

## Environmental Sustainability and the National Hockey League: A Review of the Seven Canadian Teams

By Carla Colomba\* & W. James Weese<sup>±</sup>

*Environmentalists consistently note that the way we live and work is having devastating impacts on the environment, and immediate change is required if the planet is to be saved. Legislation is being enacted to force industries and companies to change their business practices so the impact of their programs and services is less damaging to the environment. Some organizations, including professional sports teams and facilities, have implemented environmentally friendly programs and practices to reduce their environmental impact. They have subsequently celebrated these developments as part of their corporate social responsibility (CSR) and corporate environmental responsibility (CER) programs. The researchers reviewed the programs and practices of the seven National Hockey League (NHL) teams based in Canada and, based on these assessments, offered suggestions for improvement based on the best practices of teams and facilities from other sports and facilities across the globe. These environmental programs should serve as the most critical component of their corporate social responsibility program.*

**Keywords:** corporate environmental responsibility, National Hockey League, Canada

Politicians, climate researchers, and environmentalists have pointed to environmental sustainability as the number one challenge facing the planet and society (Leonard, 2006). The way we live, work, and travel have negatively impacted the health of our planet, and many authorities have suggested that life as we know it cannot be sustained without immediate and significant change (Brooks, 2013; Leonard, 2006). Increased pollution, heightened greenhouse gas emissions, and commensurate increases in the number of hurricanes, forest fires, and droughts are all the consequences of negative climate change brought on by excessive human consumption (Shepherd, 2022).

The need for significant change has not been lost on sports organizations, although the bulk of research in this area is focused on the major sports leagues in the United States and Europe. It is expected to be a priority area for all sports leagues in the future (Trendafilova et al., 2013). Many teams and their host facilities have adopted new programs, practices, and policies to power their facilities, reduce waste, and consequently reduce their carbon footprint and environmental impact (Trendafilova et al., 2013). Some have actively promoted these practices as part of their corporate social responsibility program, which also heightens community acceptance, corporate image and ultimately, their bottom line (Inoue & Kent, 2014). According to Barrett et al. (2019), these corporations are promoting their

---

\*Graduate Student, School of Kinesiology, Western University, Canada.

<sup>±</sup>Professor, School of Kinesiology, Western University, Canada

corporate environmental responsibility (CER) as part of their larger corporate social responsibility (CSR) program. As Porter and Kramer (2006) eloquently noted, effectively addressing the issue, making a difference for society, and strategically promoting the programs as part of a strategic CSR program makes business sense.

The sports industry can have a significant influence on the earth's natural environment. Many corporations have added importance to sustainability within their strategic plans. Even though most initiatives center around "conservation, recycling and compliance, sustainability has come of age in recent years, to the point that companies now report their actions and in many instances, attempt to influence their customers as well as the public about how to be "greener" (Blankenbuehler & Kunz, 2014, p. 75). Professional sports teams and their venues attract thousands of fans who also need to travel to the games. While in attendance, they purchase and consume many single-use products at concession stands and kiosks. Many of these products are not biodegradable, and in the past, were automatically transported to landfill sites. According to a report made by Sustainable Stadiums & Arenas - Waste Management (n.d.), the four major professional leagues in North America (i.e., the National Football League, Major League Baseball, The National Basketball Association and the National Hockey League) generate approximately 35,000 metric tons of carbon dioxide (CO<sub>2</sub>) each year from their fans' activities. Teams travel to geographically disparate locations for exhibition, league and playoff contests and produce excessive carbon emissions. These teams and their venues can have a major impact on the environment (Inoue & Kent, 2014; Trendafilova et al., 2013). The Sustainable Stadiums & Arenas - Waste Management Report (n.d.) confirms that professional sports organizations have had a substantial negative impact on the environment.

A number of professional teams and venues have recently adopted significant environmental sustainability projects. Several cities (e.g., Philadelphia, Detroit) have centralized their sports venues and ensured public transit support the venues. Fans can arrive and depart the games using public transit rather than having to bring personal vehicles. The centralization of the facilities and creative scheduling also allows the cities to eliminate concrete parking structures and the need to cover green space with concrete parking lots. Teams have encouraged their fans to also take part in "green" practices, both at sporting events and in their everyday lives.

### **Corporate Social Responsibility**

Corporate social responsibility (CSR) is "a company's commitment to minimizing or eliminating any harmful effects on society and maximizing long-term beneficial impact" (Trendafilova et al., 2013, p. 298). Environmental sustainability is one area in CSR that has been gaining more interest in sport management and in professional practice. In particular, professional sports, teams, leagues, and venues have inflicted significant harm to the environment. Team, League, and facility officials are now recognizing this impact and focusing their attention on environmental issues as part of a strategic CSR program. Some of

these CSR initiatives include utilizing renewable energy sources, eliminating single-use packaging, using rainwater to resurface hockey rinks, and hosting green-themed events and advocacy campaigns (Prusina, 2022; Shepherd, 2022). These initiatives are recognized as discrete undertakings that try to improve the welfare of the environment and society. Consequently, “discreet undertakings that integrate environmental concerns into mainstream operations as a product of corporate environmental responsibility (CER), which broadly refers to a company’s duty to cover the environmental implications” of its operations (Barrett et al., 2019, p. 35). When looking at CER in professional sports, some focus areas can include recycling, waste reduction, energy and conservation, and Leadership in Energy and Environmental Design (LEED) certification.

Companies participating in sustainable initiatives not only benefit the environment but the activities and programs can also benefit the company. Inoue and Kent (2014) and Trendafilova et al. (2013) stated that corporate credibility is positively impacted by the company’s innovation and support for the environment as well as their involvement in the community. These factors then have a positive effect on their credibility in the aspects of trustworthiness and expertise. A company that demonstrates that it cares about the environment sends a signal that the future matters. Consumers might have a higher level of goodwill and trust in the company as a result (Inoue & Kent, 2014; Trendafilova et al., 2013). Promoting and following through on this commitment is important. However, their words and actions must align.

Sports teams have the opportunity to make changes and authentically promote their commitment “... due to the ability of a company, through CSR, to demonstrate its understanding of customer needs, which leads to high trustworthiness” (Inoue & Kent, 2014, p. 625). According to Inoue & Kent (2012), consumers and potential consumers often formulate their opinions of a company’s credibility on the basis of three things, namely: (a) the characteristics of the organization; (b) the characteristics of the CSR initiative, and; (c) the characteristics of the cause. This perception can impact a consumer’s decision to support, or not support the organization.

### **The National Hockey League Green Initiative**

In 2010, the NHL launched a league-wide green initiative to promote sustainable business practices, educate fans and raise awareness on environmental issues. The NHL Commissioner Gary Bettman stated at that time that the “game originated on frozen ponds, most of our players learned to skate on outdoor rinks. For that magnificent tradition to continue through future generations, we need winter weather -- and, as a league, we are uniquely positioned to promote that message” (NHL Green, n.d.).

Since 2010, the NHL has kept track of its environmental sustainability achievements and proudly shares this information with the public each year. In 2011, the “Gallons for Goals” program was launched. NHL officials pledged to restore 1000 gallons of water through the purchase of Water Restoration

Certificates (NHL Green, n.d.) for every goal that was scored during the regular season, The NHL has proudly claimed that it has restored more than 88 million gallons of water over the past 10 years.

In 2012, based on the positive impact of the “Gallons for Goals” program, the NHL launched “The Legacy Tree Project” and linked it to the NHL draft. Like a seedling that could be nurtured into a large tree, the NHL planted a tree for every player selected in the draft. These trees were planted in the city hosting the draft and celebrated the launching of the professional careers of its new players (NHL Green, n.d.). The league planted more than 1,500 trees in the first five years of the program as another of the green programs in their CSR/CER strategy.

The NHL also helped make significant changes in the teams’ facilities as each were retrofitted with more efficient and environmentally friendly LED Game Lighting programs. This change started in 2013 at the existing NHL arenas. New facilities also adopted the LED Game Lighting initiative. In 2014, the NHL released its first environmental sustainability report. It was the first league to report its carbon inventory, something that other leagues have now adopted. Energy innovations continue to be explored, with fuel cell innovation being adopted by the SAP Centre, the home of the San Jose Sharks.

The NHL continued to search for ways to reduce its carbon footprint. In 2015, in partnership with Constellation Energy, the NHL became the first league to publicly commit to offsetting its carbon footprint. The league has counterbalanced over 963,200 Mega Watt Hour (MWh) of energy since 2014 (NHL Green, n.d.). They have accomplished this “by focusing on innovations and efficiencies such as renewable energy, variable frequency drives and LED lighting” (Play It Forward, n.d.). That same year, the Excel Energy Center, home to the Minnesota Wild, became the first United States-based sports facility to achieve three environmental certifications, specifically the Xcel LEED, Golden Globes, and ASTM/APEX designation (NHL Green, n.d.).

League officials continue to demonstrate their commitment to environmental sustainability. For example, in 2016, the league launched the “NHL Greener Rinks Initiative” designed to educate hockey communities, municipal leaders and sports officials leagues about the new environmentally-friendly and cost-efficient technologies in the design and operation of community ice rinks. In 2018, the NHL Green advanced its commitment and released its second environmental sustainability report, and updated their five-year sustainability goals. Additionally, NHL Green entered a partnership with Chemours to continue educating the rink industry on environmentally sustainable construction and operating practices.

The NHL furthered its commitment to environmental sustainability in 2019 by focusing on the air travel demands placed on the teams due to the league schedule. They calculated the amount of carbon created from post-season team air travel and counterbalanced the carbon emissions that were produced. The league purchased 1,729 carbon offsets which balance the 3,811,000 pounds of carbon dioxide emissions produced by the jets covering the 4,583,100 miles that the teams travelled over the season (NHL Green, n.d.).

In 2020, and in celebration of the launching of the 10-year anniversary of “NHL Green,” the league launched a campaign that encouraged fans to help build

environmentally-sustainable communities through hockey. It continued to publish its annual report highlighting its commitment to environmental sustainability and the success of the many initiatives. In 2021, the league launched its NHL Green's Water Restoration Program. With this initiative, the league committed to investing in water improvement projects in the two host cities of the Stanley Cup finalists that year (i.e., Montreal and Tampa Bay). This program also focused on effective water stewardship and helped promote clean water access to underserved communities (NHL Green, n.d.).

Some of the United States-based National Hockey League (NHL) teams are doing excellent work in this area. For example, the Seattle Kraken team joined the NHL in 2021 and quickly introduced a number of environmental protection programs and policies at their home facility, ironically named the Climate Pledge Arena. This facility is one of the world's most sustainable sports facilities (Prusina, 2022). One of its most unique features is its 'rain to rink' method for creating ice. Operators capture rainwater from their roof top and use it to make the ice that the players skate on. This process is testimony to the innovation and creativity that the team and facility operators have for environmental sustainability. Since the 'Rain to Rink' idea recycles more than 500,000 liters of rainwater (Prusina, 2022) that would normally be drawn from existing water sources.

The facility and team also engage in many other sustainability initiatives that are scalable to other teams. For example, the arena is powered by renewable electricity sources captured by on-site solar panels. The number of parking spaces at the facility is limited to facilitate more fans using public transit to attend games. Each Kraken game ticket includes free public transportation. Twenty-five percent of fans use public transportation to attend games, and this number is expected to rise as consumers grow more accustomed to the benefits and savings of using public transit. The Kraken are the first NHL team, and the third arena in North America to provide free ground transportation with their ticket.

Climate Pledge Arena and the team leaders believe that green-only operations also make the experience better. Their commitment to environmental sustainability is the centrepiece of their CSR/CER programs, and it demonstrates how much they care about preserving the environment (Barrett et al., 2019). Furthermore, the arena exclusively uses sustainable packaging in concessions, and they have banned single-use plastics in the building. Climate Pledge Arena generates 4,000 pounds of waste during each game or event (Shepherd, 2022). Officials have found a way to successfully recycle and compost this waste and divert 95 percent of this waste from landfill sites (Prusina, 2022).

Another organization doing impressive work in the environmental preservation area is the Los Angeles Kings and their home facility, Crypto.com Arena. The team has launched the "LA Kings Green," with the sole purpose of addressing climate change and reducing the environmental footprint of the team and the facility. The "LA Kings Green" program tackles climate change in three main areas, specifically (a) arena and team operations; (b) community integration, and; (c) fan engagement. Crypto.com Arena has also banned the use of plastic straws, installed waterless urinals, and upgraded to LED sports lighting throughout the facility (Green – Kings care, n.d.). The arena has 1,727 solar panels of 346kW on

its roof, which are also connected to an additional solar panel system on the Microsoft Theatre roof. Over the next 25 years, renewable energy source will eliminate over 10,000 tons of CO<sub>2</sub>, reduce more than 27 tons of sulphur dioxide, and will reduce nitrous oxide levels by 33 tons (Environmental Sustainability, n.d.). The energy benefits are equivalent to the planting of mature trees across 170 acres of land (Environmental Sustainability, n.d.), and due to the efficiencies, the Crypto.com Arena will realize energy cost savings \$280,000 annually (Environmental sustainability, n.d.). Their “LA Kings Green” program encourages citizens to engage in environmental preservation discussions and practices. Program leaders have invested over 350 service hours discussing the merits of sustainable projects, and 4,000 students were given access to organic gardens in community schools. Additionally, \$27,500 was gifted to local green organizations, and 1,100 youth eco leaders were empowered to spearhead waste reduction and water conservation projects (Green – Kings care, n.d.). Fans are encouraged to use public transportation or ride-share programs to come to the arena and bike racks were installed to facilitate fans using that mode of transportation. Before each game, the arena staff collects e-waste (e.g., batteries and cellphones) and hosts a clothes recycling program. Used hockey equipment is also collected and recycled and recycling bins are strategically positioned around the arena.

The LA Kings and Crypto.com Arena have advanced their environmental sustainability efforts. This information is publicly promoted and celebrated as part of their CSR strategy, and more specifically, their CER program (Barrett et al., 2019; Inoue & Kent, 2014; Trendafilova et al., 2013). However, what are the Canadian teams in the NHL doing in this critical area?

## Research Question

Given the heightened attention that environmental sustainability has in society and the importance of corporate social responsibility to organizational success (Gallardo-Vazquez, 2014; Porter & Kramer, 2006; Snider et al., 2003), the researchers set out to answer the following research question:

1. What programs and practices do the seven Canadian National Hockey League (NHL) teams (i.e., Calgary Flames, Edmonton Oilers, Montreal Canadiens, Ottawa Senators, Toronto Maple Leafs, Vancouver Canucks, and the Winnipeg Jets) employ to demonstrate their commitment to environmental sustainability?

The researchers reviewed the teams’ print and electronic documents and assessed their efficacy in minimizing their environmental impact. Finally, the researchers provided suggestions for improvement based on the environmental programs, practices, and services employed by teams based in other leagues and countries. The following subsections highlight the programs and initiatives of each team and offers an assessment of their progress in this critical area.

*Calgary Flames*

The Calgary Flames entered the NHL for the 1980-81 season following their relocation from Atlanta. They currently operate out of the city of Calgary in the Province of Alberta. The province is known for fossil fuel energy production, so efforts to reduce its dependence on fossil fuels have been predictably low. Approximately “89% of electricity in Alberta is produced from fossil fuels” (Canada Energy Regulator, 2022). As a result, the Flames have done relatively little to reduce its carbon footprint and demonstrate a commitment to environmental sustainability. The Flames are currently in negotiations with the City and Province on the possible construction of a new facility. In April of 2023, an agreement was made between the city, province and the Calgary Sports and Entertainment Corporation (CSEC) to build the new center. Construction will soon start on an 18,300 seat arena and entertainment venue replacing their current stadium, the Saddledome. The Saddledome has been home to the Flames for the last 39 years and is currently the second-oldest NHL arena after New York’s Madison Square Garden (Calgary Recruits, 2022). Officials make reference to a number of environmentally-friendly features in the new facility (e.g., silver LEED certification, solar panels would allow the facility to be carbon neutral by 2035), and while impressive, the cost of these features have been sticky points in previous negotiations.

The Saddledome was built for the 1988 Winter Olympic Games and lacks the technology and amenities of modern facilities. The fact that the city of Edmonton has a bright, new, and modern facility is problematic for citizens of the city to its south. The saddle design of the roof, while creative, impacts the sight lines and the facility’s ability to host large concerts and other revenue-generating events that would also enrich the entertainment options for the region’s citizens. Building the new arena would be exactly what the city of Calgary needs to become a leader in sustainability since the Flames have been lacking in that area for quite some time. However, building one that is environmentally responsible is essential.

The team has implemented a few environmental initiatives. In 2012, the Flames and Saddledome implemented new practices to be more environmentally sensitive. Before these initiatives, the Flames were being investigated for their inappropriate environmental practices. For example, a CBC report in 2010 shamed the Flames organization for generating excessive waste (Urbani, 2012). The team and facility were cited for using too many single-use plastic cups and straws at their games that were subsequently transported to landfills. Recycling did not happen, a claim that the Flames leaders did not discount, but rather, blamed the city for its lack of recycling facilities.

In 2011, they successfully launched a “Go Green” program linked to the city’s updated recycling facilities. This program called for the Saddledome to replace single-use plastic cups with biodegradable cups. Sixty recycling bins were also installed in the arena so fans could properly dispose of biodegradable containers and have them appropriately managed (Urbani, 2012). With this initiative, they empowered fans to be the change agent for redirecting unnecessary waste away from landfills.

The organization also installed energy-efficient LED lights in different parts of the arena. In addition, they partnered with RONA, a Canadian retailer of home improvement and construction products, to refurbish a community rink with LED lights to reduce energy consumption (Urbani, 2012). They promoted this development with the hopes that other communities would adopt the practice. The Flames continued their sustainability efforts in March of 2018 during the NHL's Green Month. The Flames had a "Green Game" which they announced on social media that they were proud to support a variety of sustainability initiatives at the Scotiabank Saddledome.

Overall, the Flames have not been a leading organization in this area. They have tried a few things, but their efforts pale in comparison to the activities undertaken by their sister teams in the NHL, including others in Canada.

### *Edmonton Oilers*

The Edmonton Oilers joined the National Hockey League in 1979 as part of a merger between the World Hockey Association (WHA) and the NHL. Although both teams reside in the Province of Alberta, it is clear that their commitment to environmental sustainability is quite different from the Calgary Flames. Their facility, named Rogers Place, was built in 2014 and has been celebrated for its commitment to environmental sustainability. In 2017, the arena received a citation from the Green Sports Alliance for the organization's commitment to sustainability. Rogers Place was built in 2014 and was applauded for being the first LEED silver-certified NHL facility in Canada. The state-of-the-art facility acted as a catalyst for the city's downtown core. People were drawn to the geographic location of the facility, which is easily assessable via public transit. It revitalized a dilapidated region of the city and has served as a beacon for future growth and expansion of the region (Spohn, 2016).

Rogers Place demonstrated a commitment to the environment from its conceptual stages of development. During the construction phase until the time it opened, 94.8 percent of waste produced at the facility was diverted from landfills. This equates to over 3,469 tons of waste that have not ended up in landfill sites and polluted the land and water systems of the city (Spohn, 2016). Aside from waste reduction, Rogers Place has implemented plans and processes for other environmentally sustainable initiatives, including, but not limited to, development density, water reduction, transportation, and energy efficiency.

The fact that Rogers Place was the first LEED silver-certified NHL facility in Canada is an achievement to be proud of, but also one that took advantage of the community support to build the facility with the emerging technologies of the time. In doing so, they demonstrated incredible foresight and leadership. The Green Sports Alliance acknowledged this point and suggested that Rogers Place and its LEED-Silver certification was an environmental leader among North American teams and sports facilities (Spohn, 2016).

Becoming a LEED silver-certified arena costs more initially and adds a number of complexities to an already complex facility. Many factors need to be considered when designing a facility with new technologies like those contained in



Rogers Place. As previously mentioned, the arena has diverted almost 95 percent of its waste from landfills. The importance here is not only in reducing waste but rather recycling and/or repurposing materials which Rogers Place has successfully considered and carried out. Not sending waste to landfills ends up reducing the environmental issues that are linked with waste, such as carbon emissions and pollution (Spohn, 2016). This recognition is a true sign that the building is of a green design. Additionally, Rogers Place's green design optimizes energy performance and reduces its carbon footprint.

Rogers Place is also the centerpiece of a larger civic plan. Since it was built in Edmonton's downtown core, the facility is strategically connected to public transit, therefore, taking vehicles off the road and making it a safe and walkable space for patrons. Furthermore, Rogers Place is connected to the community through seven Light Rail Transit (LRT) stops that can be accessed within walking distance. It also has effective pedestrian connections as well as electric car charging stations in the arena's parking garage. All of this is due to the fact that Rogers Place was constructed as a compact and dense development (Spohn, 2016).

As an effort to become more energy efficient, Rogers Place has large-scale energy modelling in place to lower its overall energy consumption. As mentioned previously, the building design reduces the carbon footprint as the arena has heat recovery ventilation and central heating control (Spohn, 2016). Not only is the arena meeting the requirements for Edmonton's sustainability policy and LEED, but they are going above and beyond. On top of their heat ventilation and central control, they also have a highly insulated building envelope (i.e., the physical separator between the internal building and exterior environment). Finally, Rogers Place reduces its water use by having low-flow plumbing installation and toilets in every washroom throughout the arena. This design minimizes their water usage by up to 35 percent (Spohn, 2016).

Climate change poses a big challenge for the sports industry, but that does not necessarily mean that you must do one big thing to solve it. It is more a collection of small yet effective efforts that will ultimately lead to change. That is exactly what is happening at Rogers Place. They have done a lot of small but impactful modifications to their building design that has led to big environmental impacts. Rogers Place has focused on conserving water, energy efficiency, temperature control, landscaping, and reducing its carbon footprint. Altogether, leading to great benefits and being a leader in sustainability. These sustainable changes also align with one of their key pillars: environmental excellence. Being that it is located in an "energy-producing province," it is also a key pillar for its partner, the city of Edmonton (Spohn, 2016). Rogers Place is both a beautiful design and environmentally efficient, which will be something the city will appreciate in the future.

Aside from Rogers Place being a cutting-edge, environmentally sustainable building, the Oilers themselves have not engaged in green initiatives or social marketing campaigns to promote environmental sustainability. Perhaps they feel that the Rogers Place initiatives are team activities, and they have done all they can and should do in this area. However, in the opinion of these researchers, they could celebrate the advancements a bit more, and engage in a social marketing

program that celebrates their achievements in the CER area, helps patrons understand other ways of reducing their carbon footprint and contributions to landfills, and appreciate the need for everyone to be environmentally sensitive. Perhaps their position in Alberta explains this reticence, but given the success of Rogers Place, these researchers believe that there is room for the team to also be active in this important area, and they have the perfect platform to use to launch their program. The arena has made a substantial impact. However, it is also important for the team to assume a leadership role in promoting and engaging in environmentally sustainable initiatives.

### *Montreal Canadiens*

The Montreal Canadiens is the oldest team in the National Hockey League. Founded in 1909, the team joined the NHL in 1917 and has been a fixture in the league ever since. The team has won a record 24 Stanley Cup trophies. Since 1996, the team has played out of the Bell Centre, which is located in downtown Montreal in the Province of Quebec. A review of team documents confirms that the team has been making efforts to be more environmentally sustainable since May of 2007. During that time, the Canadiens launched the program “Goal is Green!” which had the objective of positioning the club as a leader in terms of environmental management and sustainable development among all professional sports franchises (The goal is green!, n.d.). The Canadiens green initiatives can be partitioned into four main categories: Biodegradation, Composting and Recycling, Energy Saving, and Transportation (The goal is green!, n.d.). Over time, the team has undertaken a number of programs that demonstrate its commitment to positive environmental change.

In 2007, the Canadiens announced that they would only use biodegradable products over and eliminate the use of single-use plastic containers and packaging. The Bell Centre collaborates with partners that produce biodegradable products such as kitchen tableware and cleaning solutions. Today, the Bell Centre proudly proclaims that the facility uses 95% biodegradable utensils, glasses, and plates (Biodegradation-The goal is green!, n.d.). Using biodegradable products also does not release any gases or chemicals into the air when they are decomposing, which in turn helps reduce the facility’s carbon footprint. The facility leaders’ efforts extend beyond the use of plastic utensils, glasses, and plates. They also employed a different type of plastic in their beer glasses. The plastic they use decomposes in three months, compared to the 1,000 years required to decompose traditional plastic material (Biodegradation – The goal is green!, n.d.). The Bell Centre also prohibited the use of Styrofoam containers.

The Bell Centre leadership publicly claimed to make composting and recycling a priority, and they have clearly followed through on this ambition. One year after they launched their “Goal is Green!” program, the Bell Centre was awarded and has maintained recycling certification from the Recyc-Québec (Composting and recycling – The goal is green!, n.d.). The facility earned other awards and citations for its commitment to conservation and the environment. In 2012, it received a “silver” level LEED certification for its environmental practices.

Bell Centre was applauded for composting and recycling over 80% of unused materials. This number is impressive, considering the facility once reported that it recycled 25% of its materials prior to the arena implementing its green program. In addition to tripling its performance in recycling, Bell Centre also decreased the amount of garbage it produced by 78% since starting the green program in 2007. The Bell Centre has undertaken other recycling efforts that warrant mention. For example, they donated used computer equipment, restored, and used 90% of old stadium seat materials in the construction of their new seats, donated 35 tons of food (in one year) to people in need rather than a landfill, and installed 945 three-tiered recycling bins throughout the building (Composting and recycling – The goal is green!, n.d.).

It is important to note that the Canadiens environmental initiatives extend beyond the arena. In May of 2017, an NHL Green Equipment Drive took place at the Bell Sports Complex, where the public was asked to donate used hockey equipment. The Canadiens staff collected, cleaned, and then distributed the used equipment to a number of community rinks. The Canadiens also continue their “Twigs for Twigs” initiative every year since it became a part of their “Goal is Green!” program. This initiative focuses on promoting reforestation in different areas of Montreal where there is a need for trees, especially those located in abandoned agricultural areas near lakes that were negatively impacted by cyanobacteria (Composting and recycling – The goal is green!, n.d.). Their commitment to reforestation is evidenced by another program. Since 2013, the Canadiens organization has planted a tree for every hockey stick broken by one of its players.

After receiving their recycling certification, the Canadiens officials quickly looked into LEED certification. They wanted to determine how they could maximize their main systems and lead in energy saving. Only four months after registering the Bell Centre, they were awarded the LEED certifications for Existing Buildings (US) and the LEED Canada for Existing Buildings: Operation and maintenance by the Canada Green Building Council (Energy saving – The goal is green!, n.d.). However, it could not have happened without the commitment, determination, and teamwork demonstrated by the organization and its employees. A few of the measures the Bell Centre took to meet some 50 actions required to earn the LEED certification included: installing more water-efficient toilets and faucets in the facility that significantly reduced water consumption; managing cooling towers to heighten efficiency; installing an automated control system to reduce energy demands; reducing energy consumption (i.e., lighting) by 65% because of new LED usage; realizing a 28% reduction in greenhouse gas emissions; employing a daily automated temperature and ventilation systems to be more efficient, and; becoming 65% more efficient in energy saving by installing 140 LED lamps to light the ice (Energy saving – The goal is green!, n.d.).

The Canadiens organization also introduced the “Goal is Green!” program to ensure more environmentally conscious transportation systems for their fans (Transportation – The goal is green!, n.d.). They put in place a social media program encouraging fans to use public transit to reduce their carbon footprint. They entered a long-term partnership with STM (i.e., Société de transport de

Montréal) that made this transportation service effective and cost-efficient for fans. During games, the public address announcer encourages fans to take accessible public transportation and use the convenient metro stations located adjacent to the Bell Centre. Officials noted that there was a noticeable increase in metro service during home game nights. The facility planners installed charging stations in their underground parking structure in prime parking spaces to support fans driving electrical cars. With transportation, the Canadiens push the usage of public transportation for fans. Putting into practice what they preach, they encouraged their staff to carpool, walk, or use public transit (Transportation – The goal is green!, n.d.).

All of these environmental actions and innovations appear to have had positive impacts on the fans, and the accompanying social media campaign appeared to heighten their awareness of the importance of environmental sustainability (Environmental Innovator Winner, 2017). Their programs and activities demonstrated an authentic commitment to environmental sustainability. Furthermore, it aligned with the league initiatives in the area and fortified the Canadiens' position as a leading NHL team in the sustainability movement. Overall, these sustainable initiatives implemented by the Canadiens and the Bell Centre are powerful programs that demonstrate their commitment to the environment and its sustainability (Environmental Innovator Winner, 2017).

#### *Ottawa Senators*

The Ottawa Senators rejoined the NHL in 1992. Many of their sustainable efforts appear to have been initiated in 2012. The Senators organization partnered with NHL Green to conduct a full-scale energy audit of the Canadian Tire Centre, the home of the hockey team since 1996 and previously known as Scotiabank Place. This energy audit, launched during the year that the Senators hosted the All-Star Game and weekend, was used to identify potential areas and operations that would heighten energy efficiency, reduce energy and maintenance costs, and significantly reduce facility impact on the environment (NHL Green and Ottawa, 2012). Hydro Ottawa Limited and Enbridge Gas Distribution partnered with the Senators on this audit, which led to the facility developing policies and practices that team officials believed would be the best and most sustainable energy management strategies for the facility (NHL Green and Ottawa, 2012). Unfortunately, the results of this audit were never publicly released.

The Senators did engage in a number of green programs like the "Think Green, Go Red" campaign that was designed to tackle environmental concerns, predominantly through educating fans and employees to be more environmentally aware and sensitive. Since starting this campaign, the Canadian Tire Centre has reported that it has increased recycling rates, switched to more ecologically responsible cleaning products, and altered practices to minimize unnecessary lighting (NHL Green and Ottawa, 2012).

In 2017, the Senators announced a multi-year partnership with Tomlinson Environmental Services, an Ottawa-based business and community leader. With this partnership, Tomlinson Environmental Services became the official

“Environmental Services Partner” for both the Senators and Canadian Tire Centre (Sens Communications, 2017). Tomlinson provided environmental services to the infrastructure of the Canadian Tire Centre, which included managing all waste and providing recycling services. This partnership benefitted the Senators and helped the organization become more sustainable.

Other than the Senators conducting an energy audit, establishing an environmental campaign, and partnering with Tomlinson Environmental Services, there has not been any other environmental initiatives reported. It is great that the Senators and Canadian Tire Centre have done something to become more environmentally sustainable, but they have not been as active as some of the other teams in changing their practices or encouraging their fans to be more environmentally sensitive. When looking at some of the other Canadian NHL teams, the Senators fall behind. They could be doing a lot more or at least showcasing their sustainability efforts in a more impactful way, like having a green initiatives section on their website that highlights some of their environmental accomplishments. As well, the arena is located miles from the city center and is not accessible through the mass public transit systems like the light-rail systems used in other cities to service their fans. Most of their fans travel to the arena for games and events in private vehicles. Talks are underway for the development of a new arena in the city center. This facility should have all of the energy-efficient amenities. As well, its location will facilitate access through more environmentally-friendly modes. However, the Senators and their venue operators could be doing more in their current venue and will need to be active in this area in the future, given the importance of CSR to long-term organizational success.

### *Toronto Maple Leafs*

The Toronto franchise first entered the NHL in 1917 as the Toronto Arenas. They were renamed as the Toronto St. Patrick's in 1919, and in 1927 was renamed a third and final time as the Toronto Maple Leafs. The Toronto Maple Leafs are the signature sports franchise in the Maple Leaf Sports and Entertainment (MLSE) Inc. organization. Other professional teams that fall under the MLSE umbrella include the Toronto Raptors of the National Basketball Association, the Toronto Argonauts of the Canadian Football League, the Toronto FC of Major League Soccer, the Toronto Marlies of the American Hockey League, and the developmental Raptors 905 (basketball) and Toronto FC II (soccer) program.

As an organization, MLSE has demonstrated an ongoing commitment to environmental sustainability for years. As part of this, the Toronto Maple Leafs, Scotiabank Arena (formerly known as the Air Canada Centre) where the Leafs and Raptors play, and the David Suzuki Foundation partnered to spotlight the Maple Leafs “Go Green” campaign for one of their home games in the 2008-09 season. The vice-president of venues and entertainment for MLSE stated at the time that this would help raise awareness about the importance of moving towards a more sustainable society and that it is only one way MLSE was promoting its ongoing commitment to decrease the environmental impact of the venue and teams (Maple Leafs and Air Canada Centre Go Green, 2009). A few of the green actions that

took place during that game included lighting reduction on the concourse level, in-arena messages informing fans on how they could lower their personal carbon footprint, a public service announcement from David Suzuki, and a 30% discount at CentreSports for the fans who provided proof of their use of public transit to the game. Additionally, prior to this game, the Leafs organization participated in Earth Hour by reducing lighting in the parking garage, concourses, and washrooms; dimming signage illumination and turning off the arena's iconic spotlights for the evening (Maple Leafs and Air Canada Centre Go Green, 2009). Unfortunately, this seemed to be a one-time event, and the researchers question why this does not happen for each game hosted by MLSE.

In March of 2018, the organization further demonstrated its commitment to environmental sustainability by teaming up with the NHL to advocate the "NHL Green Awareness Month". Again, it was celebrated and enacted for one game during the month. This game included various promotions and activities designed to draw attention to excessive consumption and waste. In addition, Maple Leafs Sport and Entertainment (MLSE) matched 100% of the electricity used during all Maple Leafs, Raptors and Toronto FC games at Air Canada Centre and BMO Field that month with Renewable Energy Credits supporting Canadian renewable energy projects. (NHL Green: Toronto Maple Leafs, n.d.). Later that month, MLSE staff and alumni ambassadors took part in the first annual Johnny Bower Park Clean-Up. Johnny Bower, a beloved former player, dedicated his time to maintaining the cleanliness of the park and MLSE organization was proud to support the effort.

On the official NHL Green Game Day, the Leafs held a used hockey equipment drive at the Air Canada Centre and all of the equipment collected was donated to the 'MLSE Foundation's Hockey in the Neighborhood Program.' This program recycled the equipment and supported a community need ("NHL Green: Toronto Maple Leafs, n.d.). During the game, the team made several changes to its common game day practices to support the NHL Green Game Day event. The venue turned off the spotlights that were routinely used, dimmed external advertising signs, and reduced concourse lighting by 66%. The Leafs complemented these activities with scoreboard messages designed to educate fans on environmental practices put in place by MLSE and encouraged fans to adopt environmentally supportive practices (NHL Green: Toronto Maple Leafs, n.d.).

MLSE appears to be committed to being an environmental leader in the community. They have established a working committee devoted to studying ways to reduce their programs' environmental impact. MLSE officials uncovered three areas where it might have the greatest impact on the environment, namely: energy, waste, and water (Sustainability, n.d.). The most important component of MLSE's environmental footprint is energy consumption. MLSE officials promised to take its management seriously, and they appear to have followed through on that commitment. Some of the changes they implemented include using a deep-lake water cooling process, using centrally produced steam, implementing lighting and illumination controls, reducing building temperature levels when not in use, using lower speeds on fans and pumps where possible, using LED lighting, and

monitoring and strategically reducing its footprint wherever possible (Sustainability, n.d.).

MLSE officials also focused on waste management practices. Scotiabank Arena has 2.75 million people enter the building each year and organizes about 180 ticketed events annually. This is a substantial amount of traffic coming in and out of the arena, especially taking into consideration the amenities that an arena this size provides. Over time, one can imagine that there would be a considerable amount of waste accumulated from this volume of traffic. MLSE officials are well aware of the waste produced at the facility. MLSE needed to find alternatives to landfills. In 2019, they found a way to convert waste for other uses, and they subsequently transferred over 500 metric tons of organic material from landfills into clean soil that could be used in agriculture (Sustainability, n.d.). Additionally, MLSE reports that it is recycling about 375 metric tons of materials on an annual basis. A few of their accomplishments in this area include utilizing tri-sorters for separating organic foods and recyclables, utilizing recycled paper products, utilizing second-hand building materials and furniture, donating spare goods, collecting fryer oil and converting to biofuel, and moving towards using organic packaging (Sustainability, n.d.). The organization once led a campaign to collect used running shoes and recycle the rubber into synthetic floors used to refurbish elementary and secondary school gym floors.

The last component of MLSE's environmental sustainability plan is water usage. MLSE is consistently looking for new ways to reduce the amount of water they use and to make sure their organization does not contaminate the water system. They have accomplished this by using cleaning supplies that are environmentally friendly, installing faucet sensors, filtering water, and using anode technology to treat water (Sustainability, n.d.). On top of these three areas, MLSE takes it a step further and partners with Ocean Wise, a company that reshapes the seafood industry by influencing and educating others. At the time of this writing, they are the first and only professional sports arena/organization to be partnered with them. MLSE has made a promise to become a leader in the community with regard to protecting our environment, our oceans, and our future. They are the largest sports organization in the country, located in the largest city, and housed in the most active facility. It is critically important that MLSE has a robust environment sensitivity program. Perhaps the organization could be most boastful of its many activities and its commitment to preserving and healing the environment.

### *Vancouver Canucks*

The Vancouver Canucks hockey team joined the NHL in 1970 when the league expanded by two teams. They began play in the Pacific Coliseum and moved to a new facility in 1995 (General Motors Place, later named the Rogers Arena). This facility and the adjoining BC Stadium are centrally located and well-served by light-rail systems to transfer spectators and patrons to and from the venue. Like the other Canadian franchises, the Canucks organization has been an

active partner in the NHL's environmental sensitivity programs and has launched some of its own initiatives as part of its CSR/CER strategy.

For example, in 2016, during the Green Sports Alliance Game Changer Awards, the Canucks Sports and Entertainment (CSE) and Rogers Arena were awarded the "Environmental Innovator of the Year" in the NHL category. This awards program acknowledges teams, venues, events, and universities for their contribution to advancing the green sports movement. As with many other live events facilities, the Rogers Arena has a powerful and complicated energy usage and consumption footprint. For this reason, the Canucks actively sought ways that they can build upon their existing green initiatives, reduce their waste and their carbon footprint, and implement new programs and innovations to lessen their environmental impact. Some of the Canucks green initiatives include, but are not limited to, the introduction of an automated Energy Optimization System (i.e., part of a partnership with Shift Energy), sharpening their focus on local products, becoming an owner of sustainable farms for salmon and sablefish, and make it an organizational goal of having zero waste (CSE Wins Sustainability Award, 2016). These were ambitious plans, but the Rogers Arena and CSE were committed as demonstrated by the fact that they were one of the founding members of the Green Sports Alliance.

In 2013, CSE partnered with the Green Sports Alliance and Waste Management to assist them in reaching their goal of zero waste. One main way they planned on being successful in this quest was by using a number of tri-sorter recycling bins, which were strategically placed throughout Rogers Arena. CSE hoped this would call attention to their green initiative and make it easier for fans to assist them in reducing their environmental impact by filtering out what can be recycled, composted, or thrown out as waste (Zero Waste Program, n.d.). Furthermore, all containers, spoons, knives, and straws that the Rogers Arena concourse provided were made of biodegradable materials. In 2019, with this initiative firmly in place, the CSE organization recycled or composted 85% of the waste that would previously be sent to landfills (Zero Waste Program, n.d.). It is clear to these researchers that CSE and the Rogers Arena are 100% committed to environmental sustainability and have implemented policies and practices to operationalize their commitment to the environment. In fact, they are a national leader in this critical area.

### *Winnipeg Jets*

The Winnipeg Jets entered the NHL in the 1979 merger with the WHA. They joined the league along with the Edmonton Oilers, the Quebec Nordiques (now the Colorado Avalanche) and the New England Whalers (now the Carolina Hurricanes). The original Winnipeg Jets team relocated to Phoenix, Arizona (now the Arizona Coyotes) in 1979, and the current Winnipeg Jets franchise relocated from Atlanta, Georgia, in 2011. The team is owned by True North Sports and Entertainment, and the team plays its home games in the Canada Life Centre (formerly the Bell MTS Place).



The Winnipeg Jets and True North Sports and Entertainment (TNSE) strive to be a leader in the community and are committed to reducing their environmental impact. The Jets have worked hard to improve their environmental footprint for both their sports facilities and operations. Their primary focus is on implementing recycling, waste management, energy efficiency, and water conservation programs. Over the years, the Jets have implemented a number of measures to be leaders in these important areas. For example, Canada Life Centre proudly boasted that in 2021 alone, their staff members recycled enough paper and cardboard to save 750 trees (Go Green, n.d.). Since 2011, the facility has saved over 5,000 trees through an aggressive recycling program for both paper and cardboard. Officials at the arena claim to recycle roughly 100 pounds per day (Go Green, n.d.). Furthermore, since their relocation to Winnipeg in 2011, the Jets officials report that they have recycled 156 tons of plastic (Go Green, n.d.)

On the waste management side of the equation, the Canada Life Centre has transferred 246,000 litres of oil from going to waste since 2018 (Green Initiatives, 2022). Every week about 1,000 pounds of kitchen scraps and coffee grinds are composted. Furthermore, the used cooking oils are recycled into biodiesel fuels to power farm vehicles in Manitoba. The Jets stayed true to their pledge to reduce their environmental impact. They reported that they have redirected more than 3.5 million kilograms of waste from landfills ever since 2004 (Green Initiatives, 2022).

Canada Life Centre uses almost exclusively LED lighting both inside and outside the arena. Using this lighting provides energy-savings, cost-savings, lower CO<sub>2</sub> emissions, and operates on a low-voltage platform. Furthermore, Canada Life Centre uses the latest sports lighting technology known as Eaton Ephesus LED lighting around the arena bowl and in the concourse areas (Green Initiatives, 2022). The concourse lighting can be dimmed or shut off individually with motion sensors to help conserve energy. The Canada Life Centre has sought to minimize its need for artificial light with the help of the arena's glass façade which is ergonomically designed to allow natural light in. There are many ways the Jets and Canada Life Centre have successfully reduced their energy consumption. Leaders encourage all employees to ride their bikes to work. This campaign has worked, and the organization believes that the campaign has generated considerable savings in CO<sub>2</sub> emissions (Go Green, n.d.). Lastly, the Canada Life Centre reports that it conserved 1.75 million litres of water in 2021 with the help of the recycling program.

Aside from the four efforts that TNSE company is focusing on, there are several environmentally conscious operations that they have taken part in which are noteworthy. From the beginning, and since Canada Life Centre was being built, concrete and steel studs with drywall were used in place of wood, and recycled materials were used as a surface finish (Go Green, n.d.). The Canada Life Centre supplies hand towels and toilet paper that are made of recycled materials. TNSE is proud to acknowledge that they use an eco-friendly paper supplier that plants two trees for every tree that is cut down (Green Initiatives, 2022). TNSE and Canada Life Centre ensure that they exclusively use only eco-friendly and Certified Green products in their facilities. They truly make an effort to purchase

the most environmentally- sustainable materials to be used in their operations and in building upgrades/construction.

The Winnipeg Jets and the Canada Life Centre are proud members of the Green Sports Alliance. As members, they work in collaboration to identify the essential tools needed to make knowledgeable and sustainable choices. In turn, these should benefit their venue, fans, and environment. The Canada Life Centre and the Jets organization can be proud of the various environmental protection programs that they have effectively implemented. These programs range from energy efficiency practices to waste reduction and recycling programs and to lower their carbon footprint. An important green initiative took place in March of 2019 and warrants special mention. Similar to the Leafs, the Jets also took part in a “Go Green” game night. Part of that night, the Jets hosted Climate Change Connection and Green Action Centre on the Canada Life Centre concourse. The organizations promoted ways for fans to become more environmentally friendly while providing information to them on how they can do so. The NHL’s environmental mission strives to identify areas where the league can reduce its environmental footprint and be leaders in helping other organizations and citizens adopt sustainability practices (Winnipeg Jets PR, 2019). The Jets “Go Green” night promoted the many ways that TNSE, Canada Life Centre, and the Jets organization are addressing the need for environmental sensitivity and preservation and offering programs and services for their fans to join them in these preservation efforts (Winnipeg Jets PR, 2019).

### **A Look Ahead**

The seven Canadian NHL teams have all made some kind of effort to become more environmentally sustainable. However, it is clear that some teams and their respective arenas are making more of an effort than others. Those teams that are lacking in their sustainable efforts can and should look at the teams that are leading in sustainability. That being said, the researchers suggest that it is important to look at the practices of the Seattle Kraken and the Los Angeles Kings as they have best practices that should be adopted are very active in this area. While organizational leaders of the Canadian teams and facilities appear to be committed to protecting the environment and making their operations more sustainable, there is substantial room for growth.

As a result of global warming, there is a growing concern about protecting and care for the environment and its wildlife. Therefore, environmental sustainability and corporate responsibility are topics of high interest in research, businesses, news, and in everyday discussions. There is a call for action to become more environmentally sustainable by promoting change and engaging in environmental initiatives. It is one thing to claim you are being environmentally sustainable, and it is another to act on it. Many organizations and businesses already have corporate environmental responsibility acts in place. Although not all acts are perfect, there is some kind of change being seen in these companies. The concern for the environment is growing every day which means that the topics of

environmental sustainability and corporate responsibility in sports will be continually looked at.

Environmental sustainability and corporate social responsibility are not only in general businesses, but it is also heavily acknowledged in the world of sports. Sports leagues, teams, and stadiums are all taking part in their role to become leaders in sustainability. The sports world has and can have an immense impact on society. Given this, it is crucial for leagues, teams, and their respective stadiums to make it known to their consumers that they are taking an active role in being environmentally sustainable while also showcasing how they are accomplishing this end. Actions speak louder than words. When consumers see that the team and facility actions are aligned, the organization becomes more credible, and there is a higher chance that consumers will do their part in making a change.

The NHL and its seven Canadian teams are taking measures to become environmental leaders in their respective communities. Some teams are doing quite a bit, and others are not doing very much. The league itself has launched a league-wide green initiative to encourage sustainable practices and raise awareness of environmental concerns. Furthermore, many teams have joined the Green Sports Alliance showing their commitment to making a positive change toward a more sustainable future. Only 12 years ago, the Green Sports Alliance was created and founded by Paul G. Allen's Vulcan Inc. and the Natural Resources Defense Council (Playing for the Next Generation, n.d.). Given that it is a relatively new initiative, it is fair to state that it has already made a substantial impact on the sports world. The researchers predict that the area will only grow more with time resulting in sports leagues, teams, and venues transforming their operations and becoming entirely sustainable. More leagues, teams, and venues are trying to become more sustainable in their operations, however, there is still considerable work to do in this area. Some teams and facilities are clearly making more progress than others. Climate change is ever prominent, and there is a great push for environmental sustainability, so without a doubt, those lacking in change will have to conform in the future. Environmental sustainability is an ongoing process and will be for a very long time. That means that organizations need to keep improving, and they can do this by adapting to new sustainable trends. Since there continue to be new ways of becoming more environmentally sustainable and friendly, there is always something an organization can improve on. Whether it's reducing energy and water usage, technology changes, waste diversion, or designing/modifying a stadium that is LEED certified, there can always be an improvement made. In the future, these advances will continue, and more will arise. An advancement that I think will be big in sports organizations is net-zero emissions. There has already been some change with net-zero emissions, but not nearly enough. One example in sport is the Formula 1 (F1) motorsport series. The F1 circuit has pledged to be carbon neutral by 2030 (Koons, 2022). This is, of course, significant as it is a sport that uses combustion engine cars.

The findings of this research are crucial for the practice of sport management, theory, and subsequent research. Since there are rising concerns of the significant impact organizations have on the environment, there is a need for this kind of research. Sports organizations specifically have just as big of an impact on the

environment, if not bigger, but also hold the power to influence the masses if they become a leader in sustainability. So, it is important for research to be done on what sports leagues and teams are doing to be more environmentally sustainable.

Teams and venue officials need to ask if they have sustainable environmental practices in place. Could they be doing more? Are they actively participating in sustainable practices? What are their future goals and plans for sustainability? After analyzing what kind of an impact these sports organizations are having on the environment and sustainability, there can then be suggestions and improvements for them as to what they could be doing better. Each team should have robust recycling programs in their venues. They should also adopt some of the best recycling practices (e.g., recycling clothes and used hockey equipment). Naturally, single-use plastic must go and recycle bins must be installed throughout the facility. Teams would be well served in making in-game announcements about environmental preservation and the practices and commitments team and facility official are making to reduce their environmental impact. The new facilities being discussed in Ottawa and Calgary must consider all of the latest developments in environmental sustainability (i.e., design, materials, operations, energy consumption, and accessibility through public transit and other energy-sensitive modes). Best practices must be implemented, expressed, and celebrated. After all, CSR is good for business (Porter & Kramer, 2006), and in the view of the authors of this paper, nothing is more important or relevant to members of Canadian society than protecting the environment.

## **Conclusion**

The researchers analyzed the environmental sustainability practices in the NHL with specific attention given to the programs and practices employed by the seven Canadian teams. As global warming and climate change catastrophes increase, there is a call for organizations to take action and implement changes to become more environmentally sustainable. Sports organizations are becoming more mindful of this and are making a conscious effort to focus on the environment and develop sustainable practices. This could be done by recycling, reducing water and waste, conserving energy, and obtaining a Leadership in Energy and Environmental Design (LEED) certification. However, it is not only limited to those as there are dozens of other sustainable practices to take part in. The league and all seven teams have taken various actions to go green and become more environmentally sustainable, though some teams have done more than others. When it comes to sustainability, there is always room for improvement. Therefore, changes and improvements to their sustainability strategies need to be made for a more sustainable future.

It was also important to look at two American NHL teams and their environmentally sustainable efforts. The Seattle Kraken/Climate Pledge Arena and the LA Kings/Crypto.com Arena were both analyzed for their efforts to be more sustainable. Both exemplified an outstanding number and variety of green initiatives. Climate Pledge Arena is one of the world's most sustainable facilities

with being carbon-neutral, committing to water conservation with its “Rain to Rink” method, producing zero waste with its waste diversion system, and providing free public transport to the home Kraken games. On the other hand, Crypto.com Arena has developed best practices so it can operate in the most environmentally conscious manner (Environmental Sustainability, n.d.). Some of these notable practices include renewable energy through the use of solar panels, installing an LED sports lighting system to save energy costs, making it possible for the community to participate in green initiatives, and encouraging recycling and the use of public transportation. These are just some of the sustainable initiatives they took part in. Analyzing these two American NHL teams is for the purpose of comparing their environmentally sustainable efforts to the Canadian NHL teams. This way, one can see what teams and facility operators are doing differently and what the Canadian teams can adopt to their sustainable programs. Although all teams appear to be committed to protecting the environment, there are so many ways in which each team and arena can improve.

Being a leader in environmental sustainability is a continuous process. Global warming and climate change are ever-present and increasing at an alarming rate. It is important that the sports industry makes a conscious and powerful effort to be the change and lead the community to do so as well.

## References

- Barrett M, Bunds KS, Casper JM, Edwards MB (2019) A Descriptive Analysis of Corporate Environmental Responsibility in Major League Professional Sport. *Journal of Applied Sport Management*, 11(3), 35–46.
- Biodegradation - *The Goal is Green!* (n.d.). Montréal Canadiens. <https://www.nhl.com/canadiens/community/goal-is-green/biodegradation>
- Blankenbuehler M, Kunz MB (2014) Professional Sports Compete to go Green. *American Journal of Management*, 14(4), 75.
- Brooks T (2013) The Real Challenge of Climate Change. *PS: Political Science & Politics*, 46(1), 34–36.
- Calgary recruits commercial real estate expertise to revive new arena. (2022) Sportsnet.ca. retrieved on March 29, 2023 at: <https://www.sportsnet.ca/nhl/article/calgary-recruits-commercial-real-estate-expertise-to-revive-new-arena/>
- Canada Energy Regulator / Régie de l'énergie du Canada. (2022) *Canada and Territorial Energy Profiles - Alberta*. Retrieved on March 30, 2023 at: [https://www.cer-rec.gc.ca/en/data-analysis/energy-markets/provincial-territorial-energy-profiles/prov incial-territorial-energy-profiles-alberta.html](https://www.cer-rec.gc.ca/en/data-analysis/energy-markets/provincial-territorial-energy-profiles/prov%20incial-territorial-energy-profiles-alberta.html)
- Case Study: Bell Centre, Home of the Montreal Canadiens. (n.d.). NRDC: Game Changer: Canadiens Case Study. Retrieved on March 30, 2023 at: <https://www.nrdc.org/sites/default/files/Canadiens-Case-Study.pdf>
- Composting and recycling - *The goal is green!* (n.d.). Montréal Canadiens. Retrieved on March 30, 2023 at: <https://www.nhl.com/canadiens/community/goal-is-green/composting-recycling>
- CSE wins sustainability award. (2016) Retrieved on March 30, 2023 at: [NHL.com. wins-sustainability-award/c-888661](https://www.nhl.com/canadiens/community/goal-is-green/composting-recycling)

- Energy saving - The goal is green! (n.d.). Montréal Canadiens. Retrieved March 30, 2023 at: <https://www.nhl.com/canadiens/community/goal-is-green/energy-saving>
- Environmental Innovator Winner: Montreal Canadiens, Bell Centre (2017) *Green Sports Alliance*. Retrieved March 30, 2023 at: <https://greensportsalliance.org/environmental-innovator-winner-montreal-canadiens-bell-centre/>
- Environmental sustainability. (n.d.). Crypto.com Arena. Retrieved March 30, 2023 at: <https://www.cryptoarena.com/arena->
- Gallardo-Vázquez D, Sanchez-Hernandez MI (2014) Measuring Corporate Social Responsibility for Competitive Success at a Regional Level. *Journal of Cleaner Production*, 72, 14-22.
- Go green. (n.d.) NHL.com. Retrieved March 30, 2023 at: <https://www.nhl.com/jets/community/green#:~:text=Our%20efforts%20are%20primarily>
- Green - Kings care. (n.d.). Los Angeles Kings. Retrieved March 30, 2023 at: <https://www.nhl.com/kings/community/kings-care/green>
- Green initiatives (2022) Canada Life Centre. Retrieved March 30, 2023 at: <https://www.canadalifecentre.ca/guest-services/green-initiatives/>
- Inoue Y, Kent A (2012) Investigating the role of corporate credibility in corporate social marketing: A case study of environmental initiatives by professional sport organizations. *Sport Management Review*, 15(3), 330-344.
- Inoue Y, Kent A (2014) A conceptual framework for understanding the effects of corporate social marketing on consumer behaviour. *Journal of Business Ethics*, 121(4), 621-633.
- Koons E (2022) What is the future of sustainability in sports and sponsorships? Energy Tracker Asia. Retrieved March 30, 2023 at: <https://energytracker.asia/what-is-the-future-of-sustainability-in-sports-sponsorships/>
- Leonard HJ (2006). *Pollution and the Struggle for the World Product: Multinational Corporations, Environment, and International Comparative Advantage*. Cambridge University Press.
- Maple Leafs & Air Canada Centre go green. (2009) NHL.com. Retrieved March 30, 2023 at: <https://www.nhl.com/mapleleafs/news/maple-leafs-air-canada-centre-go-green/c-461722>
- NHL announces green initiative in alliance with NRDC (2010) NHL.com. Retrieved March 30, 2023 at: <https://www.nhl.com/news/nhl-announces-green-initiative-in-alliance-with-nrdc/c-529690>
- NHL Green and Ottawa Senators partner on energy audit of Scotiabank Place for 2012 NHL All Star Weekend. (2012). NHL.com. Retrieved on March 30, 2023 at: <https://www.nhl.com/news/nhl-green-and-ottawa-senators-partner-on-energy-audit-of-scotiabank-place-for-2012-nhl-all-star-weekend/c-614001>
- NHL Green. (n.d.). NHL.com. Retrieved March 30, 2023 at: <https://www.nhl.com/info/nhl-green>
- NHL Green: Toronto Maple Leafs. (n.d.). NHL.com. Retrieved on March 30, 2023 at: <https://www.nhl.com/mapleleafs/community/nhl-green>
- Play it forward: Hockey for the next generation. (n.d.). NHL.com. Retrieved on March 30, 2023 at: <https://sustainability.nhl.com/report/#!/innovate/reducing-emissions>
- Playing for the next generation. (n.d.). *Greensportsalliance.com*. Retrieved March 30, 2023 from <https://greensportsalliance.org/about/>.
- Porter ME, Kramer MR (2006) The link between competitive advantage and corporate social responsibility. *Harvard Business Review*, 84(12), 78-92
- Prusina S (2022, May 4, 2022) Could a new Calgary event centre take cues from Seattle's Climate Pledge Arena? CityNews. Retrieved March 30, 2023 at: <https://calgary.citynews.ca/2022/05/04/calgary-event-centre-climate-pledge/>

- Sens Communications (2017) Ottawa Senators announce a multi-year partnership with Tomlinson. Retrieved on March 30, 2023 at: [NHL.com. multi-year-partnership-with-tomlinson/c-292824888](https://www.nhl.com/sens/multi-year-partnership-with-tomlinson/c-292824888)
- Shepherd M (2022, June 8) Is Climate Pledge arena a sustainability model for venues going forward? Forbes. Retrieved March 29, 2023 at: <https://www.forbes.com/sites/marshallshepherd/2022/06/08/is-climate-pledge-arena-a-/?sh=64bca7c35c91>
- Snider J, Hill RP, Martin D (2003) Corporate social responsibility in the 21st century: A view from the world's most successful firms. *Journal of Business Ethics*, 48(2), 175-187.
- Spencer D (2021, December 21) Calgary Flames refuse to pay more for rising costs of a new arena. *Fort Francis Times*. Retrieved on March 29, 2023 at: <https://fftimes.com/news/canada/calgary-2026-olympics-bid-survives-on-council-motion/>
- Spencer, D. (2022, October 25). Alberta premier Danielle Smith calls for a new arena in Calgary. *Newmarket Today*. Retrieved on March 29, 2023 at: <https://www.newmarkettoday.ca/national>
- Spohn K (2016) Green Sports Alliance gives Rogers Place Two (green) thumbs up. NHL.com. Retrieved on March 30, 2023 at: <https://greensportsalliance.org/green-sports-alliance-gives-rogers-place-two-green-thumbs-up/>
- Sustainability (n.d.). Scotiabank Arena. Retrieved on March 30, 2023 at: <https://www.sciotiabankarena.com/venue-information/about/sustainability>
- Sustainable Stadiums & Arenas - Waste Management (n.d.). Retrieved on March 30, 2023 at: <https://www.wm.com/sustainability-services/documents/insights/Stadiums%20and%20Arenas%20Insight.pdf>
- The goal is green! (n.d.). NHL.com. Retrieved March 30, 2023 at: <https://www.nhl.com/canadiens/community/goal-is-green>
- Transportation - The goal is green! (n.d.). Montréal Canadiens. Retrieved March 30, 2023 at: <https://www.nhl.com/canadiens/community/goal-is-green/transportation>
- Trendafilova S, Babiak K, Heinze K (2013) Corporate social responsibility and environmental sustainability: Why professional sport is greening the playing field. *Sport Management Review*, 16(3), 298-313.
- Urbani C (2012) 'C of red' going green. *Calgary Journal*. Retrieved March 30, 2023 at: <https://calgaryjournal.ca/2012/11/30/c-of-red-going-green/>
- Winnipeg Jets PR. (2019) March 14 marks Second Annual go green game for Winnipeg Jets. NHL.com. Retrieved March 30, 2023 at: <https://www.nhl.com/jets/news/march-14-marks-second-annual-go-green-game-for-winnipeg-jets/c-305669168>
- Zero Waste Program (n.d.). Vancouver Canucks. Retrieved March 30, 2023 at: <https://www.nhl.com/canucks/fans/zero-waste-program>

