



D 3.2 Train the Trainer and Trainee Program Sustainable Sailing Practices



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1 Introduction

1.1 Objectives of the Project

'Sail 4 Sustainability' is an inspiring Erasmus+ initiative. Our vision is to empower young people to embrace sustainability and protect our planet through the transformative power of sailing. We strive to offer a safe, enjoyable learning environment where youth can discover the magic of sailing and the significance of sustainability. At the same time, we aim to provide tools to make the sailing sport more inclusive and diverse. By enhancing their knowledge and skills, we aim to cultivate sustainability ambassadors who will positively contribute to an ecologically sound and socially just world.

1.2 Training Trainers and Trainees

Many sailors learn to sail from other sailors, be it in an informal setting, at a sailing school or sailing club. Naturally, much focus is on teaching sailing techniques, survival mechanisms, and the technicalities of sailboats. The environmental impacts of the sailing sport and the importance of inclusion and diversity is often paid little attention to.

This program is aimed at addressing that omission, as the act of sailing and those who practice it can be harmful to the environment, depending on how the sport is practiced and how sailors behave. We also believe the sailing sport is all too often perceived as exclusive, where it shouldn't have to be. What's more, sailors can take sustainability lessons from the sailing sport and apply them in their everyday lives. Finally, they can become role models and sustainability ambassadors, thereby influencing a multitude of people.

This program contains training materials, including e-learning videos, for trainers to teach and trainees to learn about sustainable sailing. It is divided into three parts: 1) how to become an eco-conscious sailor; 2) how to become an inclusive and diverse sailing community; 3) how to become a sustainability ambassador.

Each part contains teaching goals that describe what the trainees should learn. They are followed by techniques that can be used to teach trainees to achieve those goals.

1.3 Sustainability Challenges of the Sailing Sport

Although sailing uses a clean and renewable source of energy, the wind, the sport still faces sustainability challenges. These are primarily related to keeping the water clean, avoiding waste and properly disposing of it, avoiding greenhouse gas emissions, minimizing the need for the earth's natural resources, and being an inclusive and diverse community.

How to tackle these challenges and teach aspiring sailors those methods is addressed in each part.



1.4 Definition of Sustainability and the UN Sustainable Development Goals

For its clarity and completeness, we define sustainability as: “A way of living or doing things that respects other life, does not deplete the earth’s natural resources, and can be replicated by everyone now and in the future.”¹”

To define sustainable development as tangible, concrete actions, the United Nations has created the Sustainable Development Goals (SDG’s). These 17 goals are widely used as a framework to define and measure sustainable development.² They also make clear that both social and ecological goals are part of an integral sustainability agenda.



Five goals are most relevant to sailing:

- SDG #7 “Affordable and Clean Energy” relates to the type of energy that is used in the sailing sport.
- SDG #12 “Responsible Consumption and Production” relates to the products that are used and how waste is disposed of.
- SDG #13 “Climate Action” relates to each sailor’s direct and indirect greenhouse gas (GHG) emissions.
- SDG #14 “Life below water” relates to the marine biodiversity that sailors affect when practicing their sport.

→ These goals are addressed in part 1.

- SDG #5 “Gender Equality” is the most relevant social goal when it comes to sailing.

→ How this goal can be addressed and extended beyond gender is the topic of part 2.



2 Part 1 – How to Become an Eco-conscious Sailor

Sailing has an impact on the ecosystems in various ways. In the section below we have included water quality, greenhouse gas emissions, the use of natural resources and wildlife

Clean Water

Every sailor loves clean water. Unfortunately, pollution of our waters is a widespread problem and has various origins. As a sailor, there are some within our sphere of influence: plastic, human waste and cleaning agents, personal care products, paints and fuels.

2.1 Teaching Goal 1: Understand the Importance of Clean Water

Why: Water is the lifeblood of our planet, and for sailors, it's more than just a medium to sail on. It's a vital part of the ecosystem they cherish. Clean water is essential for sustaining marine life, providing safe recreational spaces, and ensuring the health of coastal communities. It is the foundation upon which ecosystems thrive, supporting biodiversity, regulating climate, and offering resources like food and oxygen. For sailors, the clarity of the water also directly impacts their navigation and safety, while aesthetically enhancing their maritime experience.

Techniques: Explain that water is a necessity for life on earth, including our own.

Resources: Show a video, such as WWF's "Water, the Source of Life"
<https://youtu.be/rU6tmzCPI8Y?feature=shared>

2.2 Teaching Goal 2: Understand the impact of plastic pollution

Why: One of the most pervasive threats to clean water is **plastic pollution**. Every year, millions of tons of plastic waste enter our oceans, breaking down over time into microplastics. These tiny particles are ingested by marine life and enter the food chain, thereby affecting the health of entire ecosystems. Inevitably, these microplastics also end up in our food. Plastics can come from discarded fishing gear, packaging, flags, and everyday waste that finds its way into the water.

Techniques: Explain that sailors can play a crucial role in reducing plastic pollution by **minimizing single-use plastics** on board.

Take trainees to the lee shore or downwind corner of the marina and show them the waste that accumulates there.

Ask trainees to bring reusable water bottles, storage containers, and bags for groceries.



Implement a "**leave no trace**" policy on board so that any waste generated is properly disposed of ashore.

When you sail in an area where marinas offer recycling options in their waste management, you can support that by implementing a similar **waste separation system** onboard.

Show trainees that flags deteriorate and if they are made from polyester they end up as microplastics in the water. Explain that **cotton flags** are biodegradable.

Organize or **participate in clean-up efforts**. This can also be done with the involvement of the sailing school or club. If you encounter pieces of floating plastic on the water, make it an exercise to pick it up from the boat. The boat that picks up the most waste wins a prize. This enforces good boat handling skills and creates both fun as well a competitive element.

Resources: Show an emotional video, such as Chris Jordan's "MIDWAY"
<https://youtu.be/iQQIYKEY9Bw?feature=shared>

2.3 Teaching Goal 3: Understand the impact of human waste

Why: **Human waste** is another significant threat to water, particularly in regions without proper sewage treatment facilities. Wastewater can introduce harmful bacteria and pathogens into water bodies, posing health risks to humans and wildlife alike. It can also lead to nutrient pollution, causing algal blooms that deplete oxygen and harm aquatic species.

Techniques: Explain that **proper human waste management** is pivotal. Teach trainees to use onshore facilities and ensure that no human waste is discharged into open waters.

On board, show trainees how to use a holding tank or compostable toilet.

Take trainees on the sailboat to a pump out station and teach them how to use it.

Resources:

2.4 Teaching Goal 4: Understand the impact of cleaning agents and personal care products

Why: **Cleaning agents and personal care products** used on boats can introduce toxic chemicals into the water, disrupting marine ecosystems. Many cleaning products contain phosphates and other harmful substances.



Technique: Show trainees how detergents, shampoo, and other products make their way from the boat into the water. Explain that there are **eco- friendly cleaning products and personal care products**. Many cleaning and personal care brands offer biodegradable options that are just as effective without the harmful ecological impact.

Encourage trainees to use eco-friendly products at home too.

Get the sailing school or club to source eco-friendly cleaning products and motivate trainees to use their voice at their sailing club or at work to make similar changes in the products that are used.

Resources: A good example is the story of Ecostore in New Zealand:
<https://ecostoreocean.com>

2.5 Teaching Goal 5: Understand the impact of paints, and fuels

Why: **Paints and biocides** used on boats contain harmful substances that affect water quality and harm marine life. **Fuels** and engine oils can spill into the water and pollute it.

Techniques: Show trainees how to properly refuel without spilling with a hose from a pump and with jerry cans.

Show trainees how to store jerry cans of fuel.

Demonstrate to trainees how to change motor oil and how to dispose of it at designated used oil collection points on shore.

Take trainees to a yard where another sailboat is hauled-out and show them the antifouling paint. Explain that it is toxic but that there are less toxic alternatives on the market. Explain that when applying or sanding paint, particles can escape into the air and water, so protective sheets or a vacuum cleaner should be used.

Resources:

Greenhouse Gas Emissions

In recent years, the visible consequences of climate breakdown have intensified, highlighting the urgent need for sustainable practices. For sailors and sailing clubs, the sea is not just a playground but a vital part of our ecosystem. Yet, fossil fuels, a major contributor to climate breakdown and ocean acidification, are compromising the very waters we cherish.

2.6 Teaching Goal 6: Understand emissions related to sailing

Why: For trainees to adopt sustainable behaviour, it is important that they gain insight into the way that sailing can produce emissions. To promote a more sustainable sailing experience, they can learn ways to conserve energy on board and harvest renewable energy.



Technique: Explain to trainees how the engine and a generator work. Show them the exhaust while the engine is running.

Explain that choices made while sailing affect the amount of motoring required.

Let trainees list all appliances that use electricity on board. Show them the batteries and explain what their capacity is. Ask them how they think the batteries can be charged.

Resources:

2.7 Teaching Goal 7: Understand ways to avoid motoring

Why: Since any form of energy generation requires materials and fossil fuels – think of the production, installation and recycling of the infrastructure – the most sustainable form of energy is the energy we don't need to use at all: the energy we save. **Energy conservation opportunities** on a sailing boat are plentiful.

Techniques: Explain that motor hours can be kept at minimum by always trying to sail. Ask the trainees how to achieve maximum sailing, e.g. by adjusting sailing plans to the weather forecast and keeping plans flexible.

Show the trainees different sails and ask what they are used for. Demonstrate the light weather sail, such as a spinnaker or Code Zero, that enables sailing in light conditions.

Practice tacking upwind.

Practice raising the mainsail while still at anchor, so the engine can be turned off soon after the anchor is lifted.

Let trainees think about the benefits of limited motor use, such as saving costs and the increased flexibility and time saving that result from not having to go to a fuel pontoon.

When going ashore, let trainees think about alternatives for the gas-powered dinghy, such as kayaks or electric outboard engines. Paddling or rowing to shore is perfectly doable most of the time, although sometimes the electric outboard comes in handy. It avoids the need to carry gasoline, which is explosive, smelly, expensive, polluting, and has no use except the dinghy outboard engine.

Resources:

2.8 Teaching Goal 8: Learn how to motor efficiently

Why: With the right skills, engines can be operated to use as little fuel as possible. Their efficiency is also increased when they are regularly and



properly maintained. Hybrid engines and electric engines have even fewer emissions.

Techniques: Let trainees experiment with using the engine at different speeds and in different conditions. Explain that each engine has a sweet spot: the speed at which it runs most efficiently.

Teach trainees to be careful when switching from reverse to forward speed (and vice-versa).

Explain that regular maintenance and use of high-efficiency engines can reduce fuel consumption and show how to change motor oil, gearbox oil, and filters.

Resources:

2.9 Teaching Goal 9: Understand energy generation

Why: All electricity used on board will have to be replenished, either by renewable means, by power from a shore plug, with a generator or with the engine's alternator. In the last two cases, it will burn fossil fuels and pollute the air.

Techniques: Show trainees how electricity can be **generated renewably** with solar panels, wind generators, hydrogenerators, or regeneration using the sailboat's propeller. Ask around at the sailing club or in the marina for sailboats that have these techniques on board to show the trainees.

At the sailing club, encourage the installation of solar panels. Where feasible, wind turbines can generate substantial energy to power club facilities.

Resources:

2.10 Teaching Goal 10: Learn how to conserve energy on board

Why: Modern sailboats come equipped with a multitude of electric appliances. In addition, many sailors these days expect the same level of comfort as at home and install coffee machines, air conditioners, induction stoves, ice makers, starlink, and freezers on board. Trainees need to understand that these comforts come at a price: electricity consumption.

Techniques: Let trainees think about what they really need when they go sailing and what they can leave at home.

For the appliances on board, ask trainees to think if there are energy-efficient alternatives, such as LEDs or solar powered lights, energy-saving kitchen tools like a pressure cooker or thermos flasks.

Explain the benefits of good insulation to reduce the need for heating.



Ask trainees to think about energy efficiency at sailing clubs or schools, such as proper insulation and natural ventilation in buildings to reduce the need for heating and cooling, low-flow fixtures and rainwater harvesting, and smart systems to optimize energy usage for lighting and heating based on occupancy.

Resources: Good examples at: <https://fossilfreearoundtheworld.org>

Resource Management

2.11 Teaching Goal 11: Understand environmental impact of sailing gear

Why: All sailing gear and appliances need to be produced and transported, which uses natural resources and energy and causes emissions. Resources and emissions can be saved if fewer things are used, if quality products are used, and if those products are maintained regularly.

Techniques: Ask trainees which items they think are really necessary to have on board.

Let trainees think about which items can be shared, either with other sailors or withing a sailing club or school.

Demonstrate which items can break, in particular if they are of lower quality.

Show trainees how gear is maintained, such as the anchor chain and winch, sails (with covers), life jackets, life rafts, the hull, etc.

Resources:

2.12 Teaching Goal 12: Understand impact of food and drink choices

Why: The food we eat has large implications for sustainability, depending on how, where, and under which circumstances it was produced. Plant-based products have a smaller ecological footprint, as does locally produced food. Fair Trade labels guarantee some level of fair working conditions, while organic certifications guarantee that the food and workers were not exposed to chemical pesticides and fertilizers.

Techniques: Ask trainees what they brought on board and analyse their choices in the group. Look at where the product comes from, whether it is in season, how it was produced, how it is packaged.

Explain that local food has lower transportation emissions and stimulates the local economy compared to imported products. Explain that plant-based food like beans, lentils, peas, chickpeas, nuts and raisins require much less natural resources to produce compared to



meat and are animal friendly. They are also cheaper, easy to stock on a boat as they don't need refrigeration and keep for a long time.

Ask Trainees to think about the food and drinks that are on offer at their sailing club or at the sailing school and what they can do to change the selection to more sustainable and healthier options.

Resources:

Wildlife

2.13 Teaching Goal 13: Understand effects of sailing on marine life

Why: When we sail and anchor, we can get very close to wildlife, like dolphins, whales, fish, turtles, birds, and coral. Our behaviour potentially disturbs them or harms their home.

Techniques: Teach trainees to respect wildlife by keeping a distance while sailing, swimming, snorkelling, diving or going ashore.

Ask trainees not to fish for pleasure, only for food. Don't catch more than you can eat.

Practice anchoring by showing trainees sandy patches, so the anchor and chain do not damage any coral.

Resources:



3 Part 2 – How to become a diverse and inclusive sailing community

3.1 Why Inclusion and Diversity?

The UN Sustainable Development Goals framework includes gender equality (SDG #5) as part of its broader sustainability agenda. In the context of sailing, we aim for an even wider focus regarding inclusion and diversity (I&D). We promote the fair treatment and full participation of all people, particularly groups who are underrepresented or subject to discrimination based on race, colour, national or ethnic origin, ancestry, age, religion, disability or handicap, sex or gender, gender identity and/or expression, sexual orientation, or any other characteristic.

Besides being fair, I&D is also smart. More people sailing translates into more sailing club members to befriend, more people that are connecting to nature and therefore more potential sustainability ambassadors. It also means more business for organizations that create products or services for sailors. Moreover, diverse sailing teams are better equipped to be more successful.

3.2 Teaching Goal 14: Create a Safe Space

Why: Trainers have a pivotal role to play in the sailing community's journey towards more I&D, as they can lead by example, create an open and welcome training environment, and teach trainees to be inclusive. Only by setting good examples, trainers truly allow everyone in your community to speak safely and freely on matters that concern them.

Techniques: Explicitly state that everyone is welcome at the sailing school or club.

Put trainees at ease by creating a tolerant atmosphere where questions and opinions are welcomed.

Avoid making jokes at the expense of others or minorities.

Use appropriate language. Ask trainees how they would like to be addressed (they / she / he).

At the start of the training, announce that another trainer or member of the sailing school acts as counsellor in case of concerns about the trainer or training.

Ensure that trainees know how to swim. Offer workshops to familiarize trainees with the water.

Resources: Toolkit Inclusion and Diversity from the Sail 4 Sustainability project.



3.3 Teaching Goal 15: Create an Accessible Sailing Environment

Why: Sailing can be an expensive sport, which can create a barrier.

Techniques: Make use of shared boats and sailing equipment to make taking sailing courses more affordable.

Offer training at reduced costs for low-income families and youths, or free introduction courses.

Resources:

3.4 Teaching Goal 16: Offer Inclusive Facilities

Why: A handicap or physical disability can be a barrier for people to sail.

Techniques: Help your club or school become accessible to all, for example by ensuring that there are ramps for wheelchairs, pushchairs, etc., that it has good lighting from the main road to the venue. The venue should have handrails, good lighting, and wide corridors and lifts / ramps where necessary, appropriate doors (e.g. power assisted), good lighting and seating, and inclusive signage throughout.

Assist to transform the organisation's toilets, showers, and changing facilities by making them accessible and inclusive to all. Having at least one wheelchair accessible and gender-neutral toilet, changing, and shower facility could make a big difference.

Organise for the food and drinks available in your organisation to be inclusive to all? Think about offering options for vegetarians, vegans, Muslims (Halal), Jews (Kosher), and providing allergen information.

Resources:

3.5 Teaching Goal 17: Offer Inclusive and Sustainable Events

Why: In today's world, achieving inclusivity and sustainability is a critical responsibility for event organizers. By implementing best practices in inclusivity, waste management, energy usage, and food sourcing, the environmental impact of sailing events can significantly be reduced.

Techniques: Encourage diverse teams to be formed for races and events, for example by speaking to various members of the club or school and inviting them to participate.

For waste management, select suppliers who offer reusable and refundable drinkware, and implement recycling initiatives across venues, setting up clearly marked recycling stations and educating attendees on what and how to recycle.



In terms of food and beverage, collaborate with caterers to offer a wide range of plant-based, organic and seasonal menu options. Source locally.

Resources:



4 Part 3 - Becoming a Sustainability Ambassador

4.1 Why Becoming a Sustainability Ambassador Matters

A trainer or trainee's actions, whether they like or realize it or not, are seen by others and affect them. If they behave in a certain way, those actions may be seen acceptable, even if they are harmful. On the other hand, exemplary behaviour may set a positive standard and encourage others to follow the lead. Trainers, by definition, are role models as they teach trainees to follow their behaviour. Their efforts to make the sailing sport more sustainable, diverse and inclusive, therefore carry extra weight.

4.2 Teaching Goal 18: Use Your Voice at Your Sailing Club or School

Why: Trainers often have some level of authority or influence at their club or school. Their voice will therefore carry some weight and potentially achieve significant changes.

Techniques: Actively promote inclusion and diversity, for example by ensuring that the organization's board and committees are diverse and inclusive, and by asking for the organization's inclusion and diversity ambitions to be publicly stated.

Propose clear policies and codes of conduct regarding sustainability and inclusion and diversity.

Stand up for injustice and propose that there are clear grievance policies in place when someone is treated unfairly.

Explain to trainees that they, too, have a voice at their club and encourage them to use it to promote sustainability.

Set up a Green Team with like-minded members at your club or school to think about and implement sustainability measures.

Help your marina achieve a sustainability certification, like the Blue Flag or Green Marina.

Organise workshops about clean water, waste management, energy conservation, etc. for members, other clubs, and the public

Resources:

4.3 Teaching Goal 19: Use Your Voice at (Inter)National Associations

Why: Policies and codes of conduct coming from national or international sailing associations carry weight with sailing clubs and set standards that can be invoked when trying to get sustainability measures implemented.



Techniques: Become active at your national association or speak to the representative of your area to promote sustainability guidelines to be implemented on a national and international level.

Resources:

4.4 Teaching Goal 19: Support the Community

Why: Sailing clubs and schools are part of a community. When they support it, they can reward the people who do most of the work. The club or school's money will circulate longer in the local economy, which also helps the club or school.

Techniques: Encourage the club or school to involve local businesses and buy directly from the local fishermen, farmers, bakers, or suppliers.

Resources:

4.5 Teaching Goal 20: Be a Sustainability Hero

Why: Sailors who take sustainability beyond their favourite sport or work and apply it in the rest of their lives and that of others will make even more of a difference and help to achieve a sustainable society. Never underestimate your own influence. After all, you are more than just you. You are a member of a family and community. You are an employee or employer, a consumer, voter, and investor. To achieve a truly sustainable society, system change is needed, but that change cannot come without the support of large groups of people.

Techniques: Use your voice to advocate for policies that protect our waters, such as supporting legislation aimed at reducing marine pollution and improving waste management systems.

Eat (organic) vegetarian or vegan food that is locally grown and in season.

Become a member of a Community-Supported Farm.

Cycle, use public transport.

Employ the philosophy of ubuntu: Share tools, books, tips, and food, and employ your skills to help the community.

Minimize energy use by insulation your home and the number of appliances you use.

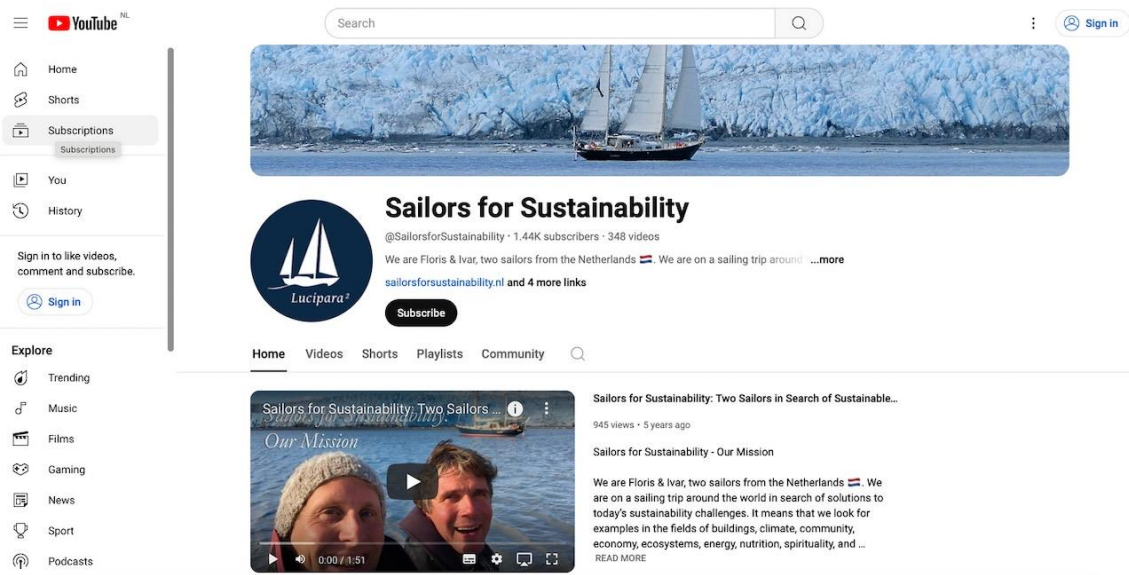
Choose a renewable energy provider.

Support international movements, like making ecocide an international crime or give legal rights to natural phenomena, like rivers.



View yourself as a guardian of nature with a responsibility to take care of it and pass it on to future generations in a good state.

Resources: Floris van Hees and Ivar Smits are two Dutch sailors who sailed around the world as the "Sailors for Sustainability". From 2016 to 2024, they documented success stories of the UN Sustainable Development Goals being put into practice. To encourage others to follow these sustainable solutions, the sailors described them in their articles, blog posts, and videos. They themselves lived as sustainably as possible by using the wind to propel their floating tiny house across oceans, harnessing renewable electricity, buying local and seasonal food, and using sustainable products. Their website (<https://sailorsforsustainability.nl>) and YouTube Channel (<https://youtube.com/@SailorsforSustainability>) offer inspirational stories and videos, including tips about what everyone can do in their daily lives to live more sustainably.





5 Sources

¹ <https://sailorsforsustainability.nl/sustainable-solutions/>

² https://sdgs.un.org/#goal_section