



# **Case study Helsinki Ski Weeks – Bringing cross-country skiing to the people**

**From case study to concept: A sustainable competition and physical activity concept for cross-country skiing**

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### **Abstract**

Climate change and global warming have been the topic in the news during the past months and years more and more. This is due to the fact that changes are no longer only affecting remote areas but changes for example in snow cover and length of the snow season has been observed to have changed also in Finland and Central Europe. For this reason, have the Finnish Ski Association, the International Ski and Snowboard Federation as well as the United Nations and many other organizations and institutions around the world explicitly included environmental, social and economic sustainability in their strategic goals, missions and visions to actively work towards protecting the planet and the scarce resources which are left. The task at hand was to create a concept based on the case study analysis of the Helsinki Ski Weeks as organized by the Finnish Ski Association. The concept developed is applicable in a wide range of locations and situations and is adaptable to meet the needs of local organizers. The concepts' main goal is to bring cross-country skiing close to where the people are, to the centre of cities, in combination with a high-performance skiing competition. The main point of the concept is that a high-level skiing competition as well as the accessibility to skiing tracks for citizens right in the centre of the city can be organized in a sustainable way. For this purpose, a wide range of data and information on the case study was collected and analysed and the concept developed based on the available data. The result is a versatile concept which can be applied by a wide variety of stakeholders to meet their needs. Sports are competing for spectators not only to attend sport competitions and events live but also for their time and attention in front of the television or on social media, as well as with all other content and information which is available. Hence it has become necessary for sport to develop new formats to make the sports more attractive to spectators and participants. The concept presented is one such new format where a cross-country skiing competition is organized in the centre of the city in a short and engaging way.

### **Keywords/tags (subjects)**

Winter sport; responsibility; sport participation; marketing; management

### **Miscellaneous (Confidential information)**

Not applicable

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## **1 Introduction**

From case study to concept: Providing access to cross-country skiing tracks in the middle of the city to increase physical activity levels of citizens in combination with an invitational competitive cross-country sprint event, named Helsinki Ski Weeks. This thesis analysis how a case study can be transformed into a concept with applicability possibilities in a wide variety of environments and circumstances.

The present thesis consists of two parts, the first part is an in-depth literature review focusing on literature pertinent to the product part of the thesis. The product is presented in the second part of the thesis in Chapter 9 Output. This second part of the thesis is a case study description and analysis which is used to create a concept. Methods, data analysis, assessment of the concept, conclusions and applicability form the last part of the thesis. Important documents are provided in the appendix

This case study analysis presents a concept, which is an idea or a format of a new cross-country skiing competition combined with offering opportunities for cross-country skiing and events to the general public. It hence combines high-performance sport with participation sport and public events set in a unique and urban location.

## **2 Literature review**

The literature review encompasses a broad view on topics related to the concept presented in the second part of this thesis. The concept is derived from the case study analysis. The topics reviewed range from climate change and global warming reports to sustainable sport event management, carbon footprint calculations, agenda 2030 goals, and looks also into the strategies, missions, visions and values of the International Ski and Snowboard Federation, the Finnish Ski Association, the Helsinki Ski Weeks event, the City of Helsinki, the Olympic Stadion in Helsinki, iconic sport facilities as well as sport concept development literature.

The topics covered in this literature review are broadly divided into three main sustainability topics, those are social, economic and environmental, general sport management including strategy

development, mission, vision and values, as well as sustainable sport event organization are also touched upon.

## **2.1 Sustainability and sport business**

Environmental, social and economic sustainability often also referred to as triple bottom line (TBL) of sustainability, and are not only in the focus of sport event organization, independent of the size, length or duration of the event, but also when considering tourism, making business decisions and when defining sustainability goals (Slaper & Hall, 2011; Alhaddi, 2015). This TBL concept of social, environmental and economic sustainability is also referred to as the three pillars of sustainability (Hutchins & Sutherland, 2008; Davidson, 2010; Eizenberg & Jabareen, 2017). It has been pointed out in several publications that the social sustainability pillar has been the one which has received more attention only rather late in the sustainability discussions (Hutchins & Sutherland, 2008; Dempsey, Bramley, Power & Brown, 2011; Davidson, 2010; Eizenberg & Jabareen, 2017). It has further been pointed out that all three pillars of the sustainability concept are very strongly inter-linked and that many aspects which are considered for example to belong to the economic sustainability aspect have a direct impact and connection to environmental sustainability. Most studies focus on sustainability and sport tourism (e.g., Malchrowicz-Moško & Chlebosz, 2019; Hinch & Ito, 2018; Heuwinkel & Bressan, 2016). Barker, Barker-Ruchti, Wals and Tinning (2014) published their thoughts and philosophical reflections on sustainability and high-performance sport, and how high-performance sport could be used as a tool to drive social, economic and environmental sustainability.

In the following economic, social and environmental sustainability literature and information pertinent for the product part of the thesis has been reviewed and has been assigned to one of the three pillars of sustainability, even though many times the topics can very well be assigned to two or even all three of the pillars (see Fig.1). The challenge was to determine the best fit of the information to one of the pillars, directly pointing out that all three pillars are very closely interconnected.

## Three pillars of sustainability

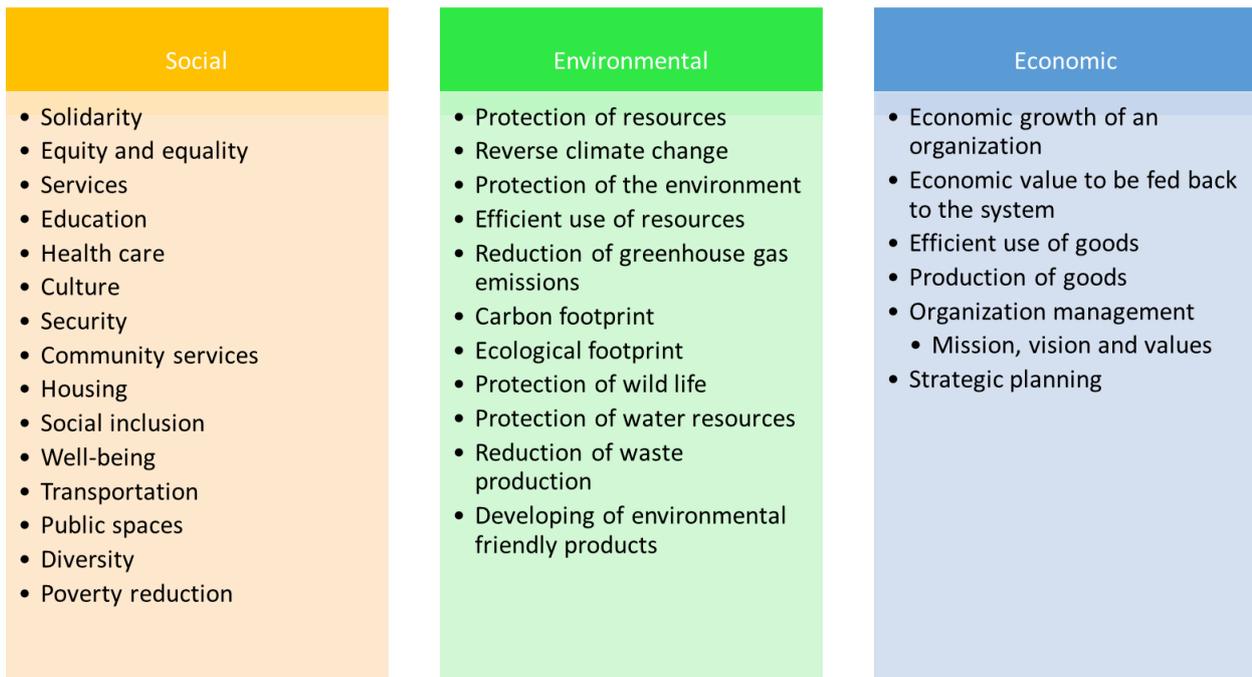


Fig 1. Three pillars of sustainability

Figure 1 is depicting the three pillars of sustainability, social, environmental and economic. The figure is breaking down in more detail what the areas are, which each pillar is focusing on in more detail. The interconnection between the pillars becomes clear, and hence also the challenge in assigning topics to each of them, as already mentioned previously.

### UN Sustainable Development Goals - Agenda 2030

In 2015 the representatives of the member states of the United Nations (UN) identified 17 Sustainable Development Goals which they pledged to achieve by 2030 through cooperation between the nations and support of those nations which are in need of it in order to implement measures to achieve the goals. The 17 sustainable development goals are presented in Figure 2. Through achieving these economic, social and environmental ambitious goals a better world is created for everyone, a world with no hunger, equality and equity for everyone, with access to sustainable en-

ergy resources, peace and a healthy planet (United Nations, 2015). These sustainable development goals are reflected and picked up in strategies of cities, towns, governments and sport organizations all over the world to do their bit to achieve the goals by 2030.



Fig 2. UN Agenda 2030 Sustainable Development Goals (United Nations, 2015).

For the sports industry, here national and international sport organizations and governing bodies, sport event organizers, sports media, sport apparel and equipment manufacturers, world-wide development goals No's 3, 5, 6, 7, 8, 9, 10, 11, 12, and 13 are probably the most important ones and the ones where it can have the most profound and direct impact on when defining their strategies and event policies, as well as their production and merchandize directives. A key framework here is the UN Climate Change initiative Sports for Climate Actions and its objectives (United Nations, 2018). Sports for Climate Action has two specifically defined goals and five action principles, whose purpose it is to guide the signatories of the Sports for Climate Action initiative towards reducing greenhouse gas emissions (GHG), working towards adherence to the 1.5°C limit, as well as

promote and educate the UN sustainable development goals and climate action targets. Signatories to the Climate Action initiative are national and international sports governing bodies, the International Olympic Committee (IOC), National Olympic Committees (NOC), sport clubs, sport media and sport apparel and equipment manufacturers as well as sport facility constructors. These UN Agenda 2030 sustainable goals are reflected in the economic, social and environmental sustainability pillars as depicted in figure 1.

### **2.1.1 Sport organizations and their environmental responsibility**

Environmental sustainability is mainly considered with the impact of events, production, travel, consumption of goods, humans, exploration and so forth and its effect on the limited availability of natural resources and the environment. In this case, environmental sustainability is especially focussing on climate change and its effect on snow availability, especially based on the GHG emissions, as well as organizing carbon-neutral events.

#### **Climate change and global warming**

Winter sports, especially cross-country skiing, is at pivotal point in the sports history. This is due to global warming (IPCC, 2023). Global warming is indisputable caused by human activity. This anthropogenic greenhouse effect is due to the increase of greenhouse gases (GHG), such as carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulphur hexafluoride (SF<sub>6</sub>) and nitrogen trifluoride (NF<sub>3</sub>), in the atmosphere through increased industrialization, agriculture, changes in land use, fossil fuel combustion, travel and improved living standards (Petrescu et al. 2020). The Intergovernmental Panel on Climate Change (IPCC) has been researching and investigating climate change and global warming since the 1980s. They published the first scientific assessment report of climate change in 1990, and since then have regularly published impact assessments of climate change response strategies, supplementary reports, synthesis reports, working group reports, methodology reports and special reports. In 2023 the sixth assessment report on climate change was published (IPCC, 2023). This sixth report voices what the previous reports also already stated, namely that the global surface level temperature has been raising since 1900. Working Group II of the IPCC published their Climate Change 2022 Impacts, Adaptation and Vulnerability report (IPCC AR6 WG2, 2022) and emphasized in it

that the winter temperatures for North Europe will be the highest compared to the other European areas. The report forecasts, that the temperature changes in Finland will have the effect that the continental climate, which has been the dominant one in southern Finland, will shift further north to the area which was defined as subarctic climate until now, and the southern part of Finland will have a temperate oceanic climate (IPCC AR6 WG2, 2022). Already during 2011-2020 was the mean surface temperature of the earth 1.1°C higher than the mean temperature for the time period 1850-1900. In order to limit global warming to either 1.5°C or 2°C above mean global surface temperatures from 1850-1900, it is necessary to reduce the emission of GHG immediately (IPCC, 2023).

Climate change is not only affecting ski tourism but especially also ski competitions in central and north European traditional skiing areas as well as in north America and Australia and New Zealand, which makes it necessary to move dates of competitions or cancel competitions due to the lack of snow (FIS, 2023). It further also requires intensifying of snowmaking (Steiger, Scott, Abegg, Pons & Aall, 2019). With less competitions available for broadcasting and on-site visibility, sponsors might need to reconsider their monetary support and input to snow sports.

### **Considerations of sport organizations on climate change and their environmental responsibilities**

National and international sport governing bodies, the IOC, NOCs as well as clubs, federations, sport governing bodies, and associations are signatories to the UN Sport for Climate Action framework, as well as the UN sustainability goals. Most of these sport governing bodies have developed their own sustainability strategies, or have included sustainability goals in their organization strategies, and are rigorous in executing them. These organizations are aware that sport, sport participation, high-performance sport and sport events of all sizes are contributing to GHG emissions, consumption of valuable natural resources such as water, construction materials (sand, clay, steel, etc.) and land, and hence are affecting global warming and climate change. High-performance sport and its governing bodies such as the International Ski and Snowboard Federation (FIS), the International Ice Hockey Federation (IIHF), IOC and NOCs, as well as other international and national sports governing bodies, e.g., UK Sport, are well aware that in order to pursue the goal of high-performance sports and its related events it is of utmost necessity that sports as well as sports events are organized in a sustainable manner, meaning that less resources are used and

GHG emissions are reduced, in a joined global effort of limiting global warming to below 1.5°C. UK Sport in their Environmental Sustainability Strategy (2023) are pointing out that high-performance sport has a strong voice and immense power to lobby for sustainability, reduction of GHG emissions and smart use of resources.

### **Artificial snow making**

Scientific research on artificial snowmaking and storage of artificial snow over the summer period is rather sparse. Most research concerning the need for snow making has also focused mainly on snow making in high altitude, alpine locations for downhill skiing and snowboard usage, and here with the emphasize on extension of season length, ensuring availability of slopes for users also at lower altitudes, extension of the area for skiing and snowboarding and to cover areas susceptible to high use as well as location of snow guns along the slope for optimal snow distribution (Moreno-Gené, Daries, Cristóbal-Fransi, & Sánchez-Pulido, 2020; Joksimović, Šabić, Vujadinović, Golić, & Gajić, 2019; Spandre, François, Verfaillie, Lafaysse, Déqué, Eckert, George & Morin, 2019; Hanzer, Marke & Strasser, 2014; Pickering & Buckley, 2010; Steiger & Mayer, 2008).

The FIS World Cup Rules state that a World Cup (WC) Organizing Committee (OC) has to have a plan ready in which artificial snow making and storage are laid out, in order to guarantee stable snow conditions for the competition (FIS, 2022a).

In Finland knowledge and information concerning snow making and its storage is gained and shared mainly through sport facility maintenance courses executed by sport institutes and seminars on snow making and storage for snow technicians and outdoor recreational facility staff organized by the Finnish Ski Association as well as storage and cover material companies and snow gun developers.

Orr and Schneider (2018) point out in their research, that artificial snowmaking is one way of guaranteeing at least a minimum of accessible skiing tracks for cross-country skiing events as well as recreational use. However, in order to produce artificial snow, the outside temperature has to be below 0°C. Backman and Svensson (2022) conclude in their study that cross-country skiing tracks prepared with artificial snow provide the general public with access to a healthy form of physical activity.

Spandre, Francois, Verfailie, Lafaysse, George and Moring (2019) investigated climate change and its impact on the operating conditions of ski resorts in the French Alps, and the practice of snow making of the resorts in order to combat the lack of natural snow. In their publication they discuss the high demand of water needed to produce artificial snow, as well as the costs related to producing artificial snow. Their climate data reveals that enough cold days still occur during the winter season during which artificial snow can be produced.

Artificial snow costs are comprised of several positions, these are for water, in cases where lake or river water is not accessible, and electricity, machinery, fuel, worker wages, cover material, and rental costs for storage space/land. When cover material is purchased it can be re-used for several years and only a small quantity needs to be annually purchased to make up for loss. The cover material needs to be stored during the summer months which can also accrue some additional costs. The most widely used cover material, and functionally the best, is saw dust. Costs related to machinery, fuel, and worker wages accrue during snow production in the previous winter season and when distributing the snow at the beginning of the new winter season, and are dependent on the amount of snow which is produced. Artificial snow storage was successful when less than 10% of the produced snow is lost during storage (Pelkonen, 2020). Usually, loss of stored artificial snow is around 30-40% (Kekäläinen, 2020). For optimal use of artificial snow, it is recommended that the storage area is located relatively close to the skiing tracks to minimize transportation and emissions. Electricity and water outlets should be close by and the ground should be even and sewage drains have to be accessible for melt water to drain away. For best storage outcome the cover material should have a thickness of 30-40cm, this can be either saw dust or polystyrene cover panels, also fabric covers are used. (Luuri, 2020).

Through the use of artificial snow, it is possible to guarantee access to skiing tracks during the winter time and extend the skiing season to at least four months, from December to March, or even to five months from November to March (Hietanen, 2020). Hanzer, Marke and Strasser (2014) investigated snow production for an area in the Austrian Alps. They pointed out that alpine areas already started using snow guns to produce artificial snow as early as the early 1980s to guarantee a minimum of snow-covered areas for downhill skiing, at a time when the general public was not yet as aware of climate change and global warming. Cold and dry weather is ideal for the production of artificial snow, warmer and more humid conditions are less optimal for snow production

and it is impossible to produce artificial snow at temperatures over 0°C. Fan guns or lance guns are used to produce artificial snow. Inside the gun water gets in contact with pressurized air and upon leaving the nozzle of the gun at elevated speed rates it condenses into snow crystals on its way down. (Hanzer, Marke & Strasser, 2014). The City of Helsinki produces and stores artificial snow during the previous season for the start of the next season so that the first skiing tracks can be opened at the beginning of the winter.

One aspect which is important to acknowledge when discussing artificial snow production is the amount of energy and water needed. Especially in high altitude areas water is often scarcely available and if used to make artificial snow is not available for much needed hydration of the environment, as drinking water and for agricultural purposes (Spandre et al., 2019).

### **Carbon footprint calculations and compensation**

Despite the common use of the term carbon footprint in scientific as well as popular literature, the term carbon footprint was not properly defined for a long time. Wiedmann and Minx (2008) undertook a review of scientific and popular literature to investigate to what extent the term carbon footprint was used and how it was applied by different authors and institutions as well as organizations. They proposed the following definition:

*‘The carbon footprint is a measure of the exclusive total amount of carbon dioxide emissions that is directly and indirectly caused by an activity or is accumulated over the life stages of a product’.*

Carbon footprint, carbon dioxide-equivalent (CO<sub>2</sub>-e), emissions are measured in grams, kilograms or tons, and can be calculated or estimated for individuals, events, transportation, production of goods, whole countries, cities and towns, product lines, business travels, leisure travels, sport participation and food production. Carbon footprint is made up of three categories, called scopes. Scope 1 covers all those emissions which are produced by a company doing their business (heating, production line, using electricity for their machinery, etc.), e.g., by sport participants using their car to get to the gym. Scope 2 are the emissions which are produced when for example a company buys electricity from a provider. Scope 3 on the other hand are those emissions which are produced when a customer uses products which are made by a company, e.g., use of a sport equipment. Scope 1 emissions are the easiest to calculate because they are the emissions directly

produced by a company, person, city and so on. They are also called direct emissions. Scope 2 and 3 emissions are more difficult to calculate because they are indirect emissions, their production is outside of the direct control of a company, person or city, such as emissions produced while energy is produced which is used by a company, person or city. Scope 3 emissions include all those emissions which are not covered by Scope 1 and 2 (Read, 2022).

When calculating the carbon footprint, it is necessary to define for what the emissions are calculated (event, person, company) and for what length of time, further the emissions for the three different scopes need to be calculated.

The carbon footprint of active sports participants in individual, team and nature sports was investigated by Wicker (2019). One key outcome of the study was that active sport participants in nature sports produced the highest emission levels comparing to individual sports or team sports on an annual basis.

Radu, Scriciu and Caracota (2013) provide an overview in their research paper on the then commonly used methodologies used to calculate the emission of GHG for projects and services, as well as the carbon footprint emissions caused during the lifecycle of a product. They emphasize that the calculation of carbon footprint is a strong method to evaluate where in the project or event organization and product lifecycle the most GHG are emitted, which then provides the organizations with knowledge where to improve and develop their production methods and organizational structures to reduce emissions. It is also considered a valid marketing tool to publicly inform how little GHG a company or organization is emitting and what methods are applied to even further reduce those emissions.

Bernard, Chevance, Kingsbury, Baillot, Romain, Molinier, Gadais and Dancause (2021) published a systematic review on climate change, physical activity and sports, focusing on how climate change affects physical activity. They concluded that the changing climate will have detrimental effect on the physical activity levels of especially adults due to increased heat waves and air pollution. However, they also pointed out that the physically active population has the opportunity as well as responsibility to decrease GHG emissions by opting for more climate friendly transportation means as well as physical activities.

Cerezo-Esteve, Inglés, Seguí-Urbaneja and Solanellas (2022) published a comprehensive review on publications between 2000-2021 which were concerned with the environmental impact of major sports events. Their analysis of the investigated articles showed that major sports events have more negative impacts on the environment than positive ones and this despite the application of and adherence to environmental criteria, guidelines, limiting environmental impacts of the event, sustainability goals and green initiatives.

The UN Sports for Climate Action initiative is probably one of the largest initiatives providing sport organizations of any size with guidance and support on their path to lowering their GHG emissions and doing their part in mitigating climate change and global warming (United Nations, 2018).

The IOC has been implementing sustainability strategies and guidance in their work and through communications since 2014. The latest IOC sustainable strategy was approved in 2017. The IOC is promoting sustainability for the Olympic Games, as well as actively moves the UN Sustainable Development Goals forward with their work, and is leading by example. One key project the IOC is supporting is working in the Sahel zone in Africa combating desertification through planting native trees (IOC, 2021).

There are several carbon dioxide emission calculators available or companies which provide emission calculation services. The United States Environmental Protection Agency is offering a simplified GHG emissions calculator running in excel (EPA, 2023).

### **Threads to cross-country skiing and snow sports competitions**

Global warming poses a real threat to all winter sports, not only to cross-country skiing. This is due to increased mean surface temperature at lower and higher altitudes, with precipitation falling in the form of rain and not snow during winter. Cold winter temperatures needed for snow fall are reached only later during the winter months and warmer temperatures are reached earlier during spring time shortening cold periods considerably, leading to early snow melt and a thinner snow cover (Druckenmiller, Moon & Thoman, 2021; Landauer, Sievänen & Neuvonen, 2009). This increase of surface temperatures and the resulting thinner snow covers and shorter winter season will have an effect on the possibility to organize snow sport competitions in many of the traditionally used competition locations by FIS. Already during the past competitions seasons some of the

competitions had to be cancelled due to the lack of snow as well as too high temperatures during the day which leads to melting of the track, which even salting can't prevent, and many of the competitions were held on tracks prepared solely with artificial snow (FIS, 2023c). This becomes vividly evident in television broadcast when the white cross-country skiing track snakes its way through green countryside and forest without any snow coverage and the skiing track needs to be salted to guarantee a stable competition track surface for all competitors independently of the timing of the race during the day (Aalberg, 2015).

Orr and Schneider (2018) investigated effects of climate change on the behaviour of cross-country skiing tourists and event organization in the USA. They found out that active sport tourists are more likely to travel further to be able to participate in cross-country skiing events than to substitute participation in cross-country skiing events to another sport. Event organizers on the other hand, when forced to cancel an event, are looking at considerable financial loss.

Poutsas, Neuvonen and Sievänen (2009) point out in their research that the main threat especially in southern Finland will be the rising temperatures during winter which will result in less or no snow fall in the southern parts of the country and will lead to the fact that skiing tracks will no longer be available for cross-country skiing during winter time.

### **Sustainable sport management**

As has been pointed out already in previous chapters in this literature review, the climate is changing and global warming is happening (IPCC, 2023), which means that global civilization has to change their consumer habits in order to lessen the impact on the planet. Sport is one big contributor to global warming but has at the same time the power to influence and direct behaviour on a large scale (Mair & Smith, 2021). Sport as such is using large amounts of natural resources for the production of sport equipment, sport clothing, merchandise as well as sport facility construction and maintenance. Sport events are no exception to this. Organization, execution and attendance of sport events has an impact on the environment. Spectators, athletes, coaches, staff, officials and other stakeholders travel to the event location, use water, heat, transportation, cooling resources and produce waste (Bianchini & Rossi, 2021; Daddi, Rizzi, Pretner, Todaro, Annunziata, Frey & Iraldo, 2022; Sotiriadou & Hill, 2015). Chersulich Tomino, Perić and Wise (2020) looked at

the different impacts of sporting events on the economic, social and environmental impacts of sporting events.

Sotiriadou and Hill published a comprehensive systematic review on environmental responsibility and sustainability for sports events in 2015 (Sotiriadou & Hill, 2015). They pointed out that publications concerning environmental sustainability started to be published sometime in the mid-2000s. This coincides with the publication of the IPCC synthesis reports, working group reports, methodology reports and special issues during 2001, 2005, 2006 and 2007, which are increasingly raising the awareness of the general population on global warming and climate change. This was followed by another critical systematic review in 2021 by Mair and Smith (Mair & Smith, 2021), especially focusing on the fact that it might not be enough to make events more sustainable but that there lies a lot more responsibility with event organizers to make events more socially, environmental and economically sustainable as well as use events to drive these aspects in society in general.

During the past few years, a number of research projects have looked into practices, tools, methods, initiatives and solutions that have been implemented by sport event organizers, sport facility construction, national and international sport organizations, sport governing bodies, and sport equipment and apparel manufacturers. A few examples are presented next.

#### *Leadership in Energy and Environmental Design (LEED)*

The U.S. Green Building Council gives out the Leadership in Energy and Environmental Design (LEED) certification for sport venues and facilities which comply to the standards. A facility or venue can have certified status, or achieve silver, gold or platinum certification depending on the points they receive for the seven categories of the certification. The seven categories are: impact of the venue or facility on climate change, human health, water resources, green economy, local community and natural resources. Examples of platinum LEED holders are the Mercedes-Benz Stadium in Atlanta; USA, and the Oracle Park in San Francisco, USA. (Broughton, 2022). Other sustainable stadiums are: San Mamés in Bilbao, Spain, the Aviva Stadium in Dublin, Ireland, the Morro da Mineira in Rio de Janeiro, Brazil, the Signal Iduna Park in Dortmund, Germany, and the Amsterdam Arena in Amsterdam, the Netherlands (San Mamés, 2023).

### *The International Ice Hockey Federation (IIHF)*

The International Ice Hockey Federation 2022 Ice Hockey World Championship (IIHF 2022 WM) organized by the Organizing Committee of the Finnish Ice Hockey Association in Tampere and Helsinki were focusing on three key goals during the organization of the competition, enjoyment, community spirit and responsibility. Part of the environmental responsibility programme key was waste reduction, proper sorting of waste, use of cutlery and plates made of renewable materials, and to encourage spectators to arrive to the games choosing a means of transportation with the lowest emissions possible, this was supported through a double function of the game tickets, in Tampere they included the use of the public transportation system before and after the game. (Suomen Jääkiekkoliitto, 2022).

The IIHF created the IIHF Environment and Social Responsibility Guidelines (IIHF 2022) to be implemented by all its stakeholders and contractors when organizing events or pursuing their work related to IIHF projects. The IIHF further developed a Manual for Sustainable Events (IIHF 2015) providing guidelines and ideas on the organization of a sustainable ice hockey event.

### *The Finnish Innovation Fund*

SITRA (The Finnish Innovation Fund) challenged the OC of the Lahti2017, World Ski Championships, to organize the most sustainable sport event ever. Key topics for the event organization were raising awareness, use of public transportation, circular economy agreements with event partners, circular economy workshops for event partners, use of energy efficient equipment and renewable energy, use of local food products and minimise food waste, use of sustainable materials and recycling, lobbying with partners and stakeholders on circular economy (Sitra, 2017).

Gulak-Lipka and Jagielski (2020) analysed sustainability practices of mega-sport events and compiled a list of recommendations for sport event organizers to implement to create sustainable sport events to minimize harmful and negative outcomes of events for the environment the population as well as economically. They provide a list of ten recommendations for event organizers to incorporate into the event planning process to create sustainable sport events with benefits for social, environmental and economical sustainability. Here specifically recommendation No 6 on reducing the amount of waste can easily be applied for sport events, as well as No 8 which has a focus on transportation of goods and people.

### **2.1.2 Social sustainability**

Social sustainability is concerned with aspects related to society and its well-being. This includes safety of citizens, equality and equity of citizens to accessing social services, benefits, living conditions, education, labour market, medical services, culture, events and leisure time activities (Eizenberg & Jabareen, 2017). Governments as well as cities, towns and municipalities are tasked with developing programs and policies focusing on social sustainability (Davidson, 2010).

#### **A city strategy - Helsinki**

The Helsinki City Strategy for 2021-2025 clearly states that a focus is on physical activity which spans across all citizens from the youngest to the oldest age (City of Helsinki, 2021). It is a key point of the strategy to increase availability to access sport indoor and outdoor facilities with a low threshold to activate all citizens to be physically active. Another goal of the Helsinki City Strategy is to create a carbon-neutral city by 2030. The Helsinki Tourism and Events Programme 2022-2026 states three main goals, of which the B strategic goal is 'Helsinki is an international pioneer and provider of solutions in sustainable tourism and events', with the sub-goal B.1 'environmental sustainability and carbon neutrality at the forefront of development' (Helsinki, 2022).

The case study and resulting concept developed in chapter 9 is a means through which the City of Helsinki is presented with the possibility to develop its image and branding as a sport city (Knott & Hemmonsby, 2017), tying into its Helsinki Tourism and Events Programme for 2022-2026, as well as in its City Strategy for 2021-2025.

#### **Free or very affordable access to sport and physical activity**

As has already been shown in the paragraph on the city strategy of Helsinki, free access to sport equipment, outdoor gyms and physical activity is anchored in the strategies of all Finnish cities, towns and municipalities. Football fields, artificial football fields, tennis courts, running tracks, outdoor lighted walking, skiing and running paths, gravel field and areas for skating in winter are provided free of charge to all citizens. Finnish lakes and the Baltic Sea offer possibilities to go swimming all year round. City or municipality owned indoor sport facilities, such as swimming pools, gyms, courts and martial arts tatamis, can be accessed by paying a very small fee (e.g., Espoo, 2023; Kitee, 2023; Lahti, 2023). It is decreed by law that municipalities have to offer sport services

as well as possibilities for people from all walks of life to participate in sport activities which support the individual well-being, they are further obliged to build and maintain sport facilities (Finlex, 2023).

### **Cross-country skiing in Finland**

Cross-country skiing is a very old form of transportation, a means of getting from point A to point B in wintry conditions. Fragments of skis have been found which date back to around 6000 BC in Finland, Sweden, Norway and central Russia (FIS, 2018). The age of the ski fragments was determined using the Carbon-14 method (Allen, 2012). However, cross-country skiing as a sport and leisure time activity only became popular approximately 150 years ago. In Finland cross-country skiing was for a long time in history the only way to move goods and persons around in winter time due to the lack of roads (Pavelka, Suomi & Tietäväinen, 2009; Poutsa, Neuvonen & Sievänen, 2009).

Cross-country skiing is part of the physical education curriculum of every school in Finland during winter times because it is considered to be a traditional form of individual transportation as well as an easily accessible physical activity (OPS, 2016; Quay, Kokkonen & Kokkonen, 2016). Cross-country skiing has also played an important part during warfare in Finland and hence is a stable physical activity format at the military (Pavelka, Suomi & Tietäväinen, 2009). Finnish cities and municipalities prepare cross-country skiing tracks during winter time for their citizens and the use is mostly free of charge (Suomen latu, 2023).

In 2000 40% of Finns participated in cross-country skiing during winter, in 2010 41.5% and in 2020 29.7% (Neuvonen, Lankia, Kangas, Koivula, Nieminen, Sepponen, Store & Tyrväinen, 2022). The numbers presented here are for the winters 1999/2000, 2009/2010 and 2019/2020, no numbers are as of yet available for the winters 2020/2021 and following. In 2020 6.3% skied on self-made tracks or on snow without tracks and 27% on ready-made tracks, in 2010 it was 11.3% and 36.7% and in 2000 9.5% and 34.4% respectively. The numbers indicate that the number of people participating in cross-country skiing has gone down since 2000.

### **2.1.3 Economic sustainability**

Events and sport events can generate economic impact for the organizers as well as for the location the events are held at and its surrounding infrastructure such as hotels, restaurants, service operators and lead to economic development (O'Brien & Chalip, 2007).

#### **Sport management and sport event management**

Many publications have been published on sport management during the past years, each one focusing slightly on a different topic within sport management or being written for slightly different readers. This has an impact on the development of sport as such. This realization is especially important considering the topic of this thesis and the development and execution of a new event and competition structure in a, one can say, traditional sport such as cross-country skiing.

Sport management touches upon topics such as planning, strategy development, organization, development, coordination, business, operations, marketing, promotion, sport industry, communication, sponsorship, human resource management, project development, consumers and customers and their needs, leadership and finances. It is not the purpose of this chapter to provide an in-depth analysis of what sport and sport event management is, but to provide a short overview of the areas sport and sport event management touches upon and the various competencies and skills are needed by sport managers, especially considering the need for the development of new ideas and concepts. Sport managers are also involved in the strategy development of the organization they are working in, which includes definition of a mission, vision and values which the organization and its employees strive to execute through their work. The ability to see the bigger picture and to align the work of the organization towards achieving its purpose is the duty of the sport managers.

Guidotti, Demarie, Ciaccioni and Capranica (2023) published a systematic review on sustainable sport management, looking in particular at the competencies, skills and knowledge needed by sport managers in an ever-changing sport world. They highlighted the need for sport management education to meet the needs of the sport industry and to equip students with transferable skills to open up possibilities for advancement within a sport organization, between sport organizations or between not-for profit sport organization and professional sport organizations.

## **Sport concept development**

For most part sports are played and organized based on their rules as laid down in the rule books of each sport respectively. However, as times are changing, sport equipment is undergoing innovations and improvements, athletes are able to perform at higher levels and records are continuously broken, and spectators have the ability to choose from a wide array of platforms to follow sports, it has become necessary for sports to adapt, change and develop new formats and competitions to keep the spectators not only engaged but keep them engaged with a particular sport and not lose them to another sport or to streaming platforms and video gaming, or any other more engaging past-time. This has been especially emphasized in the PWC report from 2020 (PwC, 2020). It points out that in order to keep audience engaged with sport viewing formats and availability needs to drastically change in order to keep especially younger audiences engaged. This has also been highlighted by Wilson and Piekarcz (2015). Two successful examples from winter sports are presented, where new competition formats have changed how the sport is performed and how the spectators are involved during the competition. When organizing a sport event, the focus should be on two key points, how spectators can access the event and are involved in it and how the athlete is able to show their athletic skills and competition prowess. Changes in the competition format, location as well as competing against a selection of the best athletes is making a competition interesting and challenging for athletes. These points have been in the focus during the event(s) which were analysed for the case study and the results were used to develop a concept which can be tailored to meet the needs but also capabilities of an organizing organization in either organizing the concept is a small or large scale. The concepts focal point is not only the organization of a competition but especially to use it as an opportunity to offer additional physical activity possibilities as well as offering the opportunity to try out cross-country skiing to make the sport known to more people.

As already mentioned, any kind of business has to comply to the UN Agenda 2030 sustainable goals, which means that any sport competition, large or small, has to take actions which reflect social, economic and environmental responsibility. In the following three key stakeholders, the International Ski and Snowboard Federation, the Olympic Stadium Helsinki and the Finnish Ski Association, which are closely linked to the analysed case study, are looked at in more detail, especially considering their actions concerning their social, environmental and economic responsibility.

#### **2.1.4 Stakeholder 1: The International Ski and Snowboard Federation (FIS) - The international governing body of snow sports**

The International Ski and Snowboard Federation (FIS) defined in their FIS Five Year Rolling Strategic Plan in the governance section of the strategy that they want to be a leader in sustainability and carbon reductions (FIS, 2023a), this is also reflected in the FIS mission goals (FIS, 2023b). Sustainability and climate change are key points of the governance framework within the five-year rolling strategic plan besides diversity, inclusion, integrity, building of capabilities and FIS obligations to their strategy. It further declares in its mission statement that it aims at being *‘the inspiration and catalyst which drives the appeal of competitive and recreational snowsports in a sustainable manner’*. Key focus goals of the FIS mission are *‘to develop competitive skiing and snowboarding and to encourage people from all backgrounds to participate in snowsports’*. FIS is determined through marketing and promotion efforts to increase motivation for and interest in snow sports in the general population. This will generate a positive economical outcome for FIS creating the possibility to support member National Ski Associations as well as growing snow sports on a global level.

FIS is recognizing in their strategy that snow sports are depending on the winter environment and that is it in their own best interest to further sustainable development. Under point 9 in the comprehensive list of actions which have been undertaken since 2021 in the first year of the five-year rolling strategic plan FIS lists *climate action: became the first international sports federation to be climate positive*, as a key achievable (FIS, 2023a). It was possible for FIS to achieve this goal through the FIS Rainforest Initiative, which is offsetting the carbon footprint through rainforest conservation projects. FIS is further committed to achieving their sustainable goal by committing to the Sports for Climate Action Framework (United Nations, 2018), as well as through education, outreach, carbon footprint reduction, reporting and support of stakeholders. The five-year rolling strategic plan concludes that FIS is well aware of the snow sports dependency on the climate and is hence considerably affected by climate change that is why the sustainable development goals have to be adhered to and executed in their entirety to protect the winter environment.

In its strategic plan FIS is further looking at a centralization of the media rights, improving and modernizing the format of skiing disciplines for the athletes as well as for the audience, develop spectator engagement from a diverse range of backgrounds and generations physically at events

and through different media channels, as well as engaging more people world-wide in the active participation in different snow sports (FIS, 2023a). This last point is specifically mentioned within the key strategic initiatives of the recreational skiing and tourism in the strategic plan as: ‘Bringing snowsports to the Cities’.

*Assess the potential of hosting events in cities, to engage the young, increase the focus on recreational tourism, create an opportunity for fans to meet the superstars of the sport, draw a crowd, provide a digital engagement and deliver new and innovative ways to promote and interact with our sport. Where there is sufficient snowfall in urban environments, appropriate events that deliver on our objectives will be considered. (FIS, 2023a).*

FIS also laid out in their five-year rolling strategy key strategic initiatives for recreational skiing and sport tourism. One of the key strategic initiatives is to ‘Bringing snowsports to the cities’. This is directly reflected in the analysed case study which led to the concept development of bringing skiing to the centre of Helsinki.

### **2.1.5 Stakeholder 2: The Olympic Stadion in Helsinki**

The Olympic Stadion in Helsinki is located approximately 2.5km from the main train station in the city centre of Helsinki in the midst of densely populated neighbourhoods.

During 2016 and 2020 the stadium went through an extensive renovation and restoration process. It now features an underground indoor running track as well as a gym and sports courts. Several different sized meeting rooms are located in the stadium building, as well as a small restaurant. The different sport facilities and meeting rooms can be rented for private functions as well as training sessions increasing the use of this iconic sport facility. The stadium itself is used for football games and other track-and-field events as well as for providing a unique music and show location. Until Helsinki Ski Weeks was organized at the Olympic Stadion in 2022 for the first time, its outdoor sport facilities have only been used during summer time for summer sports and sports events. Creating skiing tracks inside and around the Olympic Stadion have increased its usage as a sport facility immensely. Its location but especially its history and historical meaning not only for Helsinki but for the whole of Finland make the Olympic Stadion an excellent place to hold such a new winter sport event as the Helsinki Ski Weeks. Combining an attractive location with an attractive and unique event is bound to increase interest in people.

The Olympic Stadium in Helsinki is kept and maintained by the Stadium Foundation which already applied for and was granted EcoCompass status in 2013. EcoCompass is an environmental management system as well as a certificate which helps business to become and be more sustainable. It provides companies as well as events with an environment management tool. The EcoCompass certificate consist of 10 criteria which spans from compliance to environmental legislation to environmental impact scoring, training, having a waste management plan as well as reporting on a business or events execution of sustainable actions (EcoCompass, 2023). The Olympic Stadium is emphasizing four distinct points in their environmental programme:

- *Waste reduction, more efficient sorting and circular-economy*
- *Guiding procurement in an environmentally friendly direction*
- *Taking environmental issues into account in subcontracted products and services*
- *Event-related actions in circulator economy and environmental communication* (Olympia Stadion, 2023).

The Olympic Stadium in itself is a unique location for events but also possessing the EcoCompass status is a key feature in today's world when organizations are evaluating which location to choose for their events. An event location which is already certified as complying with sustainability regulations has a critical advantage over other.

The Olympic Stadium in Helsinki was built in the late 1930s and officially opened in 1938. It was built with the purpose to function for the Olympic Games in 1940, but the summer Olympic Games for 1940 were assigned to Tokyo, Japan; but the Japanese had to cancel their Olympic participation and the organization of the games due to the second Sino-Japanese war. Because the Olympic Stadium was already built, the International Olympic Committee gave Finland the task to organize the Olympic Games for 1940. Unfortunately, Finland entered into a military conflict, the Winter war, with the Soviet Union in 1939 and also had to cancel the organization and its participation in the Olympic Games. Then finally in 1952 the Olympic Games were organized in Finland with the main track-and-field events being held at the Olympic Stadium. Today the Olympic Stadium in Helsinki is a protected National Sports Monument and has been added to the do.co.mo.mo register in the 1990s. (Salastie, 2021)

This unique, protected, and iconic sport facility is a prime example of a sport facility which can be used not only for its original purpose but for other sport events and occasions as well, creating an unrivalled location to create singular experiences.

### **2.1.6 Stakeholder 3: The Finnish Ski Association**

The Finnish Ski Association (Suomen Hiihtoliitto, SHL) was established almost 120 years ago with the aim to promote ski and snow sports. The current strategy was approved by the Board in May 2023, the strategy will be made available by the end of 2023. Its vision is to celebrate snow, through focusing work on developing, improving and preserving conditions for skiing and snow sports. The motto is to provide unforgettable experiences through high-performance to the Finnish population and to be an active mover of the population on snow. Its strategic key points are successful high-performance sport, developing club work and conditions for skiing. In order for The Finnish Ski Association to be successful in achieving their strategic goals, several points need to be in order, those are finances, events, leadership, corporate administration and communication. The values are: cooperation, confidence, emotions and effectiveness. Responsibility is a key stone in the strategy and is focusing on different responsibility areas from club work and services to commercial activities, finance, administration and management through to communication. In 2022 the Finnish Ski Association created an environmental responsibility programme for the following years (Hiihtoliitto, 2022). The reason for this was that the Finnish Ski Association is well aware of the fact that without snow skiing and winter sports will vanish. To prevent losing snow they want to make their contribution to limit warming of the earths mean temperature to the 1.5°C (IPCC, 2023). This is in unison with the EU goals of cutting down 55% of greenhouse gas emissions by 2030 to levels of 1990 (European Council, 2023). The environmental responsibility programme is based on carbon emission calculations from the year 2019 (normal competition year before corona) and the calculations showed that the main producer of carbon emissions are events and the causing factor are event related travels. By focusing on the responsibility areas as identified in the strategy resources will be saved and the responsibility programme executed, which is a key contribution of the Finnish Ski Association towards mitigating climate change. (Suomen Hiihtoliitto, 2023).

### **3 Cross-country skiing market**

#### **3.1 Cross-country skiing, events and distances at the FIS World Cup**

During a cross-country skiing World Cup competition some or all of the following competition types are organized: distance, individual and team sprint and relay. Distances for the distance race are between 5 and 20km, or more than 20km, the individual or team sprint competition length is 1.0-1.8km and the relay is 10km and less per team member (FIS, 2022a). These competitions are performed by the athletes using either one of the two cross-country skiing techniques, or depending on the competition either technique has to be used for a certain length and part of the competition.

The techniques are classical technique and free technique. The free technique includes all cross-country skiing techniques, whereas techniques allowed in the classical technique have been precisely defined by FIS and are listed in Book II Cross Country of the International Ski Competition Rules (ICR) as approved by the FIS Council (FIS, 2022b).

#### **3.2 Competition locations of the FIS World Cups**

The locations for the FIS World Cup are selected one year prior to the start of the first competition. The World Cup traditionally starts with the first competitions held in Ruka, Finland, in November and finishes the following year in March (FIS, 2023c). The timing of the Helsinki Ski Weeks was selected so that it would coincide with the competition dates of the World Cup in Lahti to minimize additional travels which would otherwise increase carbon emissions.

Cross-country athletes do not only travel to World Cup competition sites during the season, but also to other competitions, potentially World Championship, qualification tournaments, national tournaments, different cups and during the summer season might compete in roller ski competitions.

The number of cross-country skiing World Cup competitions organized during the past five years ranged between 14 and 21 (FIS, 2023c). Locations are commonly selected in Europe (Italy, Switzerland, Germany, Austria, Slovenia, France, Estonia, Finland, Czechia, Norway and Sweden), but have also been organized in Canada and the USA (FIS, 2023c).

### **3.3 Cross-country skiing sprint**

The cross-country skiing sprint distances at the World Cup are a minimum of 1.0km in length with a maximum of 1.8km in distance, most competitions are arranged with a distance between 1.2-1.4km in length; sprints are organized in either classic or freestyle technique (FIS, 2022b). The cross-country skiing sprint event competition regulations state, that the women compete before the men compete (FIS, 2022b). This traditional competition set-up is challenged by HSW, where first the women compete before the men.

As has been pointed out in previous chapters, sports are required to evolve due to changes in society as well as through equipment innovations. Because if sports are not keeping up with these needed changes and adaptations they will lose their customers, consumers as well as fans. Below some examples from winter sports, which have invented new sport, game and competition formats to keep up with the changing environment.

### **3.4 Innovative sport concept examples**

The reason for different sport events to either organically develop new formats or through planning by the national and international sports organizations themselves is manifold but one very pertinent reason is to make the sport more accessible to people, accessible because it can be played on the streets with a basket in the case of street basketball, where no longer a basketball court with wooden flooring is needed, as well as making it more interesting for the spectators to follow in the case of the biathlon sprint, use ice availability better in the case of ice hockey 3-on-3, and make skiing and snowboarding disciplines attractive to people by including them into the Olympics, e.g., snowboarding, or skateboarding. In the following only a few sports are in more detail analysed, but many more examples within sports exist where the original playing format and playing field has been adjusted in order to allow for more people to join, make joining a sport easier or to follow the live event with more ease.

### 3.4.1 Biathlon

Biathlon auf Schalke is celebrating its 20<sup>th</sup> anniversary in 2023. The Biathlon World Team Challenge (Biathlon WTC) which is organized between Christmas and New Year in the VELTINS-Arena auf Schalke in Gelsenkirchen, Germany, is a constant in the international Biathlon calendar (Biathlon auf Schalke, 2023). The biathlon track auf Schalke is approximately 1.3km long, and leads through the VELTINS-arena, the winter village, past the shooting stand and past the event area in front of the stadium. The track is winding its way through the mentioned areas and even has an ascent of 30m on to the 'Rurpottgletscher' (News Biathlon-WTC, 2021). Many sharp turns make the track demanding for the athletes. The VELTINS-Arena auf Schalke is one of the most modern multifunctional sport arenas which can be found in Europe. Before the Biathlon WTC moved in 2002 to the VELTINS-Arena auf Schalke it was organized during the 1990s in Ruhpolding, Germany for around 10 years as a mixed-relay event. Herbert Fritzenwenger is considered the inventor of the Biathlon WTC (Sport News, 2020). During its time in Ruhpolding the mixed-relay event saw visitor numbers of around 5000 and around 2 million followed the event on television. In 2002 35.000 spectators attended the first Biathlon-WTC in the arena auf Schalke, and over 5 million followed the event on television. 2012 saw the so far highest spectator numbers with more than 52.000 at the arena and more than 5.5. million watching it on television (Historie, 2023). Every year top biathlete athletes are attending the Biathlon-WTC auf Schalke, which complies to international standards since 2015 and meets world-cup standards (News Biathlon-WTC, 2021). Every year the Biathlon-WTC draws high spectator numbers to the event not only because of the event programme but especially because of the fact that seldom are spectators able to get so close to biathlon, the shooting and the athletes as is the case auf Schalke.

Gelsenkirchen is located about 80km from the Dutch border in the area called the Ruhrgebiet in Germany. Not a traditional winter sport location, hence the around 3000m<sup>3</sup> snow for the Biathlon-WTC has to be transported to the arena from the Alpenpark Neuss, which is about 80km southwest of the VELTINS-Arena. In order for the event to fulfil sustainability requirements, has the football club FC Schalke 04, owner of the VELTINS-Arena, started a sustainability project. Through compensation measurements in an area located close-by to the VELTINS-Arena is the biological diversity, water management, carbon sequestration and climate resilience of the environment de-

veloped. The Alpenpark Neuss has further installed solar panels and is executing other measurements to produce more climate-neutral electricity to cover electricity needs. (Nachhaltigkeit, 2023)

### **3.4.2 Ice hockey 3-on-3**

The ice hockey 3-on-3 format was developed by a working group consisting of ice hockey and development experts gathered together by the International Ice Hockey Federation (IIHF) in July 2018 in Vierumäki, Finland. Its official launch was during the Youth Olympic Games (YOG) 2020 in Lausanne, Switzerland, where a total of 208 female and male players competed in the 3-on-3 ice hockey tournament in eight teams each. The players at YOG 2020 were from 43 countries and played in mixed National Olympic Committee (NOC) teams. Game duration for the 3-on-3 is three times 16 minutes with two minutes intermission between the periods. Each game has a length of 48 minutes which equals to 48 playing shifts (Steiss, 2020). Two games are played simultaneously in one ice rink. The games are played cross-ice at each end of the ice rink with temporary boards set up along the blue lines to create a neutral zone between the two game areas for the player benches, coaches and support staff (IIHF, 2020; Nieminen, 2018). A major difference between a normal 5-on-5 ice hockey game and the 3-on-3 ice hockey game is that music is played throughout the games, in a normal 5-on-5 game music is only played during the intermission and when the game is stopped. An in-house MC is providing entertainment during the games to the audience but is not announcing penalties or goals (IIHF, 2020). In an interview with Ian Kennedy from The Hockey News Luc Tardiff, IIHF President, said that the IIHF and the International Olympic Committee (IOC) are looking into making the 3-on-3 ice hockey an Olympic event for the women's and men's categories at the Olympic Games maybe already for the games in 2026 but more likely to be featured in 2030 (Kennedy, 2022). During the interview Tardiff emphasized that hockey needs a new game format specially to keep the younger audience entertained, hooked to and interested in the game of ice hockey. Another reason for the need of a new game format is that many IIHF Member National Associations (MNA) are lacking enough ice rinks, so by playing the 3-on-3 game format ice usage is increased, which also cuts down ice rental costs. The 3-on-3 game format further increases the playing time for the players because shifts are limited to one minute. Due to the smaller area on which the 3-on-3 game skill development is further developed.

## 4 Purpose and objective

Creating a scalable cross-country skiing event where the focus is on social, economic and environmental responsibility, where local citizens can access skiing tracks in the middle of the city for the benefit of their physical activity but which are also used for an invitational competitive sprint event where the best cross-country skiers of the world compete for victory.

The purpose of this thesis is to present a new cross-country skiing concept which can be adapted to meet different needs and applied in various locations to increase the knowledge on cross-country skiing and as well as to spark enthusiasm for cross-country skiing and the engage a wide number of people to attend a new cross-country skiing event live or at home in front of the television, or online through an application. However, the concept presented here is not only about spectator engagement but about increasing active participation of citizens in physical activity through cross-country skiing. Hence the presented concept is two-fold, it is about activation of people to become physically active, or more so, as well as promoting high-level cross-country skiing competition, which takes place close to where people live in contrast to traditional cross-country skiing events which are usually organized in remote locations. As already mentioned, the concept is scalable, so it can be organized on one day or stretching over a few days up to a month or even longer, depending on the needs and wants of the organizer.

The objective of the thesis is to spark interest for the concept as well as to make it available to a wide range of stakeholders within the cross-country skiing world, or outside of it. The basic concept ideas can also be applied to a range of other sports outside of cross-country skiing, as well as to a range of locations.

Cross-country skiing competition formats have seen very little change over the past decades (Solberg, Hanstad & Steen-Johnsen, 2009) but in order to keep especially the audience at home interested in following cross-country skiing competitions new competition formats need to be developed. The here presented concept is such a new competition and event format.

## 5 Product development process

The here presented case study, Helsinki Ski Weeks (HSW), is the base for the product development of a concept for a new cross-country skiing event format which can be organized almost anywhere else. So far HSW has been organized twice, in 2022 and 2023. The mission, vision and values of the event are completely aligned with the mission, vision and values of the Finnish Ski Association and reflect their strategic goal of promoting health benefits and well-being on a national level and to offer the possibility to everyone to experience the joy of skiing, as well as organizing an event which is dedicated to social, environmental and economic responsibility. HSW offers the possibility to citizens to access skiing with an extremely low-threshold. Access to the skiing tracks in the centre of Helsinki at and inside of the Olympic Stadium are free of charge to anyone. Key points of the HSW event are further to make the environmental responsibility of the Finnish Ski Association as well as all involved stakeholders visible during the planning and execution of the event. The environmental officer specially assigned to HSW is in charge of communication on sustainability as well as guiding all event related purchases and decisions towards environmental responsibility. (Helsinki Ski Weeks, 2023b). One HSW 2023 event which especially focused on raising awareness on climate change was the Snow Museum 2050 – Ode to snow.

The case study HSW is presented as it was organized 2023. The feedback collected during the case study research includes feedback also on HSW 2022, otherwise for the case study analysis as well as for the concept development information was used mainly pertaining to HSW 2023. Information which was shared with the researcher concerning HSW 2022 was used as background information or to shed light on decisions which were made for HSW 2023 which only make sense when information and materials concerning HSW 2022 are used as a knowledge foundation, these include especially the final report of HSW 2022, the carbon emission report for 2022 and the responsibility programme for HSW 2022. The concept (product) is presented in chapter 9. The output is the concept idea of how it, the concept, can be organized in other cities and countries. The case study analysis provides examples of HSW 2023 events, HSW 2022 and HSW 2023 event assessment and feedback which was used during the concept development process. Practical guidance on event organization is also included.

When referring to HSW the idea for the concept is meant, when referring to HSW 2022 and HSW 2023 the event which was organized during that particular year is referred to.

The idea for HSW was perceived by Jari-Pekka Jouppi, the former commercial director of the Finnish Ski Association during 2020/2021. The organizer of HSW is the Finnish Ski Association. The Finnish Ski Association has integrated HSW as the third pillar in their strategy for 2023-2026 as part of their economic strategy besides the Ruka World Cup and Salpauselkä World Cup Lahti competitions (strategy document not yet publicly available, but has been shared with the researcher).

The first time HSW was organized was during February 2022 and a second time during March 2023. HSW is an idea with the aim of bringing cross-country skiing to where the people are, to the centre of the city. During 2022 some Corona-pandemic related restrictions were still in place, which affected some of the planning as well as attendance of the events and possibilities for spectators to attend the different events. In addition to the Corona pandemic related restrictions during HSW 2022, Russia invaded the territory of Ukraine and started a war. During 2023 HSW was once again faced by challenges from outside of its own influence, such as a train strike and extremely warm and rainy weather during the stadium sprint day, which deterred many people from attending the event live at the Olympic Stadium.

The Organizing Committee (OC) called it (HSW 2023) a ski festival in the centre of Helsinki (Helsinki Ski Weeks, 2023a). This ski festival character could be felt and seen through the different kind of events which were organized during HSW 2023 such as the Hipposki, Children's Ski Day, the National Ski Day, Team sprint and the Senior sprint (see figure 6 for more details).

Jari-Pekka Jouppi (pers. Comment 12.12.2022) pointed out that cross-country skiing was in need of a new competition and event format, something similar to the biathlon event auf Schalke, which is organized every year between Christmas and New Year. But his idea was not only to have a one-day invitational sprint event but to organize an event which lasts over several weeks at the Helsinki Olympic Stadium, at the heart of the city, where usually only summer sports or music concerts and other events are organized. Jari-Pekka Jouppi suggested to the researcher that, in order to get the best possible picture of HSW, to attend as many meetings and events before and during HSW as possible, this is depicted in Figure 3.



Fig. 3. Meeting and event timeline of HSW 2023 planning

## 6 Methods

In order to collect as much information on HSW as possible several different information collection methods were applied. The methods as presented in figure 4 were used during the research part of the thesis.

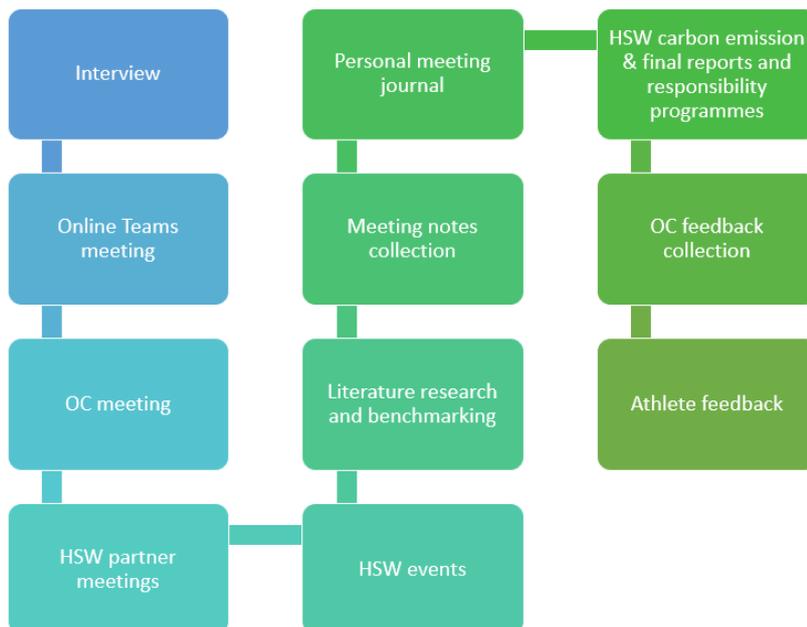


Fig. 4 Information collection methods applied during the research project

The thesis development process started with an initial interview with Jari-Pekka Jouppi and Ismo Hämäläinen (CEO Finnish Ski Association) in December 2022. Access was provided to all research project relevant data and other relevant materials to obtain the necessary research data.

The researcher attended as many of the Microsoft Teams meetings during the planning phase as possible (7 and of 10) and received the meeting notes for further analysis after the meetings. The in-person OC meeting was attended and during the event the researcher presented the thesis topic to everyone present. The researcher kept a personal meeting journal and made notes throughout the meetings and events. Partner events are a way for the HSW OC to inform all partners on the progress made during the preparation and planning phase of HSW as well as function as networking opportunities. Two partner events were attended to collect research data. Once HSW 2023 started on the 4<sup>th</sup> of March 2023, the researcher attended six HSW events. Once HSW 2023 was concluded, the researcher was provided with the carbon emission and final reports and the responsibility programmes for HSW 2023 by the OC, collected feedback from the OC through questions in an e-mail, and searched for athlete feedback online.

## **7 Data and data analysis**

During the initial meeting with Jari-Pekka Jouppi and Ismo Hämäläinen the researcher took meeting notes. The conversation was not recorded. The meeting notes were used to define the case study and to use the information and knowledge gathered to develop the whole concept, which is the final product of the thesis.

The researcher kept a personal meeting journal throughout the planning and preparation phase of the event, which is supplemented by the Teams meeting notes, the OC meeting notes as well as the HSW carbon emission reports, the final reports for HSW 2022 and 2023, as well as the HSW responsibility programmes for both years.

The Teams meeting notes were written up by a member of the HSW OC, and were made available to the researcher through e-mail and to all other OC members through storing the files in the HSW OC Teams file folder. The meeting notes functioned as a planning and decision-making tool for the OC. The meeting notes were analysed for their content concerning especially the information pro-

vided in chapter 9.1 The Teams meetings were not recorded. The OC in-person meeting had a similar function as the weekly Teams meeting, to update each person on the ongoing planning process, to streamline efforts, introduce new HSW staff to the already existing members, as well as to increase cooperation through the possibility for additional exchange between HSW staff after the meeting was concluded.

The carbon emission reports from both years, contain valuable information on event organization and during which phase of an event most carbon emissions are produced. The carbon emission reports were compiled by the sustainability manager of HSW 2022 and HSW 2023.

The final event reports similarly to the carbon emission reports provide information for chapter 9.1, the discussion and the conclusion chapters. The final event reports were compiled by the HSW OC.

The HSW responsibility programmes for both years have been analysed and the information is used to identify strategies to minimize carbon emissions as well as strategies for carbon neutral event organization. In addition to the HSW responsibility programmes HSW also created HSW responsibility guidelines. These responsibility guidelines for HSW staff, partners and sub-contractors have been translated from Finnish to English and are appended (Appendix 1-3). The HSW responsibility programme is aligned with the UN 2030 Sustainable Development Goals, as well as with the sustainability programme of the Finnish Olympic Committee (Suomen Olympiakomitea, 2020). The HSW responsibility programmes for both years are almost identical, emphasizing the mission, vision and values of HSW which are tied to and reflect the mission, vision and values of the Finnish Ski Association the organizer of HSW. The HSW responsibility programme for 2023 lists the carbon emission calculation and report of HSW 2022, which directly informed the HSW OC of 2023 to place even more emphasize on the use of renewable energy and fuel resources and to avoid unnecessary travels by car, and if travelling to use public transportation (bus, train, tram or underground), bicycle or walk if possible, and share rides. The HSW 2023 responsibility guidelines for staff and partners included an addition from the HSW 2022 responsibility guidelines which was additional emphasise on not only avoiding red meat but also lamb and pork.

During the literature research and the benchmarking process peer-reviewed journal articles, reports, online newspaper articles, HSW social media posts on Facebook and Instagram, as well as the HSW homepage were analysed. Especially the social media posts and the HSW homepage provided important points concerning event communication and establishing a recognizable branding for HSW.

Finally, after the conclusion of HSW 2023, an email consisting of four questions was sent to the OC of HSW 2023 to collect feedback on HSW 2022 and HSW 2023 as well as what was done differently for HSW 2023 based on learning from 2022 and what kind of learning will inform HSW 2024 event planning and organization.

Athlete feedback was collected by analysing online news reports on HSW 2023, as well as HSW 2023 social media and homepage posts.

## **8 HSW Mission, vision and values**

Because HSW is one of the main strategic pillars of the Finnish Ski Association its values, mission and vision are aligned to the mission, vision and values as identified by the Finnish Ski Association. Social, economic and environmental responsibility informed all planning, leading and execution stages of HSW. Key idea was that it is possible to organize a sport event which is carbon-neutral, and that a sport association can be and is an active participant in preventing climate change. Environmental responsibility is promoted through the organization of a carbon-neutral event, with the target to prevent the rising of the mean temperatures of more than 1.5°C (IPCC, 2023). Social responsibility of HSW as well as the Finnish Ski Association is to promote physical activity and provide opportunities for physical activity, at a very low threshold, for free and for all. Economic responsibility of the HSW event is to be a financial resource for the Finnish Ski Association so that it can fulfil its strategy to develop skiing on all levels, for recreation and competition. (Helsinki Ski Weeks, 2023b)

### **8.1 HSW Responsibility guidelines**

For both years of HSW responsibility guidelines were developed. They are directly aligned to the HSW responsibility programmes for 2022 and 2023. These were shared within the organization, as

well as with the partners and subcontractors of the events. The responsibility guidelines for the partners and subcontractors differed a little from the guidelines for the own organization. It is necessary to create different responsibility guidelines, for own organization, the partners and subcontractors, because the OC guidance power and ability to request to comply to the responsibility guidelines and the responsibility programme is drastically reduced, when dealing with stakeholders outside of one's own direct influence sphere. Responsibility guidelines for staff for HSW 2023, as well as the responsibility guidelines for the partners and subcontractors for HSW 2023 can be found in the appendix. HSW had clearly defined programmes for its environmental social and economic impact and responsibility. HSW also emphasized in its work that a sport event can be organized sustainably (see Hinch, Higham and Moyle, 2018). The HSW responsibility programme is based on the 17 UN Sustainable Development Goals, specifically goal 3 (good health and well-being), goal 5 (gender equality), goal 7 (affordable and clean energy), goal 8 (decent work and economic growth), goal 10 (reduced inequalities), goal 11 (sustainable cities and communities), goal 12 (responsible consumption and production), goal 13 (climate action), goal 16 (peace, justice and strong institutions), and goal 17 (partnerships for the goals). These UN Sustainable Development Goals are also part of the strategy of the Finnish Ski Association. The UN Sustainable Development Goals were presented in an earlier chapter.

### **8.1.1 Environmental responsibility**

The environmental responsibility of HSW was especially focused on through the carbon footprint compensation programme, and other measures which supported the decrease of the carbon footprint of the event itself. These measures were to only use cheese during OC meetings and the sponsor and partner events as a filling for sandwiches, because the carbon footprint of meat is much higher. During HSW 2023 the cafeteria at the Olympic Stadium offered a low carbon meal, made from raw ingredients which have a low carbon footprint. The selected raw ingredients have a carbon footprint of less than 1kg CO<sup>2</sup> emissions per serving, which is about 30% less than the average lunch serving. All involved in the planning and execution of the event were consistently reminded to use public transportation and to share car rides whenever possible. Additional measures were for example the use of fluor-free skiing wax by all competitors of the sprint event.

## Carbon-footprint

HSW is organized as a carbon-neutral event, which means that during the organization and execution of the event everything is done to avoid unnecessary and harmful emissions. The generated carbon emissions are calculated and compensated for. The generated carbon emissions of the event were off-set with the carbon-footprint compensation scheme in cooperation with Santander which uses the Gold Standard compensation. This compensation scheme is working on a re-forestation project in the Vichada area in Columbia (Santander, 2023). The carbon-footprint of the event was calculated by dividing the emissions into Scope 1, Scope 2 and Scope 3 categories. Scope 1 emissions are usually considered to be emissions produced by a company doing its business. In this case HSW does not really produce so called direct emissions because the event is organized at a rented location. So, all emissions of the event are either considered to belong to Scope 2 or Scope 3 emissions (Read, 2022). Furthermore, it should be pointed out, that the Olympic Stadium only uses electricity which is 100% produced through hydroelectric, which means emissions are at 0 (Olympia Stadion, 2021). The Scope 2 emission calculation includes the purchased electricity from the Olympic Stadium which is produced through 100% hydroelectric in Finland and has 0 emissions.

Scope 3 emissions of HSW are for example the waste produced during the event, the acquisition of products and goods such as clothing for the OC, marketing materials, construction materials, food and drinks sold, services such as cleaning and hotel, transportation of goods (including snow) and people, and other greenhouse gas emitting products and services.

The emissions produced during both HSW 2022 and HSW 2023 have been separated into scope 1,2, and 3 emissions. See Figure 5 for details on scope 1,2, and 3.

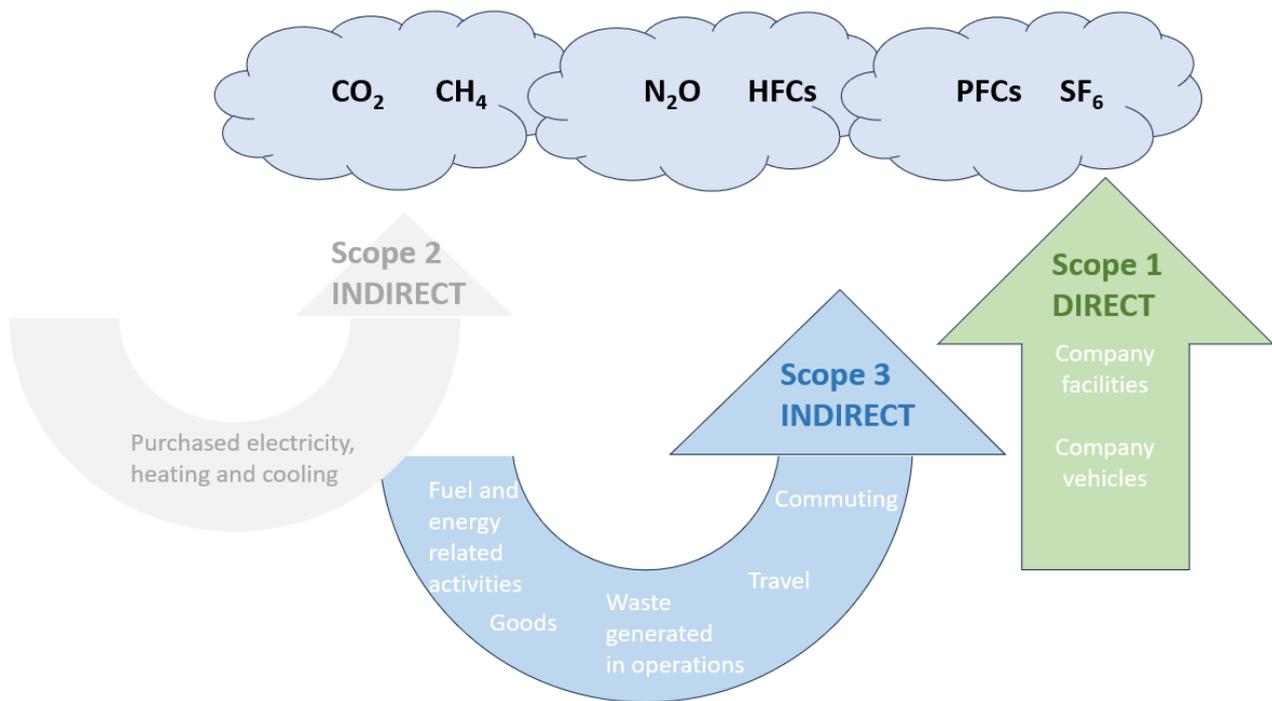


Fig. 5 Greenhouse gas emissions divided into scope 1-3

During HSW 2022 a total of 104,51 tCO<sub>2</sub>-e were emitted. The largest producer of carbon emissions was due to travel and transportation (57%), followed by energy consumption (26%), meals and drinks and acquisitions (each 6%), services and waste (each 2%). The numbers are taken from the carbon emissions report for HSW 2022.

HSW 2023 produced a total of 50,47 tCO<sub>2</sub>-e emissions. Travel and transportation account for 72% of carbon emissions, followed by energy with 19%, food and drinks with 4%, services and acquisitions with 2% each and waste with 1%. The numbers have been reported in the carbon emission report for HSW 2023. Materials, equipment, apparel and promotion materials left over from HSW 2022 were stored and re-used in HSW 2023.

Table 1. Overview and comparison of the carbon emissions for HSW 2022 and HSW 2023

	<b>HSW 2022</b>	<b>HSW 2023</b>	
<b>Individual travel/transportation</b>	44,20 tCO <sub>2</sub> -e	29,39 tCO <sub>2</sub> -e	Incl. staff, volunteers, active skiers, event spectators, sponsors, partners and subcontractors, competition skiers
<b>Freight transport</b>	15,83 tCO <sub>2</sub> -e	7,24 tCO <sub>2</sub> -e	Incl. track machine and other machinery, HSW goods transportations, snow transportation
<b>Energy</b>	27,68 tCO <sub>2</sub> -e	9,50 tCO <sub>2</sub> -e	Snow production and storage at the Kivikko hall; HSW 2022 event square
<b>Waste maintenance</b>	1,66 tCO <sub>2</sub> -e	0,62 tCO <sub>2</sub> -e	Mixed waste
<b>Acquisitions</b>	6,34 tCO <sub>2</sub> -e	0,82 tCO <sub>2</sub> -e	Marketing materials, apparel, construction materials
<b>Food and drinks</b>	6,50 tCO <sub>2</sub> -e	1,89 tCO <sub>2</sub> -e	Event catering, volunteer and artist meals
<b>Services</b>	2,30 tCO <sub>2</sub> -e	1,01 tCO <sub>2</sub> -e	Cleaning services, hotel accommodation
<b>TOTAL</b>	104 510 tCO <sub>2</sub> -e	50,47 tCO <sub>2</sub> -e	

The higher energy consumption during HSW 2022 compared to HSW 2023 is from the event market square which was organized on the square in front of the Olympic Stadium during HSW 2022. The event square hosted a number of companies who sold and featured their products. This increased energy consumption due to heating and lighting. The event square was not organized during HSW 2023, but only the snow museum, which did not require heating, only some energy for lighting, and the energy for this derived from the Olympic Stadium using energy which is derived 100% through water power which produces no emissions, hence the energy consumption for HSW 2023 was considerably smaller. The energy consumption for HSW 2023 was produced through snow storage at the Kivikko hall.

Personal transportation and travel for HSW 2022 are considerably higher compared to HSW 2023 (see Table 1 for details), this was due to larger numbers of active skiers using the tracks during February 2022, as well as a higher spectator number for the sprint event. The numbers for HSW 2023 are still high compared to the smaller number of active skiers using the tracks during March 2023 and less spectators attending the sprint event, this was because of the exceptionally bad weather and a train personnel strike on the day of the sprint event, as well as strikes throughout March 2023 by the staff of the Helsinki public transportation company due to which people had to revert back to using their private cars. Strikes and bad weather are occurrences which are out of the influencing reach of event organizers.

The total carbon emissions for HSW 2023 were also much smaller compared to HSW 2022 because HSW 2022 had a duration of 30 days, whereas HSW 2023 only lasted for 19 days.

### **8.1.2 Social responsibility**

The social responsibility programme of HSW 2023 included several events. The events were a senior skiing competition combined with a music and ski shoe dance evening, a skiing and snow fun day for children, a team sprint event, an open sprint event, the National Day of Skiing, the largest tribune, the snow museum, Hope Ski Event for Ukraine as well as Air Skiing World Championship competition. The main emphasize and the goal of these events was to activate young and old to become active during the month of March through skiing in the Olympic Stadium, running, walking or otherwise spend time outside, as well as with friends and family while being active. As already pointed out earlier, Chersulic Tomino et al. (2020) looked at the social impact of sporting events on the local community. They write that the social responsibility programme of an event has the possibility to impact on the sporting participation of locals. The social responsibility programme of HSW had exactly this as one of its main aims. To provide locals, adults, seniors and children the possibility to become physically active through making the stadium skiing track available free of charge. Furthermore, was a ski equipment rental organized so that people without their own skiing equipment could still easily access the tracks and try out cross-country skiing. Cross-country skiing is a traditional physical activity in Finland and its heritage dates back several hundred, if not thousands of years (Landauer, Sievänen & Neuvonen, 2009).

### 8.1.3 Economic responsibility

As has already been pointed out in chapter 2.1.3, HSW is one tool of the Finnish Ski Association with which to ensure its economic independence so that skiing and snow sports will still exist in the future as well as using it to develop interest for snow sports on a larger scale (Helsinki Ski Weeks, 2023b). It is of vital interest for a sport association to have economic independence so be in a role to support the development of the sport, as well as to enable recreational participation as well as high-performance participation in the sport.

For the City of Helsinki, a new concept such as HSW, which is organized in a historic sport landmark such as the Olympic Stadion, is a direct enhancement of destination image (Byon & Zhang, 2010), especially considering the alignment of a carbon-neutral sport event with the city's strategy. Such an event further increases media attention, potential increased tourism and tax revenues (Răzvan, Bogdan, Roxana & Catalin, 2020).

## 8.2 HSW 2023

In the following HSW 2023 events are listed. The list and overview (Fig. 6) include public HSW 2023 events as well as partner events.

### 8.2.1 HSW 2023 Partner events

The HSW OC organized the partner events in cooperation with one of the partners to provide an opportunity for all HSW partners to get to know each other, increase networking and cooperation opportunities as well as to provide updates on the HSW organization progress. These partners joined into a partnership with HSW 2023 and through this contractual partnership agreed to promote the HSW 2023 through their channels as well as contributed financially through this to HSW 2023 execution. Two partner events took place before HSW 2023 started in March, one during HSW 2023 and one after HSW 2023 concluded.

### 8.2.2 HSW 2023 events

Figure 6 provides an overview on the events which were organized during HSW 2023. On the days for which no specific event is listed in the figure, the skiing tracks have been accessible for anyone

wanting to go skiing in the Olympic Stadium. The tracks have been accessible on weekdays between 9.00 and 20.00 o'clock and on weekends from 10.00 to 16.00 o'clock, if not otherwise notified.

List of HSW 2023 events:

- Team sprint powered by Suomen Yrittäjät
- National Ski Day with the one million moved kilometre challenge
- World's largest tribune – watching the World Skiing Championship in Planica, Slovenia
- Jasmi Cup IV and Super sprint 100
- IS After-ski party
- Air skiing World Championship
- Hippo ski (event for children)
- Children's snow day
- Senior citizen day with seminar and sprint event, followed by ski shoe dance and live music after ski party
- Free-of-charge use of the tracks at the Olympic stadium for everyone
- Snow museum 2050 – Ode to snow
- Hope Ski event to support Ukraine
- Sponsor seminar



Fig. 6. Overview on HSW 2023 events

The Snow Museum 2050 – Ode to snow, took on an important position concerning education, outreach and in raising the awareness of the participants and visitors of HSW 2023 on global warming and climate change. The snow museum functioned as the entrance to the Olympic Stadium so everyone either attending any HSW 2023 related event or coming to use the skiing tracks for skiing had to pass through it. A voluntary sum could be donated towards a climate protection initiative through mobile pay. The idea of the museum was to engage people in imagining a, at the moment, virtual reality in which snow longer is present. Companies which are currently producing tools and equipment needed when the ground is covered by snow in the winter time displayed their products in the snow museum. There was a snow shovel, an ice scraper, winter tyres with studs, snow in a receptacle, the sound of a person walking over frozen snow, as well as a winter coat, gloves and a hat, and some more items. Signs and slogans further emphasized this, at the moment, utopian idea, but which could be a reality in less than a century also in Finland.

### 8.2.3 HSW 2023 Sprint event day events

The main HSW 2023 Sprint event took place on 22.3.2023. The show started with a super sprint 100m and a Quarter sprint 400m event, followed by a medal ceremony and a short concert by Finnish artist ABREU. Then the presenters Aki Pajunoja and Aki Tuovinen prepared the audience in the Olympic Stadium and at home on the television for the start of the main sprint event. The preliminary round and the semifinal round were intersected by a DJ show. The Men's final was first skied followed by the Women's final. The whole event was capped off with a concert by Finnish artist ABREU. In both, the male and female competitions, a mask skier participated whose identity was only revealed once the competition was completed. During the Sprint event the audience was included through the opportunity to vote online for two female and male athletes to continue in the competition even though they dropped out in the preliminary round.

## 8.3 Feedback on HSW 2022 and HSW 2023

For this evaluation feedback was collected through an e-mail which was sent to the main members of the OC (the CEO of the Finnish Ski Association, the commercial director, the marketing director, the marketing manager, and the sustainable manager), who were involved in the event organization during both years. The feedback quoted here has not been changed or the language checked

(only minor spelling mistakes were corrected). The OC members names are known to the author but have been omitted from publication. The feedback is presented in Table 2.

Table 2. Feedback notes from the OC on HSW 2022 & 2023

Questions	2022	What did you do differently in 2023 based on your learning and outcomes from 2022?	2023	What will you take as learning from 2023 for 2024?
What was good?	<ul style="list-style-type: none"> <li>'Spirit, new event, new total concept'</li> <li>'Positive feedback from audience and from skiers'</li> <li>'Stadium sprint concept was really good'</li> <li>'Media coverage, partners commitment, economical support'</li> <li>'It's a bit hard to tell what was particularly good about the event when it was held for the first time and the plans had to be changed a lot because of the corona in the very last moments. The best thing about the event was the great idea. As a whole, the concept was good and there were generally good and competent people doing the event.'</li> <li>'New event, exciting atmosphere within the organizers and the visitors as everything was new and fresh'</li> <li>'Very thankful visitors'</li> <li>'Athletes liked the new concept of racing'</li> </ul>	<ul style="list-style-type: none"> <li>'We scaled budget down according to the income'</li> <li>'Budgeting in all sides and costs control and cutting during the time'</li> <li>'The event market area was a very big effort in 2022, and it didn't work very well and we didn't get the benefits we were looking for. Its implementation was left out entirely (in 2023). This made the event organizing much easier.'</li> <li>'No event square (tapahtumatori)'</li> <li>'Shorter event'</li> <li>'Kids snow day (Lasten lumipäivä) on a new location'</li> <li>'The start of skiing in a new (easier for visitors) location'</li> </ul>	<ul style="list-style-type: none"> <li>'Still good spirit'</li> <li>'Olympic Stadium works better'</li> <li>'Prices and feedback from athletes'</li> <li>'In 2023 we were able to properly implement other events within HSW. Of these, Hippon-hiihto (children's event) and Joukkue sprintti (team sprint) were particularly successful events. Since the event had already been carried out once, doing many things was much easier.'</li> <li>'The crew knew what to do as the concept and location was familiar'</li> <li>'The co-operation with the Stadium was way better'</li> <li>'All the competitions worked well'</li> <li>'Athletes liked the Stadion Sprint event again'</li> </ul>	<ul style="list-style-type: none"> <li>'Leave Olympic Stadium, too expensive'</li> <li>'We have to rethink and adjust the events'</li> <li>'After two years of experience, you start to have a pretty good idea of what works and what doesn't. We must focus more strongly on things that bring money and participants and to cut out unnecessary clutter. Otherwise, we will not be able to organize this event.'</li> <li>'Considering a new location due to heavy costs of the rent of the stadium'</li> <li>'Earning logic has to be made clearer'</li> <li>'Not as many events within the event'</li> </ul>
What was bad?	<ul style="list-style-type: none"> <li>'Not enough people in Stadium sprint'</li> <li>'Covid stopped B2B event sales'</li> <li>'Covid-19 -&gt; omicron, weather'</li> <li>'Corona made it very difficult to organize the event and messed up many plans. There were two major problems with the 2022 event. The sharing of information was one thing, and the other was that we were a little late all the time in all the arrangements. The job was put together at very last minute, and some things were completely left undone.'</li> <li>'Difficulties in organizing as nothing was done or tried before'</li> <li>'Co-operation with Olympic Stadium was not so fluent'</li> <li>'Earning logic maybe not clear enough; not enough guests in the sectors that were making us money'</li> <li>'Weather could have been better to get more visitors'</li> <li>'Ways of marketing – people didn't know about us'</li> </ul>		<ul style="list-style-type: none"> <li>'Even fewer audience in Stadium Sprint, train strike'</li> <li>'Not enough skiers in stadium'</li> <li>'We started sponsoring sales too late'</li> <li>'Economical result'</li> <li>'Some of the side events were not very successful, and the marketing of the events was not made in the best possible way.'</li> <li>'Earning logic'</li> <li>'Ways of marketing – people didn't know about us'</li> <li>'Time of the event – maybe too late in the spring'</li> </ul>	

## 8.4 Athlete feedback

Athlete feedback was collected through analysis of media articles and HSW 2023 social media posts and homepage articles.

In the Ilta Sanomat article from 15.04.2021 with Jonna Sundling (top cross-country skiing athlete from Sweden) and Ristomatti Hakola (top cross-country skiing athlete from Finland) both athletes concluded in the interview that an event such as HSW is much needed in cross-country skiing to create interest for cross-country skiing in the next generation as well as raise the interest for cross-country skiing in general (Ikonen, 2021).

Johannes Hösflot Kläbo participated in both years in the invitational Stadium Sprint event. His feedback concerning the sprint event was, that such sprint events are the future of cross-country skiing (HSW, 2023). He further reflected that skiing events should be organized close to the people and that cross-country is in need of new ideas and concepts.

## **8.5 HSW 2024**

Because HSW is the third pillar in the economic strategy for the Finnish Ski Association, the event will most likely be organized in some form during 2024, albeit with some changes compared to the two previous years, due to the challenges the event as well as the OC faced during these previous years. The information is based on personal communication with Ismo Hämäläinen, CEO of the Finnish Ski Association.

‘One main goal for the HSW 2024 event will be to target even younger people, aged 8 to 12 years, to get involved with cross-country skiing. This will be achieved through establishing a YouTube channel where TikTok videos or a similar social media platform will be used to reach the target age group with content that interests them.’

‘Another change or add on to the HSW 2024 will be the inclusion of the Super Sprint discipline to the event.’

‘In HSW 2024 we will then see the 100m Super sprint event, the 600m sprint event and the Stadium sprint event with 1.2km distance.’

‘Unfortunately, the rent for the Olympic Stadium in Helsinki is too high which is placing a real challenge on the financial viability of the event. Hence, as the OC, we are forced to look for as similarly interesting location but at much lower cost for HSW 2024.’

Whether these ideas will be executed will be seen during spring 2024.

## 9 Output

A good idea should be shared and a good idea should be implemented also elsewhere, and if possible, it should also be economically worthwhile. The concept: A sustainable competition and physical activity concept for cross-country skiing.

With focus on the three objectives of social, economic and environmental responsibility the concept was developed which can be implemented by another cross-country skiing association or any other organization interested to do so in any city, town or interesting location in another country. The concept presents only the key aspects of the HSW case study, leaving all Helsinki specific points out, but sharing insights and lessons learned which can be avoided by other concept organizers. Table 3 provides an overview of HSW case study specific points and how these can be transformed into more general concept ideas.

Table 3. The concept: A sustainable competition and physical activity concept for cross-country skiing

	HSW case study	Concept
Location	<ul style="list-style-type: none"> <li>Olympic Stadium Helsinki</li> </ul>	<ul style="list-style-type: none"> <li>Iconic sport facility or key location within the city centre</li> </ul>
Partners	<ul style="list-style-type: none"> <li>Finnish Skiing Association's partners</li> </ul>	<ul style="list-style-type: none"> <li>Existing partners</li> </ul>
Sponsors	<ul style="list-style-type: none"> <li>Finnish Skiing Association's main sponsors</li> <li>Event specific sponsors</li> </ul>	<ul style="list-style-type: none"> <li>Existing sponsors</li> <li>New sponsors</li> </ul>
Events: targeted at the general population	<ul style="list-style-type: none"> <li>National Day of Skiing</li> <li>World's largest tribune</li> <li>Team sprint</li> <li>Air skiing WC</li> <li>IS After Ski</li> <li>Hope Ski event for Ukraine</li> <li>MeNaiset Ski Disco</li> <li>Paralympic Day</li> <li>City Winter Happening</li> <li>Climate Ski event</li> <li>Event square</li> <li>Snow museum</li> <li>Every day possibility to use the skiing tracks for free</li> </ul>	<ul style="list-style-type: none"> <li>Fitting to needs</li> <li>Meeting own strategy</li> </ul>
Events: targeted at children and youth	<ul style="list-style-type: none"> <li>Children's snow days</li> <li>Hippo-skiing</li> </ul>	<ul style="list-style-type: none"> <li>Offer possibilities to enjoy snow and try out skiing</li> </ul>
Events: targeted at senior citizens	<ul style="list-style-type: none"> <li>Senior citizen day</li> <li>Keep fit seminar</li> <li>Snow shoe dance and music</li> </ul>	<ul style="list-style-type: none"> <li>Offer possibilities to try out skiing</li> <li>Event that activates seniors to be or become active</li> <li>Opportunity to meet other people</li> </ul>
Events: targeted at sport professionals	<ul style="list-style-type: none"> <li>Jasmi Cup IV &amp; Supersprint 100</li> <li>Sponsor seminar</li> <li>FSS Sata Sprint</li> </ul>	<ul style="list-style-type: none"> <li>Specific skiing competition</li> <li>Seminar or symposium</li> </ul>
Sprint event	<ul style="list-style-type: none"> <li>Invitational top-athlete sprint event</li> <li>Same wax for all competitors</li> <li>Start money for athletes</li> <li>Prize money</li> </ul>	<ul style="list-style-type: none"> <li>Invitational top athlete sprint event</li> <li>Wax</li> </ul>
Social responsibility	<ul style="list-style-type: none"> <li>Free skiing possibility on the Stadium track to increase physical activity</li> </ul>	<ul style="list-style-type: none"> <li>Offer possibility for physical activity</li> </ul>
Economic responsibility	<ul style="list-style-type: none"> <li>Guarantee future of snow sports</li> <li>Develop attraction for snow sports</li> </ul>	<ul style="list-style-type: none"> <li>Attract people to snow sports</li> </ul>
Environmental responsibility	<ul style="list-style-type: none"> <li>Carbon-neutral event</li> <li>Compensation of unavoidable emissions</li> <li>Sustainability guidelines for staff, partners and sub-contractors</li> </ul>	<ul style="list-style-type: none"> <li>Carbon-neutral</li> <li>Compensation of emissions</li> <li>Increase awareness on global warming and climate change</li> </ul>
Volunteers	<ul style="list-style-type: none"> <li>Students of the special education vocational school</li> <li>Anyone else interested</li> </ul>	<ul style="list-style-type: none"> <li>Offer work experience opportunity for people who face challenges in finding appropriate opportunities for such</li> <li>Possibility for people to experience a big event behind the scenes</li> </ul>
Marketing	<ul style="list-style-type: none"> <li>Existing marketing channels</li> <li>HSW branding</li> </ul>	<ul style="list-style-type: none"> <li>Existing and new marketing channels</li> <li>Develop branding</li> </ul>

## 9.1 Additional guidance when considering to implement the concept

It is seen as necessary to provide additional information and guidance on concept implementation, planning and execution based on insights gained during these same stages of HSW. A key to a successful event is a well-planned event. This implies that event planning needs to start early enough, responsibilities need to be assigned and specified, and smaller events which are organized as part of the main event have to be cancelled in good time when marketing is not able to create enough interest for them, this also includes clear communication on cancellation. Following these few simple guidelines almost guarantees for a successful event organization and execution. Some more guidance can be found in the following.

### 9.1.1 Marketing, promotion and communication

- Create a strong and recognizable look for the concept
- Logo
- Colour
- Message style
- Voice and content of messages
- Use of key words
- Develop a clear marketing plan
- Determine target groups for marketing
- Different marketing channels for different target groups
- Use already existing marketing channels and emphasize use of new marketing channels
- Use communications to increase awareness of people on climate change and the health benefits of physical activity
- Repeatedly inform on the events goals for social, environmental and economical responsibilities, carbon-neutral and compensation
- Communicate in different languages
- Start marketing early to increase brand recognition
- Market repeatedly prior to the event through a large number of channels
- Use partners and sponsors to increase marketing reach
- Market specific events separately to the target groups

### 9.1.2 Responsibility and sustainability

- Commit to creating the most sustainable event ever
- Include sustainability into bidding, contracts and procurement
- Think sustainability throughout the event (why, who how, when and what do you need to do in order to make the event sustainable)
- Communicate on sustainability and responsibility topics concerning the event regularly
- Increase the awareness of everyone involved in the event and attending the event concerning sustainability and environmental responsibility
- Create a carbon-neutral event and compensate for unavoidable emissions
- Promote the use of public transportation as much as possible, as well as other forms which produce no or very little carbon emissions

### 9.1.3 Sponsors and partners

- Collaborate with existing sponsors and partners on the event
- Find new partners and sponsors who support with their own work the sustainability goals of the concept
- Provide sponsors and partners with the opportunity to sponsor certain events through naming

### 9.1.4 Event

- Plan successive events during the Ski Weeks event in a logical order
- Target similar groups with events which take place on the same day
- Create specific event plan
- Cancel an event in-time when it becomes clear that the event will have next to no participants

### 9.1.5 Invitational sprint event

- An invitational event to get the best athletes to compete
- Starting money for each invited athlete
- Prize money for the winners
- Same ski wax for every competitor

### 9.1.6 OC event staff

- Clearly define work objectives, content and areas for each person
- Clearly name persons in charge of planning areas
- Develop clear communication channels and instructions for communication within the OC event staff
- Assign responsibilities to OC event staff
- Responsibility for the success of the event lies with the OC, not the volunteers

### 9.1.7 Volunteers

- Clearly define work objectives and areas for volunteers
- Communicate length of work shifts
- Use a volunteer registration system
- Allocate work shifts on the availability of the volunteers
- Calculate enough volunteers for every day and the different areas and work objectives

### 9.1.8 Budget

- Create a realistic budget
- Check budget regularly
- Adjust budget immediately
- Budget informs event execution directly

## 10 Analysis and assessment of the concept

The key outcome of this study is the concept: A sustainable competition and physical activity concept for cross-country skiing. The concept combines opportunity to the general public to become physically active with an international high-level competition. In the case study which was used to develop the concept, the opportunity to be physically active was made possible through skiing tracks in the centre of Helsinki in a historic sport facility, here the Olympic Stadium which is otherwise used only for summer sports, concerts and events, in conjunction with a high-level international invitational cross-country sprint competition. The concept is not only providing an opportunity for physical activity but the competitive sprint competition is organized as a sustainable carbon-neutral event. In 2023 almost 50 000 people used the free-of-charge skiing tracks during the duration HSW 2023 (HSW 2023 Final Report). The concept was developed scalable to be applicable in a wide range of locations and to meet the needs and capabilities of the organizers. The concept is a showcase for carbon-neutral sport events. Large-scale sport events undoubtedly have an impact on the environment, but also small-scale events do, so it is up to every event organizer to minimize the potentially negative impacts of their events. The impact on the environment is caused by travel, equipment, merchandize and other goods, as well as accommodation, beverages and meals (Sotiriadou and Hill, 2015). HSW provides an example of a sport event which is organized carbon-neutral and where environmental responsibility is a key factor during event organization. Despite best efforts some emissions are produced and those are compensated for through an accredited organization (Santander, 2023).

Solberg, Hanstad and Steen-Johnson (2009) have aptly concluded in their comparative study of biathlon and cross-country skiing that unless a change in the organization of skiing events is happening it might disappear from television. Skiing events and competition formats need to interest the audience especially in front of the television, as well as online. Coming back to the Biathlon auf Schalke, this event was specially created because the television network was looking for a sporting format which would fit into the slot between Christmas and New Year, so the mixed-relay biathlon sprint format was born. The set-up of the competition with a short sprint distance, a winding track inside the stadium with the shooting stand in the centre provides the live audience with plenty of possibilities to experience the athletes and the sporting events from close proximity. The same principle applies for the TV audience. Of the approximately 50000 tickets available for the event at

the end of December 2023 already about half have been sold by the end of June 2023, which is a clear indication for the popularity of the Biathlon auf Schalke.

With this in mind, the Finnish Ski Association is using a similar principle with their development of HSW. A short cross-country skiing event where the athletes and the sport are in close proximity to the audience to provide an exciting sporting experience. HSW breaks with the cross-country tradition of having the men start first, by having the women start first. Through different measures, such as the masked skier in the HSW 2023 event or the voting for a skier to continue in the event even though they did not make it past the preliminary round, the audience is further provided with the possibility to engage in the event. HSW 2023 included in its event programme different types of sub-events targeted at the older as well as younger population through a competition and music event and children's snow fun respectively, as well as sport experts through the sponsoring seminar. Despite HSW 2023 creating a platform for local residents to interact with each other and socialize on and around the ski track and the Olympic Stadium, as well as the organization of additional events and developing a strong visual event promotion, and hence fulfilling the all aspects of a celebratory feeling as described by Chalip (2006) and promoting social values, HSW was not able to attract event attendants or participation to have made the event economically sustainable. Social sustainability is a key factor for successful event organization and this needs to be mirrored much strongly in the event planning process of HSW (Kaplinadou, Kerwin & Karadakis, 2013).

Solberg, Hanstad and Steen-Johnson (2009) further noted in their study, that biathletes were involved in the process concerning changes to competition formats and locations, and that cross-country athletes at that time responded negatively to such changes. However, taking Johannes Hösflot Kläbo's comment into consideration on HSW, cross-country skiers are open to new competition formats and events, understanding very well that they are also part of the entertainment business and that cross-country skiing is competing for audience (HSW, 2023).

A change of attitudes and thinking has certainly occurred within FIS because when it started working on the five-year rolling strategy, they involved their National Ski Associations as well as athletes in the development process, in order for the strategy as well as the work of FIS to reflect the interests and needs of their members (FIS, 2023a).

Taks, Green, Misener and Chalip (2017) investigated whether sport participation increases because of a sport event. They found out that in order for a sport event to increase sport participation it is necessary sport clubs or sport associations/federations to implement specific marketing and promotion strategies into the event to use the potentially positive leverage of that sport event for an increase in sport participation. So, just because people attend the event, watch the athletes compete and have a good time, it does not mean that they will automatically also increase their physical activity or take up a sport. For HSW this means that even though events specifically targeted at children are organized during the HSW, and the skiing tracks are open for the public to use, this might still not be enough to increase participation in cross-country skiing.

Concerning the concept development and the learnings from two years of HSW organization, sport events are facing several challenges and risks. It has already been pointed out that sport events are competing with other stakeholders on the event and entertainment industry for viewers and attendance (PwC, 2020). The risk with introducing a new sport event concept is that it is unknown and hence needs a well-developed marketing and promotion strategy in order to inform the target groups of the sport event. This includes very specific developed marketing campaigns tailored at spectators who attended HSW in 2022, here emphasising the previously made good experience, as well as targeting new audience, in this case promoting the benefits for the spectator when attending an event (Funk, Filo, Beaton & Pritchard, 2009) This means that the budget has to include considerable marketing and promotion costs, in order to inform repeatedly and in different forms on the event. It is also considerably more expensive when marketing campaigns are directed at new spectators, than at existing ones, for HSW being such a new sport event, almost all spectators can be considered new (Funk, Filo, Beaton & Pritchard, 2009). Concerning HSW this is a point which was not taken into account enough for HSW 2022 and the information from HSW 2022 was not used in the extend it would have needed in order for HSW 2023 to have a successful marketing and promotion campaign. The collected feedback (table 2) directly points to this oversight.

In general, it can be said that it is great that sports are looking at introducing new competition formats and having sports competitions at new or unusual venues in order to attract new spectators and fans, but also to bring the sport closer to the people. Especially a sport such as cross-country skiing which is usually organized in rather remote locations which require long travel distances for spectators and considerable cost relating to travel, accommodation and food. To be able to attend

a cross-country skiing competition close to one's home should be an attraction which many want to witness, especially if the competition is connected to an interesting and versatile additional event programme and show. However, it is also possible, that this new cross-country skiing concept, a special event as described by Gammon (2014) is only of interest to a small number of people coming predominantly from inside the small circle directly connected to the Finnish Ski Association, and that the rest of the population is happy to just use the skiing tracks at the Olympic Stadium free-of-charge but that they have no interest in attending other events connected to the concept, such as the sprint competition or the sponsor seminar (Gammon, 2014).

One clearly challenging aspect of HSW (both years) was that the rental costs for the Olympic Stadium are considerable which needs to be carefully considered in the budget. The budget calculations for both years estimated spectator numbers of 10 000 and 15 000 for HSW 2022 and HSW 2023 respectively, but the turnout was barely 8 000 for HSW 2022 and only around 5 000 for HSW 2023. The reasons for the low spectator numbers are numerous and some have been already mentioned earlier, such as the train strike and bad weather during HSW 2023 and corona and accompanying restrictions as well as bad weather during HSW 2022 (Myllykoski, 2023). For HSW 2022 it is also evident that the planning and organization process of the event was consistently behind its schedule and that the marketing efforts were not targeted correctly and were not widespread enough. This was also the case for HSW 2023, which also suffered from a not evolved enough marketing and promotion campaign and from the fact that also for a second time around HSW had not yet achieved status as a known event which made sales of tickets and for the events around the sprint challenging. However, it has been pointed out by Jari-Pekka Jouppi, that the rental costs for the Olympic Stadium were not to be covered by the ticket revenue of the invitational sprint event but were covered through lucrative sponsor contracts (Myllykoski, 2023).

This issues and challenges point clearly to the fact that a well-developed event strategy together with a precise marketing and promotion plan, with clearly defined target groups, is necessary in order to have an as extensive reach as possible, as has been pointed out to be necessary for successful sport event execution (Kaplanidou, Kerwin & Karadakis, 2013).

## 11 Conclusions

The present study identified a sustainable, scalable and feasible concept for promoting skiing to the general population in combination with a high-level international and invitational cross-country skiing competition to not only attract live audience but also television audience. This scalable concept can be adapted to meet the needs of the organizing institution, so it is applicable in a wide range of locations and areas, and it can be organized as a one-day event or for a longer period. However, before implementing the concept a careful consideration and analysis of an organization's current strategy, evaluation of a suitable location, financial considerations as well as staffing and volunteer power. Kaplanidou et al. (2013) point out that for successful event organization effective event management as well as delivery are key. The practice of covering event location rental costs through sponsor money is a common practice in sport event management, however, the sponsor contracts have to be formed with utmost care to ensure that no loop holes exist for either contract partner to get out of the contract without paying their agreed upon share. Coming back to effective event management, the feedback on both events shows that event management would have been more effective and efficient if some basic principles would have been adhered to, such as clear communication lines between the OC staff, clearly defined job definitions, objectives and responsibilities. Another aspect of successful event delivery is that the event is promoted and marketed successfully creating broad awareness for it. In the case of the concept especially the social aspect, community and physical activity, could have been communicated better to a broader audience (Chalip, 2006). Another key aspect of the concept, its sustainability initiative, could have also been used more extensively in the promotion and marketing efforts not only to increase the awareness of the general population on the efforts which are made by sport organizations for climate protection but also to provide incentives for the population to not only become themselves active in protecting the climate, especially because many consumers are already aware concerning climate change and consciously decide in favour of products and events which are sustainable (Cayolla, Quintela & Santos, 2022).

Providing opportunities for citizens but also tourists to participate in cross-country skiing in an urban environment is not only minimizing carbon emissions due to shorter travel distances and the possibility to use public transportation or even walk to the skiing tracks but also provides tourists with the possibility to not only participate in physical activities during their holidays but also make use of the rich cultural offers of an urban environment (Bichler & Pikkemaat, 2021).

The OC emphasized in their responsibility programme their social, economic and environmental responsibility, the responsibility programme and the to it linked practices of the concept could have been emphasized even more in the marketing and promotion efforts of the event to increase awareness of them in the general population. Mair and Smith (2021) emphasize in their research the duty and obligation event organizers have to not only promote their events as being economic, environmental and socially responsible and sustainable but that event organizers in addition have the responsibility to support the social, economic and environmental development of the location they are holding the event in. The final report on HSW 2023 reports that almost 50 000 persons used the skiing tracks at the Olympic Stadium during the event period, during the day time school classes from the nearby schools used it and the Childrens' snow day was attended by almost 1 800 children, which is an important step towards increasing the physical activity of children and youth.

From the initial idea of contacting the CEO of the Finnish Ski Association, Ismo Hämäläinen, concerning the opportunity of completing a Master thesis in collaboration with the association on a topic which would be of mutual benefit for the association as well as for the thesis researcher, until the final completion of the thesis elapsed one year. During this year the researcher attended the preparation meetings for HSW 2023, attended events during HSW 2023, and post HSW 2023 conducted feedback collection not only on HSW 2023 but also on HSW 2022, as well as on the plans for HSW 2024.

The research process included material analysis as well as research for pertinent peer-reviewed journal articles, and other materials which support the development of the concept from the initial case study. One short meeting with Jari-Pekka Jouppi was held during June 2023 where the researcher provided an overview on the work progress and agreed to provide an update after the summer. It was planned to have a joined meeting at the end of the summer, but this was not executed because Jari-Pekka Jouppi left the Finnish Ski Association during the summer.

It can probably be openly admitted that both HSW 2022 and HSW 2023 faced exceptionally challenging times not only during the preparation, planning and organization phase but also during the

final event realization, the execution phase, mentioning here the train strike as well as the exceptionally bad weather on the day of the sprint event which prevented many last-minute ticket buyers to refrain from attending the sprint event in-person (Myllykoski, 2023; HSW 2023 Final report).

Due to the warming climate skiing in southern Finland might soon only be possible on tracks prepared by cities and municipalities with artificial snow (Pouta et al., 2009), but even these skiing tracks require temperatures around 0°C. So, it is in the interest of everybody, the public, as well as the Finnish Ski Association to participate in sustainable practices and to mitigate climate change.

The organizing committee for HSW 2023 took learnings from the organization of HSW 2022 for the planning of HSW 2023 but the feedback collected after HSW 2023 made it acutely visible that despite best intentions the organization and communication during the preparation phase of HSW 2023 was not as well executed as could have been based on the learning from the previous year. It was an oversight not to develop clear job descriptions and objectives which led to organizing committee members assuming certain other members would take care of things, which had not been assigned to them. Another issue was that the number of needed volunteers was estimated too low, as well as that it was assumed that volunteers would be so flexible as to turn up on very short notice. A further challenge was the assumption of some that volunteers are equal to association employees and hence have the same responsibilities and obligations, which they do not have, but this led to further challenges and misunderstandings during the event execution. Another challenge was the not well-developed marketing and promotion plan which was widely discussed in the previous chapter. Furthermore, was the budget for HSW 2023 calculated with too much optimism at the start and had, due to slow marketing and promotion progress as well as sponsors and partners pulling out throughout the preparation process due to own financial instabilities, to be adapted and changed several times, which meant that ideas and smaller events which were supposed to happen as part of HSW 2023 had to be cancelled or considerably downsized last minute. This was not communicated as well as it should have been within the OC but also publicly which led to some confusion whether an event was going to take place or led to the fact that event names changed. These kinds of situations can be avoided if the event budget from the start is calculated more conservatively and if internal as well as external communication is improved.

These challenges and miscommunications can be avoided, if at the beginning of the event planning process sufficient time is spent on defining work areas, objectives and assignments properly and by making these known to all involved during the planning process. It is further vital to keep very detailed meeting notes, distribute these to all organizing committee members after the meeting and based on these prepare the next meeting and keep detailed updates of planning progression, agreements, contracts and promises which are made during the planning prior to the event. Challenges with internal communication as well as lack of clearly defined job assignments and responsibilities might be due to the fact that several people included in the OC for the planning of HSW 2023 usually do not work for The Finnish Ski Association. Hanlon and Cuskelly (2002) analysed the challenges which such a 'pulsating organization' (term coined by Toffler 1990) is bringing to sport event organization. They are referring to not properly executed induction processes of staff to an organization and event, which leads to the fact that staff resources are not used properly, as well as job responsibilities are not fully understood or known within the work team. As HSW 2023 has shown, it is absolutely vital to create a realistic budget for the concept and to keep track of it throughout the planning and event execution processes. During the organization of HSW 2023 it also became clear that many ideas were carried on for too long before a decision was made not to execute them after all. This meant that time and energy was wasted on ideas which in the end were not executed, taking time and energy away from events which were part of the final HSW 2023. Due to this indecision, it was also very stressful for people from the OC to do their jobs properly and to take the necessary steps to, for example apply for important permissions because without a final plan, permissions cannot be applied for. This points once again to the necessity to spend enough time at the beginning stages of the planning process to evaluate feasibility of ideas for the event and determine early on whether every idea should be pursued and executed or that some should be kept in store for another year. Another outcome of the feedback analysis for both HSW years was that each event needs a thorough post-event analysis and that the results need to be considered in detail when planning the next event to avoid repeating mistakes.

So, did the researcher face exceptional circumstances during the writing process of this thesis and the product development process, from case study to concept. This was due to the challenges the Finnish Ski Association faced at the end of season 2022/2023. The financial situation turned extremely challenging for the association one reason being that due to the challenges HSW 2023 faced not as much revenue and profit was made as had been budgeted and calculated. At the beginning of the summer this led to the need to instigate co-determination talks and through this

part of the Finnish Ski Association staff was laid-off. These measures did not turn out to be enough so at the end of summer discussions continued and the commercial director of the Finnish Ski Association Jari-Pekka Jouppi was let go. Jari-Pekka Jouppi was a key contact person for the researcher and with this a valuable contact and discussion partner was lost. Due to these uncertain circumstances and very busy times also the CEO of the association Ismo Hämäläinen was not available for the researcher to discuss the case study and concept. The feedback survey had been sent to one more person who was involved in both HSW events but who never returned the feedback email. The researcher later learned that the person had been on sick leave starting after HSW 2023 and had then decided to hand in their notice. It can only be speculated what kind of feedback this person would have provided concerning HSW 2022 and HSW 2023, and whether this feedback would have been considerably different to the feedback provided by the other respondents.

For a research project to face these kinds of challenges and difficult situations it is far from optimal for the outcome of the work process. But considering the extreme financial challenges the Finnish Ski Association is facing and the kind of work, concentration and effort to solving this is needed, it is understandable that the researcher and the research project were set aside on the priority list of not only the CEO but all others who have been involved with HSW 2023 and are in an employment relationship with the Finnish Ski Association.

The concept is, however, an important tool to bring cross-country skiing to the people, to offer free physical activities to citizens and to organize a sustainable cross-country skiing competition in the middle of a city.

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## Appendices

### Appendix 1. Responsibility guidelines for HSW staff 2023



#### Helsinki Ski Weeks 2023 – Responsibility guidelines for staff

1. Traffic is the biggest cause of carbon dioxide emissions at the event. Keep this in mind at all times during the project and think about what you can do in your own work to reduce emissions. Record your movements in a carbon dioxide diary.
2. If you order transport, choose a transport company that uses renewable fuel for its transports.
3. Choose electricity that is as green as possible and equipment which consumes minimal electricity. Due to the energy crisis, it is even more important to pay attention to energy consumption and try to reduce it by all means.
4. Always sort waste.
5. Don't throw away materials which could be useful to someone else.
6. Inform subcontractors that we strive for a responsible event as much as possible. They know their field best and know how to offer environmentally friendly solutions.
7. Do not offer beef when catering food. Also avoid lamb and pork.
8. Choose a Fair Trade product when serving coffee, tea and cocoa (chocolate).
9. When purchasing materials, ask if the producer knows the carbon footprint of the product/service to be purchased. Record the carbon footprint or product in the carbon dioxide diary.
10. Especially when choosing textiles, pay attention to the origin of the materials and ensure responsible production (avoid Chinese cotton).
11. Avoid purchasing single-use products at all costs.
12. Message openly about your responsibility work. Celebrate successes, but be also honest about failures. Honest, open and transparent operations are responsible and credible.

Responsibility is a practical action!

**Esse, non Videri**

Doing, not pretending

## Appendix 2. Responsibility guidelines for partners HSW 2023



### Responsibility guidelines for partners

When possible, we ask you to use transport companies which operate responsibly and take the environment into account for transportations related to Helsinki Ski Weeks (e.g., use renewable fuel, an economical driving style, being an environmentally certified company).

If you bring electrical equipment to the event, we hope you use equipment with a low energy consumption.

We hope that you plan your materials for the event in such a way that you produce as little waste as possible at the event.

We hope that you consider carefully what kind of materials you will distribute to customers at your information points.

Make sure that your staff coming to the event has been familiarized with the waste sorting instructions which will be provided closer to the event.

In cooperation with you, our partners, we will try to find solutions that will allow us to utilize already existing marketing materials so that as little as possible completely new materials need to be produced only for Helsinki Ski Weeks.

We hope that your marketing and communication related to Helsinki Ski Weeks will take place mainly through digital platforms. However, it is good to be aware that even electronic communication is not emission-free.

If you distribute promotional products at the event, we hope you select products made from recycled or renewable materials. We hope that you will avoid individual packaging and single-use items.

We hope that you will communicate together with us about the environmental work we do. Influence is a key part of responsibility work.

We need everyone's contribution to save winters.

Together, we can pay attention to the carbon footprint, i.e., the positive things we can do for the environment.

Responsibility is a practical action!

**Esse, non Videri**  
Doing, not pretending

## Appendix 3. Responsibility guidelines for subcontractors HSW 2023



### Responsibility guidelines for subcontractors

Transportation related to Helsinki Ski Weeks must be organized responsibly and with the environment in mind (e.g., use of renewable fuel, economical driving style, environmentally certified transport companies).

We calculate the event's carbon footprint and the subcontractors' transportation is included in the calculation. We ask you to provide information concerning transportation for the event as soon as possible after the event. The information must be clear:

- Vehicle size (vehicle make and possibly weight)
- Fuel consumption and/or kilometres driven
  - Fuel type/quality

If you bring electrical equipment to the event, we hope you use equipment with the lowest possible energy rating.

Plan your materials for the event so that you produce as little waste as possible at the event.

Make sure that your staff coming to the event familiarize themselves with and follow the waste sorting instructions which are given closer to the event.

Prefer products made from recycled materials or renewable materials. Avoid individual packaging and disposable items.

We hope that you join us in communicating about the environmental work we do. Influence is a key part of responsibility work. We need everyone's contribution to save winters.

Together, we need to pay attention to the carbon footprint, i.e., the positive things we can do for the environment.

Responsibility is a practical action!

**Esse, non Videri**  
Doing, not pretending

## Appendix 4. From Case Study to Concept



# From Case Study to Concept



## Case study presentation



## Pioneer spirit and commitment

**Helsinki Ski Weeks** is a completely new event concept, which was executed for the first time at the Helsinki Olympic Stadium in 2022.

The majestic setting of the Helsinki Olympic Stadium offers unique conditions for skiing right in the heart of the city, for various theme and event days and for event partner companies' own purposes, such as days company well-being days to customer events and product promotions.

Skiing and completely new events – sustainably executed in cooperation with our partners.



## Helsinki Ski Weeks 2022: First year

Together with our partners, we created a phenomenon that caught on the spirit of the time and people's needs: the joy of exercise without the pressure to perform, a strong sense of community and an experience in an unusual location, the newly renovated Olympic Stadium. In the first year, the event visitors' message was clear: more of this!

**30** event days

**Over 70 000** event visitors

**8** special events

**20 049** skiing reservations

**104 047** skied kilometres





## Case study: Helsinki Ski Weeks 2023

- 19 days of skiing free-of-charge at the Helsinki Olympic Stadium
- 12 days of special events
- 1.1km skiing track inside and outside of the Olympic Stadium
- Carbon-neutral event



## Mission and vision: A concept to move society

- **Social responsibility:** by promoting public health
- **Equality and equity:** everyone can join, no matter age or skill level
- **Responsibility:** social, financial and environmental responsibility
- **Strong partner network:** cooperation and working together
- **Helsinki Ski Weeks:** National Day of Skiing and the Stadium Sprint



## Helsinki Ski Weeks main events

**Skiing weeks:** Skiing in the Olympic Stadium! We encourage people to take their family members and friends along to ski in the majestic surroundings and to enjoy one of the sacred Finnish sports.

**Stadion Sprint:** The world's best sprint skiers are measuring each other up in this international invitational sprint competition. Competition on the track, top performers and ski sport celebrations.

**National Day of Skiing** is the ideological core in which this month long event culminates, when the goal is to inspire one million Finns to go on the skiing track on the same day to enjoy being active together.

**Company sprint event:** Winter's most inspiring boost for the collective spirit of companies! Four-person sprint skiing race – playful but with real intent.

**Childrens' snow day:** Fun and tricks in the snow – first experiences with snow sports for school classes and the family.

**Taylored company and well-being events:** Special circumstances offer unique opportunities for companies.



## RESPONSIBILITY

A separate responsibility program was drawn up for the entire event, with one key point being e.g., producing a carbon neutral event. In both years this goal was achieved.

### SOCIAL RESPONSIBILITY



Helsinki Ski Weeks makes it possible for everyone to enjoy a completely new and free winter sport event in the heart of the capital. Among others, the immobility of children and young people is a challenge to which this new winter sports concept of the Finnish Ski Association and Helsinki Ski Weeks is responding.

### ECONOMIC RESPONSIBILITY



Helsinki Ski Weeks is part of the Finnish Ski Association's strategy and its mission is to contribute to securing the future of snow sports both financially and attracting its development potential.

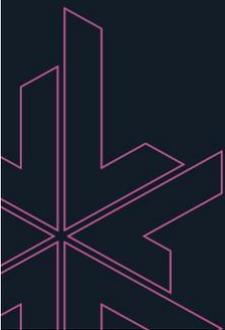
### ENVIRONMENTAL RESPONSIBILITY



A main point of the responsibility activities of the first year was that special emphasis was placed on environmental responsibility and Helsinki Ski Weeks was organized as a carbon-neutral event.

**Concept:  
A sustainable competition  
and physical activity  
concept for cross-country  
skiing**

**Concept presentation**





## Location

Iconic sport facility or key location within the city centre

## Partners

Existing partners or event specific new partners

## Sponsors

Existing sponsors and new event specific sponsors

## Events

Identify target groups

- Children and youth
- Senior citizens
- Sport professionals

Fitting to own strategy



## RESPONSIBILITIES

### Social

Physical activity for everyone at no costs  
Work experience for volunteers

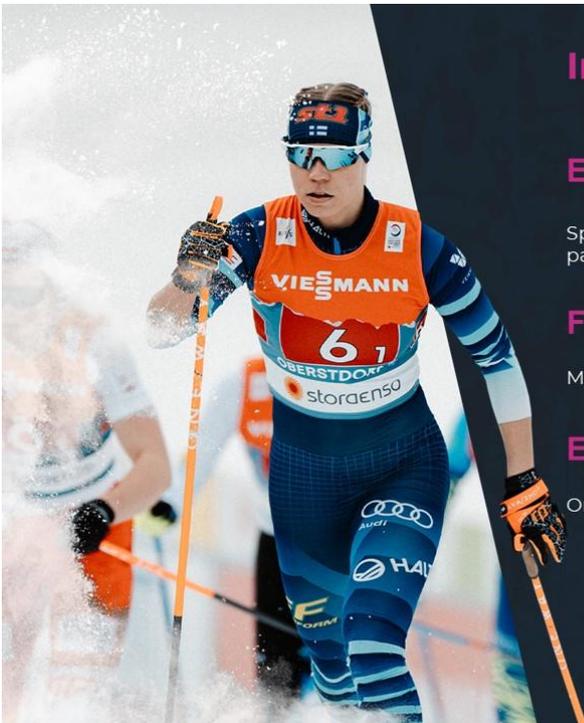
### Environmental

Carbon-neutral  
Climate change and global warming awareness

### Economic

Event spectators  
More active skiers

# INVITATIONAL SPRINT EVENT



## Invitational sprint event

### Event show

Sprint event with music, show and spectator participation

### Females first

Males sprint second

### Equality

One wax for all