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ECO MAN- UAL

for a
sustain-
able
school

This is an eco manual for digital sustainability at upper secondary schools, where we advise students and teachers towards greater digital sustainability by encouraging the use of digital platforms over traditional paper-based methods. We explain the advantages of using digital platforms, compare both ART ECON and SVP in usage of paper and recommend few activities to be more eco-friendly.

1st Chapter

**General
Ways of
Sustainability
at Schools**

definition of terms

This chapter explores essential ecological terms, revealing their fundamental meanings. From the carbon footprint to sustainability, we delve into their significance.



renewable resources

When it comes to energy, sustainability is always a key consideration. It is important for resources to meet our needs for heating, powering cities, and transportation while also being long-lasting and help combat climate change by reducing pollution. These are known as renewable resources, which will practically never run out. Examples include solar energy, wind power, hydroelectricity, biomass, and geothermal energy.



ecology

Relationships between living organisms, including humans, and their physical environment is a study that ecology deals with. It seeks to comprehend the vital connections between plants and animals and their habitat. Additionally, it highlights the benefits of ecosystems and how we can utilize Earth's resources in ways that minimize damage to the environment.



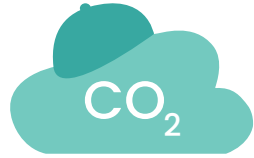
carbon footprint

Refers to the total greenhouse gases produced to support a person's lifestyle and activities, such as burning fossil fuels for electricity, heat, and transportation. Carbon footprints are measured in equivalent tons of CO₂ per year and can be associated with individuals, organizations, or products.



sustainable consumption and production

Achieving sustainable consumption and production involves using services and products that meet basic needs and improve quality of life while minimizing natural resource depletion, toxic material usage, and waste emissions. This ensures the needs of future generations are not compromised. It is all about doing more and better with less.



carbon neutrality

Maintaining a balance between carbon emissions and carbon absorption from the atmosphere typically means utilizing carbon sinks. Removing carbon dioxide (CO₂) from the atmosphere and storing it is referred to as carbon sequestration. To achieve net zero emissions, all global greenhouse gases (GHG) must be offset through carbon sequestration efforts.



sustainability

Sustainability is the ability to meet current needs without compromising future generations' ability to meet theirs. It focuses on preserving basic needs and quality of life and includes ecological, social, and economic aspects, aiming to sustain Earth's key resources for an enduring existence.



extended waste sorting

In our journey towards a more sustainable future, effective waste management is a crucial step. Traditional waste disposal methods often lead to environmental degradation and pollution. However, schools can play a huge role in helping by adopting extended waste sorting initiatives. This educates students about sustainability and reduces the schools' carbon footprint.

why does it matter?

Extended waste sorting goes beyond the basic separation of recyclables from non-recyclables. It involves separating waste into categories like paper, plastic, glass, metal, organic matter, and electronic waste. This improves recycling, composting, and disposal, reducing landfill use and conserving resources.

how to start?

We understand it can be quite confusing to know where to begin, so here is a short and simple guide to master your school's waste management.

1

assess the current situation

Check the school's waste to see what types and how much waste is produced. This will serve as a baseline for creating an effective waste sorting system.

2

develop a sorting plan

Based on the waste audit findings, establish designated collection points equipped with clearly labelled bins for different waste streams. Educate students and staff how to sort waste correctly.

3

monitor and evaluate

Regularly monitor how the waste sorting program is doing and ask for feedback from everyone involved. Make changes as needed to fix problems and improve the system.

4

celebrate your achievements

No matter how small the improvement, don't let it go unnoticed. Gather everyone involved and celebrate your successes! This will help keep everyone motivated to continue.

limiting the use of materials in teaching

In this chapter, we present the differences in the use of educational materials in the SVP and ART ECON schools.

ART ECON uses digital formats (e.g., Google Classroom or a projector) for assigning tasks but traditional media for taking notes (notebooks).

SVP prefers the use of tablets for taking notes but traditional forms for assignments.

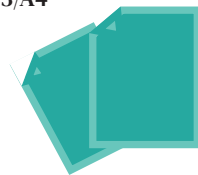
ART ECON

- Assignments on Classroom/board
- Writing everything in notebooks
- Sketches on paper and then digitally
- Final work printed



SVP

- Paper assignments
- Tablets instead of notebooks
- Entire work on paper and then turning the work digitally into an art work
- Each step of the work printed on paper
- Papers usually A3/A4



results

While students and teachers at ART ECON use notebooks and other paper materials more frequently, at the French SVP it is standard for students and teachers to work on digital devices. Therefore, a logical step would be to reduce the use of notebooks and textbooks in favor of digital aids at the Czech school and to assign more tasks to digital platforms (e.g., Google Classroom, Microsoft Teams) at the French school.

summary of recommendations

aspect	ART ECON	SVP	recommendations
note-taking	traditional (notebooks)	digital (tablets)	ART ECON: introduce digital note-taking apps
assignments	digital (google classroom)	traditional (paper)	SVP: transition to digital submissions
paper usage	higher	moderate	both: promote online resources and digital workbooks
enviromental impact	higher due to paper usage	lower due to digital note-taking	both: implement eco-friendly practices

Did you know that both France and the Czech Republic are committed to planting a new hectare of forest within two to three years for every hectare of forest harvested?

alternatives to notebooks and textbooks

In today's education, traditional tools are giving way to innovative alternatives like digital note-taking apps and online resources, offering flexible, cost-effective ways to enhance learning.

This article explores their benefits in reducing paper usage, costs, and environmental impact while fostering engagement and creativity in the classroom. You can also see a comparison between ART ECON school and SVP school in using other things than paper notebooks and textbooks.

some alternatives to notebooks and textbooks include:

1. Tablet or laptop-based note-taking: Using tablets or laptops with stylus pens allows for handwritten notes digitally, providing flexibility and organization options.

2. Digital note-taking apps: Students can use apps like Evernote, OneNote, or Notion to take notes digitally and organize them efficiently. That reduces:

a. **Paper usage:** By eliminating the need for physical notebooks, digital note-taking apps reduce paper consumption, contributing to environmental sustainability efforts.

b. **Cost:** Digital note-taking apps typically have one-time or subscription-based costs, which can be more economical in the long run compared to continually purchasing physical notebooks.

3. Online resources: Accessing digital textbooks or educational materials through online platforms or e-books. They can reduce:

a. **Environmental impact:** By reducing the need for printing and shipping physical textbooks, online resources can decrease paper usage and carbon emissions.

b. **Costs:** Online resources often come at a lower cost compared to traditional textbooks, as they eliminate printing and distribution expenses.

4. Multimedia presentations: Teachers can create multimedia presentations or utilize educational videos to deliver content in a more engaging manner, reducing the need for traditional textbooks.

Students at ART ECON use more paper notebooks than digital devices such as laptops or tablets, however teachers use more digital platforms to present their subject, for instance presentations, digital books and other scanned materials. Although students in SVP use more digital devices for taking notes in class, primarily tablets, teachers use more paper materials for teaching.

annual savings analysis

These tables provide detailed information about different school subjects, including informations whether the material is a student book or workbook, the weight of each item, the number of students, and the total weight and price for each subject.

subject	type	weight per piece	number of students	total weight (Kg)
English	student's book	390	315	122 850
English	workbook	340	315	107 100
Czech language	workbook	170	315	53 550
History	student's book	480	200	96 000
Histroy of art	student's book	480	200	96 000
Economics	workbook	240	315	75 600

subject	type	price per piece	number of students	total price (CZK)
English	student's book	577	315	181 755
English	workbook	337	315	106 155
Czech language	workbook	169	315	53 235
History	student's book	261	200	52 200
Histroy of art	student's book	223	200	44 600
Economics	workbook	171	315	53 856

results From the tables, it appears that we would save a total of 551 000 KG annually. Not only would we save the material itself, but this solution would be also advantageous from the school's perspective because it would save approximately around 492 000 CZK. Therefore, both the school and the students who buy textbooks themselves would save money.

2nd Chapter

Digital Platforms

digital plat forms

While digital technology and environmental sustainability might seem unrelated, they often complement each other. For instance, electronic communication reduces paper usage, conserving forests. Remote work and online services cut transportation emissions. Digital tools optimize energy and water use. Many digital platforms available today contribute to a greener future, but here are a few that we particularly like and believe would be beneficial for schools to adopt.

ecosia

Ecosia is a search engine that plants trees when you search the web. Yes, you read that right. Founded in 2009, it uses its ad revenue to fund tree-planting projects worldwide. So far, it has planted over 200 million trees, aiding in carbon sequestration and ecosystem restoration. The company is transparent, publishing monthly financial reports, and values user privacy by not selling data and anonymizing search information. Certified as a B Corporation, it also runs its servers on renewable energy, making it a sustainable and ethical choice for internet searches. By using Ecosia, you can help the planet while casually surfing through the internet.



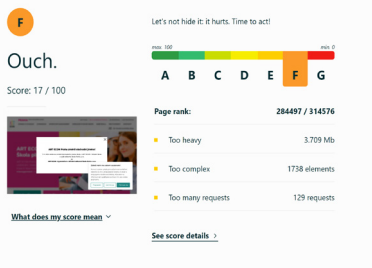
Both ART ECON and SVP are not currently utilizing Ecosia and continue to use standard search engines like Google and Safari. However, during our visit to Bordeaux, Aggelos, a firm we had the opportunity to engage with, introduced us to Ecosia.

It is basically an effortless way to contribute to environmental conservation. To implement this, install Ecosia as the default browser, particularly in computer classrooms, and encourage teachers to install it on their devices in their cabinets as well. Additionally, promote the use of Ecosia among students by delivering a lecture on its benefits and encouraging them to use it on their own devices at home.



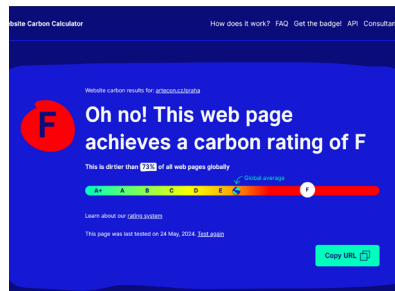
ecoindex and website carbon calculator

Not many of us realize this, but websites also have a carbon footprint, and its impact is far from insignificant. Fortunately, tools like EcoIndex and Website Carbon Calculator are here to help measure and reduce the environmental impact of websites.

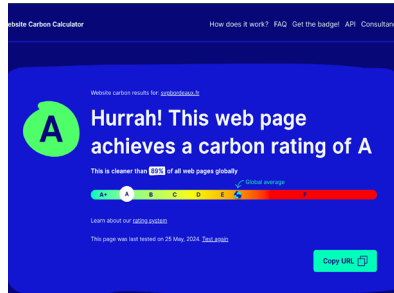
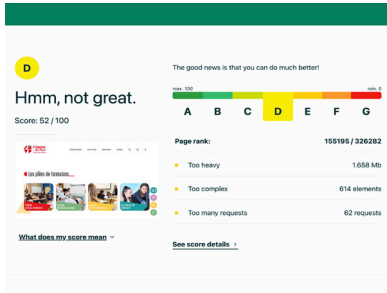


The EcoIndex assesses a website's sustainability based on factors like energy consumption, resource usage, and carbon emissions. It provides a score and recommendations for improvement, promoting eco-friendly web design and development practices.

The Website Carbon Calculator calculates the carbon footprint of a website's data transfer and energy consumption. It estimates the emissions generated by hosting, user traffic, and page size, raising awareness about the environmental impact of online activities.



results We tried to put ART ECON's website to test and as you can see, the rating isn't what anyone hopes for. To boost the score, prioritize essential content and features. Consider if all elements, colors, or pictures are necessary. With that, eliminate anything unnecessary, including videos and video backgrounds if possible. Remember to optimize images by selecting the appropriate format and reducing their size. And lastly, attempt to simplify it, so it's not too heavy.



results

Now for SVP's turn, Unlike ART ECON, this evaluation turned out much better. On the EcoIndex site, it received a rating of D, while on the Website Carbon Calculator, it even received an A rating. The discrepancy in results is due to different criteria; however, what is clearly evident is the significantly lower carbon footprint of the SVP school.

For comparison, we also include a webpage with an A rating: Agellos.

As once mentioned, Agellos is a firm we had the opportunity to visit as part of Erasmus+. It is a graphic design firm dedicated to ecological principles.

L'ÉCOSPHÈRE AGGELOS

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Attention vous êtes sur un site écoconçu qui illustre notre démarche bas carbone. En savoir plus

Agence de communication globale responsable depuis plus de 30 ans.
3 Marques, 1 Écosphère pour une offre de design global unique.

AGGELOS L'ÉCOSPHÈRE

Eugène! DE L'ÉCOSPHÈRE AGGELOS

TRIPLE C DE L'ÉCOSPHÈRE AGGELOS

Upon returning to the Czech Republic, we presented the Website Carbon Calculator to the school management. Together, we decided to reach out to the aforementioned firm Agellos to establish a collaboration. We aim to adapt our school website according to Agellos' feedback to reduce its carbon footprint.



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