



2022 VOLLEYBALL CANADA YOUTH NATIONALS

POST-EVENT
SUSTAINABILITY REPORT

2022



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INTRODUCTION

From May 18 – 24th, the 2022 Volleyball Canada Youth Nationals was hosted at the Edmonton EXPO Centre. 11,218 participants representing almost 800 teams from all over Canada gathered in Alberta’s capital to battle for a chance at the national championship in 15U–18U age categories. This 7-day athletic competition featured 54 volleyball courts in all 8 of the EXPO Centre halls. Additional space was used for parent lounges, live entertainment, local markets, and food trucks – utilizing a total of 472,037 square feet of space. An event of this caliber has a substantial impact on the environment it’s hosted in, and Volleyball Canada is taking steps to better understand their environmental impact so that they can begin reducing their carbon footprint and hosting events that have a positive, more sustainable impact on the city, country, and planet.

REPORTING SCOPE AND METHOD

The emissions tracking and reporting period was from May 16 to May 25. Greenhouse gas (GHG) emissions data collected for the 2022 Volleyball Canada Youth Nationals post-event sustainability is in alignment with the reporting principles outlines in the Greenhouse Gas Protocol. Acknowledging that a number of data collection limitations exist, the report captures and outlines a number of relevant emissions produced from the event. This report summarizes observations from the following areas: waste, heat, electricity, paper consumption, shipping, transportation, accommodation, and food.



EVENT SUMMARY

Emissions are measured in metric tonnes of carbon equivalent (mtCO_{2e}). This measurement unit encompasses all GHGs in one equivalency measure and standardizes the amount of GHG to one unit of carbon dioxide (CO₂).

VOLLEYBALL CANADA ATTENDANCE SUMMARY:

- **782** teams
- **12** provinces/territories
- **11,218** participants
- **14,500** spectators

DATA HIGHLIGHTS

8180 KG
OF WASTE
PRODUCED = **818 KG**
OF WASTE PER DAY
(APPROXIMATELY)

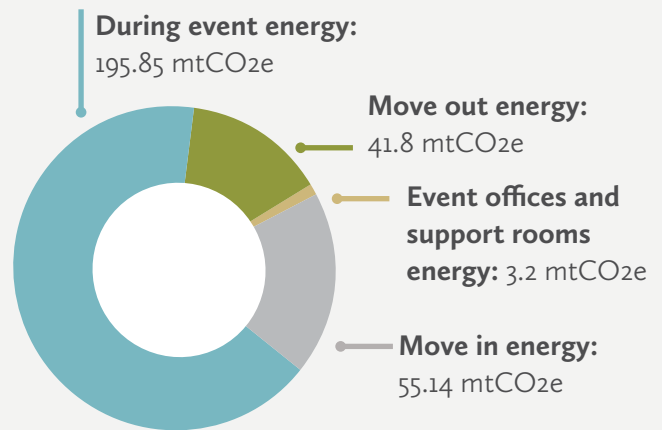
580 KG
OF PAPER USED
(APPROXIMATELY)

222 TONNES
OF MATERIAL SHIPPED
OVER 83,500 KMS

OVER 86,000
MEALS AND BEVERAGES
SOLD ON-SITE

OVER 1298 FT
OF SIGNAGE AND
POSTERS USED

ENERGY CONSUMED EQUAL TO **295.99 MTCO_{2E}:**





WASTE AUDIT

Event waste that is sent to landfill produces emissions through the release of methane. To understand and explore waste reduction options for Volleyball Canada’s Youth Nationals, a comprehensive waste composition study was conducted. This study creates a better understand of the waste being generated and how it is being disposed of, identifying problematic and missorted materials as well as what materials can be eliminated, altogether. In partnership with HSR Zero Waste and S-Cubed Environmental, event waste was collected for 12 hours, sorted by type and the location in the facility it originated, and weighed. The audit occurred at three different time points: move in on May 16, during the event on May 23, and move out May 24–25.

TOTAL WASTE GENERATED:

8180 KG

TOTAL WASTE DIVERTED FROM LANDFILL:

44%

OVERALL WASTE GENERATION PER PHASE:

PHASE 1: Move In	PHASE 2: Event	PHASE 3: Move Out	TOTAL
57.40 kg	1390.21 kg	489.27 kg	1936.88 kg

In total, the waste produced from this event emitted 3.67 mtCO_{2e}. That is the same as 1,563 litres of gasoline

WASTE BREAKDOWN

2.63 KG

AVERAGE WASTE
PRODUCED PER PERSON
IN CANADA

818 KG

EVENT WASTE
PRODUCED PER DAY

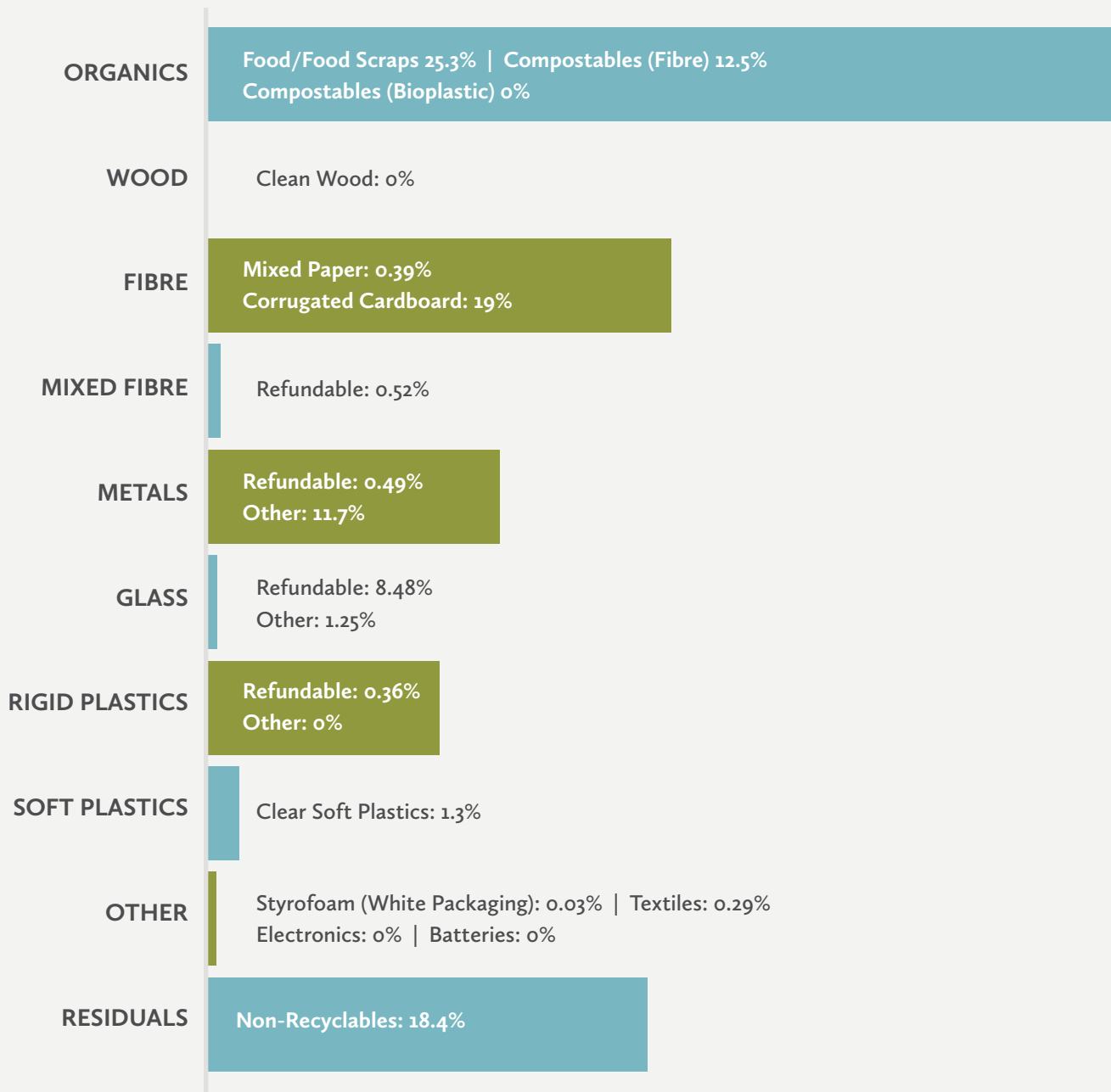
1.90 KG

AVERAGE WASTE TO
LANDFILL PER PERSON
IN CANADA

579 KG

EVENT WASTE SENT
LANDFILL PER DAY

EVENT WASTE COMPOSITION PERCENT BREAKDOWN



CARBON FOOTPRINT BREAKDOWN

ENERGY

The emissions produced from the generated heat and electricity procured at the facility were estimated using event square footage. As the event occurred in the summer, heat emissions were lower as natural gas was used only for heating the water used in the facility restrooms, running equipment and in the buildings mechanical systems. Through education and the encouragement of best practices, such as turning off lights or limiting the number of lights, electricity emissions have the greatest potential of being reduced for future events.

Total emissions from all energy sources:
295.99 mtCO₂e

- **Total emissions from heat:**
93.59 mtCO₂e
- **Total emissions from electricity:**
202.4 mtCO₂e



Equal to **69.3** homes' energy use for one year,



90.7 passenger vehicles

MATERIALS

The emissions from paper consumption were calculated from the total weight used. The reuse of signs and posters where possible and continuing to source materials that are made of recycled materials can make substantial impact on the event environmental impacts.

- **Total paper emissions:** 0.353 tCO₂e
- **Trees used:** 7

If 1/3 of the signs printed this year were reused, Volleyball Canada would eliminate almost **30 cars length** of new signs from being printed and discarded.

SHIPPING

Material shipping emissions were mainly a result of the types of materials needed and their source location. Emissions were calculated according to the distance and weight of the package that was shipped.

Total shipping:
79.24 tCO₂e



Equal to **179** barrels of oil consumed,



33,757 liters of gasoline consumed



EVENT STAFF

Staff air, ground, and accommodation travel details were collected during and following the event from the event planners³. As this is a national event, emissions from air travel and accommodations were the highest. Ground travel consisted of travel between accommodation and the event facility.

- **Air travel:** 20.56 tCO₂e
- **Ground travel:** 0.86 tCO₂e
- **Ground travel by type:**
 - **Gas Car:** 0.73 tCO₂e
 - **Gas Truck:** 0.08 tCO₂e
 - **Gas SUV:** 0.05 tCO₂e
- **Carpooling** reduced ground travel emissions by 13%
- **Accommodation:**
 - **Total hotel rooms nights:** 1858 rooms
 - **Emissions per room night:** 0.02 tCO₂e

TOTAL EMISSIONS: 47.01 tCO₂e

FOOD

The production, transportation, and handling of concession foods produces carbon emissions, especially food that are resource-intensive, such as animal products. The number of meals was calculated from an itemized concession sales list provided by the Food and Beverage team at the EXPO Centre .

- **Catering emissions:** 122.35 tCO₂e

³No sufficient air or ground travel information from the national, paravolley and international teams.

COMMUNITY BENEFIT

FILL IT FORWARD

Every year in Canada, upwards of 2.29 billion litres of plastic bottled water are consumed. Reusable water bottles can prevent pollution by reducing the need to harvest new raw materials. However, plastic bottles are a commonly used resource for sporting events because refillable alternatives are not perceived as being convenient, especially considering how often refills are needed to stay hydrated while participating in sports. This year, we piloted a project to change the narrative surrounding reusable water bottles. In partnership with Fill It Forward, each reusable water bottle refill from the event was tracked and \$1 was donated to a charitable giving cause through Water First. Players could track their individual and collective impact on the Fill It Forward App.

TOTAL REUSES: 2,807



ENVIRONMENTAL IMPACT

166

SINGLE-USE PLASTIC WATER
BOTTLES SAVED

1,599.99

KWH
POWER SAVED

84.21 LBS

WASTE
DIVERTED

2,722.79 LBS

EMISSIONS
SAVED

16.84 LBS

OCEAN POLLUTION
PREVENTED

RECOMMENDATIONS

Volleyball Canada hosts athletic events that unite youth globally and is realizing the importance of mitigating the environmental impact of events for the betterment of our planet. At the same time, transitioning to an effective sustainable model is a journey that requires the collaboration of event hosts, planners, participants, venues, suppliers, and partners. The possibilities for change are endless, and this report provides a roadmap for short to medium-term improvements.

Recommendations for a more sustainable Volleyball Canada events can be grouped into three categories:

1) General Event Operations 2) Resource and Material Management 3) Waste Management.



GENERAL EVENT OPERATIONS

As Volleyball Canada hosts events all over the country, the following recommendations and guidelines aim to assist event planners, players, and participants with ways to reduce emissions that stem from general organization and venue operations, travel, and transportation:

1. Selection of venues that are sustainable certified, use renewable energy, and have established policies and procedures in place for environmental and resource conservation.
 - a. Venues that also have clear and efficient waste management programs and sorting guidelines that can make education or direction available in advance.
 - b. Include sustainability criteria on Requests for Proposals (RFPs).
2. Integration of questions relating to athlete transportation into team enrollment or registration guidelines to provide reliable data to understand improvement opportunities related to lower-carbon transportation.
3. Produce a pre-event sustainability policy that outlines sustainability commitments for event partners and stakeholders and make this policy widely available to ensure all parties agree with the sustainability items being prioritized.
 - a. Examples of partners and stakeholders include internal event planners, athletic teams, venue hosts and contacts, and sponsors.



MATERIALS AND RESOURCE MANAGEMENT

The ultimate goal for events is zero-waste.

This process involves the conscious conservation of all resources by means of responsible production, consumption, reuse, and recovery of all products, packaging, and materials without burning and with no discharges to land, water, or air. The following recommendations aim to reduce the resource intensity from the production and use of surplus of materials.

1. Take inventory of the signage and posters and consider what can be transferred to a digital format (e.g., via QR code) or eliminated entirely. When required, print signs and posters on 100% recycled paper or particle board.
2. Procure signs or posters that do not have dates or are specific to one event to be reused for future events.
3. Develop an event procurement guide that includes a section on limiting packaging materials, wherever possible.
4. Wherever possible, consider using and sourcing materials, inventory, and supplies from local vendors in the host region.



WASTE MANAGEMENT

The following recommendations are to facilitate the formation of a comprehensive waste management plan with the goal of 1) improving the efficiency of waste sorting and collection to increase the diversion rate from landfill and 2) enriching the information provided to hosts, event staff, exhibitors, and participants to include information on proper waste sorting and overall waste management processes.

1. Creation and timely distribution of pre-event communication strategy regarding waste management education resources for staff, exhibitors, and participants coming on-site, including:
 - a. The goal of reducing waste at the facility, what that entails, and the key role they have.
 - b. Instructions on waste sorting processes and practices at the facility.
 - c. Map of the location and type of waste bins on site.
 - d. A contact for direct questions or inquiries.
2. Easily accessible and consistent waste bins that meet the following criteria:
 - a. Contain multiple waste streams including landfill, organics, mixed recycle, and refundable.
 - b. Clear visual signage with images of relevant waste for the event that goes in each bin.
3. Scaling up the Fill It Forward initiative to all teams and participants by:
 - a. Including other beverages, such as coffee.
 - b. Introducing water refill stations on site
 - c. Providing or selling reusable containers on site and offering an incentive (e.g., dollar off) for their use.
4. Work with your host venue to conduct a short waste management orientation for set-up and tear down crews. Identify additional needs for the placement of recycling stations, pre-event.
5. Encourage and provide purchasing guidelines for vendors and exhibitors regarding alternatives to minimize waste considering the pending single-use plastic ban in the city and country.
6. Donate acceptable unused food to local food charities.

EXPLORE EDMONTON

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