SNOWBALL GUIDE

SUSTAINABILITY BEST PRACTICES FOR FIS EVENTS

A **snowball** starts as a small, innocuous mass of snow and gradually grows larger and more impactful as it rolls downhill.

Similarly, small **sustainability actions** may seem insignificant at first but can lead to substantial changes over time. At the beginning, both the snowball and sustainable actions start small and may not appear to have much immediate impact.

However, just as the snowball's size and influence expand exponentially as it rolls down the hill, small sustainability actions, when adopted by more people and integrated into broader initiatives, can lead to transformative shifts in attitudes, behaviors, and policies towards a more sustainable and **environmentally conscious world.**

Small actions can have a profound impact when they gather momentum and support, ultimately leading to big changes– just like the snowball that grows in size and influence during its journey downhill.

FIS Sustainability Team

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GLOSSARY OF USEFUL SUSTAINABILITY TERMS

SUSTAINABLE DEVELOPMENT
Development that meets the needs of the present without compromising the ability of future generations to meet their own needs.

SUSTAINABILITY
Degree of sustainable development in the context of FIS and its events.

CARBON FOOTPRINT
The measurement of the total quantity of greenhouse gas emissions incorporating Scope 1, Scope 2 and Scope 3 (reported as tonnes of carbon dioxide equivalent, CO_2e) released into the atmosphere as a result of the activities of an organisation or event.

GREENHOUSE GASES (GHG)
Any of the various gaseous compounds (such as carbon dioxide or methane) that absorb infrared radiation, trap heat in the atmosphere and contribute to the greenhouse effect warming the earth's surface. The more present that they are in the atmosphere the harder it is for the earth to cool down.

RECYCLED CONTENT
The portion of a product that is made from materials directed from the waste stream, usually stated as a percentage of weight.

REUSE
The use of products, materials or packaging for a second or subsequent time for the same or similar purpose without requiring any reprocessing.

FAIR TRADE
An alternative approach to conventional trade, based on a partnership between producers and consumers, to ensure that farmers and workers get a fair share of the benefits of trade.

MANAGEMENT SYSTEMS
A set of processes and practices that enable an organisation to reduce its negative impacts such as those developed by the International Organization for Standardization (ISO):

- ISO 20121: Sustainable Event Management System
- ISO 14001 Environmental management systems
- ISO 14044, Environmental management–Life cycle assessment
- ISO 14068-1, Climate change management–Transition to net zero

MATERIALITY ASSESSMENT
The process to define topics that have the most significant impact on the environment, the economy and on people including human rights (impact materiality) and influences or can influence the future cash flows and the value of the organization (financial materiality).

ECOSYSTEM
A dynamic complex of plant, animal, and micro-organism communities and their non-living environment interacting as a functional unit.

PROTECTED AREA
A clearly defined geographical space, recognized, dedicated, and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values.

RESTORATION
The process of assisting the recovery of an area or ecosystem that has been degraded, damaged, or destroyed. The aim of ecological restoration is to re-establish the ecosystem's composition, structure, and function, usually bringing it back to its original (pre-disturbance) state or to a healthy state close to the original.

COMPOSTABLE
Given the right conditions, a material that breaks down completely into non-toxic components that can support plant growth.

SNOWBALL

SNOWBALL is a tool developed to help snow sport event organizers work in a more sustainable manner. Within the SNOWBALL guide, a focus is made on the environmental dimension of sustainability, while recognizing that sustainability sits at the intersection of societal, governance and economic considerations. This guide allows FIS event organizers and other entities to build a long-term strategy for sustainable event planning and implementation.

HOW TO USE SNOWBALL?
Guide towards a more sustainable event

BEFORE THE EVENT

1 **Carbon Footprint planning:** Using the FIS CO_2 Calculation Tool, event organizers will use the tool to help measure, manage, and reduce greenhouse gas emissions (CO_2 eq.) produced by the event. Developing a full GHG emissions inventory – incorporating Scope 1, Scope 2 and Scope 3 emissions – enables events to understand their full value chain emissions and focus their efforts on the greatest reduction opportunities.

2 **Sustainability Strategy:** the event organizer will draft a Sustainability Strategy that should include the following considerations:

DURING THE EVENT

1 Operational Plans: The organization undertakes the actions outlined in the Plans.

2 Data: those identified as responsible for each KPI should request and collect all data to report at the end of the event: both for the purposes of data collection for the FIS CO_2 Calculation Tool and reporting against all KPIs.

AFTER THE EVENT

1 The organization submits all data into the FIS CO_2 Calculation Tool.

2 The organization reports on the achievements and KPIs related to sustainability at the end of the event in the form of a **Sustainability Report** that includes the final carbon footprint calculations.

Why should you use the SNOWBALL guide?

- Sport, and especially large sporting events, have an important role in encouraging and fostering sustainability.
- Planning for and reporting on an event's sustainability efforts allows organizers to share good practice on the organization of events and facilitates organizers to act more responsibly when operating in different regions.
- Following the steps in the guide will make it easier to obtain the ISO 20121: Sustainable Event Management Standard if pursued.

What is ISO 20121: Sustainable Event Management Standard?

The International Organization for Standardization (ISO) management systems for sustainable events provides a framework for events to establish and maintain effective processes and

controls to achieve their objectives. Implementing a standard such as ISO 20121 helps organizations identify, prioritize, and manage the social, economic, and environmental impacts associated with their events. This leads to:

- improved sustainability performance and a reduced overall environmental footprint.
- enhanced employee and stakeholder engagement
- compliance with legal and regulatory requirements
- cost efficiency and resource optimization
- improved reputation and brand image
- innovation and creativity encouraged
- risk management
- competitive advantage and long-term viability.

FOR THOSE WHO ARE JUST STARTING
Event sustainability: a beginner's guide

There is a whole lot that goes into event sustainability, and different organizers are in different stages of their journey. This is only normal.

The work needs to start somewhere, though, and for that we have summarized the essential best practices that any organizer can adopt right away with "Event sustainability: a beginner's guide".

RECOMMENDED ACTIONS IN SUSTAINABILITY PLANNING

AIM

The actions listed are basic requirements that each organizer should adopt in order to implement a successful sustainability strategy.

The FIS CO_2 calculation tool enables organizers to understand which initiatives will be most impactful in reducing emissions. Subsequently, planning the actions and initiatives to be implemented during the event allows organizers to focus on the practical application of sustainability criteria to be adopted, using simple and concrete information in order to minimize environmental impact and enhance efficiency in the organization of the event. Planning ahead of time for organizational mobilization means coordinated logistics and transport, thereby reducing environmental and economic impacts. After the event, to keep track of progress and to communicate it properly, a sustainability report is needed. Event organizers need to be accountable for the actions listed in the sustainability strategy and show what has been done accordingly to achieve the identified objectives.

RECOMMENDED ACTIONS IN SUSTAINABILITY PLANNING		Check
RA1	FIS CO_2 Calculation Tool	√
RA2	Sustainability plan	√
RA3	Transport optimization plan	√
RA4	Sustainability report	√

CRITERION

FIS CO_2 CALCULATION TOOL

STANDARDS

Before the event, nominate a Sustainability Manager or a similar function who will take care of all the aspects of the planning and the implementation of sustainable practices during the event. Establish a Sustainability Committee to support the Sustainability Manager. Ensure that the Sustainability Manager is comfortable with the use of the FIS CO_2 calculation tool and start planning the event. For each section, analyze and understand which initiatives you may take that can maximize the CO_2 emissions reduction of your event. Analyze feasible actions for your event and focus on the ones that you can implement. Save the event on the tool as you plan to develop it.

SUGGESTIONS

The calculation tool is needed to help organizers understand which areas they should focus on to reduce CO_2 emissions. If the organizers want to better understand where the CO_2 emitted by their event comes from, they may wish to use the tool to calculate the CO_2 emitted for their event, to use this as a baseline and then subsequently make conscious efforts to reduce emissions. Cooperation between the different sectors of the organization is necessary as well as other stakeholders who may own the data e.g. energy providers, transport operators, caterers etc. Once the event is planned using the tool, a copy must be sent to all the staff involved in the organizing committee.

CRITERION

SUSTAINABILITY PLAN

STANDARDS

All event organizers should create a Sustainability Plan stating which criteria (from the checklist) they intend to adopt to make the event more sustainable. The Plan should include:

1 **Mission statement:** a brief description of the overarching sustainability goals and values of the event.

2 **Leadership commitment:** commitment by the leadership of the organising committee to sustainability. This would typically be a signed document that is published on the event website.

3 **Sustainability criteria, Operational Plans and Key Performance Indicators (KPIs):** Using the sustainability checklists and guidance provided in this guide (or broader should the event organizer wish, to also include social and governance considerations), event organizers decide which sustainability criteria they wish to focus on during the event. Operational plans should have clear objectives and Key Performance Indicators (KPIs) against which progress is measured.

SUGGESTIONS

Stakeholder engagement: to help develop the Plan, identify and engage with interested parties such as partners/sponsors, local community, non-governmental organizations, workforce, suppliers, athlete representatives, local authorities/municipalities etc. This may be through a **multi-stakeholder Workshop.**

After the Plan has been developed, led by the Sustainability Manager, a **meeting** should be organized ideally as soon as the LOC has been established and a Sustainability Manager to be appointed (for the World Championships) or at least 8 months prior to the event for the World Cups. The meeting should be attended (online or physical) by everyone involved in the planning and set-up of the event. The draft Sustainability Plan will be officially presented and discussed. On this occasion, if any relevant changes are needed after the discussion, the Sustainability Manager may modify the Plan accordingly.

This meeting is intended to serve as a training opportunity. At this meeting, more detailed information will be delivered to each individual department and any doubts regarding the application of the actions must be solved. If any department has any suggestions (coming from best practices or personal experience) that can help the plan, the meeting is the right time to share it. The minutes kept during the meeting are a useful tool to understand if the Sustainability Plan needs some modification before its final and official draft.

Roles and responsibilities: For each criteria identified in the Plan and related Operational Plans, specific references and explanations should be provided on how to implement the actions proposed and who is responsible. The primary goal of the Plan is to include all staff and organization members in the adoption of optimal sustainability practices and to ensure all staff involved in the organization of the event provide input into the Plan.

Communication: the Plan should be published on the event website. In addition, the Sustainability manager may distribute the Plan to the public authorities and other stakeholders involved in the multi-stakeholder Workshop, for information and/or collaborative reasons.

Continual Improvement: continually improve the implementation of sustainability in the planning for the event, identifying non-conformities against the Plans and taking corrective action.

BEST PRACTICE

The Sustainability Toolbox is a free suite of guides, tools, and templates housed within an 8-step process to help teams and organizations create a comprehensive sustainability program. It can be used as a starting point to build subsequently a conscious and feasible sustainability plan. In addition, it gives the organizers a solid knowledge and structure to then implement and obtain ISO 20121.

ISO 20121 is an international standard that defines the requirements for any event sustainability management system. It applies to events of all types and sizes, encouraging organizations to responsibly manage social, economic and environmental impacts.

The structure of the ISO 20121 standard is based on the High-Level Structure common to all standards on management systems and provides for the integration of the PDCA (Plan, Do, Check, Act) model within the life cycle of events (from the planning to execution and subsequent reporting). As stressed in this first part of the guide, to be effective, sustainability must be applied at every phase of the event: preparation and setup, organization and delivery, closing of the event and dismantling operations.

All those who work at the event (suppliers, volunteers, staff, operators etc.), and those who participate in the event are made aware of, involved with and encouraged to contribute to creating a "Sustainable Event", ensuring the lowest possible negative impact and maximising of positive impact.

ISO 20121 certification: All large FIS events (World Championships) are expected to obtain ISO 20121.

For smaller events that want to implement some sustainability measures, it will be sufficient to follow this guide, preparing a solid base for future implementation of ISO 20121.

CRITERION

TRANSPORT OPTIMIZATION PLAN (TOP)

STANDARDS

With transport to an event typically being the area where the carbon emissions are the greatest, all FIS events must implement a Transport Optimization Plan. Before the event, choose a Transport Manager (may also be the Sustainability Manager) who will take care of the redaction of the Transport Optimization Plan. This plan regards how participants and material (staff, athletes, volunteers, spectators, suppliers etc.) will travel to and from the event's venue. It must contain the following information:

- Number of accredited people and spectators reaching the venue;
- Number and type of vehicles used to reach the venue and average number of occupants per vehicle (for accredited people);
- Estimate of the kilometers and liters of fuel used per each vehicle;
- Estimate of kilometers travelled by using public transportation (specify means of transport).

SUGGESTIONS

The goal of the Transport Optimization Plan (TOP) is to reduce as much as possible the impact of transport on the CO_2 emission of the event. The Transport Manager is in charge of collecting all information with regards to transport routes of stakeholders and to draft a plan where the public transportation is used as the best option to reach the venue. If public transportation is not available, the Transport Manager should consider carpooling or other shared mobility options between staff to fully occupy the cars and to reduce the numbers of vehicles used. Also, it is preferable to incentivize the use of environmentally friendly vehicles.

The TOP should ideally be published on the event website for all attending the event. An e-mail informing all staff, volunteers, supply chain and workers involved in the event about their journey should include all relevant information concerning the means of transportation available, the itinerary to be travelled, timetable, if carpooling is to be used etc.In addition, the Sustainability manager may distribute the Plan to the public authorities and other stakeholders involved, for information and/or collaborative reasons. Data collection, during and post event, the Transport Manager should foster collaboration between the staff in order to align or slightly modify their need in order to reduce the impact of transportation on CO_2 emissions (adapt their starting time in order to meet the needs of others, carpool together, etc.).

BEST PRACTICE

The Travel Management Plan implemented by the Nordic WSC in Oberstdorf 2021 sought to avoid private transport during the Championships and saw the installation of charging station for Electric Vehicles (EVs).

CRITERION

SUSTAINABILITY REPORT

STANDARDS

The creation of a Sustainability Report is needed to communicate the results obtained in the implementation of the Sustainability Plan. A report should be prepared for each event examining the economic, social and environmental impacts (both positive and negative) of the event's activities. It should provide updates about the status of the sustainability criteria (KPIs) pursued by the event and as outlined in the Sustainability Plan. The drafting of the Sustainability Report requires good communication and collaboration with everyone involved in the planning and set-up of the event to ensure accurate data collection, analysis and reporting.

A list of KPIs to be used for the reporting of each initiatives listed in this guide can be found in Appendix 2.

SUGGESTIONS

A Sustainability Report can be drafted using the reporting system preferred such as the GRI (Global Reporting Initiative). The GRI has designed Sustainability Standards to provide companies with the appropriate resources to report their economic, social and environmental impact. The Standards can help to concretise what organizers do to achieve the goals of the 2030 Agenda and to follow Environmental, Social, and Governance (ESG) criteria, facilitating the measurement of ESG-compliance against an international benchmark.

Even if the report does not follow any reporting framework, it is important to highlight the most important sustainability actions taken in as complete, accurate and clear way as possible.

The Sustainability Report is the key communication document following an event where by all stakeholders involved can clearly understand where the event positioned itself in term of sustainability and the number of actions stated that have been realized. Also, a report can help to explain the difficulties faced to pursue one goal and make people more understanding.

BEST PRACTICE

The FIS Nordic World Ski Championship Oberstdorf 2021 Sustainability Report is a great example of how to report about the sustainability initiatives undertaken before, during, and after an event.

ENVIRONMENTALLY SUSTAINABLE ACTIONS

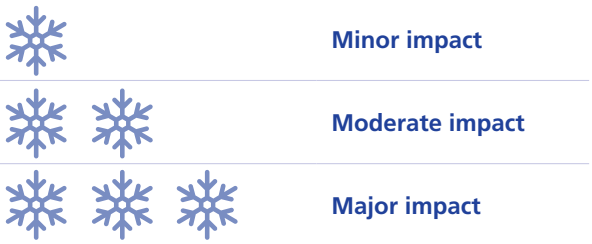
While the numerous events organized under FIS showcase the sport and contribute to its influence, they can have a negative impact on the environment. Aware of this responsibility, FIS wants to give local organizing committees (LOCs) the means to initiate or continue their transition to becoming more environmentally responsibility. We are aware that every event has its own characteristics and peculiarity that influence its organizational methods. Therefore, the actions listed hereafter allow organizations to analyze and select the ones that can be achieved based on the features of each unique event. This allows everyone to carve their own path to more ecologically friendly events.

The recommended actions listed above will help LOCs to organize and choose the actions that can be a good fit for their event, to ensure that sustainability is kept in mind in the planning and implementation of the event.

After successfully selecting the recommended actions, the organizers are now prepared to execute the actions planned for each criterion. Additionally, to help LOCs better understand the impact of each action on the event's overall sustainability, the FIS has assigned a rating of 1 to 3 snowflakes for each goal.

To clarify the snowflake rating system:

- **1 Snowflake:** Indicates a minor impact on the event's overall sustainability. Actions with this rating make a small but valuable contribution.
- **2 Snowflakes:** Represents a moderate impact, signifying that the action contributes significantly to improving sustainability.
- **3 Snowflakes:** Reflects a major impact, showing that the action is highly effective in achieving the event's sustainability goals.



A checklist of all the actions grouped together with the respective importance expressed in snowflakes can be found in Appendix 2 while the KPIs for each action can be found as the Appendix 3.

11 WORKING AREAS

The **11 working areas,** defined by FIS, typically involved in the organization of an event and where positive actions can be implemented are:

ENERGY

WATER

LOGISTICS

TRANSPORT

ACCOMODATION

PROCUREMENT

FOOD & CATERING

WASTE MANAGEMENT

BIODIVERSITY
& NATURE CONSERVATION

COMMUNICATION

COMMUNITY & LEGACY

ENERGY

AIM

To ensure an efficient reduction of the environmental impact of FIS events: ensure that energy consumption for the manifestation is as low as possible. Aim at reaching an event where all energy consumption can be covered with renewable energy sources.

CRITERION ENERGY		Impact
E1	Temporary connection to the power distribution grid with green energy	❄ ❄ ❄
E2	Self-production with renewables	❄ ❄ ❄
E3	Support venue to switch to green energy supplier	❄ ❄
E4	Temporary renewable power units	❄ ❄
E5	Adopt LED lighting for slope and/or venue illumination	❄ ❄ ❄
E6	Energy efficiency	❄

CRITERION E1

TEMPORARY CONNECTIONS TO THE POWER DISTRIBUTION GRID WITH GREEN ENERGY

STANDARDS

To ensure an efficient reduction of the environmental impact of your event, you must guarantee that the energy consumption for the event is as low as possible. Aim to reduce the energy consumed for the event and ensure that the energy consumption can be covered with renewable energy sources.

Use only power supplied via temporary connections to the power distribution grid, contacting local suppliers to find a deal, without using portable generators. The energy provided should come from renewable sources and must be certified thanks to a Certificate of Origin provided by the energy supplier.

SUGGESTIONS

A temporary grid connection involves a fixed cost upon agreeing the contract and variable costs calculated on actual consumption in kilowatts per hour, which costs much less than using portable generators. After each location inspection, the competent energy supplier in the area hosting the event must be contacted in order to verify the possibility of a temporary connection. By using ordinary power supply instead of a diesel generator, the carbon footprint of the event will be greatly reduced. In addition, the energy supplied through the grid must be coming from renewable sources.

BEST PRACTICE

The Holmenkollen Ski Festival in Oslo, has gone from being dependent on diesel generators to mainly using the grid for power supply. The choice of the energy supplier became crucial to the successful completion of the project.

CRITERION E2

SELF-PRODUCTION WITH RENEWABLES

STANDARDS

To produce energy for your event directly from renewable sources: install renewable energy sources such as solar panels and wind turbines to power the sport facilities.

SUGGESTIONS

Installing renewable energy plants on site drastically reduces the costs of energy in the long-term. The installation's project must be agreed and implemented with the ski resort or the facility managers. Wind turbines and solar panels are the renewables most installed in mountain regions.

BEST PRACTICE

Graubünden's Safien Valley boasts the world's first solar-powered ski lift. The 450-meterlong facility transports skiers and simultaneously produces solar power. The solar panels on the ski-lift produce about 90,000 kWh per year. Approx. 22,000 kWh is required for the operation of the ski lift.

CRITERION E3

SUPPORT VENUE TO SWITCH TO GREEN ENERGY SUPPLIER

STANDARDS

To support ski resorts in entering into contracts with energy suppliers that exclusively provide energy produced from renewable sources: it can be done by purchasing green PPAs (Power Purchase Agreements), which is a contract to ensure that you get energy produced by renewable sources.

SUGGESTIONS

It is useful to demonstrate that the power used is 100% from renewable sources, ask the supplier to provide Guarantee of Origin certificate as proof of choice of green energy for all the resort.

BEST PRACTICE

A great example of a World Cup hosting venue that only uses green energy is Val Gardena. The entire infrastructure allowing the operation of the ski lifts is powered by 'clean' energy produced by hydroelectric power plants. As far as alternative energy sources are concerned, the municipalities of Val Gardena already cover their needs with renewable and locally produced energy sources.

CRITERION E4

TEMPORARY RENEWABLE POWER UNITS

STANDARDS

To produce energy for your event directly from temporary renewables power units: it is possible to replace diesel generators with solar-powered or hydrogen generators in case connection to the grid is impossible.

SUGGESTIONS

Connection to the grid is not always possible, even if this should remain your first option, buying or renting a generator powered by renewable energy could be considered.

BEST PRACTICE

As an alternative to traditional oil-fired generators, the Critérium de la Première Neige in Val d'Isere have opted for a generator powered by 100% renewable biofuel.

Using Total HVO 100 reduces their CO_2 emissions by at least 50 %, and cuts combustion particles by 30 % compared with a conventional genset.

CRITERION E5

ADOPT LED LIGHTING FOR SLOPE AND/OR VENUE ILLUMINATION

STANDARDS

To avoid the use of incandescent, halogen or fluorescent lighting systems at the venue both inside and outside for slope illumination consider installing and using only lighting with LED technology.

SUGGESTIONS

Substantial energy savings can be achieved by carefully selecting lighting points, making the most of natural lighting, limiting the power of lighting and using energy-efficient light sources. Incandescent, halogen and fluorescent lamp lighting systems consume much more electricity than LED lamps (around 90 % more), and therefore negatively affect environmental sustainability, flora and fauna and costs.

BEST PRACTICE

Levi Ski Resort has invested in LED lighting systems for slope illumination. The return on investment for LED lights in the Front Slopes region of the resort is just over 2 years thanks to the electricity savings. About 269,280 kWh are saved on the Front Slopes during one season. They have also replaced the area lighting around the Gondola with LEDs saving an additional 18,668 kWh per season.

CRITERION E6

ENERGY EFFICIENCY

STANDARDS

Check thermostats and heating times to make sure they only come on when needed and maintain the temperature between 20–21°. Also, implement a switch-off policy for lighting and equipment when not needed. In addition, choose, when possible, energy efficient snow management machinery (such as e-groomers and Zero Energy Snow Lances).

SUGGESTIONS

Optimising heating, while ensuring an acceptable temperature for participants at the venue (e.g. Athletes Lounge) and the public (e.g. VIP Areas), saves energy. Up to 7% of energy can be saved by reducing the ambient temperature of the heating by a single degree. Moreover, consider colour coding switches so that members know what can be switched off when leaving the venue and what must be left on. In addition, collaborate with ski resort to support the acquisition of energy efficient snow management machines.

BEST PRACTICE

In the Willingen ski resort and the Winterberg ski lift carousel, the operators rely on new, more energy-efficient snow guns. Today, snow cannons are twice as efficient as they were twenty years ago. Snow lances produce three times as much snow as the models of 15 years ago.

In addition, given that most of the CO_2 emissions in the ski area are caused by snow groomers, by using the new fuel HVO (hydrogenated vegetable oil) instead of conventional diesel, CO_2 emissions can be reduced by up to 90 per cent. Tests have already been successfully completed. Lift operators are currently waiting for offers. If, unlike in previous years, sufficient biodiesel is now available on the market, the first companies will switch over.

WATER

AIM

To reduce the depletion of a fragile resource and to manage its use in a responsible manner.

Water use for snow-making has been extensively criticized with most FIS events conducted on technical snow. However, rapid technological progress has been made to ensure responsible water use throughout the resort such as measurement and subsequent reduction, better use of wastewater, proper collection of rainwater for snow-making etc. Remember that water is typically paid for twice given that an organization pays for water supply and for wastewater.

CRITERION WATER		Impact
W1	Collaborate with the ski resort to implement the collection and treatment of grey-water	❄ ❄
W2	Collaborate with ski resort to harvest rainwater for snow-making	❄ ❄ ❄
W3	Collaborate with ski resort to implement sustainable snow management	❄ ❄ ❄
W4	Choose water efficient equipment and appliances (toilet, etc)	❄

CRITERION W1

COLLABORATION FOR THE COLLECTION AND TREATMENT OF GREY-WATER

STANDARDS

To collect grey water produced during the event for use in functions like flushing toilets with the aim of reducing freshwater consumption thanks to the grey-water recycling system.

SUGGESTIONS

Grey-water recycling systems typically involve several stages of treatment, including filtration, disinfection, and sometimes advanced processes like reverse osmosis or UV sterilization to ensure water quality meets safety standards. By diverting grey water away from the sewage system and repurposing it onsite, resorts can significantly reduce their freshwater consumption. Therefore, the organization need to help and support the ski resort in taking this big step.

BEST PRACTICE

A good example is Europe's highest biological wastewater treatment plant (WWTP) in the ski resort of Zermatt. The plant is located in the basement of a cable car mountain station where the treated wastewater is collected, treated and re-used for toilet flushing.

CRITERION W2

COLLABORATION TO USE RAINWATER FOR SNOWMAKING

STANDARDS

To support the ski resort in collecting and harvesting rainwater that is subsequently used for technical snowmaking. In addition, the water used for snowmaking must come 100 % from rainwater and therefore reduce freshwater consumption.

SUGGESTIONS

Ski resorts normally already employ various methods to harvest rainwater. Familiar hardware such as gutters and downspouts are used to direct rainwater into storage tanks or cisterns. Once collected, the rainwater undergoes filtration and treatment processes to ensure it meets quality standards.

BEST PRACTICE

Massanutten Resort located in Virginia USA, rely on snowmaking for ensuring snow coverage from December to March. They have created a system where they collect as much rainwater and runoff as possible to use in the snowmaking process. Three different ponds are used for snowmaking: Qual Run Creek, Woodstone Golf Pond, and Painters Pond.

CRITERION W3

COLLABORATION TO IMPLEMENT SNOW FARMING

STANDARDS

To support ski resorts in implementing snow storage or snow farming systems aimed at having enough snow at the beginning of the season. Such storage system aim to minimise melting during the summer, through the covering of the snow for thermal insulation purposes.

SUGGESTIONS

Ski resorts faces many challenging in producing snow if the weather conditions are not favourable (too warm, rain, etc.) Several glaciers and ski resorts have focused their efforts in implementing a snow farming systems: at the end of the skiing season, they store the snow and cover it to preserve it until the beginning of the next winter season. Preservation of snow is particularly environmentally friendly, as recycling and reutilizing snow during the next season reduces the need to make snow during the warmer conditions in the beginning of the season.

This provides substantial savings in terms of both water and energy when snowmaking begins. Also, different materials have been tested to find the best solution for covering the snow and reducing melt. However, it is recognised that the transport of snow from one place in a resort to another is highly energy intensive and needs to be carefully reflected on in a sustainable snow management plan.

BEST PRACTICE

Snow farming was introduced to Levi, Finland in 2016 in order to ensure that there would be enough snow for World Cup Levi after the previous year's competition was cancelled. The first snow reserve piles were constructed on the Levi Black slope in the spring of 2016, and the preserved snow was spread onto the slopes a couple of weeks before the competition to avoid setbacks.

The ski resort learned a lot from the first year of snow farming and decided to focus on the practice. Since then, various materials have been tested as snow pile covers to minimize the loss of preserved snow. In Levi, snow piles are protected using both fleece-style geotextile blankets and a new preservation technology that utilizes the Finnfoam insulation material used in construction. The new method based on Finnfoam insulation allows Levi to reduce melting down to 10–20 percent, whereas with traditional technologies the loss of snow was approximately 30–50 percent.

Various innovative technologies are currently being tested including wood wool coverings in Livigno, Italy and saw dust in Östersund, Sweden.

CRITERION W4

CHOOSE WATER EFFICIENT EQUIPMENT AND APPLIANCES

STANDARDS

To use water efficient appliances: install toilets with a dual flush facility and taps and showers with automatic shut-off or fit aerators to taps and water-save shower heads. To use water efficient machines for snow production.

SUGGESTIONS

Optimizing sanitary facilities, including taps, showers, and toilets, can minimize water use and protect the resource. This approach reduces water and energy costs while maintaining user comfort. Water savings vary from 30-60%, depending on the chosen system. Toilet flushing accounts for 30% of daily water use–with old toilets using as much as 14 litres per flush compared to new dual flush models which use as little as 2.6 and 4 litres per flush. Also, urinals with flush controllers can save around 65,000 litres of water a year per urinal. Remember to often check your water usage by meter readings: spills can be detected in hours and help you save money and water.

BEST PRACTICE

In Davos, Switzerland, the water used for artificial snowmaking is also utilized to operate a small hydropower plant. Excess water from snowmaking reservoirs is directed through turbines before being stored or released back into the environment. As the water flows, it drives the turbines, converting kinetic energy into mechanical energy, which is then transformed into electricity by a generator. This system optimizes resource use, reduces energy waste, and contributes to the resort's sustainability efforts.

LOGISTICS

AIM

To ensure that the massive undertaking of delivering logistics to professional sports events is conducted in as conscious a manner as possible.

There are several operations related to an event, from preapration to dismantling, that require transport. If managed properly, these activities can result in a significant difference when it comes to carbon emissions.

CRITERION LOGISTICS		Impact
L1	Reduce transport of goods by contracting local suppliers	❄
L2	Rail-first policy	❄ ❄
L3	Contract logistics company with electric fleets	❄ ❄ ❄

CRITERION L1

REDUCE TRANSPORT OF GOODS BY CONTRACTING LOCAL SUPPLIERS

STANDARDS

To contract suppliers that are located in the region where the event is hosted.

SUGGESTIONS

Many alternatives are nowadays available when it comes to suppliers for snow sport events: the organizers of the event should aim at contracting local suppliers such as temporary infrastructure (stadiums), food and catering etc. This will help get the community more involved in the event given that they will work at it and it will also reduce the km travelled by the goods to reach the venue.

BEST PRACTICE

At the Criterium de la Premiere Neige in Val d'Isere, France, 62 % where regional suppliers, of which 45 % directly came from Savoie, another 25 % from France, and 13 % from Europe.

CRITERION L2

RAIL-FIRST POLICY

STANDARDS

To manage the transportation of goods using trail-based means of transportation wherever possible.

SUGGESTIONS

It is fundamental to use trains for goods transportation every time it is possible. This kind of policy requires a better planning of the mobility of goods to choose the greenest option available combining different means of transportation to reach the venue. The promotion of the travel hierarchy showcases lower carbon travel and inspires all stakeholders involved to make sustainable choices

CRITERION L3

CONTRACT LOGISTICS COMPANY WITH ELECTRIC FLEETS

STANDARDS

To transport goods destined for the event only with electric vehicles (EVs).

SUGGESTIONS

If road transportation is the only viable option, make sure to contract logistic partners that possess electric fleets. Also, group orders together and consider the use of truck-pooling (instead of using 20 trucks for 10 different items, consider asking the logistics company to combine loads where possible). For materials that must be shipped, select a freight hauler that uses environmentally responsible practices in their operations.

BEST PRACTICE

At the Lahti Ski Games, Finland, movable EV fast chargers were installed to power up the electric vehicles used to transport goods and guests during the event.

Beach flags were used to mark the location of the chargers in the parking area. They installed 2 Kempower Movable Chargers at the event, located so that altogether 4 vehicles could be easily parked and charge simultaneously, if needed.

TRANSPORT

AIM

To reduce the emissions caused by the transport of the accredited people and spectators from their accommodation to the venue through the use of the most sustainable means of transport. To use public transport to reach the venue from their accommodation or to walk directly to the venue. In case public transport is not suitable, the organization should aim at using EVs or considering carpooling to reduce the number of vehicles moving around the venue during the event. Also, it is fundamental to encourage spectators to reach the venue using public transport to help decrease the impact of transport during the event.

CRITERION TRANSPORT		Impact
T1	Public transport	❄ ❄ ❄
T2	Electric vehicles	❄ ❄ ❄
T3	Carpooling	❄ ❄
T4	Encourage spectators to reach venue by public transport	❄

CRITERION T1

PUBLIC TRANSPORT

STANDARDS

To use public transport to reach the venue from the organization's accommodation at the event. If the proximity of the venue allows it, to reach the venue by walking.

SUGGESTIONS

Several displacements of the organization's members will occur during the event which increases the traffic and congestion of the village hosting the event, while emitting CO_2 in the atmosphere. In order to reduce it, the staff should displace around the venue only using public transport such as shuttle buses or walk to the venue. To implement this criterion, the choice of the staff's accommodation must be done wisely. If the transport is not free during the event, a multiple day ticket should be bought for the staff.

BEST PRACTICE

At the Audi FIS Ski World Cup Val di Fassa 2024, free shuttles were made available from Moena to reach the event's location. The shuttles were in place for both staff and fans.

CRITERION T2

ELECTRIC VEHICLES

STANDARDS

To use electric vehicles to reach the venue from the organization's accommodation and back. Other vehicles such as hybrid, methane, LPG, or Euro 6 may be considered if electric vehicles are unavailable or if suitable charging infrastructure is not feasible at the venue.

SUGGESTIONS

As explained in the criterion T1, the most preferred option for staff displacement around the village during the event should be either walking or public transport. In case the distance does not permit walking or public transport is not in place, the organization should use only electric cars that may be rented.

BEST PRACTICE

At the Telemark World Cup in Trillevallen, a key sustainability initiative was the use of electric vehicles (EVs) and Hydrated Vegetable Oil (HVO) 100-powered vehicles through a partnership with Europcar. These transportation solutions were used to move athletes and officials between venues, reducing reliance on fossil fuels. HVO 100, a 100% renewable fuel, provided an alternative for vehicles where EVs were not practical, further cutting emissions. This approach demonstrates how FIS events can integrate multiple cleaner transport options through collaborations with mobility providers, balancing sustainability with logistical efficiency.

CRITERION T3

CARPOOLING

STANDARDS

To incentivize and make sure organization's members carpool during the event by encouraging behaviour that at least 4 people should reach the venue in the same vehicle (vehicles used should be the ones listed for the criterion T2).

SUGGESTIONS

A carpool is an arrangement between two or more people to share a trip in a single vehicle. If you decide to implement the criterion T2, then a natural consequence with limited effort needed is carpooling to avoid traffic congestion during the event. Generally, villages that host ski events do not have the parking capacity for all the vehicles attending the event. The organization's members should be the first to reduce the cause of this congestion. Carpooling reduce the number of vehicles displaced during the event. You can incentivize carpooling amongst staff members by adding small rewards such as carpooling reward cards: for every five trips the car pooler gets a free coffee, or every ten trips a car wash and so on.

BEST PRACTICE

FIS Ruka Nordic has been awarded the EcoCompass environmental certificate in December 2023 by reducing the number of driving kilometres through coordinated carpooling for athletes and volunteers.

CRITERION T4

ENCOURAGE SPECTATORS TO REACH THE VENUE BY PUBLIC TRANSPORT

STANDARDS

To incentivize spectators to reach the event's venue by public transport or carpooling if public transport is not available.

SUGGESTIONS

Spectators transport to reach an event can be one of the most impactful areas when considering the total CO_2 emissions of an event. It is therefore fundamental to incentivize the spectators to make more sustainable choices when it comes to how they reach the venue. Several programs can be implemented such as event tickets that also include free access to public transport; discounted entry tickets with proof of use of public transport (train or bus ticket), a rewards program and so on.

BEST PRACTICE

At the Audi FIS Ski World Cup finals 2024, public transport throughout the province of Salzburg was **free of charge** for travelling to and from the races with the World Cup ticket.

ACCOMMODATION

AIM

To mitigate the environmental impact of the staff/volunteer's accommodation, by choosing accommodation close to the event locations that are certified against a recognised sustainable management standard

CRITERION ACCOMMODATION		Impact
A1	Within 5 km from the venue and / or Walking distance	❄❄
A2	Certified accommodation facilities	❄

CRITERION A1

CHOOSE ACCOMMODATION WITHIN 5 KM OF THE VENUE

STANDARDS

To choose accommodation for all staff and volunteers that are located within a radius of 5 km of the event's venue. If available, choose accommodation that is within a walking distance and therefore reachable without using vehicles.

SUGGESTIONS

The choice of accommodation impacts on vehicle transfers and consequently on CO_2 emissions and fuel costs; for this reason, it is important to choose accommodation that is as close as possible to the event's venue. Arranging accommodation nearby also helps simplify transport organization in terms of time management: event's locations mobility requires time due to the high number of vehicles moving around creating traffic.

CRITERION A2

CHOOSE CERTIFIED ACCOMMODATION FACILITIES

STANDARDS

To choose at least 80 % of accommodation facilities for staff and volunteers that are certified against an environmental management system such as the Eco-Management and Audit Scheme (EMAS) or the EU Ecolabel Tourist accommodation. Labels of this kind, , green building certifications or internationally recognized certifications for hotels should be considered when selecting a hotel.

SUGGESTIONS

Accommodation should be carefully selected because it has a great impact on the event's CO_2 emissions and is one of the best indicators to ensure the involvement of the accommodation in greening the event. Consider whether the accommodation (and venue) implement standards involving sustainable practices such as EMAS (Eco-Management and Audit Scheme), ISO 14001 (Environmental management systems), ISO 20121 (Event sustainability management systems), or ISO 50001 (Energy management systems).

Furthermore, check if the hotel possesses a green building certification such as LEED, BREEAM, EDGE or any other corresponding certification.

Dedicated certification for hotels to consider include the EU Ecolabel, Green Globe, Green Key, ISO 21401 (Sustainability management system for accommodation establishments), Global Sustainable Tourism Council, Earth check, Travelife Accommodation Sustainability, or other relevant certifications.

BEST PRACTICE

At the FIS World Cup Nordic Skiing in Lillehammer, Norway, the organizers partnered with a number of accommodation providers with environmental certification. Their certified operators are labelled with the "Green Travel" symbol, which means that they have an official environmental certification (Eco-Lighthouse, Green Key, Green Event Approved, Nordic Swan, ISO 14001, or Ecotourism Norway).

PROCUREMENT

AIM

To select and purchase materials that respect the environment as much as possible, thus guaranteeing the sustainability criteria both in the production and use of the goods purchased. Sustainable procurement means ensuring materials are considered throughout their entire life cycle (life cycle assessment); that they are used for as long as possible, e.g. by reusing and recycling instead of using disposable items or by avoiding purchasing new items in favour of rental. Snow sports events require many different materials such as for setting up slopes, start numbers for athletes, equipment for helpers, advertising material, prizes and giveaways for guests which should go through a rigid sustainable sourcing process.

Sourcing is how goods and services are identified and then bought or acquired from suppliers, licensees or partners. To do this sustainably means meeting an organisation's needs in a way that will also result in positive social, environmental, ethical, and economic outcomes. The IOC has produced a detailed Sustainability Essentials guide on Sustainable Sourcing in Sport with guidance for this topic.

CRITERION PROCUREMENT & MATERIAL		Impact
P1	Certified suppliers and products	❄
P2	Rental	❄ ❄ ❄
P3	Recycled materials or items deriving from reuse	❄ ❄

CRITERION P1

CERTIFIED SUPPLIERS AND PRODUCTS

STANDARDS

To choose products which are certified EU Ecolabel or to contract at least 50 % of material from suppliers which have EMAS or other credible sustainability certification. If no certification is available, search and contract only suppliers that follow the IOC Sustainability Essentials Guide principles.

SUGGESTIONS

A sports event offers a wealth of opportunities for obtaining sustainable products and services. However, ensuring that a supplier or product is actually sustainable can be challenging. Fortunately, many tools are available (such as lifecycle cost calculators, quality labels, EMAS and energy efficiency labels) to assess the sustainability criteria of a good or service. It is important to remember that not all independent standards or schemes are equal in terms of credibility and robustness. The ISEAL Alliance has developed a set of Credibility Principles which are useful to review when considering the use of standards and additional guidance continued in 'Challenge the Label' which aims to help buyers distinguish between credible and non-credible claims. Furthermore, the Standards Map, developed by the International Trade Centre, provides information on over 200 standards, codes of conduct, and audit protocols addressing sustainability hotspots in global supply chains.

BEST PRACTICE

The Paris Olympic Games 2024 used detailed sustainability criteria in their procurement policy from the tender process to contractual provisions that sanctioned suppliers for non-conformity with the sustainability requirements. Also, to keep track of the entire life cycle of the goods purchased for the Games, the LOC made their providers have plans to give furniture and equipment a second life.

CRITERION P2

RENT EQUIPMENT, FURNITURE AND GOODS

STANDARDS

To contract suppliers which have a rental option for the equipment needed for the event.

SUGGESTIONS

In general, the first rule of a sustainable sourcing plan is to buy less and preference hiring rather than buying. In most cases, the equipment needed for the event can be rented instead of buying it. The majority of equipment will be used only for that specific event, therefore there is no need to buy something that will end up as a single use equipment. In this case, rental can be the best option, both economically and environmentally.

CRITERION P3

RECYCLED MATERIAL OR ITEMS DERIVED FROM REUSE

STANDARDS

To buy signage and branding items made of recycled material; or to use branding and signage solutions which derive from reuse; or to use signage and branding that may be reused.

SUGGESTIONS

Choosing the most sustainable material is not a straightforward process, many options must be considered and the entire life cycle of the items needs to be taken into consideration. A material widely used for signage and branding is PVC. Many organizations have implemented procurement policies shifting away from the use of PVC. Despite PVC's usefulness and versatility as a material, there are multiple environmental and human health concerns associated with it. Its production routes involve processes which emit significant amounts of mercury. The EU has banned these processes but this is not the case in all countries. Also, PVC is often compounded with plasticisers and other additives which can leach out of the material over time.

Good guidance in choosing the best material to use is offered by the IOC Environmental Impact evaluation of branding and signage event solution. Also, reusing signage boards and similar items can reduce the impact of branding during the event, removable patches or films can be used and changed at occurrence. The boards can be reused for different events and for several years

BEST PRACTICE

Attention to sustainability and the environment is one of the pillars of Fondazione Cortina when selecting suppliers and licensees. The new line for technical ski wear at the Audi FIS Ski World Cup in Cortina has been developed with Energiapura, a Veneto company and an example of excellence in the world of snow. The project aims to produce 100 % jackets from recycled materials offering an outfit made of totally recycled and, above all, recyclable material.

FOOD & CATERING

AIM

To guarantee that the food provided for staff, athletes, volunteers, media and guests is both healthy and of good quality, and respecting the environment by reducing, as far as possible, the production of waste from catering operations and the negative environmental footprint. To provide high quality food which empowers the community by choosing local producers and do not harm the environment and people by choosing vegetarian/vegan and certified food. To choose products aimed at reducing the CO_2 emissions originating from organisational choices that are costly both from an environmental and an economic perspective.

CRITERION FOOD & CATERING		Impact
F1	Vegetarian or vegan food	❄ ❄ ❄
F2	Local and inclusive food	❄ ❄
F3	Certified organic or sustainable food	❄ ❄
F4	Event has no bottled water – water fountains are installed	❄
F5	Dishware is reusable	❄ ❄
F6	Food waste minimized and leftover food redistributed	❄

CRITERION F1

VEGETARIAN FOOD

STANDARDS

To serve mainly vegetarian or vegan food with 70 % of the entire menu being vegetarian or vegan. To serve food with a sustainable protein approach where more legumes are served as the main course.

SUGGESTIONS

Promoting sustainable catering within the event helps to raise awareness amongst a large number of stakeholders: the public and participants, but also food stand owners and their suppliers. The raw material and the preparation of the dish are often more important considerations than the dish itself. Food management should look at where food comes from as well as how it has been cultivated or prepared. A plant-based menu will significantly reduce the carbon impact of the food offering. A vegan diet may reduce the carbon footprint of food by up to 90 % compared to a carbon intensive meat-based menu. Catering suppliers can deliver across your food requirements — creating a clear food chart can be a simple way to include these requirements into the contract.

BEST PRACTICE

At the 2024 Paris Olympic Games, a 100 % vegetarian offer was available to the public at La Concorde to promote the benefits of a meatless way of life. At the venue, where the 3x3 basketball, breaking, BMX Freestyle and skateboarding events took place, they offered 100 % vegetarian food.

CRITERION F2

LOCAL FOOD

STANDARDS

To serve food which has ingredients grown/produced locally, within the host region. In numbers, 70 % of the entire menu should be sourced locally. To serve food with an inclusive approach where lactose and gluten free options are also provided.

SUGGESTIONS

Reduction of emissions in the logistics and catering sector starts when the local community are involved in the organization of the event: reducing food miles ensuring fresh, seasonal, and local foods supports local growers and businesses. By sourcing most of the food from within the host region the event helps the local community get involved in the event and helps celebrate a diverse local food culture.

BEST PRACTICE

At the FIS Nordic Combined World Cup in Otepaa, Estonia, when ordering catering, preference is given to caterers who offer food made from Estonian raw materials. The quantities are calculated according to the number of people being fed in such a way that there is no food waste.

CRITERION F3

CERTIFIED ORGANIC OR SUSTAINABLE FOOD

STANDARDS

To serve at least 50 % of food supplied from further afield which is sustainable, fair trade and ethical, guaranteeing that producers get a fair price for their goods. To source food from Organic, Free Range or LEAF marque accredited suppliers.

SUGGESTIONS

Fair trade guarantees fairer remuneration for producers and working conditions while respecting fundamental rights. Some products such as coffee, tea and sugar must generally be imported and cannot come from local producers, certification such as Fair Trade ensures that workers that are involved in the production process have fair working conditions. More specific certification such as LEAF accreditation ensures that farming methods applied protect the soil and environment from artificial chemicals and follow high animal welfare standards. Other certifications exist to ensure sustainable and ethical production across different food sectors. In the fishing industry, labels such as Marine Stewardship Council (MSC) and Aquaculture Stewardship Council (ASC) guarantee that seafood products come from responsibly managed sources. Friend of the Sea also certifies both wild and farmed seafood, ensuring eco-friendly fishing methods and habitat conservation.

For broader agricultural products, Global G.A.P. sets strict standards for food safety, environmental impact, and animal welfare in farming. UTZ Certified, now merged with the Rainforest Alliance, ensures responsible farming for coffee, cocoa, and tea. Biodynamic certification, such as Demeter, focuses on holistic farming practices that regenerate soil health. Fair for Life expands fair trade principles beyond traditional commodities to include a wider range of food products.

When selecting food products, checking for recognized certifications can help ensure ethical sourcing, sustainability, and high production standards.

CRITERION F4

EVENT HAS NO BOTTLED WATER

STANDARDS

To install water fountains or to provide water in large containers, jugs, reusable or recyclable containers. No single use, bottled water is provided.

SUGGESTIONS

The use of plastic water bottles and disposable cups produces waste on a daily basis which needs to be disposed of in compliance with local waste differentiation laws that may vary depending on the location of the FIS event. Avoiding such waste is an efficient environmental solution from both an economic and organisational perspective. Usually, health authorities conduct constant monitoring of the area's water, guaranteeing users the possibility of drinking potable water via taps and water-fountains; as an alternative, water can be dispensed using free-standing water dispensers that are, in any case, far more ecological than plastic bottles. The use of flasks or other personalized containers made of washable material by staff members is recommended. By respecting this criterion, it is also possible to indirectly reduce the use of motorized transport, both for the purchase of bottles of water and plastic cups and for the disposal of waste, thus reducing the consequences of CO_2 emissions and fuel consumption. It is recognized that for athletes, the use of sealed water containers may be necessary to avoid the risk of doping contamination.

BEST PRACTICE

Lahti Aqua was the official partner of the Lahti Ski Games for the second year in 2024 and ensures that high-quality tap water is included in the festive games. 100 % groundwater filtered by the ridges of Salpausselkä is used as the competition water. For the next Lathi Ski Games, Lahti Aqua will build tap water points in the break areas for skiers, ski jumpers and combined competitors to avoid any bottled water.

CRITERION F5

DISHWARE IS REUSABLE

STANDARDS

When a catering service is used to serve meals and beverages, only reusable tableware should be used (plates, cutlery and glasses). Staff, athletes and volunteers should be encouraged to bring their own reusable tableware.

SUGGESTIONS

Reusable dishware is ideal. If reusable dishware is not applicable, minimize plastic and single-use as much as possible, and maximize recycled-content. No Styrofoam. Note that compostable items sometimes are not accepted by local food waste or recycling streams, therefore check it in advance if you want to use compostable dishware. Also, it is fundamental to involve staff and athletes by informing them about the initiative.

BEST PRACTICE

Thanks to the initiative "Bring your own everything to Luminate Festival" all Festival goers at Luminate Festival were asked to "pack in and pack out" and bring their own containers as food vendors will not have any single use packaging to serve food in. The festival has a small supply of crockery available for hire and wash up facilities are provided. There are no rubbish bins or recycling on-site so there is no waste. The initiative forms part of their environment policy which aims to reduce the generation of all waste at source, affect consumer patterns and raise awareness around packaging, rubbish and waste minimization.

CRITERION F6

LEFTOVER FOOD DONATION

STANDARDS

If leftover food eligible for donation is redistributed to event volunteers and workforce or donated to food bank or similar.

SUGGESTIONS

Where leftover food is unavoidable, including cooked food, identify methods to distribute to those involved in the event or donate it to local organizations that redistribute food to minimize waste and maximize community value. However, accurate quantities and menu planning can help avoid any waste.

BEST PRACTICE

During the 2021 FIS Alpine World Ski Championships a total amount of 1,406 portions of leftover food that accumulated during race days was donated to the Food Bank project: Good for Food-Banco Alimentare del Veneto. They donated also more than 900 kg of fresh and packed vegetables and bread.

WASTE MANAGEMENT

AIM

During the entire course of the event, to ensure the proper management of waste and to give priority to the reduction, recovery and recycling of materials rather than their disposal. To help the local community by donating all the excess and non-reusable materials left and to make sure that non-recyclable elements such as compostable or food waste are correctly treated.

Here are some tips to implement good waste management practice that starts with a basic hierarchy:

- Refuse: take action to eliminate waste occurring in the first place, do not buy if not strictly necessary.
- Reuse: try to find opportunities for items that are no longer needed. Think about cleaning, repairing, refurbishing these items to keep them in use longer. Donate anything you no longer use to local sports clubs or community organisations. There may be another use for materials you no longer need.
- Recycle: anything that cannot be reused should be recycled. Check what local market there is for different types of recycling to inform your buying strategy and waste management plan. Segregating waste is the most effective and cost-efficient way to ensure the best end-use for materials.
- Recover: send non-recyclable waste for energy recovery if available. Anaerobic digestion, combustion, incineration, and other processes can produce energy (fuel, heat, power) from waste.
- Dispose: ensure waste that cannot be reused, recycled, or recovered for energy is disposed of properly in a licensed landfill. Waste sent to poorly controlled landfill sites can pollute groundwater, surface water, and soils, harming plant and animal habitats.

CRITERION WASTE MANAGEMENT		Impact
WM1	Differentiate waste collection	❄
WM2	Donate items that cannot be reused to local community projects	❄ ❄
WM3	Contract composting facility	❄

CRITERION WM1

DIFFERENTIATE WASTE COLLECTION

STANDARDS

Implement differentiated waste collection at the event's location and around the village. Every area must be equipped with designated waste bins (not too many, but at each station all the different bins have to be present) that bear clear instructions as to their use and are easily distinguishable. The bins must be located every 25mt in visible places, their signage must contain clear instructions on where to put every piece of waste that may be produced during the event

SUGGESTIONS

It can be helpful to inform the staff about waste differentiation and collection in advance and identify and train volunteers that help people dispose waste correctly. Identify the main functional areas within your event likely to produce waste so that you can better organize the waste categories. Each location has different laws and categories for waste disposal waste, e.g. glass, plastic, paper, food waste etc.

BEST PRACTICE

Of the total waste produced during the 2021 FIS Alpine World Ski Championships in Cortina, 79% ended in separate waste collection thanks to dedicated volunteers who illustrated and helped participants correctly separate waste in front of the recycling corners.

CRITERION WM2

DONATE ITEMS THAT CANNOT BE REUSED TO LOCAL COMMUNITY PROJECTS

STANDARDS

Donate items used during the event that cannot be reused for future competitions to local community projects. Identify prior to the event which items form part of this category and get in touch with local community organisations to understand if those items can benefit them in some way.

SUGGESTIONS

This criterion is strictly related to sustainable sourcing: generally speaking if items cannot be reused or properly recycled, then they should be avoided. In the case that this is not possible, it is important to contact local community organisations to understand, during the planning phase of the event, if they need those items and / or if those can be beneficial for their projects e.g. ski equipment, signage etc.

BEST PRACTICE

Of the 1.2 million items of sports equipment required to host the Olympic and Paralympic Games, 75 % were leased in line with Paris 2024's responsible purchasing and circular economy strategy. The remaining quarter was acquired with the financial support of the Agence Nationale du Sport (ANS). The equipment purchased will be donated to the French sports movement for the benefit of athletes and sportspeople at all levels.

The national sports federations have identified, via a transparent selection process, the potential beneficiary structures for all the equipment purchased by Paris 2024. Following validation by Paris 2024's internal Second Life Commission and the ANS, donation agreements have been signed — between Paris 2024 and the federations concerned. As a result, all of the sports equipment will have a second life before the end of the Games and will be donated to identified sports and association beneficiaries.

CRITERION WM3

CONTRACT A COMPOSTABLE FACILITY

STANDARDS

Contract a composting facility prior to the event to compost organic food waste. If compostable items are used for the event, this become a necessary action.

SUGGESTIONS

Composting facilities normally work with 1 week cycles to manage normal waste coming from households. A great number of compostable items, which normally need more time to compost (2—3 weeks), can jeopardize the working mechanism of a composting facility. If compostable items are used during the event it is necessary to contact composting facilities and ask if they will be able to manage the waste you want them to compost. If this measure is not taken, the risk is that compostable waste will end up with unsorted waste. In addition, food waste also needs to be properly managed.

BIODIVERSITY & NATURE CONSERVATION

AIM

To prevent any action that may cause harm to wildlife and biodiversity. When the impact on biodiversity cannot be avoided, to set up programs for restoration.

It is important to know that biodiversity means the variability among living organisms from all sources, and the ecological complexes of which they are part. It refers to the total variety of living things, from genes to species to ecosystems. And as we know, biodiversity is affected by climate change, with negative consequences for human wellbeing. But biodiversity, through the ecosystem services it supports, also makes an important contribution to both climate change mitigation and adaptation.

FIS is also a signatory of Sports for Nature, a joint initiative of the International Union for Conservation of Nature, the International Olympic Committee (IOC), the United Nations Environment Program (UNEP), and the Secretariat of the Convention on Biological Diversity (CBD). Sports for Nature aims to deliver transformative action for nature enabling sports to champion nature and contribute to its protection and restoration. Under the framework, several guidelines which address biodiversity have been developed to help sport associations and competition organizers, see here.

CRITERION BIODIVERSITY & NATURE CONSERVATION		Impact
B1	Soil restoration program in collaboration with the ski area	❄ ❄ ❄
B2	Limit the use of salt, dyes or paints as well as snow hardening chemicals	❄ ❄
B3	Limit noise and light pollution	❄

CRITERION B1

SOIL RESTORATION PROGRAM IN COLLABORATION WITH THE SKI AREA

STANDARDS

Implement and support soil restoration programs aimed at offsetting the impact of snow production, grooming and prolonged snow permanence on the slopes.

SUGGESTIONS

Snow farming can harm the biodiversity of the soil. It is therefore recommended to keep snow piles in the same spot year after year to minimize the area of the impacted soil surface. Obviously, this approach would call for a restoration scheme if snow-farming is eventually abandoned. Intensive grooming postpones the melting of snow on slopes due to it being compacted. This makes it necessary to plan for soil and ecosystem restoration measures which prevent soil erosion across an entire season.

In case construction activities need to be performed for infrastructure renovation, all soil material should be spread on the construction sites, following the layering of the previous natural soil profile, starting from subsoil until (if present), the surface plant materials (e.g. grass turfs). The main objective is to recreate conditions as similar as possible to the initial ones and set the best conditions for recolonization by natural species.

BEST PRACTICE

Thanks to the EU Interreg program, the Link4Soil project has developed the Guidelines for sustainable soil management in ski areas. It collects the current state of knowledge about good practices for sustainable soil management in ski areas by reviewing the existing regional and national soil data to then transfer the knowledge and best management practices to policymakers and other stakeholders. It also lists some effective soil restoration programs including:

a) natural colonization

b) use of commercial seed mixtures containing mainly seeds from forage species

c) site-specific seed mixtures or seed material collected (e.g. by harvesting) or directly transferred from local plant communities.

CRITERION B2

LIMIT THE USE OF SALT, DYES, PAINTS AND SNOW HARDENING CHEMICALS

STANDARDS

Reduce as much as possible the use of snow hardener chemicals, paint and other substances that may be harmful for the environment through a considered limitation of any chemicals used, including the salting of snow, with a balanced approach to participant's safety.

SUGGESTIONS

Several substances can be used to help the competition's surface comply with set safety standards. Sometimes their usage can be avoided or at least limited. Not enough studies have been conducted yet on the impact of salt or other snow hardening chemicals to have a full understanding of their impact on soil. What is known for now is that salt runoff can contaminate nearby water bodies. A study by the Environmental Protection Agency (EPA) found that the chloride levels in many streams and rivers near ski areas can become alarmingly high, causing harm to aquatic ecosystems and wildlife. Excessive salt in soil can impair its structure and fertility: the degraded soil may be less capable of supporting vegetation and can contribute to erosion and loss of topsoil.

BEST PRACTICE

In the case of Vail Resorts, salt has been replaced in favor of piloted crushed rocks and biodegradable polymers on some of their ski racing courses. The book Western Water A to Z, explains all the steps behind this initiative. This showcases the industry's commitment to addressing environmental concerns while maintaining high-quality racing conditions.

CRITERION B3

LIMIT NOISE AND LIGHT POLLUTION

STANDARDS

No fireworks and other unnecessary noise polluters. Eliminate light pollution at nights or in between the competition's days.

SUGGESTIONS

During big events, the noise produced by spectators can disturb wildlife, to reduce it you can prohibit the use of fireworks and also other polluting items such as balloons. Set clear signage to ban fireworks also for spectators. At night, or in between events, make sure that lights are turned off when they are not needed. Illuminating a slope at night, not only is it detrimental from an energy consumption point of view, but can also confuse and stress wildlife.

BEST PRACTICE

At the Levi FIS Ski World Cup, operating hours have been changed from 9.30 am–7 pm to 9 am–6 pm and thus gained an extra half an hour of natural light in the mornings and reduced the need for artificial lighting in the evenings by a full hour. In this way the team in Levi not only reduce the energy needed, but they also reduce light pollution at night.

COMMUNICATION

AIM

To communicate the event sustainably and avoid paper advertising.

Communicating your actions in favor of sustainable development makes it possible to enhance the value of the actions carried out, to get participants adhesion and participation to these actions. It also improves the image of the event and promotes the implementation of similar actions.

CRITERION COMMUNICATION		Impact
C1	Advertise sustainable initiatives taken	❄
C2	Event 100 % paper-free and advertising is done electronically	❄ ❄

CRITERION C1

ADVERTISE SUSTAINABLE INITIATIVES TAKEN

STANDARDS

Elaborate a sustainable communication strategy around the event also taking into consideration the FIS SUSTAINABILITY COMMUNICATION GUIDE.

SUGGESTIONS

It can be useful to define the general concept and objectives for the communication strategy. Then you have to make sure that only what is actually done is communicated and in a way that is proportionate to the effort made, without falling into the trap of greenwashing. Also, ensure consistency between the messages and the concept of the event. It can be useful to set up a sustainability information stand on site to raise awareness and show commitment. Report about your sustainability initiatives to the public on the event website in a section concerning sustainability so that all your initiatives can be displayed in one place.

BEST PRACTICE

The FIS Nordic Combined World Cup Otepää has a very well-structured website where all the sustainable initiatives taken are displayed. The website is divided into working areas and each working area contains the actions taken and the reason behind it.

The FIS Alpine Ski World Championships 2023 in Méribel-Courchevel hosted a Sustainability tent in the Village that was shared with local non-governmental organisations and governmental authorities. Each partner had a half day to host workshops and other initiatives in the tent.

CRITERION C2

EVENT 100% PAPER FREE

STANDARDS

Advertising of the event is 100 % paper free and is done electronically. Passes, pledges and so on are also paper free.

SUGGESTIONS

Communication is vital to ensure the success of the initiatives and the sustainable organisation of events. However, using paper for communications has a negative impact on the environment. The choice of the type of advertisement and communication can greatly limit the impacts if only electronic advertising is used.

BEST PRACTICE

This quick but complete guide from the W12 conference provides you with some practical ideas on how to make your event paper free such as creating your own event app or providing information you want to advertise to the speaker of the event.

COMMUNITY & LEGACY

AIM

To engage the community and to drive more awareness and action on climate change.

FIS is also signatory of the Sports for Climate Action Framework which explicitly mentions the multiplier impact that sport can have across society. All the disciplines ruled by FIS can be a platform to reach many people worldwide and influence them to choose more sustainable behaviors through competitive events and all other forms of skiing.

CRITERION COMMUNITY & LEGACY		Impact
CL1	Interactive sustainability initiatives during the event	❄❄
CL2	Feedback and collaboration with the local community	❄
CL3	Collaborate with sponsors to provide an award for sustainability actions taken by stakeholders	❄❄❄

CRITERION CL1

INTERACTIVE SUSTAINABILITY INITIATIVES DURING THE EVENT

STANDARDS

Create and implement interactive initiatives regarding sustainability that involve the public.

SUGGESTIONS

Sometimes sustainability is a matter of closeness. Public and stakeholders do not realize that climate change is affecting us and that we are contributing to it with our actions. A good step forward is to engage the public and show them the effect that global warming is having on your specific location. Create games where the public is involved directly and prefer a playful and offbeat tone. Designate identifiable ambassadors with a clear advocacy message to engage the public. Also, the LOC may allocate part of the entry ticket or use crowdfunding for specific sustainability projects and spectators may be offered to offset his/her transportation CO_2 emissions by choosing to pay an additional calculated fee (according to the scheme developed) considering the distance and the type of transportation. Spectators may be offered the possibility to donate money or work hours to an environment program that the event is affiliated with.

BEST PRACTICE

At the FIS Nordic World Ski Championships in Planica 2023, the LOC organized a local competition between 21 schools on how to become an environmentally friendly fan at sports events. This serves as an example of sustainability initiatives that actively engages the local community.

CRITERION CL2

FEEDBACK AND COLLABORATION WITH THE LOCAL COMMUNITY

STANDARDS

To create a support system made of feedback from the local community.

SUGGESTIONS

Having the local community positively engaged in the organization of the event is a prerequisite for the success of the event. At the end of the event, it is useful to collect data regarding the satisfaction of the community regarding the event. They are precious stakeholders that can really improve future events with their ideas and support.

BEST PRACTICE

During the FIS Alpine Ski World Champinonships 2023 in Méribel-Courchevel, retired people from the surrounding villages were engaged as volunteers in the restoration.

CRITERION CL3

COLLABORATE WITH SPONSORS TO PROVIDE AWARDS FOR SUSTAINABILITY ACTIONS TAKEN BY STAKEHOLDERS

STANDARDS

To involve sponsors and make them provide awards for sustainable actions taken by event stakeholders.

SUGGESTIONS

Engage in discussions with sponsors prior to the event to establish a stakeholder competition as part of the activation program. Ensure the rules are clearly defined, and that the prize appropriately reflects the effort required to achieve it. The Award ceremony should be right before/after the event's ceremony.

APPENDIX 1:
EVENT SUSTAINABILITY: A BEGINNER'S GUIDE
INTRODUCTION

This part of the Snowball guide is designed especially for smaller events that are just starting to explore sustainability. It provides clear, actionable steps for event organizers who might be unsure where to begin. The first essential action is to measure and understand the carbon footprint of your event, and the FIS CO_2 Calculator is a crucial resource for this. This tool helps you track and manage the greenhouse gas emissions (CO_2) from your event. By using this tool early in your planning, you will get a clearer picture of where emissions are coming from and identify the areas that need the most attention. This initial step will not only guide your sustainability strategy but also help you make data-driven decisions about how to reduce your event's carbon impact.

Following this step, the guide offers a series of best practices that are easy to implement, even for smaller-scale events. These actions may seem modest at first, but when combined, they can contribute significantly to reducing your environmental footprint and moving your event toward greater sustainability.

EVENT SUSTAINABILITY: A BEGINNER'S GUIDE
FIRST STEPS

USE THE FIS CO_2 CALCULATOR – BASIC TEMPLATE

ACTION
Begin by calculating the CO_2 emissions of your event using the FIS CO_2 Calculator. This helps you understand your baseline emissions, identify the most significant sources of CO_2, and develop targeted actions to reduce them.

IMPORTANCE
Understanding your event's carbon footprint is essential for planning effective sustainability measures. By measuring emissions from energy use, transportation, and waste, you can focus on the areas with the greatest potential for reduction.

BEST PRACTICE
At the Lillehammer Nordic Combined World Cup, the Local Organizing Committee used the FIS CO_2 Calculator, now provided free of charge by FIS to all World Cup events starting from the 2024/25 season. This calculator measures emissions from areas such as transport, energy use, accommodation, and logistics, allowing organizers to quantify their environmental impact. By using this standardized tool, Lillehammer could make data-driven decisions to reduce emissions and improve sustainability planning.

Now some actionable initiatives grouped in main areas:

ENERGY

→ 100% GREEN ELECTRICITY FROM THE GRID

ACTION

Use electricity from renewable sources to power your event. Contact local suppliers to ensure your electricity comes from certified green sources.

IMPORTANCE

By using green electricity, you reduce the carbon footprint of your event while supporting renewable energy sectors, thus promoting the global transition to cleaner energy solutions.

→ AVOID POWER UNITS, USE HVO WHEN NECESSARY

ACTION

Limit the use of diesel or gas-powered generators unless absolutely necessary. Opt for renewable alternatives like HVO (Hydrogenated Vegetable Oil) if it is possible.

IMPORTANCE

HVO provides a cleaner alternative to conventional diesel, reducing CO_2 emissions by up to 50%. This is a critical step in minimizing the carbon footprint of temporary energy sources used during the event.

→ SUSTAINABLE HEATING FOR TENTS

ACTION

Use energy-efficient or sustainable heating systems in temporary structures (for example heating systems with wooden chips).

IMPORTANCE

Reducing energy consumption in temporary structures like event tents helps cut overall energy use and reduce waste while maintaining the necessary comfort for athletes, staff, and spectators.

BEST PRACTICE

During the Oslo Holmenkollen Nordic Combined World Cup event in 2025, the Local Organizing Committee committed to powering the entire venue with 100% renewable energy. This initiative was made possible through the use of certified green electricity from hydroelectric sources. Importantly, no diesel generators were used throughout the event, eliminating a significant source of emissions typically associated with temporary power supply. Additionally, the VIP tents were heated using wood pellets, a renewable and low-emission alternative to fossil fuels.

TRANSPORT

→ ENCOURAGE CARPOOLING AND ELECTRIC VEHICLES

ACTION

Offer special carpooling apps to meet the needs of travellers or incentives for employees and spectators to carpool or use electric vehicles (EVs). Provide free parking for EVs and shuttle services from nearby areas.

IMPORTANCE

Promoting carpooling and the use of EVs reduces the carbon footprint of transportation, alleviates congestion, and supports sustainable mobility.

BEST PRACTICE

FIS Ruka Nordic has been awarded the EcoCompass environmental certificate in December 2023 by reducing the number of driving kilometres through coordinated carpooling for athletes and volunteers.

→ PUBLIC TRANSPORT INCENTIVES

ACTION

Provide free or discounted public transportation options for staff and spectators attending the event.

IMPORTANCE

By promoting public transportation, you help reduce the number of private vehicles traveling to the event, which lowers emissions and reduces congestion around the venue.

BEST PRACTICE

At the Nordic Combined World Cup event in Schonach, Germany, every spectator who purchased an event ticket also received a free public transportation pass valid throughout the regional transit network. This initiative encouraged visitors to leave their cars at home, significantly reducing traffic congestion and CO_2 emissions.

PROCUREMENT

→ REUSE BANNERS AND BIBS

ACTION

Reuse materials, such as event banners and athlete bibs. Instead of printing new ones for each event, update them with Velcro or patches that can be changed as needed.

IMPORTANCE

This reduces waste, minimizes production costs, and promotes a more resource-efficient approach to event materials.

→ OPT FOR UNBRANDED MATERIALS

ACTION

Use generic, unbranded materials that do not require date-specific branding, reducing the need for future disposal.

IMPORTANCE

Unbranded materials can be reused in future events, increasing their lifespan and reducing waste.

FOOD & CATERING

→ PLANT-BASED OPTIONS

ACTION

Offer plant-based and flexitarian meal options, prioritizing local and sustainable food sources.

IMPORTANCE

Plant-based meals have a lower carbon footprint than meat-heavy diets, and sourcing food locally further reduces emissions related to food transportation. A flexitarian diet emphasizes plant-based foods while allowing for occasional local meat and animal products. It encourages reducing meat consumption for health and environmental benefits, but doesn't require complete elimination.

BEST PRACTICE

At the 2024 Paris Olympic Games, a 100% vegetarian offer was available to the public at La Concorde to promote the benefits of a meatless way of life. At the venue, where the 3x3 basketball, breaking, BMX Freestyle and skateboarding events took place, they offered 100% vegetarian food.

→ DONATE LEFTOVERS

ACTION

Coordinate with local charities to donate leftover food after the event or/and it is advisable to provide takeaway boxes near the buffet, so that, should a guest purchase an excessive amount of food or receive a portion too large to finish, they may pack the remainder to take home rather than discarding it.

IMPORTANCE

Donating unused food helps reduce food waste and supports local communities, providing meals to those in need while ensuring that excess food does not go to landfills.

BEST PRACTICE

At the Nordic Combined World Cup in Seefeld, Austria, the organizers took proactive steps to minimize food waste. Key measures included careful meal planning based on accurate guest numbers, using local suppliers to reduce over-ordering, and ensuring leftover food was donated instead of discarded.

→ REUSABLE CUPS

ACTION

Provide reusable cups for drinks, eliminating single-use plastics.

IMPORTANCE

Using reusable cups eliminates plastic waste, one of the most common environmental issues at large events, and encourages sustainable practices among attendees.

BEST PRACTICE

At the Ski Jumping World Cup in Ljubno, Slovenia, the organizers took proactive steps to minimize waste. Key measures included also to use reusable cups with a deposit instead of PET cups.

WASTE MANAGEMENT

→ WASTE DIFFERENTIATION WITH A SOLID WASTE MANAGEMENT PLAN

ACTION

Ensure that waste is categorized (recyclables, compostables, general waste) and well recognize. It is important to ensure that bins are not alone, but rather that ecological corners are established, which should include bins for the collection of all fractions.

IMPORTANCE

Sorting waste properly ensures that recyclables and compostables are processed appropriately, reducing landfill waste and promoting a circular economy.

BEST PRACTICE

At the Nordic Combined World Cup in Ramsau, Austria, the organizing team implemented a series of waste reduction strategies to minimize environmental impact. Key actions included eliminating single-use plastics, providing clearly marked recycling stations, and encouraging vendors and participants to use reusable containers and materials. Additionally, strong collaboration with local waste management services ensured that recyclable and compostable materials were properly handled.

→ GREEN AMBASSADORS

ACTION

Ensure that well-trained sustainability volunteers guide the public to better separate waste. Ask them to oversee the most frequently used ecological corners, with bins for the collection of all fractions.

IMPORTANCE

Sorting waste properly ensures that recyclables and compostables are processed appropriately, reducing landfill waste and promoting a circular economy.

BEST PRACTICE

At the Nordic Combined World Cup in Otepää, Estonia, a team of Green Ambassadors was introduced to actively promote and support sustainability during the event. These volunteers were present throughout the venue, informing spectators about recycling, guiding proper waste separation, and encouraging environmentally responsible behavior. Their visible presence and direct engagement helped raise awareness and foster a culture of sustainability among participants and the public.

→ DIGITAL ACCESS WITH QR CODES

ACTION

Provide a QR code which participants can scan to access digital brochure and program details, reducing the need for printed materials.

IMPORTANCE

This approach minimizes paper waste, improves accessibility, and ensures up-to-date information without reprinting costs.

BEST PRACTICE

At the FIS Free Cross Junior World Championships 2025 in Isola 2000, organizers introduced a QR code system to replace printed flyers, programs, and brochures. This digital approach significantly reduced paper waste and prevented littering in natural areas, showing how event communication can be both modern and eco-friendly.

BIODIVERSITY & NATURE CONSERVATION

→ NO FIREWORKS

ACTION
Avoid using fireworks during the event.

IMPORTANCE
Fireworks contribute to noise and light pollution, which can disturb local wildlife and ecosystems. Reducing fireworks helps protect the natural environment during events.

→ NO SPILL CARPET INSTALLATION

ACTION
Place carpets in the starting area and ski/snowboard prep rooms to prevent wax residues from contaminating the environment.

IMPORTANCE
This measure reduces pollution, protects natural ecosystems, and promotes sustainable winter sports practices.

BEST PRACTICE
Also at Isola 2000 at the Free Cross Junior World Championships 2025, the Local Organizing Committee installed protective carpets in the starting area and ski/snowboard preparation zones. These carpets served to contain wax particles, preventing them from dispersing into the surrounding environment.

COMMUNICATION

→ AWARENESS CAMPAIGNS

ACTION

Integrate sustainability messages into the event through posters, talks, or workshops to raise awareness also taking into consideration the FIS SUSTAINABILITY COMMUNICATION GUIDE.

IMPORTANCE

Raising awareness about sustainability encourages attendees to adopt more environmentally conscious behaviours in their own lives, helping to create a culture of sustainability.

BEST PRACTICE

The FIS Nordic Combined World Cup in Otepää has a very well-structured website where all the sustainable initiatives taken are displayed. The website is divided into working areas and each working area contains the actions taken and the reason behind it.

Another best practice to consider is the Nordic Sustainability Arena linked to Åre FIS Alpine Ski World Cup. An annual, international meeting place where sports, research, business, and societal actors come together to contribute to the global climate transition. Through collective efforts, they can strengthen the future of winter sports and demonstrate how the power of events can help preserve snow and winters for future generations. The Nordic Sustainability Arena is grounded in research and acts in alignment with the Global Goals within Planetary Boundaries.

LEGACY & COMMUNITY ENGAGEMENT

→ EDUCATIONAL ACTIVITIES

ACTION

Create interactive initiatives that engage local communities, such as educational activities or environmental competitions.

IMPORTANCE

Community engagement ensures that the event's sustainability efforts have a lasting impact and strengthens the relationship between the event and the local community.

BEST PRACTICE

At the Nordic Combined World Cup in Lahti, Finland, the organizers offered free entry to school students, encouraging youth participation and community engagement. This initiative allowed hundreds of children to attend the event, many experiencing a top-level winter sports competition for the first time.

APPENDIX 2: CHECKLIST

RECOMMENDED ACTIONS IN SUSTAINABILITY PLANNING

RA1	FIS CO_2 Calculation Tool	Yes / No
RA2	Sustainability plan	Yes / No
RA3	Transport optimization plan	Yes / No
RA4	Sustainability report	Yes / No

CRITERION ENERGY		Impact	Choice
E1	Temporary connection to the power distribution grid with green energy	❄ ❄ ❄	
E2	Self-production with renewables	❄ ❄ ❄	
E3	Support venue to switch to green energy supplier	❄ ❄	
E4	Temporary renewable power units	❄ ❄	
E5	Adopt LED lighting for slope (2) and/or venue illumination (1)	❄ ❄ ❄	
E6	Energy efficiency	❄	

CRITERION WATER		Impact	Choice
W1	Collaborate with the ski resort to implement the collection and treatment of grey-water	❄ ❄	
W2	Collaborate with ski resort to harvest rainwater for snow-making	❄ ❄ ❄	
W3	Collaborate with ski resort to implement snow-farming systems	❄ ❄ ❄	
W4	Choose water efficient equipment and appliances (toilet, etc)	❄	

CRITERION LOGISTICS

		Impact	Choice
L1	Reduce transport of goods by contracting local suppliers	❄	
L2	Rail first policy	❄ ❄	
L3	Contract logistics company with electric fleets	❄ ❄ ❄	

CRITERION TRANSPORT

		Impact	Choice
T1	Public transport	❄ ❄ ❄	
T2	Electric Vehicle	❄ ❄ ❄	
T3	Carpooling	❄ ❄	
T4	Encourage spectators to reach venue by public transport	❄	

CRITERION ACCOMMODATION

		Impact	Choice
A1	Within 5 km from the venue Walking distance	❄ ❄	
A2	Certified accommodation facilities	❄	

CRITERION PROCUREMENT & MATERIAL

		Impact	Choice
P1	Certified suppliers and products	❄	
P2	Rental	❄ ❄ ❄	
P3	Recycled materials or items deriving from reuse	❄ ❄	

CRITERION FOOD & CATERING

		Impact	Choice
F1	Vegetarian food	❄ ❄ ❄	
F2	Local and inclusive food	❄ ❄	
F3	Certified organic or Fair Trade food	❄ ❄	
F4	Event has no bottled water–water fountains are installed	❄	
F5	Dishware is reusable	❄ ❄	
F6	Leftover food donation	❄	

CRITERION WASTE MANAGEMENT

		Impact	Choice
WM1	Differentiate waste collection	❄	
WM2	Donate items that cannot be reused to local community projects (previously agreed)	❄ ❄	
WM3	Contract composting facility	❄	

CRITERION BIODIVERSITY & NATURE CONSERVATION

		Impact	Choice
B1	Soil restoration program in collaboration with the ski area	❄ ❄ ❄	
B2	Limit the use of salt, dyes or paints as well as snow hardening chemicals	❄ ❄	
B3	Limit noise and light pollution	❄	

CRITERION BIODIVERSITY & NATURE CONSERVATION

		Impact	Choice
C1	Advertise sustainable initiatives taken	❄	
C2	Event 100 % paper-free and advertising is done electronically	❄ ❄	

CRITERION COMMUNITY & LEGACY

		Impact	Choice
CL1	Interactive sustainability initiatives during the event	❄ ❄	
CL2	Feedback and collaboration with local community	❄	
CL3	Collaborate with sponsors to provide award for sustainability actions taken by stakeholders	❄ ❄ ❄	

APPENDIX 3:
KEY PERFORMANCE INDICATORS (KPIs)

RECOMMENDED ACTIONS IN SUSTAINABILITY PLANNING

RA1	FIS CO_2 Calculation Tool
RA2	Sustainability plan
RA3	Transport optimization plan
RA4	Sustainability report

CRITERION WATER		Units of measure
W1	At least 40 % of the grey-water is collected and treated.	M3
W2	At least 70% of the water used for snow-making comes from collected rainwater.	M3
W3	Ski resort has snow-farming system for the competition area.	Yes / No
W4	70 % of the total appliances and equipment are water efficient certified.	N°

CRITERION ENERGY		Units of measure
E1	100% of the energy is supplied through the grid, at least 50% of the energy used for the event comes from renewables.	KWH
E2	At least 50 % of the energy is auto produced from renewables.	KWH
E3	Ski area is supplied by green energy.	Yes / No
E4	Temporary renewable power units are the only generators used.	Yes / No
E5	At least 75 % of the venue is illuminated with LED.	N° (light bulbs)
E6	Energy efficiency policy.	Yes / No

CRITERION LOGISTICS		Units of measure
L1	70% of the suppliers are located locally, within the host region.	N°
L2	Goods and appliances are shipped by train and at least 70% or their km are on rails.	km
L3	100% of the total km travelled by goods and appliances to reach the venue are on electric vehicles.	km

CRITERION TRANSPORT		Units of measure
T1	90% of the staff organizers uses public transportation or walk to the venue.	N° (people)
T2	100 % of the staff organizers uses Euro 6, hybrid, methane, LPG and/or electric vehicles.	N° (people)
T3	No car listed has less than 3 passengers.	Yes / No
T4	Event has an incentive program to encourage spectators to reach venue by public transport.	Yes / No

CRITERION ACCOMMODATION		Units of measure
A1	All the staff's accommodations are located within walking distance or maximum within 5 km from the venue.	km
A2	80% of the staff's accommodation are certified.	Yes / No

CRITERION PROCUREMENT & MATERIAL		Units of measure
P1	At least 50 % of the goods newly bought for the event possess an environmental certification or at least 50% of the suppliers possess an EMAS certification.	%
P2	At least 60% of all the equipment and goods needed for the event are rented (To reach the percentage P2 and P3 can be counted together).	%
P3	At least 60% of all the equipment and goods needed for the event are made of recycled materials or are items deriving from reuse (To reach the percentage P2 and P3 can be counted together).	%

CRITERION FOOD & CATERING		Units of measure
F1	At least 70 % of the entire menu is vegetarian.	%
F2	At least 70% of the entire menu is sourced locally, within the host region.	%
F3	At least 50% of the imported food is sustainable, fair trade and ethical, and/or food from Organic, Free Range or LEAF marque accredited suppliers.	%
F4	No bottled water is sold at the event.	Yes / No
F5	No disposable dishware is provided at the event.	Yes / No
F6	Leftover food donation is in place.	Yes / No

CRITERION WASTE MANAGEMENT		Units of measure
WM1	All the waste (100%) is differentiated correctly.	Yes / No
WM2	All items (100%) that cannot be reused will be donated to local community for projects previously agreed.	Yes / No
WM3	Contract a composting facility.	Yes / No

CRITERION BIODIVERSITY & NATURE CONSERVATION		Units of measure
B1	At least one soil restoration program in collaboration with the ski area.	Yes / No
B2	Have at least a program aimed at reducing the usage of alien substances on / in the snow.	Yes / No
B3	Fireworks are banned and lighting is off at nights/when unnecessary.	Yes / No

CRITERION BIODIVERSITY & NATURE CONSERVATION		Units of measure
C1	Have a communication strategy for the sustainable initiatives taken.	Yes / No
C2	The event is 100% paper-free.	Yes / No

CRITERION COMMUNITY & LEGACY		Units of measure
CL1	Have at least one interactive sustainability initiative during the event.	Yes / No
CL2	Have and send to the local community a satisfaction questionnaire or something similar after the event.	Yes / No
CL3	Have at least one award for sustainability actions taken by stakeholders for the event.	Yes / No

INTERNATIONAL
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FEDERATION

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