Erasmus+

GREENDEX

CHALLENGES

These **challenges** are a part of the Greendex Calculator and they offer quick solutions you can suggest participants to follow during your Erasmus + project. This document offers a bit of background story for each Challenge.

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Vegetarian Dinner

Short Intro

An efficient way to reduce our general carbon emissions is by serving food that has a low impact on the environment. Notably, high levels of meat consumption, mainly beef, are known to be one of the main causes of climate change, due to grazing animals requiring a lot of land and livestock releasing large quantities of greenhouse gases.

Challenge

Opt for vegetarian dinners from time to time!

Explanation

When we talk about carbon footprint reduction on an individual level, a food diet represents one of the most efficient tools to reach that. On average, any individual that consumes meat produces around 7,2 kg of CO_2 eq. per day while a meat-free diet could only lead to half – 3,8 kg.
Although opting for a full vegetarian diet is more efficient, the difference between a heavy meat eater and a light meat eater is bigger than a light meat eater and a vegetarian. This shows how eating less meat could generate an important impact without giving up on meat consumption all in once!
Do not forget that there is always a possibility to upgrade this challenge by shifting to a vegan diet as it completely avoids the rest of the animal-based food products like cheese, milk or eggs and can even decrease the carbon footprint to 2.9 kg of CO_2 eq. per day.

Measurement

Putting the mentioned numbers into context of shifting to vegetarian dinners for 20 participants during one week, one vegetarian dinner could result in around 30 kg of GHG emissions, 25 kg less than the dinner accompanied with meat. So, in total we could be talking about a reduction of almost 200 kg of GHG emissions! That's nearly a half of the amount saved by dinner time!

Coffee-free Project

Short Intro

This one is going to hurt, but... our everyday pleasure named coffee represents one of the most environmentally unfriendly beverages due its provision of no nutritional value for us and the need of substantial amounts of energy, water, and land for cultivating coffee plants. Hence cutting coffee from our coffee breaks would make a real difference!

Challenge

Give up on coffee during the project and find a way to keep the participants vigilant!

Explanation

Major contributor to the fact of coffee being not an eco-friendly product is the transportation, packaging and increasing demand after coffee, therefore the need for plantation and the removal of other trees. The carbon footprint of 1 coffee can double after adding cow milk, another beverage responsible for a notable amount of GHG emissions.
So, when removing coffee breaks from the agenda, how to keep the project participants attentive? They can switch to black tea, the project activities can start with energizers or, if they really insist on drinking coffee, avoid adding cow milk and use either the plant-based one or none.

Measurement

One espresso accounts for 0.28 kg of CO_2 eq., cappuccino for 0.41 kg and caffe latte for 0.55 kg. With a scenario of 13 to 15 project participants out of 20 are coffee addicted, giving up on coffee for one week could save up to 75 kg of CO_2 equivalents to be released!

Before the Sunset

Short Intro

Energy consumption is a big player in a game of finding solutions on how to reduce the carbon footprint on both individual and organizational levels. Therefore, there is a great potential of cutting the CO2 emissions by making full use of daylight and keeping the light turned off as long as possible.

Challenge

Adapt the program the way that there are no more activities after dinner.

Explanation

Imagine a workspace that you use for most of your activities that can last until 22:00, especially during the short-term projects. Instead of keeping all the lights and electricity alive until mentioned time, there is a possibility to reduce the carbon footprint by adapting the program the way that the activities will finish before the sunset to fully profit from natural light and not the artificial one. After the program, energy consumers such as light, Wi-Fi or connected devices can be disabled in order to save on electricity.

Measurement

Typical electricity-demanding workspace equipment are:

- stronger compact fluorescent lamp (CFL) that consumes around 30 watts per hour
- a laptop consuming around 60 watts
- a projector with 200 watts to be consumed
- and Wi-Fi with need of 6 watts

Considering the workspace and complement areas with 20 CFLs, connected laptop and projector and enabled Wi-Fi, by disabling all of them after sunset, we could save up to 870 watts per hour. Shortening the workday by 3 hours during our 7 days of the project would therefore help to save almost 20 kilowatts. And that makes around 17 kg of CO2 to be avoided or 1 tree to be spared from absorbing CO2 during 1 year.

Zero Waste Days

Short Intro

The world is built the way that it is almost impossible to not generate any waste during the day, especially because of the packaging on almost every item. Most of the packaging is represented by single-use plastics that account for 40 % of all plastics produced every year. As a result, an average EU citizen produces 31 kg of plastic packaging waste in one year, which means around 85 g every day.

Challenge

Choose some of the days to be the one(s) without producing any waste!

Explanation

What does the zero-waste day mean for the participants of the project? Avoiding buying food or drinks that are packed, upcycling all the materials that the centre has at their disposal instead of using the new ones, or even avoiding using paper napkins during eating.
Let's consider a lower number of plastics generated by a project participant than is the EU average – 50 grams. Together with the fact that production of 1 kg pf plastic (LDPE, PET, PE) accounts for 6 kg of CO_2 emissions, we are talking about 0.3 kg of released CO_2 per person in one day. Regarding the other waste, such as the paper one as paper is being used often in the projects, we can talk about another 50 g per person that would cause an increase in carbon footprint by 45 g as one A4 paper (5 g) equals to around 4.5 grams of released CO_2.

Measurement

To put the mentioned numbers into the context of a project having 20 participants, one day would generate around 0.35 kg CO_2 per person. Hence, one zero-waste day would save around 7 kg of CO_2 to be released.

Ice Bucket Challenge

Short Intro

We don’t necessarily talk about the one in 2014, but since heating the water requires a significant energy to consume, its reduction represents a big opportunity to reduce the carbon footprint that is left by this energy consumption.

Challenge

Give up on daily hot shower for some days!

Explanation

Heating the water for having a (long) shower requires electricity or burning natural gas. Both represent notable sources of GHG emissions. But this is not the only problem when we talk about water usage. Wasting it and polluting it shrinks its availability while the water demand constantly increases with growing population. Therefore, a reduction of (hot) showers would make a difference, and since it means giving up on our own comfort, it is easier to give up on it when we are not alone in it and we turn it into a funny game.

Measurement

A 10-minute shower can leave up to 2 kg of released CO2. If everyone in the group of 20 people would avoid the hot shower at least one day in a one-week long project, 40 kg of released CO2 could be easily saved.

Smart(phone) Break

Short Intro

Technology helps us combat climate change, but at the same time makes us addicted to the online world and contributes to our digital carbon footprint by all the data exchange occurring in the background of our online activities.

Challenge

Leave all your devices (yes, including the smartphone) in your room during the project program!

Explanation

Apart from their production, technologies and their usage contribute to the carbon footprint by charging devices, storing data on servers, data exchange such as sending emails, watching YouTube videos or scrolling news feed on social media.
Activities related to video streaming like Zoom or Netflix represent the biggest data consumers (1 hr of Netflix is source of around 400 g of GHG emissions while 1 hr of scrolling Facebook is 'only' 10 g), therefore their limiting would make the biggest difference, but in the context of your project we challenge you here to go for a general digital detox, at least during the day.

Measurement

Imagine your typical daily digital activities on your phone:
- 1 hr of WhatsApp – accounts for 50 g of CO_2eq
- 1 hr of social media scrolling – 10 g of CO_2eq
- 0.5 hr of video streaming platform (like TikTok) – 40 g of CO_2eq
- 10 google search requests – 40 g of CO_2 (assuming one search accounts for 1 to 10 g)
- 1 phone charge – 1,5 g of CO_2eq (assuming 0.54 kg CO_2eq per year in Europe for charging the phone every day)

Leaving a phone in the room would save around 150 g of CO_2eq, now imagine leaving even bigger devices (like laptop) in the room during the program and multiplying everything by e.g. 20 project participants! That could already make some difference.

Event for Locals

Short Intro

Why not everybody is acting pro-environmentally? The reasons might differ, from not understanding what we could do as the topic of climate change is too complex, to not seeing the reason to act in such way as the negative impact of global warming is still not present in everyone's daily life. Therefore, an education should play a key role in addressing and understanding the results of our actions towards nature.

Challenge

Prepare an event for the locals that would encourage them to be more sustainable!

Explanation

By participating in an event related to the topics like sustainability, climate change or waste management we would be able to better understand the impact of our current lifestyle on the planet in the long-term as well as inspire each other to be more pro-environmental simply by being aware of how we could help.
Therefore, in this challenge we encourage you to prepare some event (it can be anything from workshop, flash mob to exhibition) either for the other project participants or even for locals with the goal to raise awareness about mentioned topics or to provide more educational info that can be also related to the topic of your current project. Do not forget to be creative, engaging and mainly, having fun while organizing the event, doing research or during the event itself!

Measurement

Organizing such an event could have an exponential impact in carbon footprint reduction even by inspiring one person during this event!

Clean a Part of Town

Short Intro

Maybe you are following initiatives on social media that are helping with cleaning coasts and sea beds, being surprised with the amount and the content of the waste they are able to find. If you care about the environment and would like to be part of such action, you can always do it on a local level – at your town and to be an example for others.

Challenge

Organize a little cleaning action in your town!

Explanation

The act of cleaning your environment doesn't represent only the opportunity to give us and animals better conditions to live but also to reflect on our general behaviour towards nature, hence the need to talk about climate change even more and increase our general involvement.
Cleaning a part of the town hence can be an ideal tool how to raise awareness about environmental challenges, how to give an example of an involvement on a local level with demonstrating a pro-environmental behaviour and all this could to encourage the public to act likewise and spark a desire to go zero waste one day!

Measurement

Worldwide, an average amount of waste generated per person per day reaches 0.74 kg, so you can imagine how much of all this waste can easily end up out of trash bins. But, when quantifying success here, we could rather talk about the amount of waste people managed to avoid by realizing how much waste they produce on a daily basis (and how much usually ends up on streets or nature) so they change their shopping behaviour. And that could be easily measured in tonnes!

Local Food

Short Intro

Different food products often travel many kilometres before reaching our plate. The longer distance the food has travelled to get to our local stores, the higher its carbon emission is. Moreover, vegetables and fruit cultivated locally, but out of season require the help of heated greenhouses, which can make their carbon footprint even higher than of the ones that are imported.

Challenge

Prepare a dinner consisting (purely) using local and seasonal produce!

Explanation

Food transportation, packaging and processing make up 6% of rich countries' CO2 emissions. Getting your food from local producers that offer produce available in a given season is a great way to minimize your carbon footprint.
If you commit to cooking only with local and seasonal products during your project, you can significantly lower your carbon emissions. It's a challenge that will help the participants discover the food native to the region they are visiting but also you might be surprised how much food in supermarkets is being imported.

Measurement

To have an idea how much emissions you could avoid by shifting to seasonal produce, tomatoes in the average British supermarket have a carbon footprint of 9.1 kg of CO2eq. Tomatoes grown commercially in a local greenhouse in March, equal to 50 kg. However, if they are grown locally in the season, they have a footprint of just 0.4 kg of CO2eq.
Despite such differences, don't forget that it is still not seasonality and transportation causing the majority of emissions that are served on our plate – it is still beef!

Take Your Waste Away

Short Intro

Probably you have already heard the estimation that our oceans are about to contain more plastics than fish by the year 2050 if the current trends persist... It is true that it is inevitable to generate some waste during our daily activities, however it does not mean there are no ways to reduce it to a minimum, especially when it comes to materials like plastics or paper.

Challenge

Commit yourself to take your waste back home with you!

Explanation

First of all, it is essential to be aware of how much waste is being produced every day by a single person. The World Bank is mentioning 2.24 billion tonnes of solid waste created in 2020, which equals to 0.79 kg per person every day!
Therefore, we challenge you here to keep in mind and also in your luggage all the waste (except of the compostable one) you produced during your project or some of the days of the project and bring it back home with yourself! By this challenge, you can easily realize that the zero-waste life that some people are living is not as difficult as it may seem at first glance.
This little initiative could generally trigger not only changing our daily habits, but also a changing of our mindset which is crucial in turning our long-term behaviour into a pro-environmental one.

Measurement

Imagine one day of leaving the supermarket with 2 plastic bags, 1 water bottle, 4 food wrappers and 1 yoghurt container – these items would equa around 0.17 kg of CO_2 emissions, not counting what is inside of this food and beverage packaging, otherwise it could easily equal of more than 1 kg of emissions for sure. Hence, one day of replacing such a supermarket visit with visiting a local grocery store and buying local and seasonal products, could save up to 1 kg of CO_2 per day by a single person.

AC and Heater Away

Short Intro

Adapting the room temperature by using either a heater or AC is a huge energy consumer, especially when we talk about bigger space like training rooms of your organization. For example, according to the International Energy Agency, if the EU citizens decreased the heater temperature by 2°C in their homes, they would save up as much gas as is flowing through the European natural gas pipeline Nord Stream.

Challenge

Keep the equipment changing the temperature of your workspace turned off!

Explanation

The energy we use for heating the space we live and work in is one of the highest contributors to our individual carbon footprints. To put it in a global overview, heat accounts for nearly half of all energy consumption and 40% of energy-related carbon dioxide emissions.
Not only heating, but also air conditioning is a source of high emissions as these systems use and leak refrigerants with global warming potential that is 2 000 times as potent as CO2.
Therefore, to do a good deed, we should be all able to give up on a bit of our own comfort and try to work without such temperature moderations and why not to not try it during the project?

Measurement

By each degree down on heating in an average apartment, around 1 kg of carbon emissions could be saved every day. When it comes to standard room AC, by letting it on for 8 hours, it would generate almost 5.7 kg of carbon emissions.
To put these numbers in the organization's perspective, no matter in what season we are, by keeping the heater or AC turned off, we could save approximately 10 kg of carbon dioxide emissions each day.

Bye- Bye Bottled Drinks

Short Intro

Every single minute, more than 1 million plastic bottles are being sold worldwide, that says a lot about our way of living. Despite the common belief that bottled water is safer for drinking, most European citizens have access to controlled and potable tap water and therefore tap water should be preferred. Otherwise, we can talk about excessive plastic waste and the carbon footprint left behind purchasing bottled beverages.

Challenge

Give up on soft drinks or any other bottled water during the project!

Explanation

One might wonder why we should give up on using plastic bottles in developed countries when they are being recycled. The truth is that this item is still far away from being always part of the recycling process as the stats are saying that the average recycling rate in the EU stands for 58 % while in another big economy, the US, it is still only 30 %.
The other reason is that plastic bottles and bottle caps represent the third and fourth most collected plastic trash items found during the beach clean-ups, so you can imagine where remaining percentages from previous stats usually end up. Last but not least is the carbon footprint coming from production of the plastic bottles and their latter content.
An organization in this challenge should help the project participants with providing mugs, jugs with tap water in their centre and letting them know about places in town where they can easily refill the water (a phone app Refill could help with that too).

Measurement

A single plastic PET bottle accounts for around 83 g of CO_2 emissions while the one with soft beverage inside can reach 251 g in total. Therefore, the reduction of purchasing one less soft beverage by 20 project participants every day for one week could already save 2 trees from decarbonizing the air during 1 year.

Resources

Vegetarian Dinner

Coffee Free Project

Before the Sunset - WiFi

Before the Sunset - Laptop

Before the Sunset - Bulbs

Before the Sunset - Projector

Before the Sunset - FAQ

Zero Waste Days

Ice Bucket Challenge

Smart(phone) Break

Clean a Part of Town

Local Food

Take Your Waste Away

AC and Heater Away

Bye-Bye Bottled Drinks

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