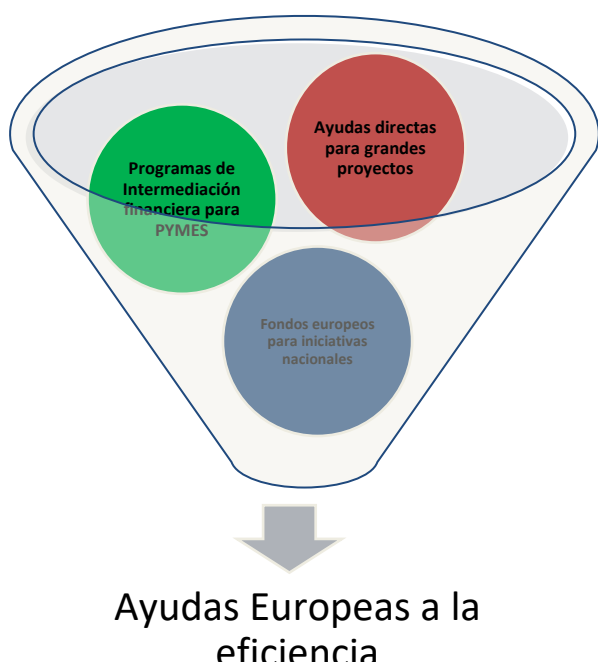
## 6.1 Return on investment

We trust that by now you are convinced that ecology and sustainability are always profitable from the point of view of the welfare and development of humanity. That is why we know that your concerns are economic, that is, you probably think that you do not have enough resources to face these investments in renewable energies and therefore, although you would like to "do something", you do not dare. Let's see if we can help you.

In life there are moments and situations more or less prone to undertake new challenges, and in this time in which we live there is a general clamor that we have to act NOW to delay climate change, Europe being the continent that is promoting sustainability the most. To this we must add that European energy security is seriously threatened by our dependence on third countries for oil and gas imports. The EU for the year 2030, aims to reduce greenhouse gas emissions by 40% and that the presence of renewable energies is 27%.

In this context, the European Commission has launched several programs to help improve the energy efficiency of buildings. 40% of the energy consumption and 36% of the polluting emissions of the member countries is in our homes and premises, so having efficient buildings means reducing polluting emissions by consuming less energy, lowering the energy bill for consumers, and generate competitiveness and jobs.

These European aids for energy efficiency are classified as:



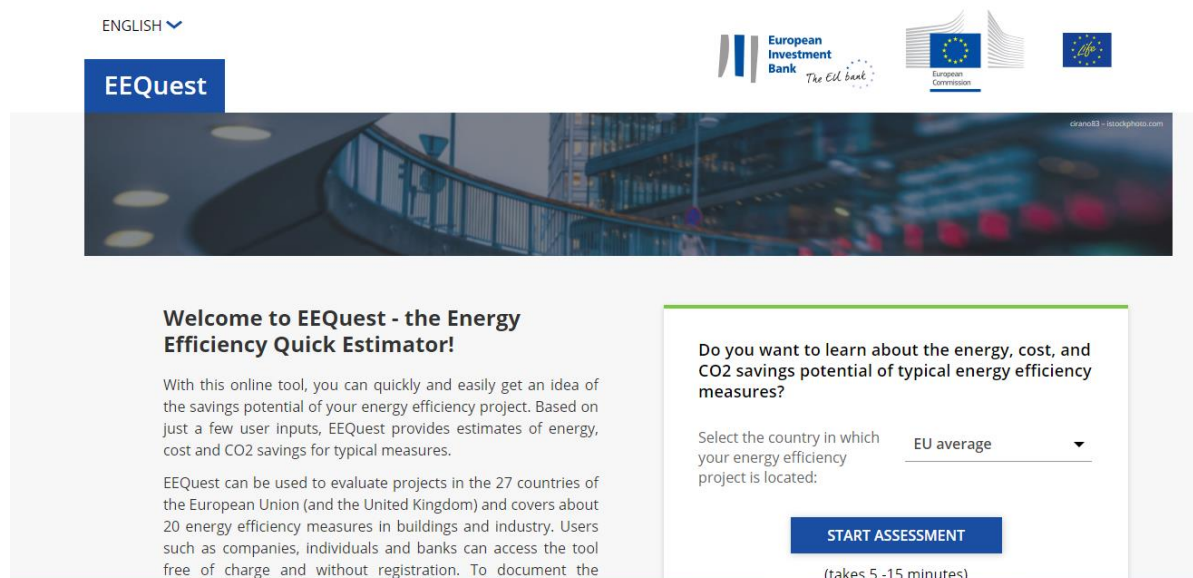
There are so many existing European initiatives that you may get lost in the tangle of information and bureaucracy, so we advise you to focus on the aid offered by your country or region and do not forget that many of them come from the transferred European Funds.

However, we are going to show you one of the measures created by the European Investment Bank to quickly find out the potential savings that you could achieve by implementing a certain energy efficiency project. Therefore, if you know what the investment would cost you and the

savings obtained, you can easily calculate the return on said investment.

[EEQuest](#) can be used to evaluate projects in any of the 27 countries of the European Union, it is in

all languages, it allows you to analyze up to 20 energy efficiency measures in buildings and industries, and you can access the tool for free without registration.



ENGLISH ▾

**EEQuest**

European Investment Bank  
The EIB bank

European Commission

EU flag

**Welcome to EEQuest - the Energy Efficiency Quick Estimator!**

With this online tool, you can quickly and easily get an idea of the savings potential of your energy efficiency project. Based on just a few user inputs, EEQuest provides estimates of energy, cost and CO2 savings for typical measures.

EEQuest can be used to evaluate projects in the 27 countries of the European Union (and the United Kingdom) and covers about 20 energy efficiency measures in buildings and industry. Users such as companies, individuals and banks can access the tool free of charge and without registration. To document the

Do you want to learn about the energy, cost, and CO2 savings potential of typical energy efficiency measures?

Select the country in which your energy efficiency project is located: EU average ▾

**START ASSESSMENT**

(takes 5 -15 minutes)

Here is the link: <https://eequest.eib.org/white>

This European tool can also be very useful when requesting external funding to undertake such investments.

## 6.2. National grants and subsidies for the energy efficiency of your Hair salon.

To promote energy efficiency and renewable energy actions and projects, Public Administrations offer financing for projects and the development and management of public aid programs that affect the main energy-consuming sectors.

At the same time, you can also find banks in the private sector that have specific lines of credit for that purpose. However, we are going to focus only on the Public Aid that we currently have in Spain.

The IDAE is a public body dependent on the Ministry for Ecological Transition which objective is to promote the energy transition.



To promote energy efficiency and renewable energy actions and projects, the IDAE has, among its functions, the financing of projects and the development and management of public aid programs that affect the main energy consuming sectors.

The economic resources managed by the IDAE come, fundamentally, from European Funds for

regional development (ERDF), the National Fund for Energy Efficiency, General State Budgets and the Institute's own financing.

The enormous variety of aid and incentives in this area is very large and, by way of example, we are going to indicate those that may be of interest to you:

- Aid for energy rehabilitation and air conditioning of buildings
- For the implementation of thermal renewable energy installations in different sectors of the economy.
- For efficient and sustainable mobility....

But if there are many actions that are incentivized, so are the public bodies that give this aid, since there are budget items from the State, the Autonomous Community and even the City Council. In order not to get too dizzy, we leave you this link where you can consult all of them:

<https://www.idae.es/ayudas-y-financiacion/ayudas-en-materia-energética>



En esta sección podrá consultar las ayudas publicadas en materia energética en el ámbito Estatal, Autonómico y Local (para capitales de provincia mayores de 200.000 habitantes). Para facilitar la búsqueda de su interés se editan diferentes boletines que se actualizarán periódicamente.

*Ayudas Estatales*, podrá optar por consultar las ayudas por índice cronológico o temático.

*Ayudas de Comunidades Autónomas*, las disposiciones se ofrece organizadas por CCAA o clasificadas por temas.

*Ayudas de Entidades Locales de capitales de provincia mayores de 200.000 habitantes*, contiene las disposiciones ordenadas por capitales de provincia o por temas.

Before concluding, we also want to remind you that some banks process loans and beneficial lines of credit from public funds. Here you have an example of the ICO credits (official credit institute) and the credits of the European Investment Bank (EIB) processed by Banco de Santander <https://www.bancosantander.es/empresas/financiacion-avales/inversiones-proyectos-business/ico-lines-european-funds/bei-lines>.

After all this information, you may be thinking that all this aid is for large companies, or that there are many requirements and formalities to access this financing. Certainly whenever we request financial aid, they will ask us for some preliminary studies and we will have to fill out many papers, but for that there are companies and public organizations that are dedicated to processing these aids. Ask for their advice and remember that the first thing is to make an energy efficiency plan where you indicate what you want to do, why and the economic viability of the investment.

*Activity: Find out if there is any type of economic subsidy for the installation of renewable energy*

*sources in your locality, and indicate the requirements to have access to them.*

# Water

## Water and sustainability (Awareness):

- General info about water use / pollution: statistics and interesting facts
- NL only [Water - friend and enemy: The Netherlands as waterland & the Dutch water management
- Water = a resource threatening to become scarce. Why should we save water?
- Water pollution in general
- What is wrong with our oceans? Ocean clean-up project (set up by a Dutchie!)
- Water pollution by hairdressers / water pollution per work station
- Waste water purification: who does it and how it happens?
- What can a hairdresser do to have less impact on the water resources (make a list of simple steps)?

## How can we be more sustainable with and about water in general and in a hairdresser salon (How-to's):

- How can we save water with simple steps and why should we?
- How to measure the quantity of water used at a salon (practical task filling a plastic bag during a salon class)
- How can you personally save water? (research task)
- Calculate how many litres of water you can save by using a water-saving tap - experiments with filling the bag)

## Management:

- What are the rules and laws (legislation) about the acceptable water pollution in your country. Where can you find the information?
- In what ways can you arrange the saving of water in your (dream) salon?
- Find companies that make products helping reduce / recycle / purify / reuse water (e.g. [Hydraloop](#))
- Corporate Social Responsibility in relation to water: why do we have to think about it?

## Water & sustainability

### Awareness:

#### **General info about water use / pollution: statistics and interesting facts**

Water is an essential natural resource, the main constituent of Earth's hydrosphere and the fluids of all known living organisms (in which it acts as a solvent). It is vital for all known forms of life, even though it provides neither food, energy, nor organic micronutrients. Its chemical formula, H<sub>2</sub>O, indicates that each of its molecules contains one oxygen and two hydrogen atoms. Water covers about 71% of the Earth's surface, mostly in seas and oceans (about 96.5%) [Source: Wikipedia].

On our planet a water cycle exists in which seawater evaporates, condenses in the atmosphere and falls back as precipitation, after which rivers and groundwater return it to the sea. Seawater is also called salt water because many salts are dissolved in it. When seawater evaporates, the salts remain in the sea, so precipitation does not contain salt, this is called fresh water, the water

humans can use.

Of all water on Earth 97% is found in oceans and seas as salt water. The rest is subdivided into fresh and saline groundwater (23,300,000 km), ice (24,000,000 km), surface water (lakes and rivers, 190,000 km<sup>3</sup>) and water vapor in the atmosphere (14,000 km). The proportions vary slightly due to several factors, including climate.

People can only use fresh water. The tap water we have easy access to in most European countries is of such good quality that you can drink it without extra filtering directly from the tap. In some countries it's better to buy drinking water instead of using the tap water or use special filters.



Interesting fact: Can you imagine that a household uses around 130 litres of perfectly clean drinking water to do the dishes, operate a washing machine or flush the toilet? The good news is that this amount has decreased since 2003 and this has to do with the household appliances (like dishwashers or washing machines) becoming more and more economical in a way that they use less water. We are wasting quite some good quality drinking water while 40 percent of (Sub-Saharan) Africa is completely without access to clean water [source:

<https://thelastwell.org/2019/04/eye-opening-facts-about-the-water-crisis-in-africa/>].

Also most industries make use of water – it is essential for the economy of each and every country. Not every industry is careful about what the kind of waste substances though that come into the water. Hairdressing industry (salons as well as cosmetics and hair colour manufacturers) belong to the top 10 of most polluting industries. This is due to the numerous chemicals that are used in the treatments like dying or perming of the hair. These oftentimes harsh chemicals when rinsed off the treated hair flows directly into the sewage. Hardly any salons filter these waste waters yet (source: the Dutch newspaper Trouw, 18 August 2022, article 'Waar blijft de groene kapper?' / 'Where is the green hairdresser?'). This means that if we want the water supplies of our planet to stay accessible to as many people as possible and have our waters and the oceans clean and vital, the hairdressing industry among others should minimize its impact on the world water resources. And the hairdressing students - the beauty professionals of tomorrow - should learn how to do this.

### **[Water - friend and enemy: The Netherlands as waterland & the Dutch water management]**

Nederland is a waterland. A big part of the country's territory is located under the sea level and the rest is very vulnerable to floods. That's why the Netherlands has so much expertise in flood control and clean water.

The vulnerability of the Dutch delta – the flood defence system – keeps the Dutch working on their water management daily. This means that the country's flood defence system and flood risk management is of highest priority to its government as well as citizens. Because if things go wrong, it immediately has a detrimental effect on the people and the economy. The flood risk management is not just about a high dam, a sturdy dune and a climate-proof city. It also means being prepared for the unknown. The Dutch government works together with businesses and knowledge institutes in order to have a well prepared evacuation plans might the unexpected happen.



Interesting fact: As much as 70% of the Dutch population lives below sea level!

The way Dutch people have conquered part of their territory from the ocean is so unique in the world that other countries also want to learn from them. For the Dutch, water has always been friend and foe. The Netherlands is a relatively small deltaic region in Western Europe. Three major rivers, the Rhine, the Meuse and the Scheldt, fan out across the country before flowing into the North Sea. From the early Middle Ages onwards, the Dutch reclaimed and defended land from the sea. In order to succeed skills, such as water management, spatial planning, water supply and water quality, needed to be developed. Today, the water management skills of the Dutch are well-known all over the world; water is in the genes of the Dutch is often said. Water also shaped the landscape of the Netherlands. Windmills (once used to pump out excess water), dikes and levees form a powerful international image.

Water does not stop at borders. Moreover, the world faces major water challenges every day, whether the water is too much, too little or too polluted. These challenges require holistic and sustainable solutions. By constantly adapting their approach to water over decades, the Dutch have gained an advantage and skills which they readily share internationally.





**Picture: The Dutch Delta Works** – is a series of construction projects in the southwest of the Netherlands to protect a large area of land around the Rhine–Meuse–Scheldt delta from the sea. Constructed between 1954 and 1997, the works consist of dams, sluices, locks, dykes, levees, and storm surge barriers located in the provinces of South Holland and Zeeland.

[Source picture: <https://600jaarelisabethsvloed.nl/event/25-jaar-maeslantkering-en-voltooiing-25-deltawerken/>]

[source: <https://www.netherlandsandyou.nl/your-country-and-the-netherlands/china/and-the-netherlands/water-climate-and-energy>]



Optional: TASK Search the web for information on the North Sea Flood of 1953, one of the largest water-related disasters in the history of the Netherlands. What has the country done and keep doing to prevent such an enormous flood from happening again? How did government interfere? [NL: Watersnoodramp van 1953 e.g. here

<https://www.rijkswaterstaat.nl/water/waterbeheer/bescherming-tegen-het-water/watersnoodramp-1953>)



Optional: TASK Watch the TED-Ed video ‘Why isn’t the Netherlands underwater?’ (5.30 minutes): [https://www.youtube.com/watch?v=25LW\\_PG2ZuI](https://www.youtube.com/watch?v=25LW_PG2ZuI) and answer the question: How do



Delta Works prevent the Netherlands from potential floods? What is according to the video special about the Dutch city Rotterdam?

### **Water = a resource threatening to become scarce. Why should we save water?**

Just some alarming facts and figures to start with:

Over the past 40 years, the world's population has doubled and use of water has quadrupled.

Today, about 4 billion people, representing nearly two-thirds of the world population, experience severe water scarcity during at least one month of the year.

Up to 40% of the world's population will be living in seriously water-stressed areas by 2035.

If we continue doing what we are doing today, by 2040, there will not be enough water to quench the thirst of the world population and keep the current energy and power solutions going.

By 2050, the world population will have grown to 9.7 billion people. Water demand is projected to grow by 55 percent, including a 400-percent rise in manufacturing water demand.

Water scarcity is a big and ever growing problem in the world. It has to do with the geographic and temporal mismatch between fresh water demand and availability. It means that in a lot of places (the North of Africa, lots of regions in Asia) have trouble getting access to fresh water. This can be due to physical or economical reasons. Physical water scarcity means there's just not enough water available in the region to satisfy all the needs of the ecosystem. Economical water scarcity means that there is no sufficient infrastructure to make water available there where it is needed.

The main reasons for the growth of water scarcity on the planet:

- the growing water demand due to the population growth,
- higher living standards with increasing water demand,
- the dietary consumption of more animal products,
- expansion of irrigation in the agriculture.

Moreover, deforestation, the climate change (combination of floods and droughts), water pollution and wasteful water use (like flushing the toilet or operating a washing machine with clean fresh water) can result in the shortage of water supply.

For example in the Netherlands, the famous 'water country', in the last couple of years there's been an impending water shortage, especially due to hot summers.

Sources: [Shortages: Water supplies in crisis - BBC News](#)

<https://inweh.unu.edu/wp-content/uploads/2017/11/Global-Water-Crisis-The-Facts.pdf>

[Worldwide water shortage by 2040 -- ScienceDaily](#)

[Hot, crowded, and running out of fuel: Earth of 2050 a scary place | Ars Technica](#)



**Question:** what problems / challenges does humanity face in case of water shortage / water scarcity? Can you think of different aspects of our life we need water for?

### Water pollution

Task: scan this QR code and watch the video [appr. 3 min]

Video: <https://youtu.be/Om42Lppkd9w>



**Question:** why do you think water pollution is a big problem for humanity?



### QUOTE:

“Thousands have lived without love, not one without water” (British poet W. H. Auden)



**TASK:** find more quotes that have to do with the importance of water for our lives

Despite us know how essential water is for our lives, we keep polluting it. Our rivers, reservoirs, lakes, and seas are drowning in chemicals, waste, plastic, and other pollutants. Some 80 percent of the world’s wastewater is dumped—largely untreated—back into the environment, polluting rivers, lakes, and oceans.

[source: <https://unesdoc.unesco.org/ark:/48223/pf0000247553>]

Water is a universal solvent which makes it very vulnerable to pollution of all kinds. Due to this quality of water we have our favourite lemonades and blue waterfalls. But also toxic substances

from farms, towns and factories dissolve easily into and mix with it, causing water pollution.

[source: <https://www.nrdc.org/stories/water-pollution-everything-you-need-know#whatis>]

## **Causes of Water pollution**

### **Agriculture**

Not only is the agricultural sector the biggest consumer of global freshwater resources, with farming and livestock production using about 70 percent of the earth's surface water supplies, but it's also a serious water polluter. Around the world, agriculture is the leading cause of water degradation [source: <https://www.fao.org/3/w2598e/w2598e04.htm>]. Every time it rains, fertilizers, pesticides, and animal waste from farms and livestock operations wash nutrients and pathogens—such bacteria and viruses—into our waterways. Nutrient pollution, caused by excess nitrogen and phosphorus in water or air, is the number-one threat to water quality worldwide and can cause algal blooms (see picture below), a toxic soup of blue-green algae that can be harmful to people and wildlife.



[photo source: Britannica <https://www.britannica.com/story/harmful-algal-blooms>]

### **Sewage and wastewater**

Used water is wastewater. It comes from our sinks, showers, and toilets (think sewage) and from commercial, industrial, and agricultural activities (think metals, solvents, and toxic sludge). Stormwater runoff occurs when rainfall carries road salts, oil, grease, chemicals, and debris from impermeable surfaces into our waterways

### **Oil pollution**

Consumers account for the vast majority of oil pollution in our seas, including oil and gasoline that drips from millions of cars and trucks every day. At sea, tanker spills account

for about 10 percent of the oil in waters around the world as well regular operations of the shipping industry.

### **Radioactive substances**

Another cause of water pollution is radioactive substances generated by uranium mining, nuclear power plants, and the production and testing of military weapons, as well as by universities and hospitals that use radioactive materials for research and medicine. Radioactive waste can persist in the environment for thousands of years, making disposal a major challenge.

Other types of water pollution are solid waste plastic pollution (see 'the plastic soup' item to learn more), toxic waste, thermal pollution and sediment resulting from soil erosion or construction activity that can be carried into water bodies by surface runoff.



TASK: what do you see as one of the major risks for water pollution in your region? And in hairdressing? Which of the 4 causes described in detail above does this risk belong to?

### **What Can You Do to Prevent or Minimize Water Pollution?**

Of course as we could see the biggest pollutants are industries, agriculture and other large organisations. But we are all accountable to some degree for today's water pollution problem. Fortunately, there are some simple ways you can prevent water contamination or at least limit your contribution to it:

- Learn about the unique qualities of water where you live. Where does your water come from? Is the wastewater from your home treated? Where does stormwater flow to? Is your area in a drought?
- Reduce your plastic consumption and reuse or recycle plastic when you can.
- Properly dispose of chemical cleaners, oils, and nonbiodegradable items to keep them from going down the drain.
- Maintain your car so it doesn't leak oil, antifreeze, or coolant.

- Don't flush your old medications! Dispose of them in the trash to prevent them from entering local waterways.
- Be mindful of anything you pour into storm sewers, since that waste often won't be treated before being released into local waterways. If you notice a storm sewer blocked by litter, clean it up to keep that trash out of the water. (You'll also help prevent troublesome street floods in a heavy storm.)
- If you have a dog, be sure to pick up its poop

Sources:

Website NRDC (a US-based NGO watching over water, air and environment protection)

<https://www.nrdc.org/stories/water-pollution-everything-you-need-know>

Britannica website <https://www.britannica.com/story/harmful-algal-blooms>

Wikipedia <https://nl.wikipedia.org/wiki/Water>

<https://www.onswater.nl/waterbeheer-in-nederland>

[source: <https://www.netherlandsandyou.nl/your-country-and-the-netherlands/china/and-the-netherlands/water-climate-and-energy>]

[www.dutchwatersector.com](http://www.dutchwatersector.com)

[...] not complete yet...

### **What is wrong with our oceans? Ocean clean-up project (set up by a Dutchie!)**

Have you ever heard the expression 'plastic soup'? Plastic soup is a term used to name the pollution of the world ocean with plastics, ranging in size from large original material such as bottles and bags, down to the so-called microplastics formed from the fragmentation of plastic material. Marine debris is mainly discarded human rubbish which floats on, or is suspended in the ocean. 80% percent of marine debris is plastic.

[source: [https://en.wikipedia.org/wiki/Marine\\_plastic\\_pollution](https://en.wikipedia.org/wiki/Marine_plastic_pollution)]

# The pathway by which plastic enters the world's oceans

Estimates of global plastics entering the oceans from land-based sources in 2010 based on the pathway from primary production through to marine plastic inputs.

**Global primary plastic production:**  
270 million tonnes per year

**Global plastic waste:**  
275 million tonnes per year  
It can exceed primary production in a given year, since it can incorporate production from previous years.

**Coastal plastic waste:**  
99.5 million tonnes per year

This is the total of plastic waste generated by all populations within 50 kilometres of a coastline (therefore at risk of entering the ocean).

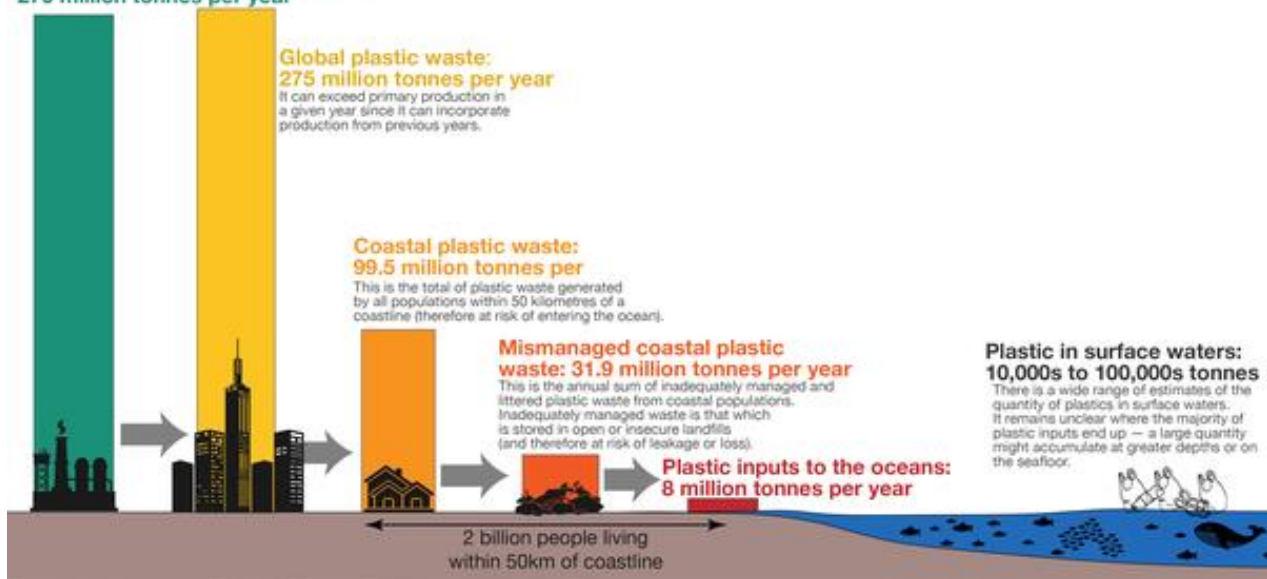
**Mismanaged coastal plastic waste:** 31.9 million tonnes per year

This is the annual sum of inadequately managed and littered plastic waste from coastal populations. Inadequately managed waste is that which is stored in open or insecure landfills (and therefore at risk of leakage or loss).

**Plastic inputs to the oceans:**  
8 million tonnes per year

**Plastic in surface waters:**  
10,000s to 100,000s tonnes

There is a wide range of estimates of the quantity of plastics in surface waters. It remains unclear where the majority of plastic inputs end up — a large quantity might accumulate at greater depths or on the seafloor.



Sources: based on Jambeck et al. (2015) and Eriksen et al. (2014). Icon graphics from Noun Project.

Data is based on global estimates from Jambeck et al. (2015) based on plastic waste generation rates, coastal population sizes, and waste management practices by country.

This is a visualization from [OurWorldinData.org](https://ourworldindata.org), where you will find data and research on how the world is changing.

Licensed under CC-BY-SA by the authors.

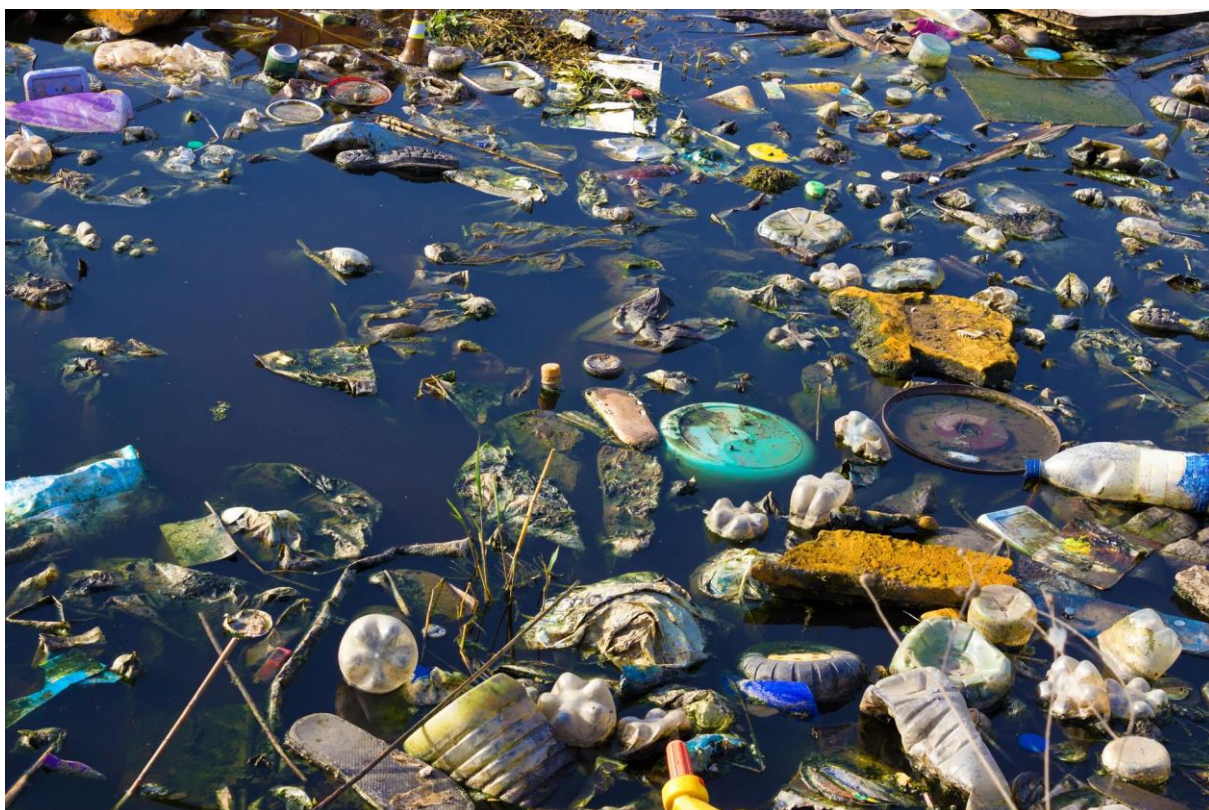
[source: Wikimedia]

## Why is plastic soup dangerous?

Next to the harm to the wildlife (sea animals getting entangled in plastic, animals eating plastic and getting too full stomachs but no energy and eventually dying, plastics having entered the entire ecosystem, also being found in the human bodies and even babies), humans get plastic into their bodies which can pose some serious health issues on them.

The biggest health issue with (micro)plastic for the humans are the following: getting through the rest of the food chain and the environment into our bodies, the plastic particles are so small that they even get into all organs through the blood stream. This results in inflammatory reactions in the body and endocrine disruption and lowered fertility. These issues are primarily caused by flexibility agent bisphenol A (BPA) and plasticizers. To know what other health risks there are more research is needed.





Picture: Plastic and other waste floating in the ocean

Source: <https://www.plasticsoupfoundation.org/>



Optional: TASK Search the web for some examples of wildlife / sea life having trouble with plastic soup. What animals are these? In which way are they threatened by the plastic in the ocean / environment? (Tip: the <https://www.plasticsoupfoundation.org/> website)

Ocean CleanUp project:

### **The Dutch foundation Ocean CleanUp project**

In order to beat the Plastic Soup problem the Ocean CleanUP project has been set up. It is a non-profit engineering environmental organization based in the Netherlands, that develops technology to extract plastic pollution from the oceans and intercept it in rivers before it can reach the ocean. It was founded in 2013 by Boyan Slat, a Dutch-born inventor-entrepreneur of Croatian and Dutch origin who serves as its CEO.

After initial testing and prototyping in the North Sea they deployed their first full-scale prototype in the Great Pacific Garbage Patch. They also deployed their river technology, the Interceptor, in two



locations in 2019, revealed the project publicly in October 2019, and deployed another in 2020. In 2022, the first Interceptor Original deployed in the United States will be installed in Ballona Creek near Los Angeles, California. The organization also conducts scientific research into oceanic plastic pollution and its effects on the environment, wildlife and humans.



Source: <https://theoceancleanup.com/>



Optional: TASK Study the website of the Ocean CleanUp Foundation. What do you think made this project successful in creating a device to scoop the plastic out of the oceans which some previous projects / attempts failed to do?

### **Water pollution by hairdressers / water pollution per work station**

Water is a very important topic in the hairdressing industry.



Interesting fact: Did you know that, for example, with 5 minutes of rinsing a perm a hairdresser consumes 50 to 70 litres of drinking water?

And that with the use of chemical products and liquids, such as colouring, bleaching and perm liquid you pollute the water enormously? We are not even talking about the styling products, shampoos and conditioners. These are often full of silicones and microplastics. All these products disappear into the sewer. Treatment plants have the greatest difficulty filtering these plastic

particles from the water.

### **Water pollution per workstation at a hairdresser salon**

- Cutting hair

Shampoos and conditioners are polluting the water. Try to wash the hair once, use as little product as possible (they are all well concentrated).

Use drip trays and dose limit and screw caps closed.

Use of sustainable and environmentally friendly shampoo (without PCB)

- Colouring hair

Chemical residues are polluting the water.

Use water taps that reduce the amount of water. There are also water tap nozzles available that pulverize the water allowing to use less for the same purpose. Try to avoid ammonia and sulphates and use vegetable colours.

- Perming and Straightening

Chemical residues from the perm liquid are polluting the water. Use water taps that reduce the amount of water. There are also water tap nozzles available that pulverize the water allowing to use less for the same purpose

### **What can we do?**

Be aware of your water use. Avoid wasting water. Choose the right products and inspire others to do the same. Use water-saving shower- and water taps. Only turn on the washing machine and dishwasher when it is full. Eat less meat (since meat industry uses humongous amounts of water!) and buy as many products as possible that are organic.

### **Waste water purification: who does it and how it happens?**

Water purification is the removal of substances from the water. It comes in different degrees.

Although water has a self-cleaning capacity, if water is too heavily polluted, additional artificial water purification processes are required so that fauna and flora in the water can recover.

Disposals of waste water requires special equipment, permits and expertise. Waste water should be discharged in accordance with all the legal guidelines. Equally important is where and how the waste water flows.

Some examples are:

- Drinking water pipes
- Booster pumps
- Drinking water treatment
- Buffering drinking water
- Desalination of seawater and making it drinkable.
- Boiling and collecting the evaporated pure water.
- Pumping seawater through membranes that pull out the salt (osmosis)
- Hydraloop: recycling water is the efficient and affordable way to use less water. Water is then recycled at the place where it is used.

**Water purification plants are establishments that make sure our waste waters get purified.**



Optional TASK:

Look up information about the experiments on the use of pollutant-extracting plants to decontaminate water



Optional TASK: Study the principles of water purification by the award-winning company [Hydraloop](#)

**What can a hairdresser do to have less impact on the water resources (make a list of simple steps)?**

## **Save water (save money) in hair and beauty salons**

Businesses pay for the water they use, so making water use efficiency an everyday part of your working practices will save your business money as well as reducing the pressure on the environment.

Start by monitoring water use and see where you use most water. This allows you to focus efforts on where most water is being used and to record the reductions of time.

You can train and encourage staff to:

- Shampoo once rather than twice
- Turn the tap off between washes and report any leaks

- Washing up/mopping floors- use half buckets as standard

### **Use water reducing basin/shower heads**

- Use low aerators: these can give you water savings up to 10 litres/min per tap per use
- Use shower heads that are designed to reduce water consumption. These can deliver water savings up to 330 litres/day

### **Towels**

You can use eco-towels. These can be made from a variety of materials such as bamboo-pulp, or made from wood-pulp which is a by-product, normally otherwise thrown away. They are more absorbent than towels, biodegradable and single-use, meaning you are guaranteed hygiene and you don't need any detergents, water and energy to clean them.

Sorted out paper towels can be taken for composting or anaerobic digestion.

### **Cleaning**

It is possible to almost eliminate the use of detergents by adopting a cleaning system that uses microfibers to clean mechanically rather than with water. A number of products exist that are designed for different applications, such as floor cleaning, furniture cleaning.

Also, rather than using disinfectants and anti-microbials it is possible to achieve a high standard of hygiene by using steam cleaners. They produce a small jet of steam and have low energy requirements. Hand held units are often rated at maximum of around 1000 watts.

### **Chemicals**

A hairdresser can decide to minimize the use of chemicals such as perm and colouring and use plant-based colouring. Both do have an impact on the use of water but plant-based products will pollute the environment less.

## **How can we be more sustainable with water in general and in a hairdresser salon (How-to's)**

### **How-to's (level 2)**

#### **How can we save water with simple steps and why should we?'**

##### **Water saving tips**

There are many ways that you can save water around your home. You may find the following tips helpful.

1. Use a bowl in the sink when washing fruit, vegetables or dishes. You can then use the waste water to water your plants.
2. Fill a jug of water and put it in the fridge for when you want a cool drink.
3. Turn off the tap when you clean your teeth. A running tap uses up to nine litres of water a minute.
4. Wait until you have a full load before using your washing machine or your dishwasher. Some new washing machines use less than seven litres of water for each kilogramme of clothes, while modern dishwashers can use as little as 10 to 15 litres of water a cycle.
5. If possible, take a shower instead of a bath. A five-minute shower uses about 40 litres of water. This is about half the volume of a standard bath.
6. Use a water-saving device in your toilet cistern. Depending on the size of your cistern, you could save between one and three litres each time you flush the toilet.
7. Using a watering can in the garden instead of a sprinkler or a hosepipe. Garden sprinklers and hosepipes left running can use between 500 and 1000 litres of water an hour.
8. Think about fitting a water butt to collect rainwater off your roof. Water butts usually store about 200 litres of water. As well as being better for watering your plants, using rainwater in the garden reduces the amount of treated water you use.
9. Check your property regularly for leaks on your internal plumbing.”
10. Try shortening your regular shower routine with 2 minutes (make it for example 5 instead of 7 minutes). Also making your water temperature 1-2 degrees lower will help you save some energy and is good for your health (if you have heard about the Ice Man Wim Hof, then you know that! Otherwise look up the Wim Hof method online!)

If you have a water meter, all of these tips may help you to reduce your water and sewerage bills.

Even if you do not have a meter, using water wisely and cutting down on the amount of hot water you use will lower your gas and electricity bills. It will also reduce the amount of climate-changing greenhouse gases you release into the atmosphere.

Using less water will also help reduce the greenhouse gases that are released from collecting, treating and supplying clean water.



Source: <https://www.ofwat.gov.uk/households/conservingwater/watersavingtips/>

**How to measure the quantity of water used at a salon (practical task filling a plastic bag during a salon class)**



**TASK:** Calculate the amount of water needed to wash / massage and rinse the hair of a customer [to be carried out during a salon class or at an internship in the hairdressing salon]

#### **Measurement nr.1:**

Fill a special plastic bag with litres measurement (example:

<https://www.conservationmart.com/p-904-water-flow-rate-bag.aspx>, you can easily find them in your country as well) up with water. Time 10 seconds with a timer while the water is running into the bag. In this first measurement experiment you are not using any water saving devices on your shower head or water faucet.

See example video: <https://youtu.be/yDUCBRNpytk>

#### **Measurement nr. 2:**

How use a water restricting device / nozzle on your shower head or the water faucet.

Example of such a device is this: <https://ap.lc/FxPCb>. Time 10 seconds with a timer while the water is running filling your bag. Compare the two experiments.

See example video 2: <https://youtu.be/mxPu3Pt7kUY>

## How can you personally save water?



### TASK:

1. Do a little research – next to the tips described in the previous item, can you think of more tips how one can reduce the use of water?
  - Inside a household?
  - At a hairdresser salon?
  - Other companies?
2. Make an agreement with yourself to at least try 2 of the saving tips in the coming 2 weeks.  
Which of the steps will it be?

## Calculate how many liters of water you can save by using a water-saving tap - experiments with filling the bag)

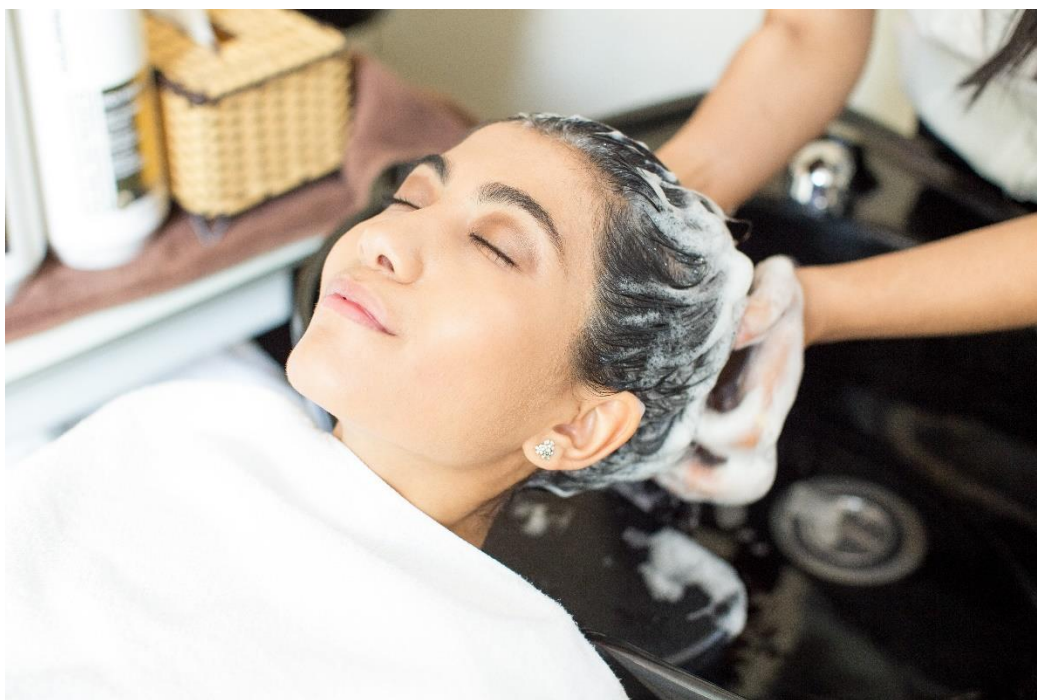


### TASK:

Look back at the results of the previous water experiments – filling the water measurement bag with and without a water saving device.

Make a calculation: How much water can you save if you wash a customer's head for 10 minutes? And for 15 minutes? How many litres would you need without a water saving device? And what if you do not turn off the running water while shampooing or massaging?





Picture by katemangostar on Freepik

## Management and Water at a hairdresser salon

### Management:

3. What are the rules and laws (legislation) about the water pollution in your country. Where can you find the information?
4. In what ways can you arrange the saving of water in your (dream) salon?
5. Find companies that make products helping reduce / recycle / purify / reuse water (e.g. [Hydraloop](#))
6. Corporate Social Responsibility in relation to water: why do we have to think about it?

**What are the rules and laws (legislation) about the acceptable water pollution in your country. Where can you find the information?**



### **TASK:**

- Search the web for the information on the legislation concerning water pollution in your country. Is there a special law dealing with the issue? If so, how can it apply to the hairdressers?
- **[NL]** In the Netherlands there is a Water Law (Waterwet) since 2009, a part of which is the 'Surface waters pollution law' (WVE or 'Wet verontreiniging oppervlaktewateren'). Please google this law and find out the main points of this law. What does it say about water pollution?

**In what ways can you arrange the saving of water in your (dream) salon?**



### TASK:

Based on your results from the 'Fill the water measuring bag' task, what advice can you give to an owner of a hairdresser salon in order to save water. You can also imagine yourself opening your own (dream) salon in the future. Write down 3 to 5 tips how to make sure the water is not wasted unnecessarily. Think of all the hairdressing processes (shampooing, cutting, colouring, perming) and other processes at a salon (e.g. washing the towels, washing the dishes, mopping the floors etc.).

My water saving tips to a hairdresser salon owner are:

- 1.
- 2.
- 3.
- 4.
- 5.

### **Find companies that make products helping reduce / recycle / purify / reuse water**

Look up companies on the internet which an entrepreneur (an owner of a hairdressing salon) can work for reducing, reusing or purifying the water:

E.g. [Hydraloop](#), companies producing water-saving faucets, showerheads etc.

Do you know any salons or other companies that use an independent water-recycling system? If not, try to find them online!

## **Corporate Social Responsibility in relation to water: why do we have to think about it?’**

Every day, more and more people experience water stress. Humanity is facing a water crisis like never before, due to unequal distribution, climate change, and a sharp rise in global freshwater demand. And in a few years’ time, there simply won’t be enough water available for all of us.

Seen from space, our planet is blue: 70% of its surface is water. But 97% of all that water is saline — and most of the remaining 3% is difficult to access. Only 0.014% of the total amount of water on earth is fresh and available. People, animals, and nature all depend on this water for survival.

The only way our planet can renew freshwater is through rainfall on land. But the amount of rainfall is far less than the amount of water people withdraw from earth. After decades of intensive urbanization, deforestation, water diversion and industrial farming, our planet is drying out and groundwater levels are dropping.

That is we need to act now!

**Corporate social responsibility (CSR)** is a self-regulating business model that helps a company be socially accountable to itself, its stakeholders, and the public. By practicing corporate social responsibility, also called corporate citizenship, companies can be conscious of the kind of impact they are having on all aspects of society, including economic, social, and environmental.

To engage in CSR means that a company is operating in ways that enhance society and the environment instead of contributing negatively to them. CSR helps both improve various aspects of society as well as promote a positive brand image of companies.



**TASK:** Think of any actions a hairdresser salon can take to promote the CSR in relation to water?

Next to the salon itself, think of other companies engaged in the operations of the salon, like hair cosmetics manufacturers, appointments software supplier etc. What kind of water-friendly CSR actions can these organisations take?

[source: <https://www.hydraloop.com/why-recycle>

<https://www.investopedia.com/terms/c/corp-social-responsibility.asp>]

# Waste and recycling

## Awareness:

Waste in general: facts and figures

Why is waste a growing problem?

Reduce – reuse – recycle (examples: e.g. using less shampoo/conditioner/colouring)

Is waste the new 'raw material'?

What is circular economy?

What waste does a hairdresser produce? (Hair, plastic, aluminium, packaging, water waste)

What are the effective way of reducing / recycling the waste a hairdresser (salon) produces?

Hairdresser's waste as a resource: what can you all do with **human hair**? (E.g. wigs, nets for catching the spilt oil in seas, extensions, fertilizer etc)

Take control of your use of the microplastics

## How-to's:

How can we recycle wisely (think of cutting the packaging, sorting garbage, using special containers for hairdressing waste)?

What are simple steps to **reduce** waste at a hairdresser salon?

How can we **reuse** the products at the salon? (Big shampoo bottles refill, multiple use gloves, ceramic / glass cups instead of one-use paper or plastic cups etc.)

In what ways can we **recycle** the waste coming from work as a hairdresser?

Find smart products on the market that will help you as a hairdresser create less waste or bring less damage to the environment (e.g. special bio-degradable foils, green products like shampoo, conditioner, plant-based hair colourings, bio-degradable cups / spoons / plates etc)

## Management:

How do you set up a low-waste salon (add-on to a business plan of your 'dream salon')

Corporate Social Responsibility in relation to waste (separating waste, using more environment- and skin friendly 'greener' products etc.)

What are the rules and laws (legislation) about waste in your country? Where can you find the information?

## Waste and why it is a growing problem

### **Waste in general: facts and figures**

The world generates 2.01 billion tonnes of municipal solid waste annually, with at least 33 percent of that—extremely conservatively—not managed in an environmentally safe manner. Worldwide, waste generated per person per day averages 0.74 kilogram but ranges widely, from 0.11 to 4.54 kilograms. Though they only account for 16 percent of the world's population, high-income countries generate about 34 percent, or 683 million tonnes, of the world's waste.

It is very important for the whole world to become more aware of the importance of the environment and what we do with our waste. Research has shown that in Europe, for example, we are still not doing enough to maintain the environment to be sustainable for the long term future. In Europe only each household produces more than 16 tonnes waste per year. Only as little as 40% of this waste (this is primarily metal, woods, glass and plastics) is being recycled. The rest is placed

in landfills or burned. In some countries up to 80% still goes to the landfill.

Obviously, if we do not want the world to turn into one gigantic landfill, we have to do something about this.

### **Why is waste a growing problem?**

When looking forward, global waste is expected to grow to 3.40 billion tonnes by 2050, more than double population growth over the same period. Overall, there is a positive correlation between waste generation and income level. Daily per capita waste generation in high-income countries is projected to increase by 19 percent by 2050, compared to low- and middle-income countries where it is expected to increase by approximately 40% or more. Taking into account the predicted world population growth in the coming years, the solid waste generation is possible to become an even bigger and more alarming problem.

[source: [https://datatopics.worldbank.org/what-a-waste/trends\\_in\\_solid\\_waste\\_management.html](https://datatopics.worldbank.org/what-a-waste/trends_in_solid_waste_management.html)]  
<https://ec.europa.eu/eurostat/web/waste>

### **Reduce – reuse – recycle (examples: e.g. using less shampoo/conditioner/colouring)**

In her book 'The Hidden Impact' and on the website the Dutch environment enthusiast Babette Porcelijn tells us how we can rethink our lives into making them 'greener' and eco-friendlier.

You can reduce your impact on the environment in three ways: choosing better alternatives, searching for other solutions and sometimes a little less is more. Better, Other ways, Less: B-O-L. BETTER

Making something 'better' means making polluting things cleaner. There is a lot to gain from that.

In recent years, for example, airplanes and greenhouses have become more energy efficient.

'Better' is a step on the way to 'good'. Useful, but still in progress.








#### **OTHER WAYS**

By 'other ways' Babette means a sustainable alternative. And there are already many of them. The train (using green electricity) instead of the airplane, solar panels instead of grey electricity and legumes instead of meat. 'Other ways' can lead to a system change.

#### **LESS**

Half of the Dutch people have difficulty keeping their weight healthy and their houses are full of stuff. Put that next to the two biggest impacts: stuff and eating meat! Less consumption makes the

most sense. And maybe a little less will make us happy. The best part is, it is super easy. You can start today!

	 spullen	 eten & drinken	 vervoer	 wonen
 Beter	kringloopwinkel, tweedehands, met keurmerk, gerecycled	volle grond NL; lokaal en uit het seizoen	auto weggedaan, nu deelauto (gebruik ik nooit, Rick wel)	groene stroom, klein huis, goed geïsoleerd
 Anders	geen cadeaus maar eten en drinken voor mijn verjaardag	overwegend vegetarisch	OV, fiets	zonnepanelen, zonneboiler kunnen helaas niet op ons dak
 Minder	ik koop haast niks, alleen wat ik echt nodig heb	we bewaren alle left-overs, eten van kleine borden	we werken dicht bij huis, we vliegen niet meer	ik douche kort, verwarming geprogrammeerd, tochtstrips

Picture (in Dutch): the examples of the BOL-principles of becoming 'greener' (picture has to be translated into English)

(source: <https://thinkbigactnow.org/en/what-is-hidden-impact/>)

In order to keep as much material out of the landfill as possible, it is important for each of us to do our part. One of the ways to put that plan into action is through the 3 Rs of waste management — Reduce, Reuse, Recycle.



1. Reduce means to cut back on the amount of trash we generate (think of using less shampoo or conditioner while washing your customer's hair, using a solid and reusable lunch box instead of plastic sandwich bag to reduce the use of plastic)
2. Reuse means to find new ways to use things that otherwise would have been thrown out (for instance, arrange a garage sale with the contents of your wardrobe you do not use so that others can enjoy the items or bring your own textile bag to the grocery store)
3. Recycle means to turn something old and useless (like plastic milk jugs) into something new and useful (like picnic benches, playground equipment and recycling bins). In that way we can make waste the new raw material!

[Source: <https://roguedisposal.com/resources/education/recycling/exploring-the-three-rs-of-waste-management-reduce-reuse-recycle#:~:text=Reduce%20means%20to%20cut%20back,playground%20equipment%20and%20recycling%20bins>.]

### **What is circular economy?**

In our current economy, we take materials from the Earth, make products from them, and eventually throw them away as waste – the process is linear. In a circular economy, by contrast, we stop waste being produced in the first place.

The circular economy is based on three principles, driven by design:

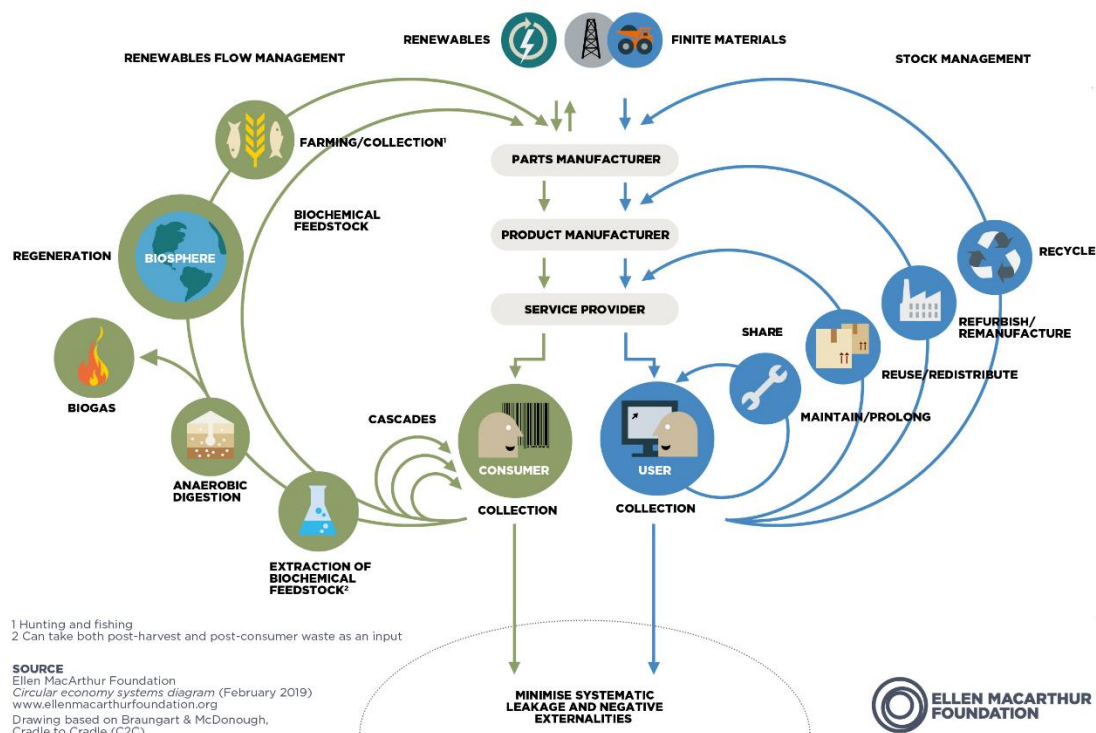
- Eliminate waste and pollution



- Circulate products and materials (at their highest value)
- Regenerate nature

It is underpinned by a transition to renewable energy and materials. A circular economy decouples economic activity from the consumption of finite resources. It is a resilient system that is good for business, people and the environment.

The circular economy is a systems solution framework that tackles global challenges like climate change, biodiversity loss, waste, and pollution.



Source: <https://ellenmacarthurfoundation.org/topics/circular-economy-introduction/overview>

Optional  TASK:

1. If you want to learn more about the circular economy and examples of it, watch this YouTube video about circular economy (about 10 minutes):  
<https://www.youtube.com/watch?v=NBEvJwTxs4w&t=310s>.
2. Check out the website of the circular Urban Development in Amsterdam [De Ceudel](#). Name at least 3 examples of sustainable and circular solutions they make use of at De Ceudel.

### **What waste does a hairdresser produce?**

Within a salon quite some waste is being produced. Think of

- Plastic bottles and jars from shampoo / conditioner
- Glass (some hair products can be packed in glass)
- Plastic (think of plastic gloves)
- Paper
- Foils (highlights)
- Hair colouring tubes
- Human hair



**TASK: walk around a salon (it can be the salon you do your internship training at or otherwise the salon at school) and make a complete list of all kinds of waste there's produced in the salon. Do not forget the kitchen /washing machine (if available)!**

[Sources: <https://ecohairandbeauty.com>]

### **What are the effective ways of reducing / recycling the waste a hairdresser (salon) produces?**

Within the salon there is plenty that could be recycled. Think about hair, tubes from colouring, foils, plastic which is used for shampoo and conditioner bottles / containers .

Some of this waste typed lend themselves perfectly for recycling.

#### **Hair**

Hair that has been cut can be used for recycling. It is important though that only hair is collected, no other items.

Hair can be used as fertilizer; hair is one of the best natural plant fertilizers you could find on this earth. This is because it contains 20 minerals and trace elements, it is also very high in protein and nitrogen.

For example: 100-200 pounds of cows produce 1 pound of nitrogen, 6-7 pounds of human hair produces 1 pound of nitrogen, so it is more effective to use hair as fertilizer.

Hair can be used by oil spills. Hair can turned into nets which can be put in a circle around an oil spill in the ocean. Because of its hygroscopic power hair can resorb the oil perfectly well.

## Plastics

Most of the plastics are not biodegradable. To reduce plastics in the environment you can check if they can be recycled. Collecting plastic bottles (e.g. from shampoo / conditioner), cutting the bottom and the neck off and cutting it open, **you can put more than 20 bottles in one stack. In this way it takes longer to fill a basket / container with plastic** items and makes recycling easier and more efficient. Collect them and they can be used for making other (hard)plastic items.

## Mixed waste

Some types of waster you cannot sort, so it goes to the mixed waste. At the recycling plant where it gets to later on, part of this waste will still be sorted – for example, metal, plastic and biodegradable items will still be recycled – but the rest will most probably end up in a landfill. The less mixed waste ends up in a landfill, the better for the environment. That is why it is our responsibility to minimize to amount of waste that cannot be made back to a new raw material. Companies like The Green Scissors (in the Netherlands) or Green Salon collective (Ireland and a few other countries) can help hairdressing salons sort and collect the different types of waste that a salon produces. They provide the suitable containers, arrange the pick up when the containers are filled up and bring the waste to right place to getting recycled.

Sources: <https://www.thegreenscissors.org>

<https://www.greensaloncollective.com/>



### TASK: Environmentally friendlier product alternatives

In order to reduce the waste produced by a hairdresser (salon) or increase the amount of waste that can be recycled, alternative products can be used for the regular processes (think of enormous amounts of foil used for highlights / balayage). Do research into these 2 alternatives to aluminium foil (see links below). What principles of these products' work make them better recyclable? What is the price difference with regular foil?

Refoil: <https://www.youtube.com/watch?v=KOuc0NCJfvs>

Paper not foil: <https://www.papernotfoil.com/>



### Interesting fact:

**Recycled hair can be made into many (sometimes unexpected!) things:**

- Hair accessories: These can include hair accessories like extensions and hair pieces for fancy celebrations.
- Hair purses: An Australian artist called Polly Van der Glas recycles materials to make things from hair purses to human teeth.
- Hair Jewellery: These have also been made from the same Australian artist. Bracelets are most popular to make out of hair because they are the easiest. However, necklaces and earrings have also been made.
- Clothing out of hair: Designers have also used hair in their work to make dresses and trousers.
- Sculptures: Artists have also been known to make hair sculptures. A hairstylist from Beijing recreated Tiananmen Square using just recycled human hair. This is the link to the video of him creating it.  
<https://www.youtube.com/watch?v=cJyPpwkM0jo>
- Tribal Art: Neck ornaments worn in Hawaii were made out of braided human hair. This shows a big contrast in how different types of hair can be used to make different things. The works of art are now located in the Honolulu Academy of Arts.

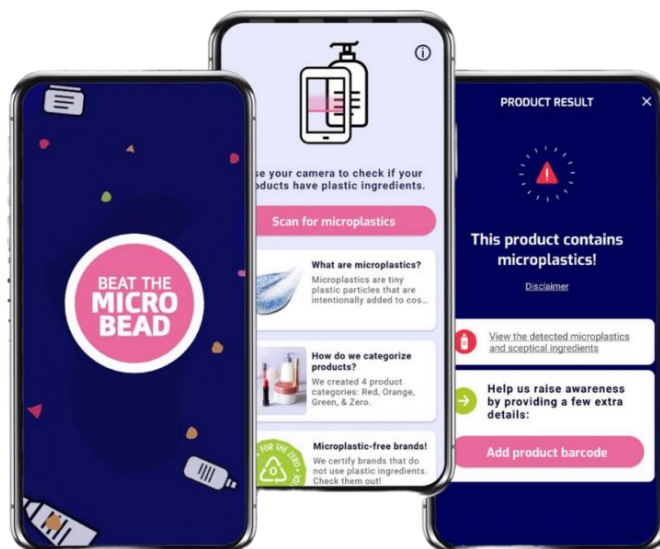
## Take control of your use of Microplastics



### TASK:

Download the Beat the Microplastics / Microbead app and find out if there are any microplastics in **the products and packages you use / buy. In this way you can decide which products you want to purchase** for use in your salon or your household. Start scanning!

You can find it here: <https://www.beatthemicrobead.org/download-btmb-app/>



## How to minimize waste at a hairdresser salon (reduce / reuse / recycle)

### Practical tasks about waste management at a hairdressing salon:



TASK: study the proposition of a company that helps hairdressers recycle their waste in a proper way (for example, <https://www.greensaloncollective.com>) and make a list of 5 to 8 items / tips of how we can recycle within a salon wisely and efficiently. Think of cutting the packaging, sorting garbage, using special containers for hairdressing waste)?



TASK: Thinking back of the **3Rs of the universal waste management** – reduce, reuse, recycle - write down the following and discuss with your fellow student:

- What are the simple steps to **reduce** waste at a hairdresser salon?
- How can we **reuse** the products at the salon? (E.g. Big shampoo bottles refill, multiple use gloves, ceramic / glass cups instead of one-use paper or plastic cups etc.)
- In what ways can we **recycle** the waste coming from work as a hairdresser?



TASK: Find smart products on the market that will help you as a hairdresser create less waste or bring less damage to the environment (e.g. special bio-degradable foils, green products like shampoo, conditioner, plant-based hair colourings, bio-degradable cups / spoons / plates etc.)

## Management and recycling

### Management:

#### **How do you set up a low-waste salon (add-on to a business plan of your 'dream salon')**



**TASK:** Imagine you have to write a business plan for setting up and opening of your dream salon (this might even be the task in the course of your training!).

How can you take the care for the environment and make sure you are going to make use of sustainable business practices? Imagine that only the most sustainable business plan will be granted a financing / loan and you really need the money.

Write down all the aspects you can think of to win the competition! Think of:

- What product supplier you will go for (have the products green ingredients in them?)
- Whether your energy supplier provides green energy
- Ventilation in the salon
- Water-saving measures
- A more sustainable option for the foils
- Coffee cups (paper or ceramic / glass?) and coffee / tea / sugar supplier (Fairtrade? Eco?)
- What kind of furniture you are going to use
- Sorting the waste
- What detergents you are going to use for washing up, laundry, mopping etc.
- Having a paperless company (online communication)
- Any other green and environmentally friendly/friendlier measures?
- ...

#### **Corporate Social Responsibility in relation to waste (separating waste, using more environment- and skin friendly 'greener' products etc.)**



**TASK:**

**Corporate social responsibility (CSR)** is a self-regulating business model that helps a company be socially accountable to itself, its stakeholders, and the public. By practicing corporate social responsibility, companies can be conscious of the kind of impact they are having on all aspects of society, including economic, social, and environmental. To engage in CSR means that a company is operating in ways that enhance society and the environment instead of contributing negatively to them. CSR helps both improve various aspects of society as well as promote a positive brand image of companies.

If you think of the environmental aspect of CSR at a hairdressing salon and in relation to waste, what kind of practices can a salon owner / manager apply in order to minimize the impact of his/her business? Think of sorting the waste, using green(er) products, reusing or recycling the packaging etc. Write down all of your ideas for a more waste-efficient salon.

### **Waste legislation in your country**



**TASK:** What are the rules and laws (legislation) about waste in your country? Where can you find the information? Study the websites of the (local) government / authorities on this subject. Is it clear what rules do hairdressers / salon owners have to follow? Is there a professional association that can help professionals or entrepreneurs with this kind of issues? What is the name of this association in your country? Where else can you go for advice? Work the answers out to a short manual for young professionals / starting entrepreneurs.



## LEVEL 1

RAW MATERIALS – Knowledge base
1. Definitions
2. Raw materials in natural cosmetic products: do's
3. Raw materials in natural cosmetic products: don'ts
4. Raw materials in natural cosmetics products: why

### 1. Definitions

Cosmetics raw materials are based on natural, synthetic or extracted roles of raw materials, heating processes, stirring and emulsified mixed chemical substances. Cosmetic Raw Materials is based on various materials and ingredients perform in accordance to the chemicals and its key functionalities. These substances play a role in a number of cosmetic formulations, stable or given colour, aroma, and other characteristics, but they are vital.

Recently, according to the trend of going back to the roots, simple components and non-invasive procedures has been popular in the cosmetics industry. It is the reason for the sudden interest in raw materials obtained directly from nature and used to produce natural cosmetics.

Natural cosmetics are products made from naturally sourced raw materials such as mineral resources and ingredients of plant or animal origin. They are also the ones that are processed to the minimum hence are pretty much safe for the skin and are also equally effective as chemical-based products.

With the recent shift to natural products, the importance of learning the raw

materials used in a cosmetic product have doubled even more because some products that claim to be natural do contain some chemicals in the form of preservatives or additives in a minor amount.

When we say “natural raw materials”, the image that you might be getting will be of some leaves and flowers ground into a fine paste or powder and packed. Well, that’s not exactly what we mean by natural cosmetics. The raw materials are selected based on certain criteria because cosmetic and personal care products are meant to be safe for use and not cause any allergy or other harmful side effects.

Not all of the natural substances are safe. They can be itchy, poisonous, reactive, too, and hence the safety of the raw material is the most important factor to be looked upon while selecting it for a cosmetic product.

Looking to the sustainability, the availability of the raw material is another important point of attention in the selection of raw material. There are some natural substances that are on the verge of getting extinct or are available in limited quantities in certain regions. Hence, while selecting that particular raw material, care must be taken that it doesn’t get extinct or that its usage is causing harm to the environment or is unbalancing the ecosystem in any way.

## **2. Raw materials in natural cosmetic products: do's**

Natural cosmetics are products that contain only natural raw materials – mineral resources and ingredients of plant or animal origin. In addition, they should be obtained as a result of such processes as: filtration, extraction, drying, distillation, pressing, milling, lyophilization and sieving. Obtaining natural raw materials with the use of the aforementioned physical methods, which process the material to a small extent, allows to preserve the nutritional values, vitamins and beneficial substances found in the raw materials.

Ingredients of animal origin can be used to produce natural cosmetics only when doing so is not harmful to the health or life of animals. Such raw materials are, among others, honey, propolis, lanolin and milk. In the production of natural cosmetics, it is also allowed to use cosmetic raw materials obtained in biotechnological processes, i.e. microbiological or enzymatic. Hyaluronic acid, among others, is obtained this way.

In addition to raw materials of plant and animal origin, in natural cosmetics you can also find:

- different kind of sea components (e.g. algae)
- essential oils,
- inorganic salts and oxides derived from minerals,
- natural emollients, dyes, emulsifiers (e.g. sucrose esters),
- naturally occurring active substances and preservatives (benzoic acid and its salts, benzyl acid, salicylic acid).

### **3. Raw materials in cosmetic products: don'ts**

For the production of natural cosmetics one shall not use mineral oils, paraffins, petrolatum, synthetic dyes, synthetic fragrances, synthetic preservatives, i.e. parabens or formaldehydes, as well as propylene glycol (PPG), silicones, BHT, SLS and SLES.

The ingredients of natural cosmetics have to be free from raw materials originating from genetically modified plants as well as from raw materials from dead animals or obtained in the manner harmful for them. It is also important to remember that the production of natural cosmetics requires undertaking measures protecting natural environment.

A natural cosmetic product should not contain synthetic substances; although some certifying organizations consider the product to be natural if it contains less than 5% of synthetic substances.

### **4. Raw materials in cosmetic products: why**

The effectiveness of raw material is the key topic in the selection process. Just because something is natural doesn't mean it has to be magical. The properties of raw materials like emulsification, moisturization, cleansing, thickening, coloring, fragrance, or preservation must be considered before adding them to the list of ingredients for a cosmetic product. Here's the main powers a raw material can have in Natural Cosmetics

**Anti-oxidants** – To fight off the aging of the skin, anti-oxidants are necessary.

They also limit the growth of microorganisms and protect cosmetic ingredients from decomposition. Some of the natural antioxidants are polyphenols and flavonoids found in grape seeds, rosemary, and citrus.

**Emollients** – To soften or smoothen the skin, emollients are added which help build a barrier against water loss. Some of the natural emollients are – hydrogenated castor oil, coconut oil, honey, etc.

**Emulsifiers** – In order to combine two opposite phases like water and oil, an emulsifier is needed in cosmetic products. For example, GSC (Glyceryl Stearate Citrate), beeswax, are natural emulsifiers that help in stabilizing and obtaining the right consistency of the cosmetic product.

**Surfactants** – A multifunctional raw material with properties such as foaming agents, conditioning agents, emulsifiers, and solubilizer, is added to the cosmetic products to facilitate skin cleansing. Castor oil, Cocamidopropyl betaine obtained from coconut oil are known to be the best natural surfactants used extensively in the cosmetic industry today.

**Humectants** – Long-lasting moisturization is what everyone desires from a cosmetic product and humectants are responsible for it. Hydrogenated castor oil, aloe, honey, glycerol, and acid are the star humectants in natural cosmetics today.

**Plant extracts** – Since we are talking about natural cosmetics, botanical extracts are a must and the most important raw material. They are the active ingredients in natural cosmetics. Extracts of aloe, castor plant, green tea, etc., can be found in the ingredient list of natural cosmetic products that act as antibacterial, firming, strengthening, moisturizing, rejuvenating agents and are also safe for the skin.

Other than these, proteins, vitamins, oils, waxes, fats, butter, acids, minerals and trace elements, gums, and thickeners, fragrances are the other factors in raw materials that are important in the formulation of a natural cosmetic product.

### **RAW MATERIALS – Students activities**

1. Using “Book Creator” App (or another free App you want), create an e-book about raw materials (RM) for cosmetics basics developing the followings concepts:

- a. What are RM in cosmetics production
- b. Difference between synthetic and natural RM
- c. What RM are useful for in cosmetics production
- d. Which are the main RM used in natural cosmetic products

(Useful link - <https://www.bansaltrading.com/cosmetic-raw-materials>)

- e. Which are the main RM one shall not find in natural cosmetic products

(Useful link - <https://www.products.pcc.eu/en/blog/raw-materials-for-the-production-of-natural-cosmetics/>)

## LEVEL 1

<b>MANAGEMENT – Knowledge base</b>
1. Who is a business manager
2. Owner or manager
3. Management activities in a beauty salon

### **1. Who is a business manager**

A business manager is a supervisor who controls and directs the personnel and activities of an organization or a department. By adopting operational plans, carrying out performance evaluations, and supervising all daily activities, they strive to keep the business productive, efficient and organized at all times. Business managers invest time in finding any new chances that could aid in the company's expansion and competitiveness in the market, and they also set goals and targets to get there.

They collaborate closely with staff members every day to monitor all the projects they perform and identify any potential areas for improvement. The majority of the managerial duties they carry out involve hiring, developing, and terminating staff members. They also hold frequent one-on-one meetings with staff members to provide advice and guidance on how to improve in their roles and make sure team members have the tools they need to do their jobs well.

This is valid in general for any company, but depending on the business size, the characteristics of a manager change and you need to develop skills often very



specific. Let's analyze what happens in the beauty industry.

## **2. Owner or manger**

### **Salon Managers**

Managers oversee the day-to-day operations of a salon. They hire, interview, order supplies and schedule employees. The salon manager is responsible for running the salon. It is the manager's job to identify problems and ensure the business thrives under their management.

### **Salon Owners**

In contrast, owners of salons plan out the business and create it from the ground up. The owner works on building their business using marketing and advertising techniques.

In some cases, an owner acts as both owner and manager. Many owners decide that they are too busy to manage the salon and have managers on duty. They may also operate multiple salons and need a manager that is responsible for each salon.

## **3. Management activities in a beauty salon**

Every beauty salon has its own needs and peculiarities, but we can summarize the attention that must have a manager (or an owner-manager) with these list:

- Oversee daily salon operations

- Hire and train beauticians, as needed
- Organize employees' shifts, considering peak times and seasonality
- Order beauty products, like creams and essential oils and replenish stock
- Arrange for regular maintenance services for all equipment
- Apply hygiene practices across all beauty stations
- Ensure all beauty treatments meet high quality standards
- Maintain staff records, including salaries and working schedules
- Promote services, products and discounts on social media
- Receive payments from clients and track all transactions
- Keep updated records of costs and revenues
- Run online competitions and offer discount packages to attract new customers

<b>MANAGEMENT – Student activities</b>
<ol style="list-style-type: none"> <li>1. With an App or an online tool, create a graphic concept map of manager activities in a beauty salon. Try to create something that is graphically attractive.</li> </ol>

## **LEVEL 2**

### **1. International Nomenclature of Cosmetic Ingredients (INCI)**

The label on a cosmetic usually contains a list of cosmetic raw materials used for its production. The materials are referred to by using so-called INCI names. This abbreviation comes from English words International Nomenclature of Cosmetic Ingredients. It is a unified naming system of chemical compounds in English and plants in Latin.

INCI standards for International Nomenclature of Cosmetic Ingredients. The INCI system was established in the early 1970's by the Personal Care Products Council (former CTFA, Cosmetic, Toiletry, and Fragrance Association) and the list is maintained by the Personal Care Products Council. INCI names are used in the United States, the European Union, China, Japan, and many other countries, for listing ingredients on cosmetic product labels. With few exceptions, the INCI labeling names in all countries are the same. At the moment, there are more than 16000 ingredients in INCI list, which is the most comprehensive listing of ingredients used in cosmetic and personal care products

It's normal to feel confused by an INCI list at first. For this reason, there's many resources and tools (like App or web Sites) that can help us in deciphering INCI names so we can understand more about what the ingredients is and/or what it does. For example, you can try this:

<https://www.ewg.org/skindeep/>

### **2. Labels of a cosmetic products**

How a cosmetic product will turn out, entirely depends upon the raw materials used in it. From the look and feel of the product, its smell, to the most important factor – its effects are the results of the ingredients used to compose it.

Hence, the composition of a cosmetic product matters the most more than anything which is unfortunately also the most ignored thing because we hardly read the ingredient list while buying a cosmetic product. Either our focus is only on the price or the offers or we are simply influenced by an advertisement or some people.

When buying cosmetics, it is worth paying attention to the list of ingredients to be sure that the product will work in a manner declared by the manufacturer. One should remember about the rule according to which the ingredients included in the cosmetic are listed in a specific order, starting with those of the highest content in the product. This information allows consumers to make an informed choice when they purchase cosmetics. For this and other reasons, the preparation of a cosmetic product with a specific effect is not an easy task. One should select cosmetic raw materials so that the product has a homogeneous consistency, and the ingredients' properties are in harmony with one another, ensuring the desired results. This applies to both natural cosmetics and preparations containing synthetic ingredients.

Specifically, The EU Cosmetics Regulation requires cosmetic products to provide the following information on the label or on the packaging:

- The name and the address of the company (Responsible Person).
- An ingredients list, in decreasing order of weight of the ingredients. This is mainly intended for people who have been diagnosed with an allergy so that they may avoid ingredients to which they are allergic. The same ingredient names are used across the European Union and most countries worldwide, so people are easily able to identify them.
- The nominal net.
- Any warnings that might be necessary on how to use the product safely.
- A “date of minimum durability” (“best used before the end of”) or a “period after opening” to show for how long the product may be kept or used.
- What the product is (if not obvious from its appearance).
- A reference (batch number) for product identification.
- Country of origin (for products imported into the EU).



### 3. Cosmetic Products Safety Data sheets

In addition to the label information, there's another tool that can help cosmetic sector workers to know and handle cosmetic products in the correct way: Safety Data Sheet.

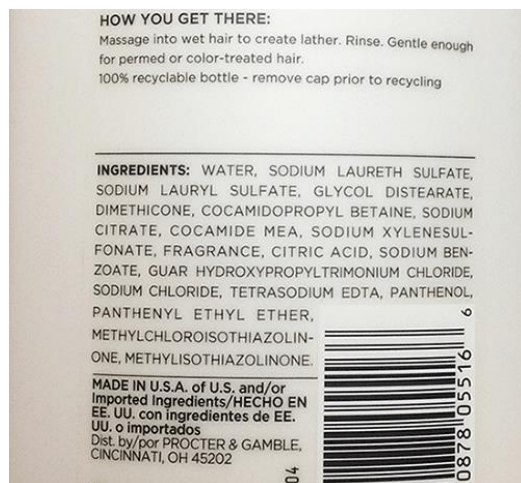
A safety data sheet is a document created for substances or mixtures containing a wide range of information on the composition, physical, chemical, health and environmental effects of the substance or mixture and on the safe usage, storage and disposal of the products.

The knowledge of these information makes it possible for users or employers to take any measures which maintain the human, environmental and occupational safety.

### Activity

#### RAW MATERIALS – Students activity

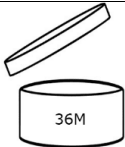


1. A) Below you can find the label of a cosmetic products. Using the knowledge base and any online tools or App you want, try to understand and explain it.













1. B) This is the INCI list found on the label of a cosmetic product that emphasize the presence and benefits of Argan Oil. Is this true in your opinion? Try to explain why.

INCI: Aqua, Sodium laureth sulfate, Cocamidopropyl betaine, Sodium chloride, PEG-40 hydrogenated castor oil, Panthenol, PEG-200 hydrogenated glyceryl palmate, Sodium benzoate, Polyquaternium-10, Parfum, Dipropylene glycol, Glyceryl laurate, PEG-7 glyceryl cocoate, Polyquaternium-7, Citric acid, Argania spinosa oil, Alpha-isomethyl ionone, Geraniol, Limonene, Linalool.

2. Try to find the correct meaning of the following symbols you can find in the cosmetic products labels:

Symbol	Meaning
	
	
	

## Management

### SUPPLIER

When starting a new business, every entrepreneur comes up with hundreds of questions, and among them there is one in particular: how can I make my business profitable? This then leads to other issues, such as wondering what is superfluous and what is not. All companies operate in the same way: managers decide what kind of product or service to offer, first determining what their target audience is and what products these people consume or what services they want to use. Thereafter, the possible means will be used to achieve this goal and goods and services will be provided to the customer in exchange for a financial amount; a part of this will then be used in turn to start the circle and to make sure that the company stays afloat. And it is at this time when the figure of the supplier becomes important.

### What is a supplier? Definition and examples

A supplier is a person, organization, or other entity that provides something that another person, organization, or entity needs. During transactions, there are suppliers and buyers. Suppliers provide or supply products or services, while buyers receive them.

We commonly use the term 'vendor' with the same meaning as 'supplier.'

In business, for example, every company has at least one supplier. Suppliers supply or provide the company with materials, products, and services.

*BusinessDictionary.com* has the following definition of the term:

*"A party that supplies goods or services. A supplier may be distinguished from a contractor or subcontractor, who commonly adds specialized input to deliverables."*

Suppliers are those companies that provide other goods or services necessary for the proper functioning of the enterprise.

The word supplier comes from the verb to provide which means to provide, to deliver.

In the field of business, managers or the purchasing department must negotiate delivery times and payment terms with their suppliers to strengthen a long-term relationship.



For the company or the contracting entity there are two types of suppliers: internal and external:

- Internal suppliers: refer to the company's workers who must deliver a certain product or service within a certain period of time. An internal provider, for example, are departments that create financial reports or market research.
- External suppliers: they are entities or companies that provide what is necessary for the proper functioning of the "buyer" company. External suppliers would be, for example, companies that sell raw materials for a factory.

Suppliers are caring *stakeholders* of a company, i.e. interest groups related to the company. The importance of this lies in the fact that they are factors that must be taken into account in the planning of strategic objectives.

- Stakeholder
- Strategic objectives

Suppliers can also be classified according to the type of good and service they offer, generally divided into 3 categories:

- **Suppliers of goods:** they are those who offer specific and necessary tangible products for the market. Among the suppliers can also be classified according to the type of good and service they offer, generally divided into 3 categories:
- **Suppliers of goods:** they are those who offer specific and necessary tangible products for the market. Among the suppliers of goods we can find, for example, companies that produce items, furniture, goods for resale, among others.
- **Service providers:** these are companies or individuals who supply intangible products. Among the service providers, we can find: Internet service providers, telephony, cleaning, legal services, etc.
- **Resource providers:** refers to economic resources, in particular credits, capital and shareholders. Among the providers of resources we can find: banks, credit institutions, government, among others.

## WAREHOUSE MANAGEMENT

With the word warehouse we refer both to goods, packaging, raw materials, products finished, to spare parts that are present in the company to be sold, consumed, used, and to the premises where they are kept, stored and stored.

The structures to be used as a warehouse must be built in such a way as to exploit as much as possible the space available and to ensure the temperature and humidity that allow the best storage of stocks.

The equipment must be such as to facilitate the subdivision and sorting of goods and to allow an easy movement of the means of transport and lifting that are used for perform deposit operations.

The warehouse can be divided into three zones:

- **The acceptance zone** must take into account that the arrival of the goods is not easily programmable and you can overlap more products, so you need a rather large space.
- **The shipping area** may be smaller than the acceptance, as it is the company that decides when to send the goods and then can schedule the fulfillment of orders.
- **The storage area** is the actual warehouse, that is, the place where the goods remain in storage for more or less long periods. The size must be carefully determined as excessive amplitude leads to depreciation, maintenance, heating costs, while an under sizing can lead to a congestion of the premises, a greater confusion of different goods, difficulties in using means of transport and above all in going under escort and therefore not be able to meet customer demands.

In merchant companies, stocks allow the purchasing department to provide for supplies at the pace deemed most appropriate and at a time when prices are deemed more convenient.

### Organization of the warehouse in modern catering activities

To be effective, a good purchasing policy must be accompanied by careful management of goods from receipt to delivery to departments. In practice it is indispensable conduct in a shrewd and rational way the whole department, through a correct accounting of warehouse, as up to date as possible to the real situation.

The person receiving the goods, the person in charge of carrying out this task cannot be a simple employee not trained in this work. The presence of an inadequate person could nullify all the efforts made during the purchase phase.

The person receiving goods has very specific and delicate task: check the goods and start the entire administrative procedure relating to the payment of invoices of suppliers.

The person responsible for receiving the goods must:

- check the status of the packages
- ascertain the quality of the goods through the verification of some samples
- sign travel documents
- record the arrival of the goods and inform the administration.

Once the goods have been checked, the person receiving the person will sign the papers companions, who will subsequently be passed to the administrative department.

### The location of goods in the warehouse

The goods purchased and then stored can be rightly compared to money kept in a bank and, therefore, must be treated with the same consideration. To better control incoming and outgoing products, it is advisable have only one entrance way to the warehouse located near both the reception area.

The goods must be placed in hygienically suitable environments, in the presence of elements of conditioning or not, according to their perishability, following a criterion that still favors the ease of storage and availability of products. For this purpose, it is convenient to apply, for each product placed on the shelves, an identification tag, on which to report the name of the product and the main useful information at the time of the withdrawal and inventory.

The help of a computer will avoid the compilation of paper material, helping a lot the work of the warehouseman in terms of time and production efficiency.

### Stock accounting

To control consumption and therefore the costs of business management it is a good idea to implement from the beginning of the activity an efficient stock accounting. Thanks to this, the manager will be able to in any time to establish the quantity of goods in stock in the company, the relative order to be placed and evaluate the consumption trend of each type of product.

The best way to keep your warehouse situation up to date is inventory continuous. It is about constantly renewing (more and more often with the help of a support computer) a special card, of which we have already mentioned above, on which they are reported, in addition to the

commercial and commodity data of each individual product in stock, also all its movements (entries and exits) in the warehouse within a fixed time (daily consumption, weekly, monthly, annual). In this way it is always possible to have in real time the warehouse situation.

Stock accounting is based on the following documents:

**Loading bills** relating to the entry of materials and component parts into the warehouse

**Withdrawal bills** for goods transferred from the warehouse to the production departments

**Processing returns bills** related to goods returned from production departments to the warehouse because unused

**Payment bills** related to the transfer of products from the production departments to the warehouse products

Discharge bills related to the exit of products from the warehouse for delivery to customers.

Warehouse movements are proven:

*for revenue:*

- DDT transport documents and immediate accompanying invoices issued by suppliers in relation to the delivery of the goods
- DDT transport documents issued by customers, in relation to returns of goods

*for sales:*

- from DDT transport documents and immediate accompanying invoices sent to customers for the goods delivered to them
- from DDT transport documents sent to suppliers in relation to returns of goods

### Inventory and inventory accounting management

This task often takes place with EDP systems that requires:

1. Creating an Article Archive
2. Classification of goods into groups, subgroups, classes....
3. Encoding (code that can be called up from a PC): the code is a set of digits (numeric code) or

a set of letters and digits (alpha numeric code) that summarizes different information about a certain commodity.

Stock records must:

1. Control the incoming and outgoing movements of the various warehouse items
2. Check the stock level and report supply needs to the purchasing department. Concretely, it will signal the achievement of:
  - Reorder point = quantity at which the purchasing department must be advised to order suppliers a new batch of goods
  - Security stock = quantity below which not to fall in consideration of the execution times of orders by suppliers
  - Understock = less than the safety stock
3. Report to the commercial service the stocks of finished products
4. Transmit to the management accounting the data for the determination of production costs (= costs of materials used in production processes)
5. Transmit to the general accounts at the end of the administrative period the data concerning the valuation of final inventories
6. Fulfill any accounting obligations provided for by tax regulations.

The warehouse of a salon:

Managing the warehouse of a hairdressing or beautician salon is a very complex task that requires several stages and a lot of time.

Managing the warehouse correctly means paying attention to the budgets for purchases, always having monitored the products under stock, having an ordered warehouse and sending precise orders, avoiding waste and having the warehouse set up in a functional and practical way.

An activity such as that of the beauty salon must pay attention to the management of its warehouse. Incorrect or approximate management can in fact compromise the company ending up negatively affecting the balance sheet.



However, many companies may neglect or devote less care to their warehouse, perhaps due to lack of time or organization, when instead this should represent one of the cornerstones of their business.

Optimizing and automating management also saves time, and therefore also money, which could instead be invested in business growth.

Managing a warehouse does not mean dedicating yourself only to the management of product flows within your business but allows you to collect essential information for the correct business management. It also allows you to assess if there is waste or excessive product orders, risking that they make "dust" between the shelves of the warehouse.

The five main operations for the correct management of the warehouse concern:

- keep your budget under control,
- monitor stocks,
- manage the warehouse constantly,
- avoid clutter,
- automate management (where possible).

## 1. Manage your purchase budget

Budget management is another fundamental point to which attention must be paid.

A correct management of the budget allows you to have under control the stocks of the products and avoid the accumulation of the same in your warehouse.

Spending money on excessive purchases that increase the economic value of your warehouse means blocking money that cannot otherwise be spent on other aspects of business growth.

In addition, it does not allow to have clear timing of conversion from investment to gain, or conversion from the product purchased to the gain received once sold.

A correct management of the budget is possible thanks to a strategic planning of expenses, creating a periodic budget of purchases based on the turnover of previous periods, which in the case of the beauty salon must also be compared to the seasonal period.

It is therefore better to aim for a lower budget, since it is always possible to implement with last-minute orders in case of product shortages.

The opposite is not true, that is, to acquire greater quantities of products, which cannot be converted into expendable money but will inevitably remain stuck in stock.

## 2. Manage stocks

Inventory management is also linked to budget management.

Verifying the economic value of the warehouse at periodic intervals, allows you to have full control of the products in relation to the real business need.

For example, establishing a deadline within which the goods must be used or processed guarantees a continuous replacement cycle and avoids the accumulation of goods (sometimes even unused) in the warehouse.

In this way, inventory operations are also streamlined, a fundamental action for the correct management of the beauty salon.

Not knowing the inventory of your products, therefore the exact availability of the same in the warehouse, is not a situation related to a healthy business activity: you must in fact always have under control the availability of products within your warehouse.



### 3. Always be constant

Another important point for a correct management of a warehouse is that of the time to devote to this activity.

In fact, it is not possible to spend time managing the warehouse without first planning it. This means that it is necessary to do these operations regularly and precisely, perhaps by appointing a manager and possibly also a deputy manager, based on the size of the warehouse, which guarantee the correct execution of the various tasks.

Obviously, it is not something that happens overnight, but it takes time and constancy: the management must therefore become an integral part of the daily activity to be carried out in the salon.

No more inventories that waste the activity's time, effectively closing the salon on a working day or relegating the staff to the holiday hours: using timely short-term work protocols therefore allows you to optimize the management of the entire activity.

### 4. Avoid clutter

As in any self-respecting warehouse, it is in fact a priority to keep everything in its place and give a place to every product or work tool, such as gloves and capes of color.

A well-ordered warehouse allows first of all to save time and better manage stocks, avoiding the accumulation of misplaced products and keeping stocks monitored.

In this way it is possible to keep a watchful eye on the movement of goods, on the management of the documentation of the same and consequently guarantee a healthy business growth, limiting inconsistencies to a minimum.

It is important not to have sheets scattered around the reception and packages stacked in the warehouse, without being opened, checked and stored in the appropriate shelves. Only by keeping everything in order can you know exactly what, where, how and when to find or order a certain product again, keeping the management of the business clear.

### 5. Automate management

Nowadays, technology can also help in the management of a beauty salon, especially about product orders.

In fact, there are management software able to process orders and move all products, verify and

monitor sales and always have stocks and items under stock under control.

Following these rules, it will be easy to know how to contact a supplier and make an order.

### WHAT IS AN ORDER?

A purchase order is essentially a contract that authorizes a supplier to deliver goods or services at a predetermined price. If the company needs to regularly make purchases from suppliers one of the fundamentals of the purchase process is precisely the purchase orders.

Purchase orders can be of varying complexity and structure, but they should always be drafted including at least the following essential points:

- **Type of Product/Service:** The purchase order must indicate what you intend to purchase. You must also include the quantity, type of unit as well as a detailed description of the Product/Service to be *purchased*
- **Terms of Delivery and Shipping:** in addition to the delivery date, you must indicate the destination address, how the goods will be shipped who is responsible for the shipment and who pays for the shipment
- **Amount:** Make sure you correctly indicate the amount of the order and the type of currency. Specify the cost for each unit, the total cost, and its tax.
- **Payment Terms:** Specify how you intend to pay for the product / service purchased (bank transfer, cash, credit card etc. ...) and the times within which the payment must take place.

The purchase order is a fundamental document that should be part of a standardized purchasing process with appropriate procedures that help streamline the supply cycle thus contributing to business efficiency.

Of course, the completeness in the contents of an order depends decisively on an accurate preparation of the Purchase Request and the Request for Offer whose primary purpose is to fully define the characteristics / technical specifications of the product or service to be purchased as well as the related supply conditions.

Finally, it is good to say that now many purchase orders are not paper but are transmitted electronically on the Internet or, today more and more often, through the use of appropriate e-Procurement platforms capable of managing the entire purchase process via the web.

After contacting a company and receiving their price lists, we can place an order. Nowadays not all orders are made by letter: some companies require an IT order, others enter on their website the order form already pre-printed, others are waiting for e-mail communications. Any either the nature or the method of shipment the order must still have a progressive number that allows us to identify it and must explain the conditions of payment. The Order Number is usually entered in the subject.

#### Elements of the text of the letter

1. THANK YOU FOR SENDING CATALOGS AND PRICE LISTS
2. DETAILED DESCRIPTION OF THE GOODS TO BE ORDERED (product code, description, quantity, unit price)
3. SUMMARY OF THE GENERAL CONDITIONS (Means of shipment, delivery terms, methods of payment, other conditions, any previously agreed discounts must be made clear.

**[Company Name]**

[Street Address]  
[Address Line 2]  
[City]  
[County]  
[Postcode]  
[Telephone]

**PURCHASE ORDER**

Date 06/10/2020  
PO No. [12345]

**Supplier**

[Company Name]  
[Street Address]  
[Address Line 2]  
[City]  
[County]  
[Postcode]

**Delivery Address**

[Company Name]  
[Street Address]  
[Address Line 2]  
[City]  
[County]  
[Postcode]

Delivery Date	Payment Terms	Requested By	Department

ITEM	DESCRIPTION	QTY	UNIT PRICE	TOTAL

Special Instructions

TOTAL NET 0.00  
DELIVERY 0.00  
VAT 0.00  
TOTAL 0.00

Authorised

### ACTIVITY:

After carrying out the warehouse inventory you realized that you had arrived at the understock of the following products:

		
<b>FANOLA NO RED SHAMPOO 1000 ML</b>	<b>Revlon Style Masters Volume Elevator Spray 300ml</b>	<b>Wella EOS Color Golden Curry 120gr</b>
21,05€ (iva inclusa) <del>21,05€</del> 14,74€	12,25€ (iva inclusa)	22,99 €

Create two purchase orders using:

- a) an excel sheet also adding the images you can find (see instructions attached A)
- b) one of the two free apps suggested below:

#### PURCHASE ORDER PO PDF MAKER



## Purchase Order PO PDF Maker

SendGroupSMS.com  
Contiene annunci · Acquisti in-app

#### ZOHO PURCHASE ORDER GENERATOR

<https://www.zoho.com/inventory/purchaseorder-generator/>



## LEVEL 3

### Criteria for suppliers' selection

Whether you're in retail, consumer services, or business-to-business, it's crucial to find the right suppliers. Here's some advice.

How do I find suppliers?

#### **Trade directories**

Looking through business-to-business trade directories is an obvious way to find suppliers. So is using internet search engines, but be prepared to look through many pages of suggestions and to remember to vary your keywords so that you minimise your chances of missing suppliers who could be just right for you. Remember what the military say: 'time spent in reconnaissance is seldom wasted'.

#### **Trade shows and exhibitions**

Trade shows and exhibitions offer opportunities to identify suppliers. It can be a good idea to book appointments with potential suppliers instead of just pitching up at their stand. Be prepared to network – you may well meet other visitors who can give you valuable advice. Going to shows can give you a much better feel for who's out there than just through searching directories.





## Trade shows and exhibitions

Trade shows and exhibitions offer opportunities to identify suppliers. It can be a good idea to book appointments with potential suppliers instead of just pitching up at their stand. Be prepared to network – you may well meet other visitors who can give you valuable advice. Going to shows can give you a much better feel for who's out there than just through searching directories.

## Social networks

If you establish a business presence on the social networks, suppliers may come to you instead of you needing to seek them out. Professional networking sites like LinkedIn can be good places for consultancy type businesses to meet other professionals who could work for them when the right project comes up.

## Trade association

Identify a trade association that might be able to signpost suitable suppliers.

## Utilities

For services such as electricity, telephone and internet, do as the same as you do (or should be doing) for your home services – shop around using price comparison sites or doing your own research.

### What should I be looking for in a supplier?

Here are key factors to consider when selecting suppliers.

#### Price

Pretty obvious this one, isn't it? Ask the supplier to quote for different quantities.

Example: delivering one day of training compared to delivering 10 days; supplying 500 widgets compared to 5,000; supplying five pies compared to 50.

#### Quality

Your supplier might quote you a fantastically low price, but you need to make sure the quality's right. It's no good getting your widgets at a knock-down price, if they fall apart after a year or two. Find ways to evaluate the quality of the supplier's work or

products, such as asking for samples, customer endorsements, etc. Where appropriate, ask to visit them at their premises and see for yourself what quality control measures they take.

### Minimum order quantity

Ask the supplier what's their minimum order quantity. Being able to order frequently and in low quantities, ('just in time') means that you don't have to tie up a lot of working capital in stock, nor have large storage facilities. However, the cost to the supplier of production, and/or delivery of very low quantities might rocket up the price.

### Delivery time

How long would it take from the time and date the order is issued until they actually deliver it? Would this vary according to precisely what's being ordered? E.g. if they need to ship goods in from abroad this could take longer than sourcing locally. If they're manufacturing a bespoke product for you, how long will it take them to tool-up?

### Payment terms

Will they give you credit, and if so how much? How many days would they give you to pay their invoice? If you pay promptly, would you get a discount? If you pay up-front

for the first order, would they be willing to give you credit on future orders?

### Financial stability

You need to be confident that your supplier isn't going to suddenly go insolvent. Take out credit checks with an agency, or request copies of their latest accounts from **Companies House** (but bear in mind that the supplier's situation might have changed since the accounts were filed). If you pay in advance and the supplier's business goes under, your chances of getting your money back might be slim.

### Capacity

Does the supplier have the infrastructure to cope with your business? If you're only ordering a small number of items or commissioning small amounts of work it's unlikely to be a problem. But if you, or another customer, are placing significant orders, will they be able to cope? If they're planning to hire more staff, buy more kit, or sub-contract work, can they do this and still maintain the required quality?

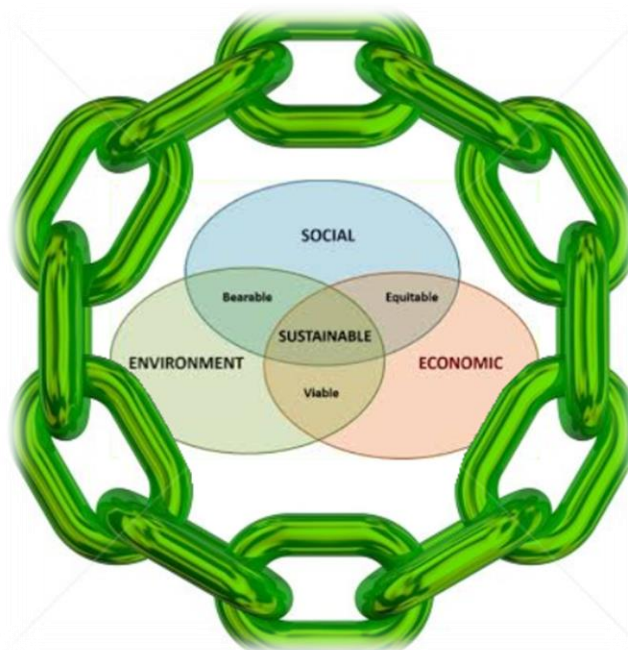
### Customer service

When you're checking out prospective suppliers, pay careful attention to how they deal with you – this may be a good indicator of how they will perform if you do business with them. How well do they communicate with you on the phone and via email? Are they polite and clear? Do they return your calls promptly. Do they send you the samples you requested by the date they promised?

### Social responsibility

In terms of social and environmental responsibility, your business will be judged not only on what you do, but also what your suppliers do. For instance, if a customer complains to you about over-packaged products, you can't excuse yourself by blaming it on the supplier – you are the business that is selling the product and must take responsibility ultimately.

### What is a Sustainable supplier?

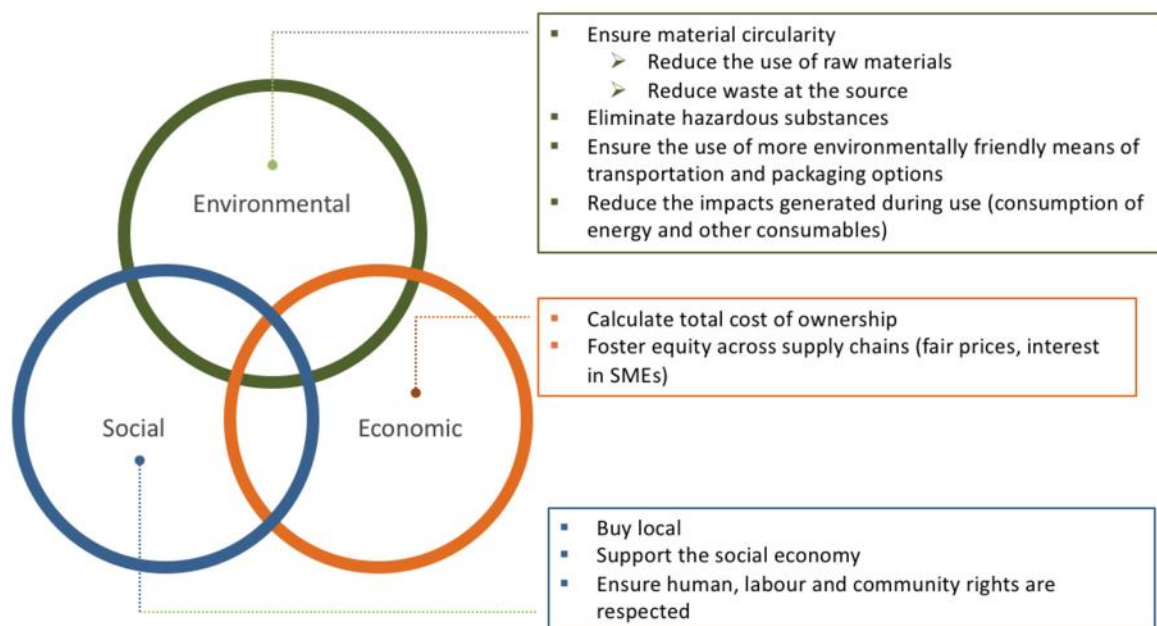


In addition to the criteria mentioned above, it is important to remember that the search for suppliers must also consider the concept of sustainability.

In other words, within the supply chain it is necessary to keep in mind that sustainability takes into account three additional criteria: economic, environmental and social.

When selecting suppliers, it is good to check that they also meet these three requirements.

In the diagram you will also find a list of sub criteria to consider:



In conclusion, sustainable procurement involves a thorough review of what you are buying and who you are buying from. For sustainably oriented companies choosing suppliers that align with a companies values and improve overall performance can be daunting. Analyzing each link in the supply chain is a good starting point.

Suppliers should be assessed in terms of the environmental, social and economic risks they present.

**1)Environmentally oriented** supply chains look at procurement with an eye to reducing carbon footprints and minimizing energy and water use. Resource efficiency is essential as we are currently using almost twice the amount of resources the earth can produce. Recycling, waste and end of life issues should also be considered throughout the supply chain.

**2) Socially oriented** supply chains focus on procurement from suppliers that respect human and labor rights and are mindful of poverty concerns.

**3)Economic** considerations are about ensuring adequate margins and secure access. Other important supply chain considerations include logistics and transportation. Reassessments of suppliers should occur on a regular and ongoing basis.

Here's the steps you should consider:



### The quote

When you decide to buy a good or service, it is normal that you want to look for the best price: it is therefore necessary to ask for a quote from different suppliers to find the best price for what you want. Usually, it is easier to send an email to the various suppliers to be "tested". This is for two reasons:

1. You can ask for exactly what you want and need in writing, so as not to get confused
2. Having the written estimate, the supplier will then not be able to change price suddenly during construction, unless you agree.

There are important rules for requesting a quote:

1. Be as specific as possible, then provide as much detail about the type of product or service you want;
2. Be short and concise;
3. Be formal but polite.

### **Example request**

Let's see how to structure an email and then an example fac simile.

To send an email with the request for a quote, be formal and polite.

In the email subject write "**Request a quote**". Then it starts like this:

**Dear Sir/Madam \_\_\_\_\_,**

If you know the name of your interlocutor, otherwise even

**Dear Sir/Madam,**

After that, you must immediately say the reason why you are sending the email. Here are some example phrases:

- **I would like to request a quote for \_\_\_\_\_.**
- **I would be interested to know the price of \_\_\_\_\_.**
- **Please send me a quote per\_\_\_\_\_.**
- **Please, could you provide me with a quote for \_\_\_\_\_.**
- **I would be grateful if you would send me a quote for \_\_\_\_\_.**

Provide as much detail as possible about the product you want but be concise. If applicable, you should include the following information:



**If you are asking for a service**, please indicate:

- When you want it (the time within which you want the product or work);
- Where you want it
- Material required.

**If you are asking for a product**, please indicate:

- Where you want them to deliver it;
- What do you need it for.

To conclude, close the email like this:

- **I hope to have an answer as soon as possible;**
- **I look forward to hearing from you.**

Then sign the email with your name and surname, after writing:

- **Kind regards;**
- **Cordially;**
- **Thank you in advance.**

## Refuse

You have received quotes and there are some that have not satisfied you: for example, one is too high, another is unclear. You therefore wish to inform the company that you do not accept it, but you want **to politely refuse the proposal**.

In fact, consider that the person who sent you the quote has dedicated part of his time to you, and it would be courteous of you to at least provide an answer.

Here's what you can write to politely decline a quote:

Dear Sirs,

Thank you for your availability and for the offer you have sent us. We would like to inform you that we have received another proposal more suited to our needs and that we have accepted.

Kind regards,

John Doe

## How to ask for a discount

You have received a quote, that company convinces you and you would like to make it do the work or, if it is a product, you would like to buy it from there. Only that the quote is a bit high and you would like to ask for a discount.

Here is an email requesting discount.

Dear Sirs,



Thank you for your availability and for the offer you have sent us. We found your proposal interesting and would like to come to a conclusion. However, the price is beyond our budget: what is the discount you are willing to offer us?

Kind regards

John Doe

**Activity:**

1. Identify 3 potential suppliers and explain why you choose them and the relation with the 3 established sustainable criteria
2. Create a dynamic presentation (using for example Canva or Prezi) to report your boss the reasons for your choice
3. Request a quote by email for at least 2 products