CLIMATE FOOTPRINT MEASUREMENT PROGRAM FOR SPORTS ORGANIZATIONS/CLUBS

PhD Dunja Prokić, Associate Professor, PhD Ljiljana Ćurčić, Assistant Professor, PhD Nataša Stojić, Associate Professor, PhD Mira Pucarević, Full Professor, Faculty of Environmental Protection, Educons University

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SUMMARY OF KEY STEPS

I. Introduction

II. How to develop climate footprint training sessions?

III. How to evaluate education?

IV. How to collect data on climate action?

V. How to enter and evaluate the collected data into the program?

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I. Introduction

IDENTIFICATION OF SPORTS CLUBS AND REGISTRATION INFORMATION
Sport Club Name:
KARGENC ENVIRONMENT SPORT CLUB
Website:
http://www.kargenc.org/
Social media accounts:
INSTAGRAM: https://instagram.com/kargencclub?igshid=YmMyMTA2M2Y= FACEBOOK: https://www.facebook.com/kargenckulubu TWITTER: https://twitter.com/kargencclub YOUTUBE: https://www.youtube.com/@kargencclub9808/videos LINKEDIN: https://www.linkedin.com/company/kargenc-club/mycompany/?viewAsMember=true
Who we are? **Please describe your organization (background, objectives, experiences, activities etc.)**
Our organization was founded in Sakarya in 2010 as a Youth and Sports Association by volunteer teachers. Our organization, which was active in local activities until 2014, has since begun to focus on international studies. Within this context, international studies began with youth programs and expanded to sports projects as our organization's capacity grew. The number of volunteers has greatly increased during this process. Our first volunteers were high school and university students. After beginning sports programs, our organization has grown, particularly in terms of coaches, teachers and academicians.

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1. KEY TERMINOLOGY AND DEFINITIONS

KEY TERMINOLOGY AND DEFINITIONS[1]

Greenhouse gases (GHGs)	Gases that trap heat in the atmosphere are called greenhouse gases (GHGs). They play a vital role in maintaining global temperatures within a range suitable for life. However, naturally occurring GHG concentrations are being supplemented by additional gas emissions from human activities, causing global warming. The main GHGs and their manmade origins are: • Carbon dioxide (CO_2) – Carbon dioxide enters the atmosphere through burning fossil fuels (coal, natural gas, and oil), solid waste, trees and wood products, and also as a result of certain chemical reactions. •Methane (CH_4) – Methane is emitted during the production of coal, natural gas, and oil. Methane emissions also result from livestock raising and other agricultural practices and by the decay of organic waste in municipal solid waste landfills. • Nitrous oxide (N_2O) – Nitrous oxide is emitted during agricultural and industrial activities, as well as during combustion of fossil fuels and solid waste. • Fluorinated gases – Fluorinated gases are used inside of products like refrigerators, airconditioners, foams and aerosol cans. Emissions from these products are caused by gas leakage during the manufacturing process as well as throughout the product's life. Hydrofluorocarbons, perfluorocarbons, sulphur hexafluoride, and nitrogen trifluoride are synthetic, powerful GHGs that are emitted from a variety of industrial processes. These gases are typically emitted in smaller quantities, but because they are potent GHGs, they are sometimes referred to as High Global Warming Potential (GWP) gases.
Carbon emissions	The burning of fossil fuels such as gas, coal or oil, causes carbon dioxide (CO_2) to be released (emitted) into the atmosphere. Carbon dioxide is a greenhouse gas (GHG) as it traps heat in the atmosphere. Typical sources of such carbon emissions come from energy production to provide power, heating and cooling; using fuel in vehicles and machinery, and in the process of creating food, products and services for our consumption.
Carbon Dioxide equivalent (CO_2 eq)	Different greenhouse gases (GHGs) have specific heat trapping properties. For example, methane (CH_4) has 20 times higher level impact of heating the atmosphere (known as global warming potential) than carbon dioxide, so that the emission of one tonne of methane has the same impact as the emission of 20 tonnes of carbon dioxide. Other GHGs have even higher warming potentials. To avoid having to use different units for different GHGs, the term carbon dioxide equivalents (CO_2 eq) is used as a common unit to describe the climate impact of any GHG. For example, 20 CO_2 eq is used to describe the emissions of 20 tonnes of carbon dioxide but can also be used to describe the emission of 1 tonne of methane.
Carbon footprint	This is a quantitative measure of the amount of carbon emissions attributable to a given organisation, activity (e.g. a sport event) or product. Carbon footprints can be measured at widely different scales, such as for an individual (e.g. one's personal annual carbon footprint lies typically in the range 1-20 tonnes CO_2 eq) all the way to a whole city, region or country, which typically range in the millions of tonnes of CO_2 eq. The term carbon footprint is common currency but strictly speaking it is a measure of a basket of GHG emissions expressed in tonnes of carbon dioxide equivalent (tCO2 eq). Therefore, a more accurate (but less widely understood) term would be "GHG inventory". Carbon footprint is in this document also synonymous with the term "climate footprint".
Greenhouse Gas (GHG) Protocol	The GHG Protocol provides accounting and reporting standards, sector guidance, calculation tools, and training for business and government. It establishes a comprehensive, global, standardised framework for measuring and managing emissions from private and public sector operations, value chains, products, cities and policies.
Direct emissions	Emissions resulting from fuel combustion in owned machines, devices and vehicles (Referred to as 'Scope 1' in the GHG Protocol)..
Indirect emissions	Emissions resulting from purchasing energy, in particular electricity, steam, heat or cooling (Referred to as 'Scope 2' in the GHG Protocol). Indirect emissions also come from activities such as travel and from the provision of goods and services that your organisation has procured (Referred to as 'Scope 3' in the GHG Protocol).
Intergovernmental Panel on Climate Change (IPCC)	The IPCC is an organisation of governments that are members of the United Nations or the World Meteorological Organization. The IPCC currently has 195 members. IPCC's main activities are to prepare: comprehensive assessment reports on climate change, its causes, impacts and response options.
Net Zero Carbon	Net Zero Carbon refers to the balance between the amount of greenhouse gas (GHG) that's produced and the amount that's removed from the atmosphere. It can be achieved through a combination of emission reduction and emission removal.
Life Cycle Approach	Life Cycle Approach refers to taking into consideration the spectrum of resource flows and environmental interventions associated with a product, service, or organization from a supply chain perspective, including all phases from raw material acquisition through processing, distribution, use, and end-of-life processes. The life cycle approach contributes to improved environmental management of business activities, including planning, procurement, design, marketing and sales.

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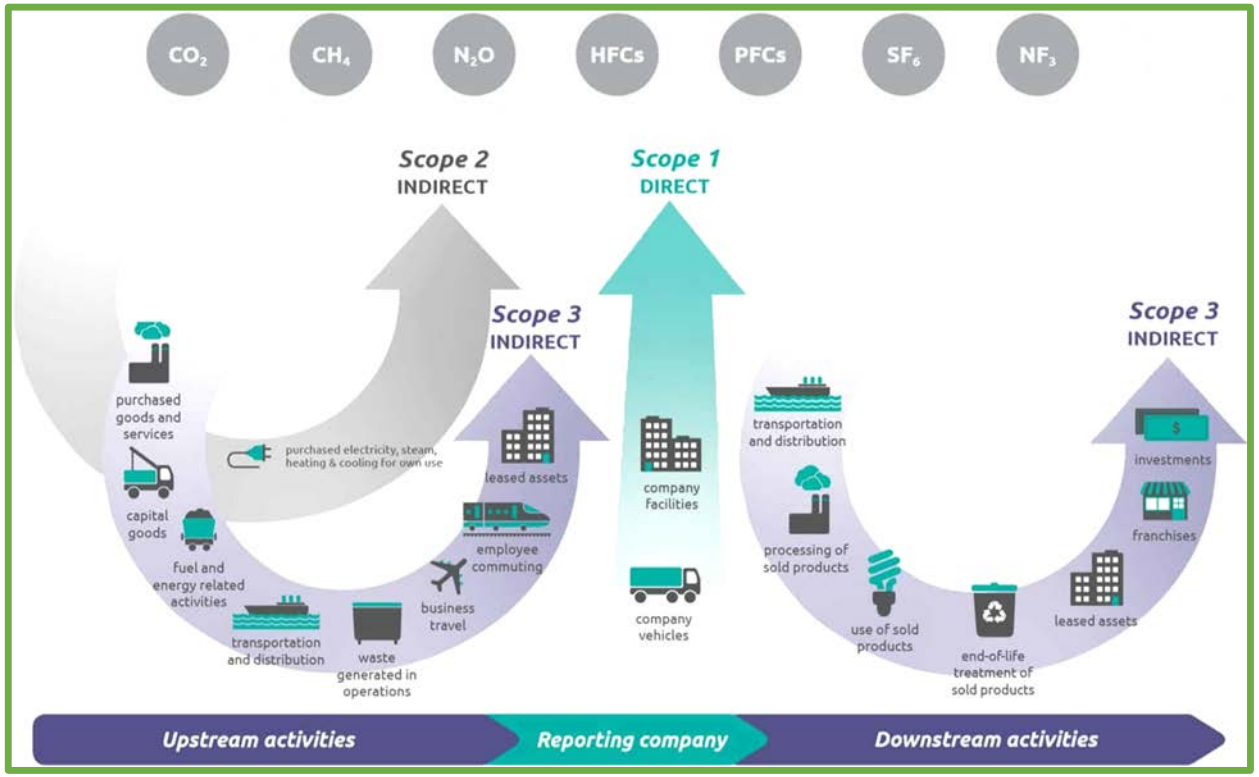
2. SELECTING GHG EMISSIONS TO MONITOR BY SPORTS CLUBS

In the process of determining the greenhouse gas (GHG) emissions that organizations will monitor, it is essential to categorize all emissions within the organization into the following distinct groups:

- **Direct Emissions (Scope 1):** These include emissions directly originating from the organization's activities, such as on-site combustion of fuels, emissions from vehicles owned by the organization, and other direct sources.
- **Indirect Emissions (Scope 2):** This includes emissions from generating purchased electricity, heat, or steam the organization consumes.
- **Other Indirect Emissions (Scope 3):** Here, we account for a broader range of emissions, often beyond the organization's immediate control, which may include emissions from the supply chain, business travel, employee commuting, and other indirect sources.



Overview of Greenhouse Gas Protocol Scopes and Emissions Across the Value Chain

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3. EVALUATION OF EDUCATION, DATA COLLECTION, AND GHG EMISSIONS CALCULATOR USAGE

- This segment of the training session offers guidelines for evaluating the effectiveness of the education and training provided.
- Additionaly, it explains how clubs should collect and analyze relevant data and use a GHG emissions calculator.
- Consequently, this section of the training aids in ensuring that clubs can precisely gauge their emissions and monitor their progress.

4. IMPLEMENTATION OF REDUCTION MEASURES

- This phase of the training provides sports clubs with practical steps to reduce GHG emissions.
- This should include identifying emission reduction opportunities, setting reduction targets, and implementing strategies to achieve those targets.
- This portion of the training emphasizes the importance of ongoing efforts to minimize the club's carbon footprint.

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II. How to develop climate footprint training sessions?

The training methods most frequently utilized

METHOD	ADVANTAGES	POSSIBLE DISADVANTAGES	COMMENTS
INFORMATIONAL			
Lecture Lecture-Forum (with question cards or question/answer period)	Conveys large sum of information; fast; efficient forum allows exploration of content in more detail.	Audience is largely passive.	Trainer should be an interesting speaker, able to self-limit and stick to time, be able to facilitate questions effectively.
Panel Panel forum	Adds different points of view to content.	Audience is largely passive with exception of expanding panel; expanding panel not practical with groups larger than 20.	Leader must express solid set of ground rules and have skills to enforce them.
Debate	Provides different points of view; thought-provoking.	Audience is largely passive.	Same as for panel.
Presentation Presentation with Listening Teams	Keeps participants interested and involved.	Learning points can be confusing or lost. A few	Trainer should structure listening assignment with clear purpose; must select

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II. How to develop climate footprint training sessions?

Carbon Footprint - Scope Definition

Topic overview

The Greenhouse Gas Protocol is the main global standard for public and private sector entities to measure emissions. Its standards apply to operations, value chains, and climate change mitigation actions. The GHG Protocol is a global framework that is well recognized for its credibility and efficiency. The GHG Protocol is based on the following principles:

• Relevance - Ensure the GHG inventory appropriately reflects the GHG emissions of the company and serves the decision-making needs of users – both internal and external to the company.

• Completeness - Account for and report on all GHG emission sources and activities within the chosen inventory boundary. Disclose and justify any specific exclusions.

• Consistency - Use consistent methodologies to allow for meaningful comparisons of emissions over time. Transparently document any changes to the data, inventory boundary, methods, or any other relevant factors in the time series.

• Transparency - Address all relevant issues in a factual and coherent manner, based on a clear audit trail. Disclose any relevant assumptions and make appropriate references to the accounting and calculation methodologies and data sources used.

• Accuracy - Ensure that the quantification of GHG emissions is systematically neither over nor under actual emissions, as far as can be judged, and that uncertainties are reduced as far as practicable. Achieve sufficient accuracy to enable users to make decisions with reasonable assurance as to the integrity of the reported information. (GHG Protocol 2004)[5]

This protocol divides all of the organization's potential emissions into three Scopes and are used to describe the different categories of emissions that an organisation generates in its own operations and in its value chain.

Scope 1 refers to direct emissions generated by an infrastructure owned by an organisation or that it directly controls. For example, a swimming pool heated by a system using a fossil fuel, or petrol of a car or lawnmower belonging to the organisation.

Scope 2 refers to emissions generated indirectly such as the purchase of electricity, heating, or air conditioning. Scope 2 emissions are included in the measurement of an organisation's emissions, even if they are produced in the same place where they are generated.

Scopes 1 and 2 are mainly under the control of the organisation. In most cases, an organisation will have the data sources necessary to convert direct purchases of gas and electricity into a greenhouse gas inventory. This information may be held by the purchasing, finance, or sustainable development department. What's more, an organisation can in most cases implement low-cost carbon emissions thanks to cleaner energy solutions becoming more and more accessible. Select renewable electricity suppliers, production of your own energy, electrify your heating demand or switching to electric vehicles are among the solutions to achieve cleaner uses of energy.

Scope 3 refers to indirect emissions due to activities beyond the control of an organisation. It includes emissions released throughout the supply chain of an organisation, both upstream and downstream. Fifteen categories of activity are integrated into the Scope 3 calculation developed by the Greenhouse Gas Protocol:

1. Scope 3 - Indirect upstream emissions

An upstream activity is an operational time that occurs at the beginning of a given process. These activities can be:
- Business trips
- Employee journeys working from home
- Production of waste
- Goods and services purchased
- Transport and distribution
- Activities related to fuel and energy
- Capital Goods
- Assets leased upstream

2. Scope 3 - Indirect downstream emissions

Indirect downstream emissions are those that occur during the final stages of a given process. These emissions are further categorised as follows :
- Investments
- Distribution and downstream transport
- Transformation of products sold
- Deductibles
- Leased downstream assets
- Use of products sold

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II. How to develop climate footprint training sessions?

Category		Emission source category		t CO2e
GHG Protocol Standards: Corporate Scope - 1 and 2, Value Chain - Scope 3	Scope 1	Direct emissions arising from owned or controlled stationary sources that use fossil fuels and/or emit fugitive emissions	Fuels	-
			Bioenergy	-
		Direct emissions from owned or controlled mobile sources	Passenger vehicles	-
			Delivery vehicles	-
		Total Scope 1		-
	Scope 2	Location-based emissions from the generation of purchased electricity, heat, steam or cooling	Electricity	-
			Heat and steam	-
			Electricity for Evs	-
			District cooling	-
		Total Scope 2		-
		Fuel- and energy-related activities	Transmission and distribution losses	-
		Waste generated in operations	Waste water	-
			Waste	-
		Purchased goods	Water supplied	-
		Business travel	All transportation by air	-
			Emissions arising from hotel accommodation associated with business travel	-
			All transportation by sea	-
			All transportation by land, public transport, rented/leased vehicle and taxi	-
		Employees commuting		-
		Food		-
		Home office		-
		Total Scope 3		-
Total Emissions				-

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III. How to evaluate education?

Evaluation questions at the reaction level

1. Are you satisfied with the overall training experience?
Answer: yes/no/ partially
If the answer is yes, go to question number 3, if the answer is "no" or "partially", answer question number 2.

2. Which of the following factors were the reason for dissatisfaction or partial satisfaction with the training:

- Coaching style
- Training content
- Training materials
- Location and quality of the training area
- Material and concept too complicated
- Not enough case studies
- Too many case studies
- Other:
-

3. Did the training meet your expectations in terms of content and delivery?
Answer: yes/no/ partially

4. Would you recommend this training to others?
Answer: yes/no/ partially

5. What would you change in training, and why?
Answer: _____

Evaluation questions at the learning level

1. Did the training increase your understanding of climate footprint measurement techniques?
Answer: yes/no/ partially

2. Do you feel capable of calculating the climate footprint of your sports club?
Answer: yes/no/ partially

3. Do you feel capable of reducing the climate footprint of your sports club?
Answer: yes/no/ partially

4. Do you have any idea what activities your sports club will organize to reduce the climate footprint?
Answer: yes/no/ partially

5. Did the training provide you with the necessary knowledge and skills to implement climate footprint reduction strategies in your club?
Answer: yes/no/ partially

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III. How to evaluate education?

Evaluation questions at the behavior level

1. To what extent have you implemented climate footprint reduction initiatives in your sports club after the training?

   Answer: fully/partially/not enough/not at all
2. Have you developed a climate footprint reduction plan for your club?
   Answer: yes/no/ in progress

3. What measures have you taken to reduce the climate footprint of your sports club?

a) Transport
b) Energy efficiency
c) Energy supply
d) Catering
e) Material use
f) Overnight stays
g) Waste management
h) Water management
i) Environmental

4. Has the training influenced your decision-making process regarding environmental sustainability in your sports club?
   Answer: yes/no/ partially

Evaluation questions at the results level

1. How much has the climate footprint of your sports club been reduced since the training?
   Answer: fully/partially/not enough/not at all

2. What financial benefits have you noticed as a result of implementing climate footprint reduction strategies?

Answer:

a) cost savings
b) competitive advantage
c) regulatory compliance
d) other

3. What environmental benefits have you noticed as a result of implementing climate footprint reduction strategies?
   Answer:

a) climate change mitigation
b) biodiversity conservation
c) improved air quality
d) resource conservation

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IV. How to collect data on climate action?

1. As sport club, we go to the sports events via private car (4 people):

Never	Rarely	Sometimes	Often	Always
1	2	3	4	5

2. As sport club, we go to the sports events by using public transportation:

Never	Rarely	Sometimes	Often	Always
1	2	3	4	5

3. As sport club, we use renewable energy sources in our facilities or offices:

Never	Rarely	Sometimes	Often	Always
1	2	3	4	5

4. As sport club, we organize planting activities for climate change or environmental protection activities:

Never	Rarely	Sometimes	Often	Always
1	2	3	4	5

5. As sport club, we organize environmental cleaning activities for climate change or environmental protection activities:

Never	Rarely	Sometimes	Often	Always
1	2	3	4	5

6. As sport club, we organize cycling activities for phone charging as climate change or environmental protection activities:

Never	Rarely	Sometimes	Often	Always
1	2	3	4	5

7. Energy consumption at sports facilities:

- heat (natural gas, etc.): _____
- electricity: ____
- diesel in diesel generators: _____
- own generation and consumption of renewable energy: _____

What fuel do your passenger vehicles use?

A. diesel
B. petrol
C. plug-in hybrid electric vehicle
D. battery electric vehicle

8. How many kilometers do employees travel on average using airline transportation annually?

_____

9. How much food waste is generated daily (kg)?

_____

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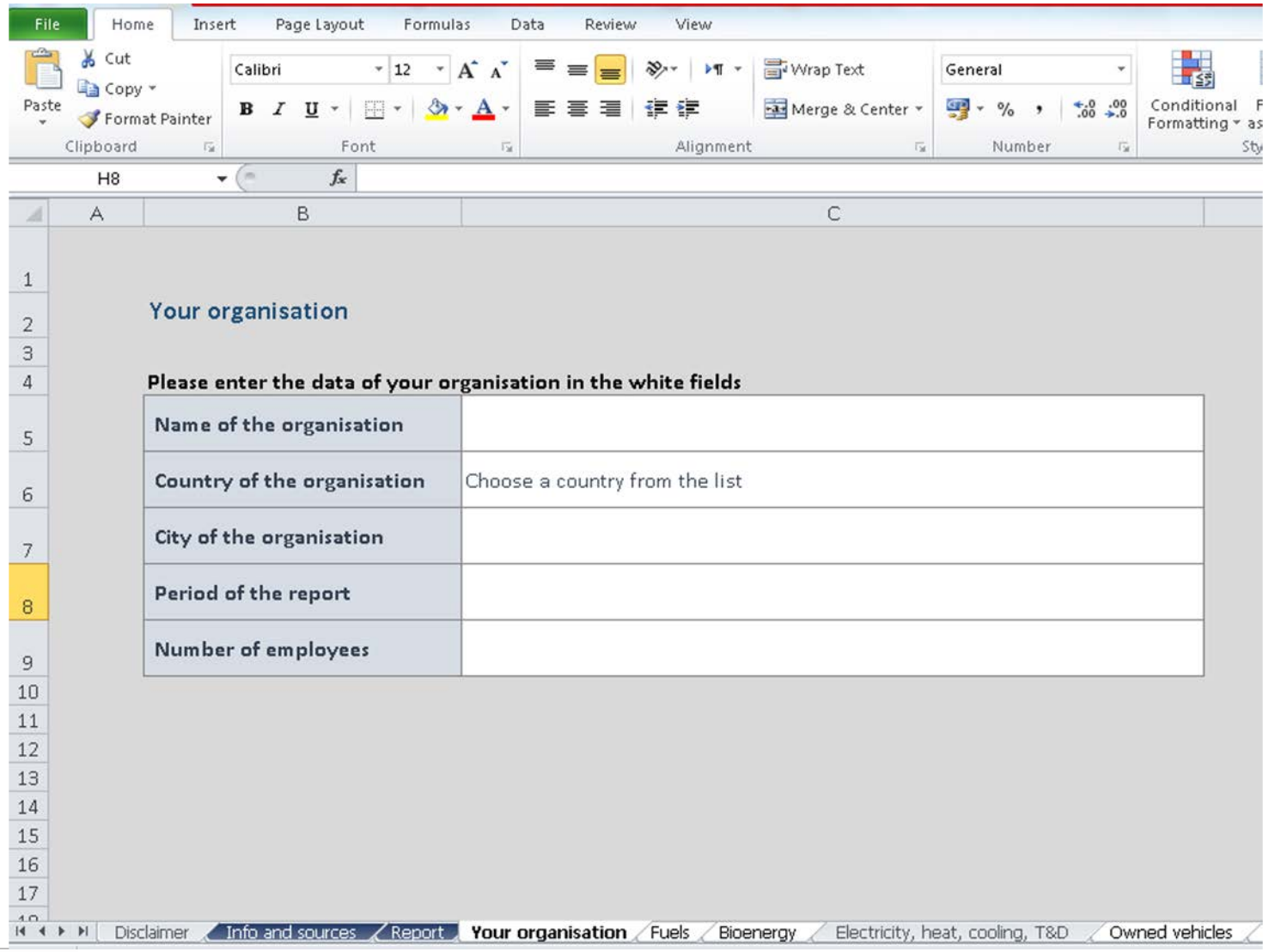
V. How to enter the collected data into the program?



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MITIGATION STRATEGIES

- Proactive reduction strategies are designed in the first place to prevent the waste happening.

- Reactive reduction strategies define a method for planning and the implementation of environmental projects in response to actual or anticipated changes in the environment.

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V. How to evaluate the collected data into the program?

REDUCTION STRATEGIES

- Voluntary reduction strategies identify ways to reduce the environmental impact of an organisation's activities.

- Mandatory environmental reduction strategies are a set of specific actions or measures that an organisation imposes or is legally required to take to reduce its impact on the environment.

- Internal reduction strategies aim to identify and reduce environmental risks within an organization.

- External environmental reduction strategies focus on reducing the environmental impact of products and processes outside the organization.

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V. How to evaluate the collected data into the program?

Sector	Explanation
Transport	**National combined ticket** - The ticket for the sports event also entitles the holder to use public transport in the venue on the day of the match and the following day at no additional cost (established combined ticket). In addition, the ticket allows free use of long-distance trains to the venue on the day before the event, on the day of the event and on the day after the event.
	Travel of national teams/foreign visitors/ officials/helpers/journalists by train to the host country - Teams and athletes use the train for arrival/departure instead of airplane for international travel to the host country. There are many destinations (especially neighbouring countries) that can be reached by train in a reasonable amount of time. Special trains or special compartments can be arranged for national teams/foreign visitors/officials/helpers/journalists. Attractive, cross-border special tickets for international travel must be offered, and extensive communication is necessary.
	All athletes and teams/foreign visitors/ officials/helpers/journalists refrain from flying within the host country - All (national) teams and athletes/foreign visitors/all officials/helpers/journalists exclusively use train/bus within the host country. Voluntary commitment of all teams/athletes to a "no-fly policy". (Exceptions for journeys of e.g. more than 6 or 8 hours to be considered.)
	Optimisation of event plan - Optimise event/match schedule in such a way that travel distances are reduced as much as possible. Design the match plan in such a way that long (time duration) destinations are avoided.
Catering	**Vegetarian and vegan alternatives** - The food offer is expanded to include vegetarian and vegan alternatives. Food stands must offer at least one vegetarian/vegan alternative to each meat-containing offer (e.g. 1 meat-containing meatball & 1 vegetarian meatball). In restaurant areas, buffets, etc., at least one separate vegetarian and one vegan alternative must be offered for each meat-containing offering.
	Predominantly vegetarian and vegan meals in canteens - Canteens for e.g. volunteers offer mainly vegetarian and vegan meals. Meat dishes are not offered or only 1-2 times per week.
	Reduction of the amount of meat per serving - For buffets, canteens, etc., the amount of meat per serving is reduced.
	Reduction of beef products - There will be at most one beef meal at each food outlet (food stalls, canteens, buffets, etc.).
	Price surcharge for meals containing meat - A flat-rate surcharge for meals containing meat should be applied, e.g. €1 in the restaurant area and €0.50 for food stands. The price surcharge should be communicated, for example by means of a separate statement on the bill (restaurant area) or appropriate signage (food stands). The additional funds raised can be used for climate action projects, for example in sports clubs.
	Pricing according to CO_2 footprint of meals - The prices (of a food type) are set proportionally to the respective CO_2 footprint of the food, for example, a vegan meal must cost about 40% and a vegetarian meal about 60% of the price set for a meat- based meal.
	High quality vegetarian and vegan dishes - High-quality vegetarian and vegan dishes should be selected, with the help of test runs to ensure that the products taste good. The staff should be trained in the preparation and cooking of vegetarian and especially vegan dishes.

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CARBON NEUTRAL SPORT CLUBS NETWORK

Thank You for Your Attention

"Approximately 17% of the world's population follows science but about 80% follow sports one way or the other. Hence, sports possesses both the opportunity and the responsibility to take the lead in addressing climate change solutions."

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