

National Hockey League Scores Big with New Sustainability Program

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Introduction

The National Hockey League (NHL) has recently put forth effort to raise public awareness about major environmental issues such as climate change and water scarcity. The National Hockey League is the first professional sports league in North America to release a sustainability report and require all clubs to become members of the Green Sports Alliance (GSA). The Green Sports Alliance Foundation's mission is to "advance social and environmental responsibility using the influence of sports to engage fans, athletes, youth, and communities in sustainable behaviors and practices (Foundation, 2019, p. 2)." The GSA has eight different programs, all focusing on different areas they are able to implement more sustainable practices into sports leagues. Some of these programs include energy, waste, and venue. Their waste program focuses on promoting renewable energy sources rather than the use of fossil fuels, in waste they promote reduce, recycle, composting, and food recovery as a way to support zero waste strategies. Lastly, their venue program teaches how to advance sustainable designs and operations of sporting facilities while promoting environmental health and health for their players. By measuring their energy and water use, as well as their waste generation, they assess their contribution to these environmental issues and report it to several agencies which helps to create protocols for improving their carbon footprint.

The NHL's sustainability report documents the League's carbon footprint. Many teams have improved their facility's impact by using environmentally friendly cleaners and energy sources, and teams have made changes in their communities by hosting local park cleanups. Omar Mitchell, NHL Vice President for Corporate Social Responsibility, summed up the NHL's commitment to the project, saying "The reason why the League is focused on environmental sustainability issues is because of two major points: the roots of our sport are tied to playing outdoors and therefore we need cold weather, and the fact that the way we play is on fresh water, frozen fresh water." Fear for the future of hockey started the movement now known as NHL Green in 2010 which recognizes the many steps the League has taken to address environmental issues that are a threat to hockey as well as the environment.

To continue playing hockey in the way that it has been played in the past, clean water and clean air are critical. Additionally, tempera-

tures must allow for outdoor ice hockey in the north and ball hockey in the south. Because of increasing average world temperatures over the past 15 years, there is no promise that will be possible, prompting the NHL to act. According to research done by scientists at NASA, the average temperature has increased approximately 1.4°F over the past 100 years. This may not seem like a huge increase, but also according to NASA, ever since beginning to keep record of average global temperatures in 1895, the hottest year on record worldwide was 2016. In 2012, Christine Lagarde, who is the Managing Director at the International Monetary Fund and also a politician said, "The science is sobering - the global temperature in 2012 was among the hottest since records began in the 1880's. Make no mistake: without concerted action, the very future of our planet is in peril (World of Change, 2012)." Although it is not necessary for hockey players to practice on fresh water outside while in professional leagues, many children's leagues in Northern States and in Canada do not have the funds or access to an indoor facility, which is why many older athletes are concerned about the future of their sport, and what has driven them to bring more awareness to these issues. Recognizing their ability to reach millions of fans, the NHL set an example and encourages their fans to do something as well.

Background

Incentive for Change

The National Hockey League has engaged in a variety of initiatives over the years to improve energy efficiency and reduce the League's carbon footprint. Because their game is played on ice, water scarcity and climate change are major environmental issues for hockey leagues. Northern Canada has been experiencing shrinkage in ponds where many players practice and have predicted that skating seasons will shrink as much as 20% due to climate change in the coming years. Both active and retired National Hockey League players have started raising awareness for environmental issues, believing that the public simply is not aware of shrinking fresh water supplies happening in their communities. Many of these athletes have become strong advocates for the environment and are concerned about environmental issues that will affect future generations' play (Brady, 2018).

National Hockey League Hosts Green Week

The NHL hosted their first ever Green Week in March of 2016 at the Massachusetts Institute of Technology Sloan Sports Analytics Con-

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ference where they presented their efforts to improve the League’s environmental sustainability. Their goal for hosting Green Week was to showcase greening initiatives that helped reduce the League’s environmental impact. NHL Commissioner Gary Bettman said, “The efforts we make today toward a more sustainable planet will impact not only our sport but future generations (Jensen, 2016).”

Some initiatives that take place during NHL Green Week include a gear donation drive at different league’s arenas. By recycling outgrown equipment back into the system, low-income families no longer have to worry about not having the right equipment to play. Another initiative is the Greener Rinks initiative that lessens the cost of ice time. Though these may seem like small changes, there has been a noticeable impact with both athletes and the fans, proving that even small changes can create big ones (Brady, 2018).

When the NHL hosted their first Green Week, they demonstrated their awareness of the League’s responsibility to be sustainable and environmentally friendly. Fortunately, they also recognized they had an opportunity to teach the public and encouraged fans to do something as well. By engaging NHL hockey players, many of the athletes have become passionate about environmental issues and contribute to awareness through public speaking and hosting community events. Over the years, the NHL’s Green Week has evolved into something so much more as the League strives to positively influence their communities across North America.

The goal of NHL Green Week is to show the public that if everyone does their part, there can be a large impact. They want to make sustainable practices a part of our everyday lives, including within the sport. By having players raise awareness and show fans that they can incorporate simple practices into their own lives, the NHL believes that

it can help encourage changes that are needed to protect the future of hockey (Brady, 2018).

The Future of NHL Green

NHL Green is already a huge success, and the League plans to continue promoting the initiative in the coming years. Beginning in 2015, the National Hockey League began conducting energy audits of every building in their system. With this information, they were able to purchase enough renewable energy to counteract all of the electricity being used in their facilities. The NHL also maintains their NHL Green initiative website, separate from the GSA site, where the public can find updates on the League’s efforts to promote environmental sustainability (<https://www.nhl.com/info/nhl-green>).

Additionally, many team owners are updating their arenas to use solar and thermal energy, and several have plans to incorporate wind energy to offset energy usage. The above table (Table 1) lists notable achievements for NHL facilities since 2009. These arenas are working to become LEED Certified, which stands for Leadership in Energy and Environmental Design. This green building rating system is the most widely-used environmental measurement in the world. LEED Certified facilities use high efficiency, cost-saving energy. It’s hard to predict where the future of NHL Green will go, but based on the impact they have already made, the future seems promising as they continue to raise awareness and take positive steps to become a more sustainable league.

In the 2019 NHL All-Star Game and Skills competition, all players who participate will be given jerseys made by Adidas that are made of recycled plastic that is often polluting our oceans. Adidas partnered with Parley for the oceans, and in a press release on January 6, 2019, the NHL is joining this partnership. Parley for the Oceans is a nonprofit organization that focuses on raising awareness of the vast pollution

Table 1

Timeline of Leadership in Energy and Environmental Design (LEED) Awards and Certifications the NHL has Received

Year	Awards and Certifications
2009	Bell Centre in Montreal obtains LEED for Existing Buildings Silver certification in 2009 (Goal is Green, n.d.)
2010	CONSOL Energy Center in Pittsburgh achieves LEED Gold Certification, becoming the first NHL Arena to reach this standard of sustainability (Consol, 2010)
2011	NHL Green is the winner of the Sport for the Environment (NHL Green Winner, 2011)
2013	Barclays Center in Brooklyn awarded LEED Silver Certification for new construction to the arena (Center, 2013)
2014	Xcel Energy Center in Saint Paul receives three international sustainability standards - LEED, Green Globes and APEX/ASTM - making it the first complex in the world to receive these three standards (Schwartz, 2014)
2016	T-Mobile Arena in Las Vegas receives LEED Gold Certification making it the second NHL Arena to reach this level (T-Mobile Arena, 2018)
2017	Rogers Place in Alberta becomes first NHL facility built in Canada to achieve LEED Silver (Rogers Place, 2017)

affecting our oceans. They have worked to repurpose the plastic found in the ocean to create new uses of them, one example being the All-Star competition jerseys. It is possible that this new partnership will bring even more initiatives to come in the future (Cohen, 2019).

Efforts

The NHL’s main goal is to ensure the sport of hockey thrives for the future generations. In order to make sure it does, they launched an initiative called NHL Green in 2010 with the goal to reduce carbon emissions, conserve water, and reduce waste within the sport.

Efforts to Reduce Carbon Emissions

In 2013, the Centre Ball in Toronto was the first NHL arena to install LED game lights. Not only did installing LED lights save on lighting costs, it also helped reduce overall energy. Heat from the old lights required more energy and effort to keep the ice from melting. The LED lights also came on immediately compared to the old fluorescent ones that often take several minutes to warm up and turn on (Moniz, 2016). In 2014, the SAP Center in San Jose, California became the first NHL arena to install fuel cell energy savers. This technology replaced about 25% of the electrical utility power used on game days, which reduced carbon emissions previously generated by the SAP Center by 4.8 million pounds of CO2 over 10 years (NHL Scores Big, 2016). These initiatives were replicated at many other NHL arenas in the years to follow. The NHL also created the Legacy Tree Project in 2012 that planted trees in the NHL Draft host city; each tree planted represented an NHL team (Legacy Project, 2018). Table 2 shows how these efforts they have generated significant decreases in the overall carbon emissions at NHL facilities.

Table 2
Overall Carbon Footprint

Year	Carbon Emissions in Metric Tons
2014	189,503
2015	185,695
2016	182,355

(Reducing Emissions, 2018)

Efforts to Conserve Water

In 2011, NHL Green partnered with the Bonneville Environmental Foundation (BEF) to launch Gallons for Goals, a program that restores 1,000 gallons of water for every goal scored during regular season games and during the Stanley Cup. The NHL partnered with the Bonneville Environmental Foundation to purchase the water restoration certificates and with the purchase of every certificate the BEF will put the 1,000 gallons of water back in to different freshwater ecosystems (What are Water, n.d.). And with over 6,000 goals scored during a season, the NHL and BEF have put more than 88 million gallons of water

since 2011 (Gallons for Goals, 2018). Most NHL arenas have or are in the process of upgrading to more efficient water fixtures as well as implementing better practices and maintenance procedures to minimize water and energy consumption in their cooling towers. Several NHL arenas have installed smart sensors on water irrigation systems to ensure sprinklers are only turned on when necessary, and many arenas are looking at ways to recapture and reuse water, similar to the method already in place for the Montreal Canadiens team (Table 3).

Table 3
Conserving Water

Year	Gallons of Water Used
2014	405 Million
2015	406 Million
2016	379 Million

(Conserving Water, 2018)

Efforts to Reduce Waste

Currently, about half of NHL arenas utilize composting in their operations, and five of those arenas are collecting front-of-house wastes. Twelve NHL arenas use biodegradable food-service ware and are encouraging concessions to improve food forecasting and order in bulk to cut down on packaging and produce less waste. Most NHL arenas are also improving waste tracking by working with waste management vendors. Some teams, such as the Montreal Canadiens and the Vegas Golden Knights, actually sort waste on site (Reducing Waste, 2018). Not only is the NHL working to decrease waste within their organizations, they are also working to educate their fans about how they can do their part. By engaging fans through awareness campaigns at the arenas, selling products made of upcycled materials, and promoting the Coors Light Slapshot, an initiative where fans crush cans with hockey sticks during NHL pre-games at the Coors Light Stadium Series (Engaging Fans, 2018), the League is branding itself and its fans as environmentally conscious, responsible, and proactive members of society. Another program the NHL has implemented is the Food Recovery Initiative that goes all the way back to 2010. This initiative allows clubs to support communities by donating prepared, untouched foods locally. Not only are they preventing these foods from going into landfills, the food provides the most basic needs to people in these communities that need the most help. Each year, clubs have donated over half a million meals, and that number is increasing (Food Forecasting, 2018).

Efforts to Increase Awareness

2016 was a big year for the NHL in regard to putting efforts into further the NHL Green Initiative. The NHL held their very first Hockey SENSE Summit where leaders in the sport were encouraged to attend and learn about social equality and sustainable environments (Time-

line of Milestones, 2018). President Obama announced a Green Sports Day in honor of the NHL's efforts and to promote environmentalism in sports. The League also launched the Greener Rinks Initiative which provides information about technologies and practices that community ice rinks can use to reduce operating costs and environmental impact (Timeline of Milestones, 2018).

In 2017, seventeen hockey organizations from around the world signed hockey's Declaration of Principles. The first of its kind in professional sports, these principles were developed to connect hockey organizations around the world with a common mission - to deliver a positive hockey experience for all players and families. Wanting to hold firm to their belief that the true value of the game is in its power to teach life skills and strengthen character, the NHL Green initiative strives to improve access to the game so everyone can enjoy the experience and be exposed to these principles (Timeline of Milestones, 2018).

Internal Issues

Fan Engagement

As hard as the NHL has worked to become environmentally friendly, they are only as strong as their fan participation, but "the transient nature of visitors at a sporting event creates challenges to fostering a sense of fan engagement and ownership in stadium sustainability programs aimed at reducing waste and overall environmental footprint (Waste Management, 2013)." Since waste management programs depend largely on the fans who attend the games, participants at events must make an effort to sort their waste for programs to be effective and efficient. The level to which participants put forth effort affects how well the programs run. The Senior Director of Arena Operations at Canucks Sports and Entertainment said, "A lot of it has to do with how we're handling our waste and the mundane details of how we sort – how the fans are sorting with our tri-sorters, whether they're on board with doing the initial sort, and then how we do the dirty job of looking at every bag that goes out of the arena and sorting. Not sexy stuff but it has to happen (Schram, 2018)." Therefore, fans play an influential role in helping the NHL create and maintain sustainable practices. If they lack concern or respect for these practices, they can hurt the League's effort to be green, but when fans understand the message and do their part to help the League, it can work out very well and create a lasting impact.

Funding

Implementing these new initiatives has changed the structure of the League which impacts the makeup of the League as a whole by changing their mission. While it isn't always economically efficient to implement green initiatives, it is important for the League, the players, and the fans, especially in today's society. Al Hutchings is the Senior Director of Arena Operations at Canucks Sports and Entertainment said, "Sustainability is not always about saving money. Some of these

things cost money, but they're the right thing to do (Schram, 2018)." The first year implementing these major changes produced a decline in profit, but it was a loss the League was willing to endure in their first year because of the positive impact it has on communities. The initial costs are very high, but they pay for themselves in the long run. There are a lot of startup costs, but it pays for itself after the first year and makes sure that the game of hockey will continue for years to come. Since hockey, as a sport, relies on natural resources, the League was committed to doing their part to sustain and reuse resources.

Lack of Awareness

One of the larger issues the League faced was a lack of awareness about environmental issues and sustainability by fans and the community. When first implementing these changes, the public was generally unaware of the initiatives, so, the NHL marketed their efforts to promote their impact and involve the community as much as possible. "Facility managers and franchise marketing teams must learn to incorporate their sports and athletes into any environmental campaign (Waste Management, 2013)." One marketing strategy was releasing sustainability reports to the public. Though not required to do so, but it showed the public the efforts the League was taking and helped them to get their mission out. Furthermore, the NHL Green Week was another marketing campaign that helped the public see how their impact as individuals could make a difference.

External Issues

Climate Change and Water Scarcity

Hockey uses freshwater to produce the ice needed to play the game. In past decades, this has not been a concern, but in recent years, water scarcity has become a larger and larger problem. There is now a concern about having enough natural resources to continue the game in future year. "The outdoors and the water, the need to keep both habitable, sustainable, useable. That is why the NHL has opted to make NHL Green one of its signature social responsibility platforms (Benjamin, 2017)." A prevalent issue in the hockey community, the NHL decided to address it by conserving and reusing all of the water that they are able to. "Because of the League's commitment to combatting fresh water scarcity, it has contributed to the counterbalancing of more than 50 million gallons of water to dewatered streams across North America (Benjamin, 2017)" through a program called Gallons for Goals. Not only is the program having an impact in the League, but it also is helping communities across the nation. It is a large issue for one organization to tackle on its own, but in doing so, the League is paving the way for other organizations to follow.

Legislative/Political Environment

In today's society there is skepticism about the impact of climate change from individuals and within the government, creating a huge lag in actually the problem. "Allen Hershkowitz, founding director and

chairman of the Board of Sport Sustainability International, credits the NHL for using that term – climate change – at a time when the Trump administration walked away from the 195-nation Paris Climate Accord, and when the Environmental Protection Agency administrator Scott Pruitt has said carbon dioxide is not a primary contributor to global warming (Brady, 2018).“While there are opportunities for the government to proactively get involved in controlling climate change, it is not a priority or taken seriously by the current administration, making it more difficult for individuals and individual organizations to do something about solving the issue. If the issue had more legislative support, the public would likely be more supportive of the League’s practices and therefore increase willing participation.

Discussion and Activities

- What was the initial issue that prompted the NHL to start their green initiative and why was this a problem?
- Were you aware of the efforts the NHL was doing to be more sustainable? And if not what are some ways they could spread more awareness about the NHL Green?
- What are some ways other professional sports leagues can apply similar practices to their facilities?
- Do you think the NHL’s approach of using well-known hockey players to promote NHL Green is an effective marketing strategy?
- What are some other external issues (technology, global movements) that NHL Green should be aware of?
- Based on your analysis, what are additional initiatives or steps that can be taken to help NHL Green move forward?
- What can we do to aide or assist with the projects the NHL is doing?
- How have the NHL’s sustainability initiatives made the hockey game better?
- How can you do your part to help sustainability initiatives be as successful as possible?
- What could be the greatest challenge that the NHL faced while implementing their new practices?

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