



Environmental Performance
Accountability Report

Environmental sustainability is everyone's story.



fraserhealth

Better health. Best in health care.

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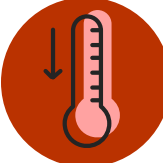
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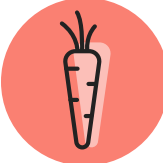
**Leadership
and Innovation**



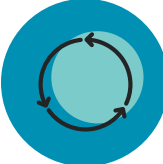
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Energy and Carbon




Food



Materials



Transportation



Water



This is an interactive report. Easily navigate to different sections by **clicking** on the text headings.

To view a different health organization report, select it from the navigation bar to the left.

This report was written by the Energy and Environmental Sustainability (EES) team, a regional collaboration of four health organizations that works in partnership with the Planetary Health steering committee, Population Public Health and Green+Leaders. It focuses on collaborative actions and achievements in relation to low-carbon, climate resilience and environmental sustainability, but it does not include all of our partners’ additional actions and achievements undertaken in the shared journey toward planetary health.

The EES team also partners with clinical and non-clinical departments and health-care and medical staff for impact in diverse areas. Our team’s role is about raising awareness and building capacity, in part by uniting efforts and amplifying achievements across the Lower Mainland region and beyond. You will see much of this work on the [GreenCare Network website](#).

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Executive Message



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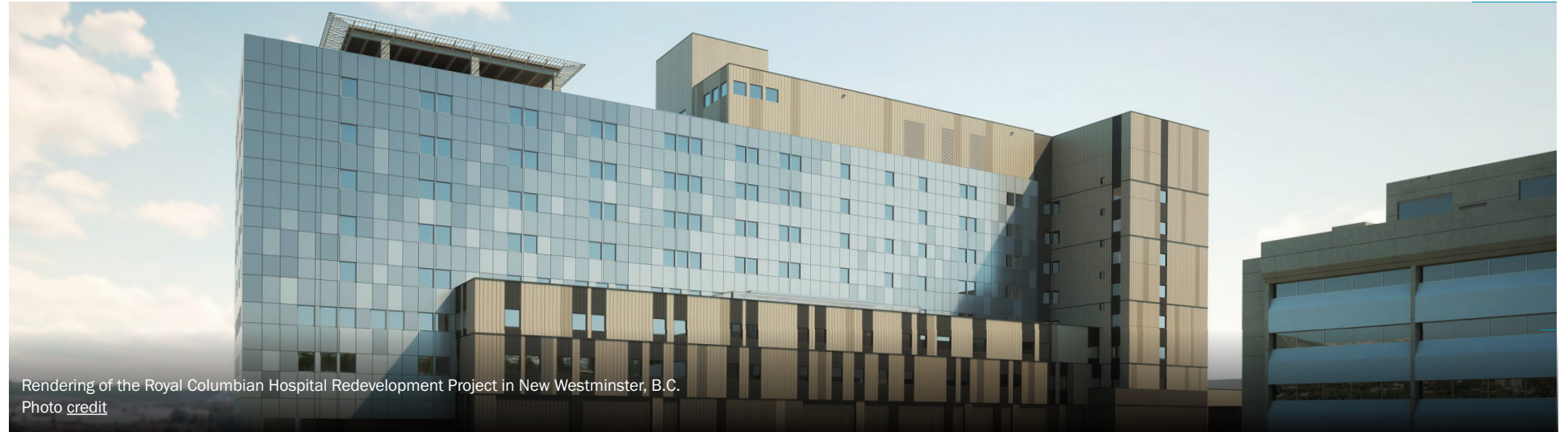
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Rendering of the Royal Columbian Hospital Redevelopment Project in New Westminster, B.C.
Photo credit

Welcome to the 11th annual Environmental Performance Accountability Report, which acknowledges the continued effort of all Fraser Health staff, medical staff and volunteers to embed environmental sustainability and climate resilience across our health system.

Climate change has been recognized globally as the biggest threat to humanity. As a result of drought, flooding, wildfires, heatwaves and many other climate-related events, our communities and their residents are facing serious and numerous challenges to their health and well-being.

But they are not insurmountable. We can achieve planetary health if, in everything we do, we take concrete action that is grounded in partnership and in hope.

As health-care providers, we are committed to serving our patients, families, communities and each other. We understand that to protect their health and well-being, we must also protect the health of our planet.

The sustainability-related goals we achieved in 2022 are reflective of our capacity for action and serve as a source of inspiration going forward. Some of our accomplishments include:

- The creation of a Planetary Health steering committee with system-wide, cross-departmental participation.
- Embedding climate risk and resilience into all major capital projects.
- Continued development of our virtual health services — such as Fraser Health Virtual Care, home health remote monitoring and virtual surgical pre-admissions clinics — helping to improve patient care while reducing travel-related emissions.
- Achieving or exceeding 50 per cent waste diversion at three facilities: Czorny Alzheimer Centre, Heritage Village and Cottage-Worthington Pavilion.
- Receiving a Greenhealth Partner for Change award from Practice Green Health for Delta Hospital's superior performance in environmental sustainability.
- Implementation of 14 mechanical and two lighting retrofit projects estimated to save 5.4 gigawatt hours (GWh) of energy, while reducing our carbon footprint by 966 tonnes of CO₂ per year.
- Continued seasonal readiness planning activities, ensuring a coordinated approach to communication and action before, during and after extreme weather events.

Looking forward, we are committed to using the important influence we have in our communities as an anchor institution to reinforce the connection between planetary health and healthy communities.

As part of our 2023/24 Fraser Health Together priorities, we will establish Fraser Health as a leader in environmental responsibility by embedding planetary health throughout our operations. Our Fraser Health teams will continue to work together as we monitor progress through our organizational performance review process, building upon existing environmental sustainability efforts.

Each of us has a meaningful role to play in planetary health. I am confident that we will meet and overcome the challenges we face together as we strive to achieve better health outcomes for the places we live and the people we serve.



Dr. Victoria Lee
President and Chief Executive Officer
Fraser Health

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1.1 Milestones and Achievements

Here's a summary of our 2022 milestones and achievements, and what to watch out for throughout 2023 and beyond:

First ever:



Collaborated on plans for the New Surrey Hospital and British Columbia Cancer Care Centre to make it the **first** health-care facility designed to be **100 per cent electric** in the Lower Mainland.



Created a cross-departmental Fraser Health Planetary Health steering committee with the purpose of developing and implementing a regional planetary health strategy.



750 staff, medical staff and visitors attended the first ever Eat for Our Future event at Royal Columbian Hospital; learned about the **interdependence of food, health and environment**; and were empowered to make **sustainable food choices**.



Partnered with **CASCADES** on **innovative work** to measure **scope 3 greenhouse gas emissions**, which are the emissions associated with **waste generation, purchased goods and services, business travel**, and more.



Undertook the **first analysis in Canada** of inhaler prescribing, and formed a **sustainable inhalers working group**.

Environmentally preferable decision-making

- Incorporated environmental questions into the mobile MRI and CT scanner procurement process, resulting in a toolkit for action in the Radiological Society of North America's Journal: Radiology ([published 2023](#)).
- Included environmental questions in Facilities Management Procurement pre-qualification of construction services.

2022 sustainability highlights

Delta Hospital recognized as one of North America's **top hospitals for environmental sustainability** with the **Practice Green Health award**.



Registered

24



new **Green+Leaders**—change agents who encourage environmentally sustainable behaviour, improve existing processes, and help to create an overall **culture of environmental health and wellness**.

Langley Memorial Hospital – Emergency Department Addition **certified**

3,105 m²

of facilities space with Leadership in Energy and Environmental Design (LEED), **Silver level**.



Implemented **14 mechanical and two lighting retrofit projects** estimated to save 5.4 gigawatt hours (GWh) of energy, while reducing our carbon footprint by

966 tCO₂e

per year — a greenhouse gas reduction equivalent of removing **1,679 passenger vehicles** from our roads.^A



Awarded three sustainability grants of

\$1,000

each to **Green+Leaders** through Fraser Health's **Innovation Grants**.



Achieved or exceeded

50%

waste diversion for three facilities.



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2.0 Our Sustainability Story

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2.1 Fraser Health's Commitment to Planetary Health

With climate change posing a serious threat to human health, the urgency to focus on sustainability and build climate resilience is clear. In alignment with the B.C. Ministry of Health Mandate Letter and the [CleanBC Roadmap to 2030](#), Fraser Health is accelerating its activities to reduce the impact our services have on the planet while adapting our health system to be resilient to climate change. In everything we do, we are committed to the health and well-being of our communities, to truth and reconciliation, and to achieving health equity across our organization and in the communities we serve.

Fraser Health Together

Working collaboratively, and with the support of our newly formed, cross-departmental Planetary Health steering committee, by October 2023 we will develop a planetary health strategy that will include:

- Enhancing our efforts to reduce greenhouse gas emissions and waste from our services.
- Creating a climate resilient health system.
- Increasing opportunities to purchase more environmentally and socially sustainable goods through our supply chain.
- Enhancing the natural environment and biodiversity on our sites.

We will continue to provide training and opportunities for staff and medical staff to learn about planetary health and climate change in health care, and to support innovation in sustainability. By working together and identifying the actions we are able to control and change, we can transform our health system so it is not only resilient to current and future threats, but also environmentally sustainable.

Everyone has a right to optimum health and well-being; however, climate change disproportionately affects the health of some individuals and groups differently due to existing health inequities and structural disadvantages. This is an inequity that must be considered in efforts to address climate change.

Equity, diversity and inclusion will be at the heart of our decision-making as we work to implement our planetary health strategy.

VISION:

Healthy planet, healthy people,
healthy communities

MISSION:

To inspire, empower and activate our people and partners to improve planetary health, health equity and sustainability at all levels of the health system

“
The effects of our climate reality are widespread, deep and profound. Given that the health system is a significant contributor of greenhouse gases, if we are to achieve planetary health, we must implement environmental sustainability at every level of our health organizations. With our new commitment to planetary health and the ongoing, collaborative and determined efforts of our staff and medical staff, I know it's possible, and I commend every person working so hard to make a difference.

– Karen Reutlinger, Executive Director, Planetary Health and Emergency Preparedness

RECOGNIZING INDIGENOUS NATIONS AND MÉTIS CHARTERED COMMUNITIES:

We recognize that Fraser Health provides care on the traditional, ancestral and unceded territories of the Coast Salish and Nlaka'pamux Nations, and is home to six Métis Chartered Communities. Understanding that Indigenous Peoples have been stewards and caretakers of the lands, waters and ice, and leaders in ecosystem conservation since time immemorial, we affirm that efforts towards reconciliation are directly tied to the environment. Fraser Health embraces the centering of Indigenous voices throughout environmental reconciliation work, as well as the input of Fraser Health's Indigenous Health program.

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2.2 Building and Operating for Planetary Health

In operating our current facilities, and in the design and construction of new facilities, Fraser Health is supporting the highest level of human and environmental health and well-being by:

- Evaluating and reducing the impacts of climate change on a facility and the surrounding community (e.g. wildfires, extreme heat, floods and storms)
- Assessing how the design, construction and operation strategies of a facility will impact the environment and human health
- Drawing on credible evidence that links health outcomes to planning and design of the built-environment
- Implementing low-carbon, climate resilience and environmental-sustainability strategies
- Collaborating with project compliance teams to ensure energy and carbon performance targets are embedded into design and construction agreements
- Achieving LEED certification (a globally recognized green-building rating system administered by the Canadian Green Building Council)
- Meeting and exceeding environmental and climate change legislation

Our buildings^B

761,621 m²

usable facility space

174

distinct buildings

23,291

full-time equivalent staff^C and medical staff^C

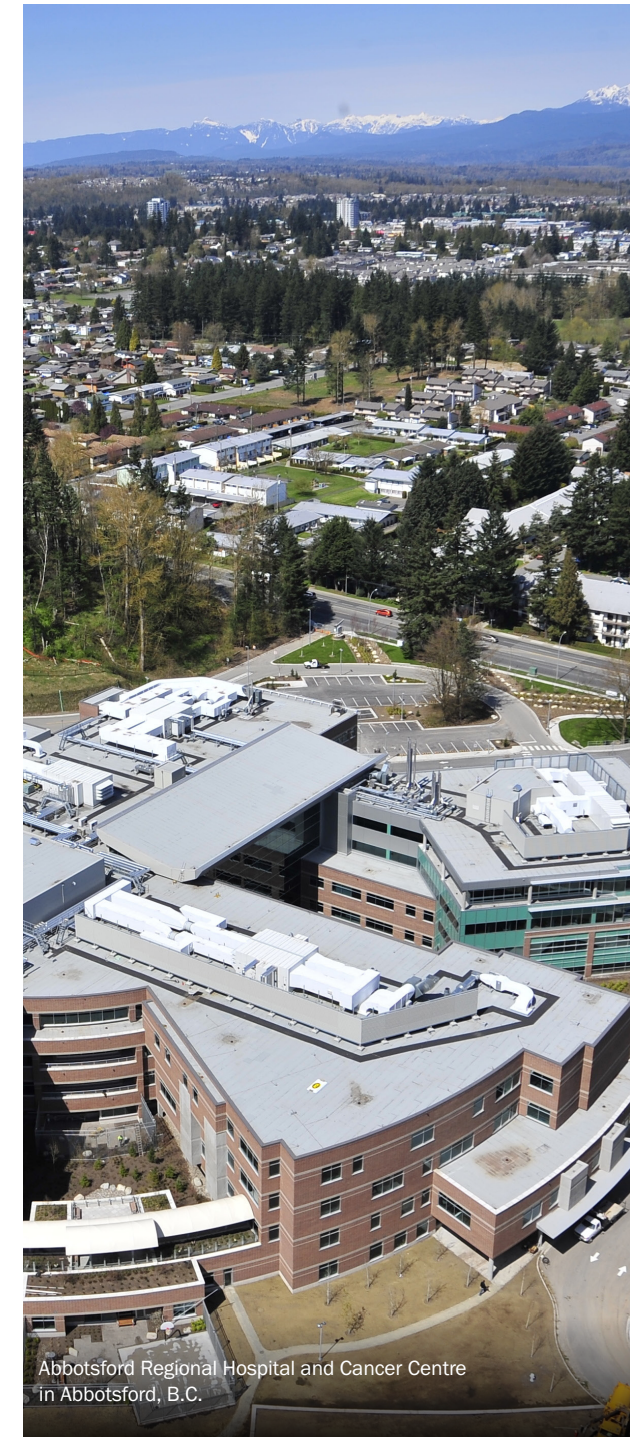
190,104 m²

LEED Gold-certified facility space

Our LEED projects

LEED certification is a globally recognized symbol of sustainability achievement and leadership.

To learn more about Fraser Health's LEED projects, click [here](#).



Abbotsford Regional Hospital and Cancer Centre
in Abbotsford, B.C.

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3.1 The 2022 Dashboard

Setting targets helps us all to recognize achievements and act to transform our health-care system toward environmentally sustainable and climate resilient care. A target may be provincially or regionally mandated, or be Fraser Health-developed and based on past trends and current resourcing.

Regulatory guidance

The [Climate Change Accountability Act](#) (CCAA) has set ambitious greenhouse gas (GHG) emissions reduction targets (from a 2007 baseline) for public sector organizations:

40%

by 2030

60%

by 2040

80%

by 2050

These targets include emissions from owned and leased buildings, and from the use of fleet vehicles and paper consumption. For reference, 96% of Fraser Health's emissions come from buildings, while the rest come from fleet and paper.

The government's [CleanBC plan and Roadmap](#) is the pathway to achieve these targets and has set even more aggressive targets:

50%

reduction in emissions for public sector buildings
by 2030

40%

reduction in fleet vehicle emissions by 2030

Measuring results

The 2022 dashboard captures 11 key performance indicators (KPIs). It is a snapshot in time of our progress and, this year, includes links to trends in previous years and how we will meet our targets.

However, the dashboard alone doesn't tell the entire story. Environmental sustainability is a journey, and there are many process-related KPIs and qualitative efforts that are not included in this dashboard. In addition, some Focus Areas are not represented because of active work to identify the current situation and collaborate on the development of performance targets. To learn more, see [4.0: Our Actions: Finding Solutions Together](#).

For information on the methodology behind the KPIs in the dashboard on the following pages, see the [Energy and Environmental Sustainability \(EES\) Methodology and Context for Calculating Key Performance Indicators on the GreenCare website](#).

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Energy and Carbon

Goal: Reduce our carbon footprint by increasing energy efficiency and reducing reliance on fossil fuels.

Key Performance Indicator (Metric)	2022 Results	2025 Target	2030 Target & Traffic Light
CCAA legislated target: Reduce in-scope* GHG emissions from the 2007 baseline (tCO ₂ e/year)	-15.6%	16%	40% 
CleanBC plan target: Reduce building GHG emissions of owned and leased properties from the 2007 baseline (tCO ₂ e/year)	-15.1%	16%	50% 
Reduce owned and leased building GHG-emissions intensity from the 2007 baseline (tCO ₂ e/m ² /year)	18.7%	25%	50% 
Reduce owned and operated building** energy-use intensity from the 2007 baseline (ekWh/m ² /year)	10%	20%	25% 

Want to see the trends? Go to the [Energy and Carbon graphs](#) in Appendix B.

-  On track to meet 2030 target
-  Minimal or slow progress towards 2030 target
-  Behind schedule to meet 2030 target, and requires attention

- * In-scope refers to emissions from owned and leased buildings, and from the use of fleet vehicles and paper consumption.
- ** Does not include leased buildings.

New construction activity increases our impact on the environment and is growing at a fast pace. At Fraser Health, a 42% increase in floor space has resulted in increasing GHG emissions, as indicated by the negative percentage in the dashboard.

How we will reach our targets

- Partnering with Facilities Maintenance & Operations teams presents an opportunity to identify ways to integrate energy and emissions reduction strategies and support optimization of infrastructure and equipment.
- In collaboration with internal and external partners, we are seeking and implementing a combination of net zero emission designs for new construction and aggressive energy retrofits to existing facilities.
- As we renew our energy infrastructure and assets, we have the opportunity to make system-level changes and shift to lower-impact facilities.

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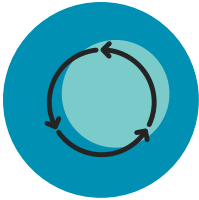
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Materials

Goal: Choose materials and products that contribute to human and environmental health, while avoiding waste and unnecessary chemicals.

Recycling options are shaped by global market demand, ability of local processors, complexity of materials and facility logistics.

Key Performance Indicator (Metric) *	2022 Results **	2025 Target	2030 Target & Traffic Light
Increase waste-diversion rates at acute care owned and operated sites ^D (% of waste diverted, annual average)	30%	33%	40% ▼
Increase waste-diversion [†] rates at non-acute care owned and operated sites ^E (% of waste diverted, annual average)	48%	50%	60% ▼
Decrease waste-intensity [§] rates at acute care owned and operated sites (kg/m ² /year)	15.2	13.7	12.3 ▼
Decrease waste-intensity rates at non-acute care owned and operated sites (kg/m ² /year)	21.3	19.2	17.3 ▼

How we will reach our targets

- A shift away from recycling alone and toward overall waste reduction, including choosing reusables over disposables and exploring ways to share or donate usable items to prevent them from going into landfill, is required. Collaboration and close partnership with clinical and procurement staff will be key in this journey.

Want to see the trends? Go to the [Materials graphs](#) in Appendix B.

- On track to meet 2030 target
- ▼ Minimal or slow progress towards 2030 target
- Behind schedule to meet 2030 target, and requires attention

- * Does not apply to leased buildings because waste management is the responsibility of the property manager and out of the hands of Fraser Health.
- ** In 2022, recycling bins were returned to patient care areas, but recycling diversion rates have not yet reached pre-2020 service levels.
- † Waste diversion refers to waste going to recycling or compost instead of landfill.
- § Waste intensity refers to how much total waste (landfill, recycling and compost) is generated compared to the size of a facility, and helps to measure overall waste reduction at a site.

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Transportation

Goal: Increase access to and use of transportation modes that reduce negative environmental impacts and benefit human health and wellness.

Key Performance Indicator (Metric)	2022 Results	2025 Target	2030 Target & Traffic Light
Increase proportion of staff and medical staff commuting by active transportation modes such as cycling, walking and rolling* (as reported in the GreenCare survey; ^F annual average)	5%	10%	15% 
Increase proportion of staff commuting by clean transportation modes such as hybrid and electric single occupancy vehicles, public transit, carshare, carpool and hospital shuttle (as reported in the GreenCare survey; ^F annual average)	24%	25%	30% 


Want to see the trends? Go to the [Transportation graphs](#) in Appendix B.

Access to sustainable commuting is shaped by the municipal and regional transportation infrastructure between home and work locations.


How we will reach our targets

Continuing to work collaboratively across the health system with internal and external partners to strategically develop and prioritize efforts, we will:


- Increase electric vehicle (EV) and cycling (including scooters, e-bikes, etc.) infrastructure (including charging stations, safe storage for bicycles and gear, and showers and change rooms).
- Facilitate carpooling and promote public transit.
- Engage and empower staff and medical staff to choose clean or active transportation to commute and while working.



On track to meet 2030 target



Minimal or slow progress towards 2030 target



Behind schedule to meet 2030 target, and requires attention

* e.g. wheelchair, seated electric scooter

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Water

Goal: Minimize water consumption to reduce demand on natural resources and impact on our living environments.

Key Performance Indicator (Metric)	2022 Results	2025 Target	2030 Target & Traffic Light
Reduce building water (use) performance intensity* (m ³ /m ² /year) from the 2010 baseline	18.6%	30%	35% ▼

Want to see the trends? Go to the [Water graphs](#) in Appendix B.

Water supports many clinical and non-clinical activities, including activities in our kitchens, and in our sterilization processes.

How we will reach our targets

- Working collaboratively across health-system departments to study baseline water consumption and water scarcity risks across Fraser Health facilities will support our strategy to prioritize water management planning efforts and allocation of resources.

On track to meet 2030 target

▼

Minimal or slow progress towards 2030 target

Behind schedule to meet 2030 target, and requires attention

* The total of all indoor water metres in volume divided by the building metres squared.

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4.0 Our Actions: Finding Solutions Together



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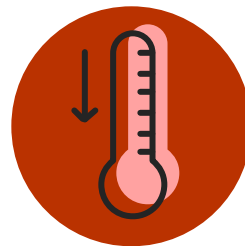
4.1 Focus Areas

The Energy and Environmental Sustainability (EES) team works to drive change across the health system, and has categorized efforts to advance environmentally sustainable and climate resilient health care into seven Focus Areas. The selection of actions, achievements and stories in each Focus Area represents the work of the EES team, as well as collective efforts. The EES team cannot do this work alone, and works in collaboration and partnership with teams, departments, and health-care staff and medical staff. For a full list of partners, see [Appendix A](#).

In working together to find solutions that restore and regenerate planetary health, it is important to note that leadership and innovation are essential elements for meaningful transformation of the health-care system, particularly in driving engagement, education and relationship-building. As we all move along our low-carbon, climate resilience and environmental sustainability journey, efforts made as part of the Leadership and Innovation Focus Area will intersect with and impact all other Focus Areas.



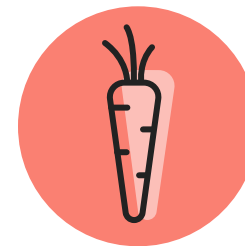
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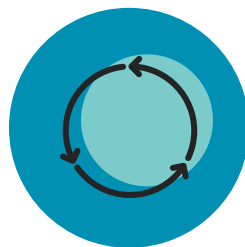
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Just like the connections between human and environmental health, these Focus Areas are interrelated in that efforts and progress made in one will impact the others.

Want to read stories or find information and resources related to these Focus Areas? Visit [here](#).

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1. Leadership and Innovation

Our goal: Collaboratively foster a culture of transformative leadership and innovation for environmental sustainability in health care.

LEARN MORE

Snapshot in numbers

182

Green+Leaders from over 40 facilities
have joined since 2009.

8

Green+Leader orientation sessions.

7

virtual coffee conversations
for Green+Leaders.

7

GreenCare Network Lunch and Learn events.

Select 2022 actions and achievements

- ▶ Delta Hospital recognized as one of North America's top hospitals for environmental sustainability with the Practice Green Health award.
- ▶ 24 new Fraser Health staff and medical staff registered for the [Green+Leaders community](#).
- ▶ Planetary Health steering committee formed with cross-departmental clinical and non-clinical participation, with the purpose of developing and implementing a Fraser Health planetary health strategy.
- ▶ Partnered with [CASCADES](#) on innovative work in the Canadian health-care context to measure scope 3 greenhouse gas emissions, which are the emissions associated with waste generation, purchased goods and services, business travel, and more.
- ▶ Awarded three sustainability grants of \$1,000 each to Green+Leaders through Fraser Health's Innovation Grants.
- ▶ Supported implementation of the B.C. Ministry of Health's direction on Carbon Neutral and Climate Resilient Health Care Facilities and Environmental Sustainability and LEED Gold Certification in the Health Capital Policy Manual as part of the business project delivery cycle.

**The 2022 Green+Leaders
Annual Report recognizes all
staff and medical staff working
to decrease the environmental
footprint of their workplaces
and health systems.**

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Cathy Wiebe, Executive Director, and Carrie Edge, Manager of Clinical Operations at Delta Hospital in Delta, B.C.

OUR STORY

Delta Hospital wins prestigious environmental sustainability award

Delta Hospital received Practice Greenhealth's Greenhealth Partner for Change Award. The award is a part of Practice Greenhealth's annual Environmental Excellence Awards round-up to honour health-care achievements in sustainability, with particular recognition for superior performance across various aspects of environmental sustainability, including energy and water efficiency, waste reduction and climate resilience.

[Read more ▶](#)



Delta Hospital in Delta, B.C.

“

Our leadership team is proud of Delta Hospital's achievement and demonstration of the progress that Fraser Health sites are making in sustainability.

– Cathy Wiebe, Executive Director, Delta Hospital

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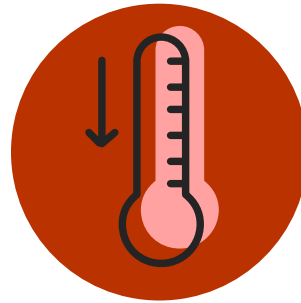
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2. Climate Change

Our goal: Move toward a climate resilient health system in facility design and operations.

LEARN MORE

Snapshot in numbers

11

facility exposure screens to identify
potential climate hazards.

7

climate risk assessments to prioritize
climate impacts.

***The Climate Change
Accountability Act requires
public sector organizations to
“manage the risks to the public
sector organization that could
reasonably be expected to result
from a changing climate”.***

Select 2022 actions and achievements

- Embedded climate risk and resilience into all major capital projects, with the purpose of adapting to climate change.
- Completed climate hazard exposure screens as part of master-planning exercises at Abbotsford Regional Hospital & Cancer Centre, Chilliwack General Hospital, Peace Arch Hospital and Ridge Meadows Hospital.
- Conducted local flood risk analysis accounting for climate change for Fraser Health facilities in five communities across the Lower Mainland.
- Initiated a survey of mechanical cooling capacity, and improved cooling capacity and ventilation performance at several long-term care facilities.
- Collaborated on the federally-funded [HealthADAPT project](#) (2019-2022), and worked with partners to develop a [Climate Change & Health Adaptation Framework](#), outlining current actions and identifying new priorities.
- Engaged in the B.C. Ministry of Health's From Risk to Resilience initiative, with a specific focus on the extreme heat, wildfire and flood events of 2021.
- Continued seasonal readiness planning activities, ensuring a coordinated approach to communication and action before, during and after extreme weather events.
- Delivered a Green+Leaders [Lunch and Learn event](#) to raise awareness about the potential health implications of climate change on long-term care facility occupants, along with [a corresponding publication](#).

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“

When extreme weather strikes, the Facilities Maintenance & Operations team jumps into action, evaluating the performance of our facilities and identifying the areas that took the biggest hit.

– Gavin Lovitt, Technical Asset Manager, Asset Risk and Quality: Technical Services



Heating, ventilation and air conditioning (HVAC) system

OUR STORY

Weathering the storm

After extreme weather events inflicted significant damage on British Columbia in 2021, the province's health authorities faced the daunting challenge of ensuring the safety and well-being of patients, staff, medical staff and guests in the face of climate change. In 2022, Fraser Health and its partners responded by embarking on a collaborative mission to address extreme weather risks and bolster the resilience of its acute health-care facilities.

[Read more ►](#)

What do Fraser Health staff and medical staff have to say about the impact of climate change hazards on their work?

Based on GreenCare Survey^F results, there were 1,240 responses indicating that job duties were impacted by one or more extreme weather events.

The most common effects on job duties were:

- Physically unable to get to work
- Impacts on physical or mental well-being for staff, medical staff and their families
- Patient surges from extreme weather events
- Supply chain disruptions

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3. Energy and Carbon

Our goal: Reduce our carbon footprint by increasing energy efficiency and reducing reliance on fossil fuels.

LEARN MORE

Snapshot in numbers

\$455,560

invested in energy efficiency initiatives from the Green Revolving Fund.

\$3.5 million

invested in carbon reduction projects from Carbon Neutral Capital Program funding.

\$1,056,497

in carbon offsets paid to become carbon neutral.

\$400,000

in utility incentives received from BC Hydro and FortisBC in fiscal year 2022/2023.

14

mechanical and lighting building retrofit projects initiated.

966 tCO₂e

of projected carbon emissions reduced, equivalent to the carbon emissions of 296 passenger vehicles.^A



The Fraser Health Climate Change Accountability Report

Each year, along with all public sector organizations, B.C.'s health organizations submit a Climate Change Accountability Report (CCAR) to the Climate Action Secretariat of the provincial government. This is a mandated reporting of greenhouse gas (GHG) emissions and other data, and current and planned actions to reduce GHG emissions.

In 2022, Fraser Health had an 18.3% decrease in GHG-emissions intensity from our building portfolio compared to the base reporting year 2007.

[Download the Fraser Health Climate Change Accountability Report](#)

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Select 2022 actions and achievements

It is important to note that energy and carbon management initiatives work hand in hand through coordinated efforts.

► Implemented emission reduction projects, including 14 mechanical and two lighting retrofit projects estimated to save 5.4 gigawatt hours (GWh) of energy, for an estimated reduction of our carbon footprint by 966 tonnes of CO₂e per year:

– Eagle Ridge Hospital: Upgrade of the heat recovery system to optimize performance for a reduction of 300 tonnes of CO₂e per year.

– Surrey Memorial Hospital: Installation of a high-efficiency burner on the existing steam boiler for an emissions reduction of 72 tonnes of CO₂e per year.

– Ridge Meadows Hospital: Installation of a high-efficiency burner on the existing steam boiler and a domestic hot water upgrade using heat pump technology for an emissions reduction of 126 tonnes of CO₂e per year.

– Delta Hospital: Replacement of four air handling units with a new high-efficiency heat pump system in the Extended Care Unit for an emissions reduction of 23 tonnes of CO₂e per year.

– Queen's Park Care Centre: Installation of a new heat recovery chiller to preheat ventilation and domestic hot water systems, and the installation of an on-demand hot water system for the commercial dishwasher for a reduction of 353 tonnes of CO₂e per year.

– Czorny Alzheimer Centre: Heat recovery ventilation system upgrade for an emissions reduction of 56 tonnes of CO₂e per year.

– Maple Ridge Treatment Centre: Ventilation system upgrades and thermal comfort improvement for an emissions reduction of 36 tonnes of CO₂e per year.

– Eagle Ridge Hospital parking lot and Fraser Canyon Hospital: Completed lighting energy efficiency projects anticipated to result in energy savings of 125,000 kWh per year.

“

The performance [of the retrofit at The Residence in Mission] exceeded initial expectations. Energy consumption from the heating and cooling systems has been reduced by about a third in 2022.

– Jeson Mak, Fraser Health Energy Manager



The Residence In Mission (TRIM) in Mission, B.C.

OUR STORY

TRIM-ming energy costs

The Residence in Mission, a long-term care facility, underwent a heating and cooling systems retrofit which has created savings and efficiencies. During an energy audit, several inefficiencies were uncovered, leading to changes that will reduce energy costs and the facility's environmental footprint.

[Read more ►](#)

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SPECIAL STORY

Anesthetic gas is a greenhouse gas

Research shows that eliminating the use of the inhaled anaesthetic gas desflurane would significantly lower carbon dioxide emissions.

In the summer of 2022, UBC Sustainability Scholar Alpamys Issanov worked with the Energy & Environmental Sustainability (EES) team to research the environmental impacts of anesthetic gases at Fraser Health, Providence Health Care, Provincial Health Services Authority and Vancouver Coastal Health. The study looked at the associated greenhouse gas emissions of the three most commonly used volatile anesthetic agents in hospital settings — desflurane, sevoflurane and isoflurane — with a focus on desflurane, which has the highest heat trapping effect and global warming potential.

Alpamys' study found that emissions from anesthetic gases were greater than emissions from fleet vehicles and paper purchasing in three of four health authorities studied. These findings align with other estimates that anesthetic gases contribute five to nine per cent of emissions from acute health-care settings. Data in the study shows that operating rooms in Fraser Health have reduced their use of desflurane by 82 per cent since 2010, while increasing their use of sevoflurane fourfold from 154.5 litres in 2010 to 759 litres in 2021. This has reduced desflurane contributions to the health authority's carbon footprint by 20 per cent.

Interviews with anesthesiologists supported the statistical analysis, and a recommendation to ban the use of desflurane was one of the key findings. The interviewed anesthesiologists also recommended education, data collection and publications to raise awareness about the environmental impact of anesthetic gases.

B.C. health authorities are required by the *Climate Change Accountability Act* to report emissions from buildings, fleet and paper, but emissions from health-care-significant sources don't have to be reported or monitored. While the role of anesthetic gases in advancing global warming is not well understood or documented in B.C., England's National Health Service has already announced the decommissioning of desflurane by 2024. The EES team hopes that the data and best practices uncovered in this research will contribute to more understanding and support, and empower practitioners and their colleagues to embrace environmentally conscious anesthesia practices.

Moving forward, the study's findings will be brought to the health authority anaesthesiology departments, and the Lower Mainland Pharmacy will support reporting out on anesthetic gas purchasing annually.



Surgical procedure using an artificial lung ventilator

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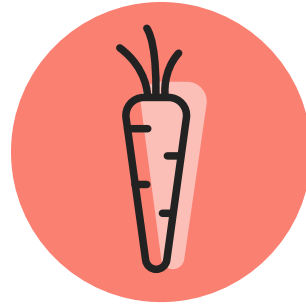
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4. Food

Our goal: Develop plant-rich, local, culturally relevant and equitable food service to advance food as medicine.

LEARN MORE

Snapshot in numbers

70 million

patient and resident meals served/year.

1,284,411 kg

of organic waste generated from
cafeterias/kitchens.

29%

of food produced or processed within B.C.

Select 2022 actions and achievements

- 750 staff, medical staff and visitors attended the first ever Eat for Our Future event at Royal Columbian Hospital; learned about the interdependence of food, health and environment; and were empowered to make sustainable food choices.
- Herbs grown in the Therapeutic Gardening Program for inpatients at the Mental Health and Substance Use Wellness Centre at Royal Columbian Hospital were used for patient meals throughout the hospital, and supported a transition away from some pre-packaged foods.
- Carried out cross-departmental planning sessions focused on increasing sustainable and traditional food options for staff and medical staff purchase and on in-patient food trays, as well as staff and medical staff education.
- Delivered two GreenCare Lunch and Learn events, featuring food projects by Eileen Wong and Elaine Chu.
- Engaged Capital Project, Food Services and clinical staff to identify infrastructure requirements for sustainable food in new health-care construction.
- Awarded a \$5,000 Nourish Innovation Scaling Grant to develop a roadmap for sustainable infrastructure and operations.

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Elaine Chu, Registered Dietitian and the Regional Manager of Food Operations at Royal Columbian Hospital and Eagle Ridge Hospital in New Westminster, B.C. and Port Moody, B.C. respectively

OUR STORY

Taking climate action — one meal at a time

Marrying her extensive knowledge about food and food systems with her passion for climate action, Registered Dietitian Elaine Chu spearheaded a health fair at Royal Columbian Hospital. More than 750 people sampled food and talked about sustainability with staff, medical staff, student volunteers and food vendors, while learning about how to plan meals and buy and prepare food in environmentally sustainable ways.

[Read more ►](#)

The 2022 GreenCare Survey^F
results show that

59%

of 1,003 staff and medical staff surveyed are “extremely willing” or “very willing” to try sustainable plant-based food at health-care cafeterias.

“
I think food is a great angle
to connect people to the
topic of sustainability
because we all eat.”

– Elaine Chu, Regional Manager of Food Operations at Royal Columbian Hospital and Eagle Ridge Hospital; Chairperson of the Lower Mainland Sustainable Hospital Food Operations Committee



Kitchen staff preparing patient food

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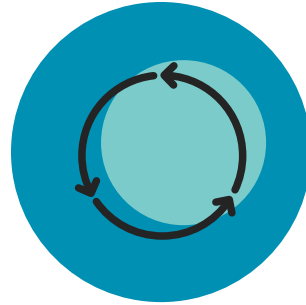
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5. Materials

Our goal: Choose materials and products that contribute to human and environmental health while avoiding waste and unnecessary chemicals.

LEARN MORE

Snapshot in numbers

1,063

staff and medical staff took the [Waste Management module](#) on the Learning Hub.

9,009

tonnes of non-hazardous waste were generated, equivalent to 1,802 elephants.^G

Select 2022 actions and achievements

- Czorny Alzheimer Centre, Heritage Village and Cottage-Worthington Pavilion achieved 50% waste diverted to recycling instead of landfill.
- Undertook first-in-Canada baseline of greenhouse gas emissions from inhalers, which is used to inform clinical guidelines and engage both providers and patients around planetary health.
- Supported a request for proposal for a provincial personal protective equipment recycling program that will provide Fraser Health facilities an opportunity to reduce the amount of waste sent to landfill.
- Advanced efforts towards environmentally preferable purchasing by:
 - Including environmental questions and criteria in Facilities Management Procurement pre-qualification of construction services.
- Incorporating environmental questions in the mobile MRI and CT scanner procurement process, resulting in a toolkit for action in the Radiological Society of North America's Journal: Radiology ([published 2023](#)).
- Creating and sharing a [Circular Health Care Opportunities Guide](#) intended to provide tangible actions for Fraser Health to avoid and reduce waste.
- Completed a major update on the Provincial Nursing Skin and Wound Committee's Skin Care Ingredient Inventory for new product assessments, adding environmental and human health considerations for certain ingredients.

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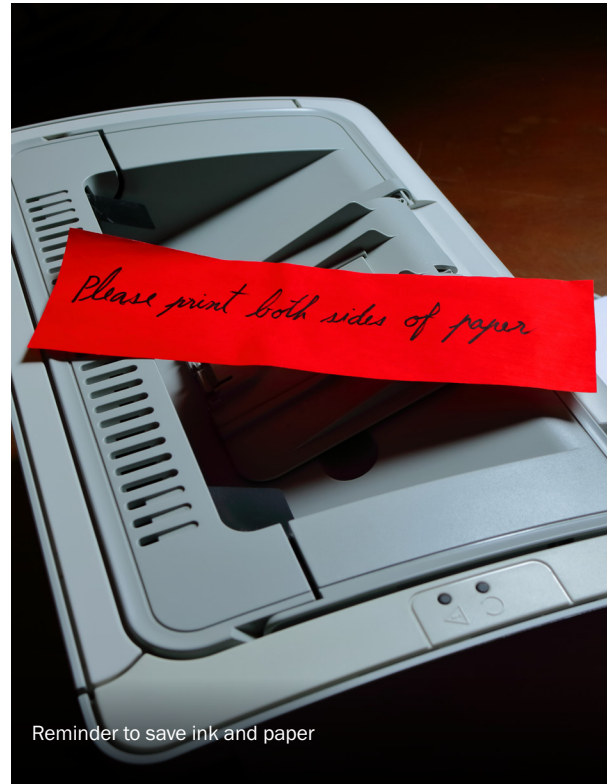
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Reminder to save ink and paper

OUR STORY

Default setting: Eco-friendly

Last fall, as part of its larger Climate Change Strategy, Fraser Health's Population and Public Health department undertook its very first IT sustainability project: changing the default settings on printers to double-sided and black-and-white printing. This will reduce paper usage, which will lower the carbon emissions associated with transporting paper and decrease the payments required to carbon-offset paper use.

[Read more ►](#)



Hospital waste at the Urban Impact recycling depot

“
This is a small change with many benefits, including less ink, energy and paper usage, which means cost savings and less waste.

– Darryl Quantz, Planetary Health Lead

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6. Transportation

Our goal: Increase access to and use of transportation modes that reduce negative environmental impacts and benefit human health and wellness.

LEARN MORE

Snapshot in numbers

40

Level 2 electric vehicle (EV) charging stations
and 32 Level 1 charging stations.*

130,080

shuttle rides provided to staff and medical
staff in 2022.

363

staff and medical staff on average per month
participated in the Fraser Health transit
incentive (an increase of 9% from 2020).

11

core sites have secure bicycle storage
and showering facilities.

* Level 2 chargers are 240-volt outlets that provide
a full charge to an electric vehicle in 6-14 hours.
Level 1 chargers are standard 120 volt outlets
that provide a full charge to an electric vehicle
in 12-20 hours. ([source](#))

Select 2022 actions and achievements

- Hosted GoByBike Celebration Stations at
four acute care sites: Burnaby Hospital,
Eagle Ridge Hospital, Royal Columbian
Hospital and Surrey Memorial Hospital.
- Initiated the development of a regional
active transportation framework.
- Formed a regional EV steering committee
in order to support regional collaboration
for providing electric vehicle charging.



Surrey Memorial Hospital in Surrey, B.C.

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EV charging station at Ridge Meadows Hospital in Maple Ridge, B.C.

OUR STORY

Charged for the future: A new steering committee steps up to answer our region's EV charging needs

The popularity of electric vehicles is rising quickly among the environmentally and budget conscious. The four Lower Mainland health organizations are collaborating to determine how best to meet charging needs.

[Read more ►](#)



EV charging station at Ridge Meadows Hospital

What do Fraser Health staff and medical staff have to say about electric vehicles (EVs)?^G

11%

of 984 staff surveyed currently own an EV.

40%

of 961 staff surveyed plan to own an EV in the next five years.

“

By addressing the need for EV charging infrastructure, the steering committee is helping to create a healthier, more sustainable future for everyone in the region.

– Robert Bradley, Co-Chair of the regional steering committee; Regional Director, Energy and Environmental Sustainability team

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7. Water

Our goal: Minimize water consumption to reduce demand on natural resources and impact on our living environments.

LEARN MORE

Snapshot in numbers

3

energy-saving projects completed,
which also contributed to water savings.

6

LEED water efficiency points embedded
in long-term care facility business plans
incorporating low-flow plumbing fixtures
and water metering.

9

acute sites working towards a five-year
Pollution Prevention Plan.

Select 2022 actions and achievements

- Upgraded the cooling system at Queens Park Care Centre, which now requires significantly less water and water treatment.
- Supported a proposal to upgrade the kitchen dishwasher to reduce both energy and water consumption at Cottage-Worthington Pavilion extended care.
- Supported the project team for the Peace Arch Hospital Expansion project to reduce water usage in the Medical Device Reprocessing Unit.



The Peace Arch Hospital Expansion project in White Rock, B.C.

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Gigi Wong, Clinical Pharmacy Specialist for Quality
with Lower Mainland Pharmacy Services

OUR STORY

Safeguarding waterways

As part of her “green pharmacy” work, pharmacist Gigi Wong is spearheading a movement to educate her peers about the detrimental impacts that drug contamination can have on waterways. Her main focus is to raise awareness about the harmful effects of drugs on non-target organisms, particularly aquatic life, and how this ultimately impacts human health.

[Read more ►](#)

“
**Drugs improperly disposed of or flushed down
the drain can have far-reaching consequences
for our waterways and the organisms that rely
on them.**

– Gigi Wong, Clinical Pharmacy Specialist for Quality, Lower Mainland Pharmacy Services



Fish in a river

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5.0 Writing the Story We Want, Now and in the Future

Thank you for your
ongoing support.

Given our climate reality and the urgency of restoring planetary health, it's clear that environmental sustainability is everyone's story. If we are to continue to offer staff and medical staff, volunteers and patients the very best quality of life and care possible, and support the health and well-being of our families and communities, we must all take responsibility for the environment.

As the many achievements at Fraser Health demonstrate, much is already being done by so many. But as this report also shows, much more remains to be done. Fraser Health invites the whole health-care community to take actions that will restore and regenerate the interdependent health of people, place and planet — now and for future generations.

MAKE A DIFFERENCE.

Learn more about climate change and sustainability in B.C. health care:

Subscribe to the [GreenCare Network](#) for updates and newsletters, or visit bcgreencare.ca for more information.

Get involved in sustainability activities in your health organization:

Join the [Green+Leaders](#) community and make a difference in your workplace.

Transform our processes and health system away from business as usual:

Access [toolkits](#) and [resources](#) to engage your team in discussion and action toward environmentally sustainable practices for your department.

Inspire:

Share your environmental sustainability story [here](#).

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BC Emergency Health Services

BC Housing

BC Hydro

BC Ministry of Energy, Mines and Low Carbon Innovation

BC Ministry of Environment and Climate Change Strategy

BC Ministry of Health

BC Ministry of Health Capital Services Branch

BC Patient Safety & Quality Council

Business Initiatives & Support Services

C

Canadian Coalition for Green Health Care

CASCADES Canada

Clinical and non-clinical direct-care staff

Clinical dietitians

Communications

E

Employee Experience

Environment and Climate Change Canada

Environmental Vendor Services

F

Facilities Maintenance & Operations

Facilities Management Procurement

Finance

First Nations Health Authority

Food Services

FortisBC

H

Health Canada

Health Emergency Management BC

I

Indigenous Health

Infection Prevention and Control

Integrated Protection Services, Commuter Services

Interior Health

Island Health

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Local and regional governments

N

National Research Council of Canada

Northern Health

Nourish Leadership

O

Organizational Development Planning and
Transformation

P

Pacific Climate Impacts Consortium

PHSA Supply Chain

Population and Public Health

Projects & Planning teams

Provincial Nursing Skin and Wound Committee

Q

Quality Improvement

S

Simon Fraser University

T

Transportation Services

U

University of British Columbia

W

Workplace Health & Safety

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Appendix B: Our Progress



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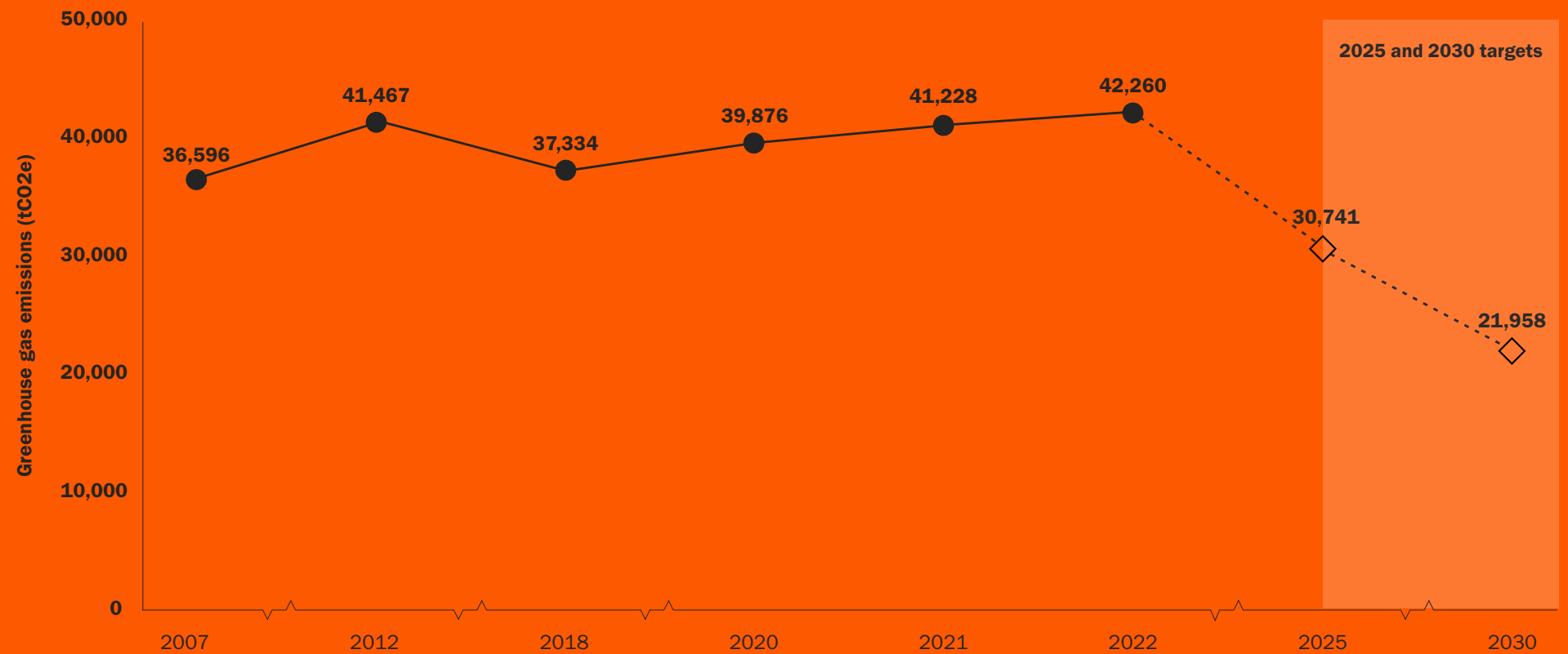
Greenhouse Gas Emissions (In Scope)

Visit the [Energy and Environmental Sustainability \(EES\) Methodology and Context for Calculating Key Performance Indicators](#) on the GreenCare website.

GHG emissions have **increased** by

15.5%

since 2007.



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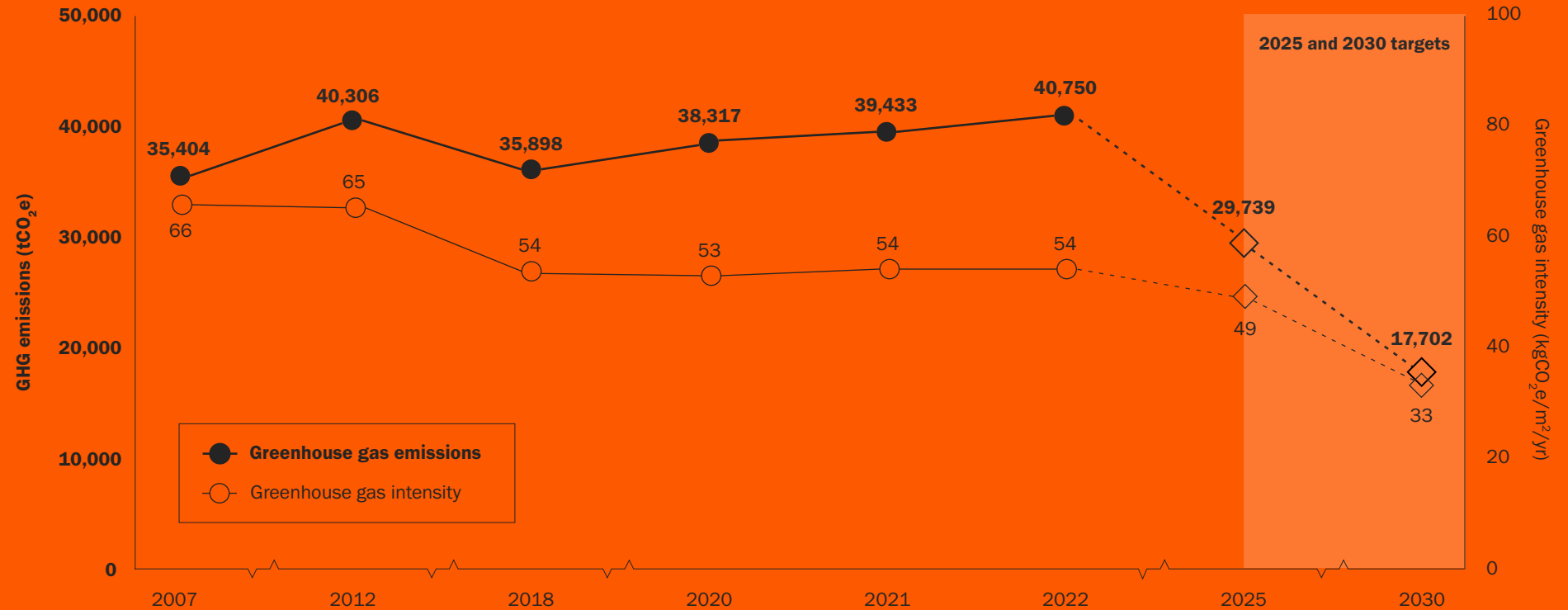
Greenhouse Gas Emissions and Intensity (Buildings Only)

Visit the Energy and Environmental Sustainability
(EES) Methodology and Context for Calculating Key
Performance Indicators on the GreenCare website.

GHG-emissions intensity has
decreased by

18.7%

and, despite a **42% increase**
in total **usable facility space**,
GHG emissions have only
increased by 15.1%.



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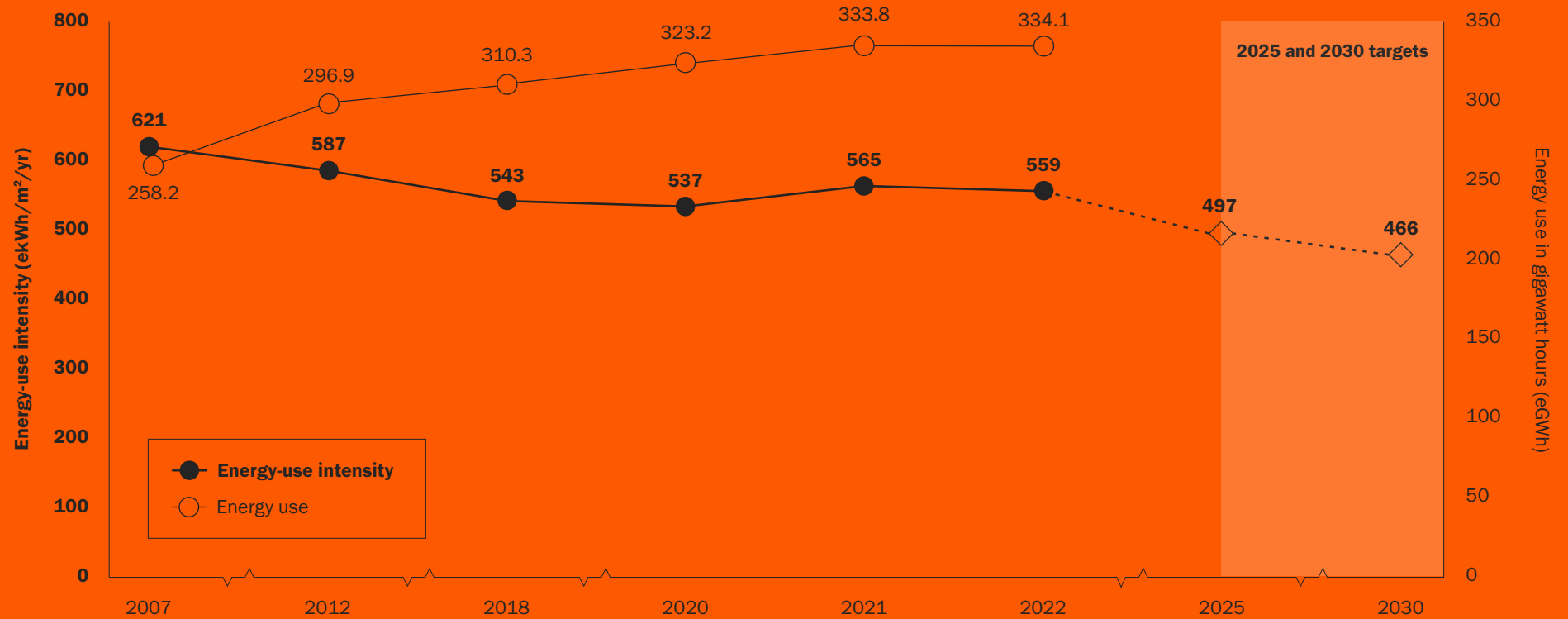
Energy Use and Intensity

Visit the Energy and Environmental Sustainability
(EES) Methodology and Context for Calculating Key
Performance Indicators on the GreenCare website.

Energy-use intensity has
decreased by

10%

since 2007, and, despite an
increase of 44% in core facility
space, our energy use **only**
increased by 29%.



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Waste-Diversion Rates

Visit the Energy and Environmental Sustainability
 (EES) Methodology and Context for Calculating Key
 Performance Indicators on the GreenCare website.

At **acute** care sites,^D we are

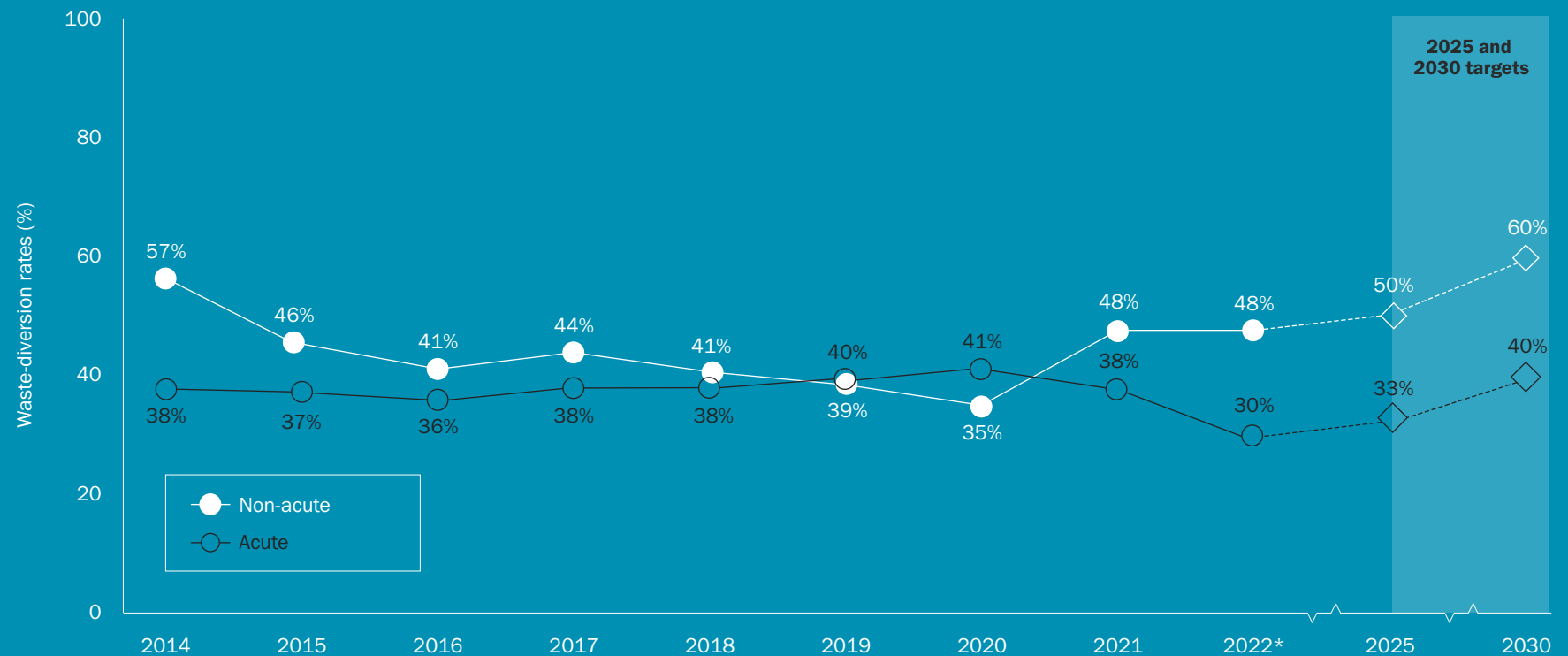
10%

away from our **2030 target**.

At **non-acute** sites,^E we are

12%

away from our **2030 target**.



* In 2022, recycling bins were returned to patient care areas, but recycling diversion rates have not yet reached pre-2020 service levels. Between 2014 and 2019, acute care waste-diversion rates varied from 36-44%,

with a drop due to COVID-19, and they have not yet recovered.

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Waste-Intensity Rates*

Visit the Energy and Environmental Sustainability
 (EES) Methodology and Context for Calculating Key
 Performance Indicators on the GreenCare website.

Total waste intensity has **decreased** by

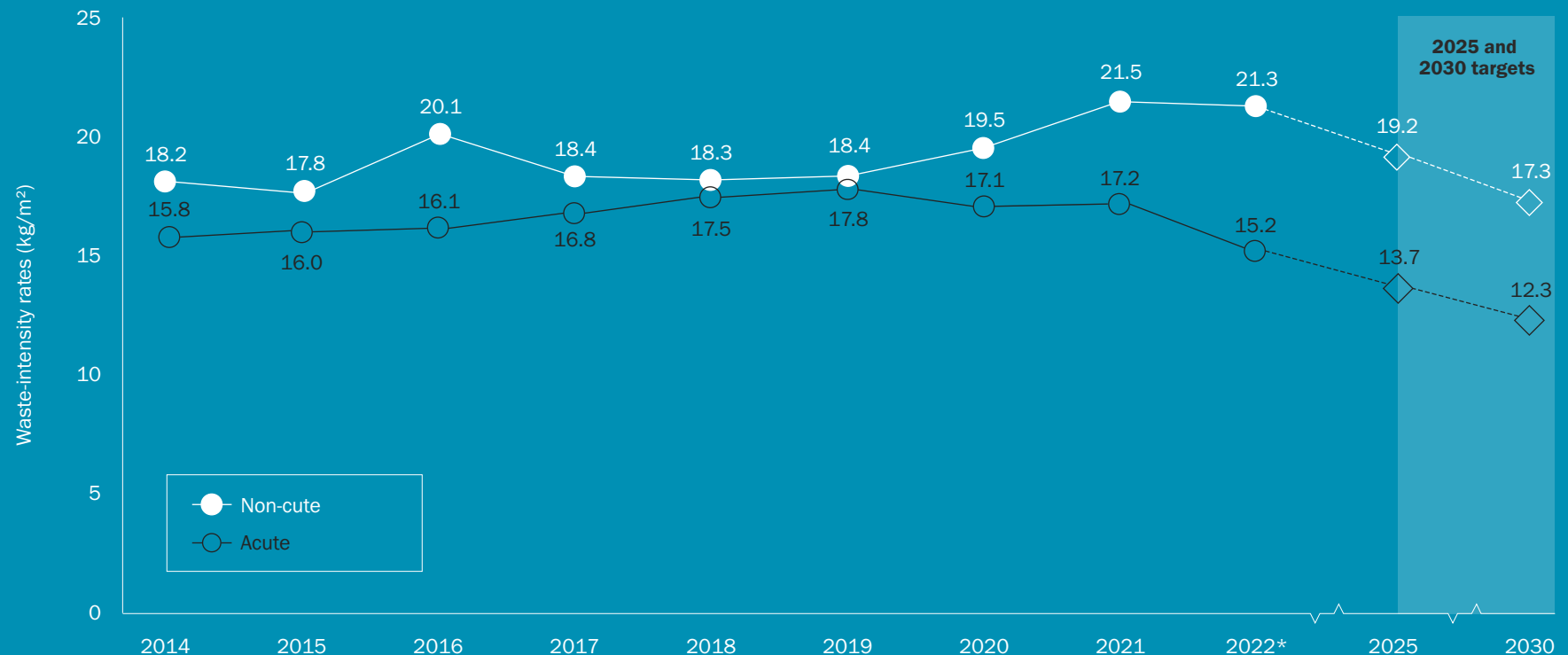
3%

at **acute** care sites^D since data
 collection was initiated in 2014.

Total waste intensity has **increased** by

17%

at **non-acute** care sites^E since data
 collection was initiated in 2014.



* Since 2014, waste intensity has increased at Fraser Health non-acute sites by 17%. Most of the increase happened in 2020 and 2021, suggesting increased waste generation due to the COVID-19 pandemic.

Fraser Health has started addressing this at our sites by identifying sources of unnecessary waste. One example is an upcoming project to reduce the unnecessary use of non-sterile gloves by monitoring glove use and

providing updated recommendations on when gloves are needed.

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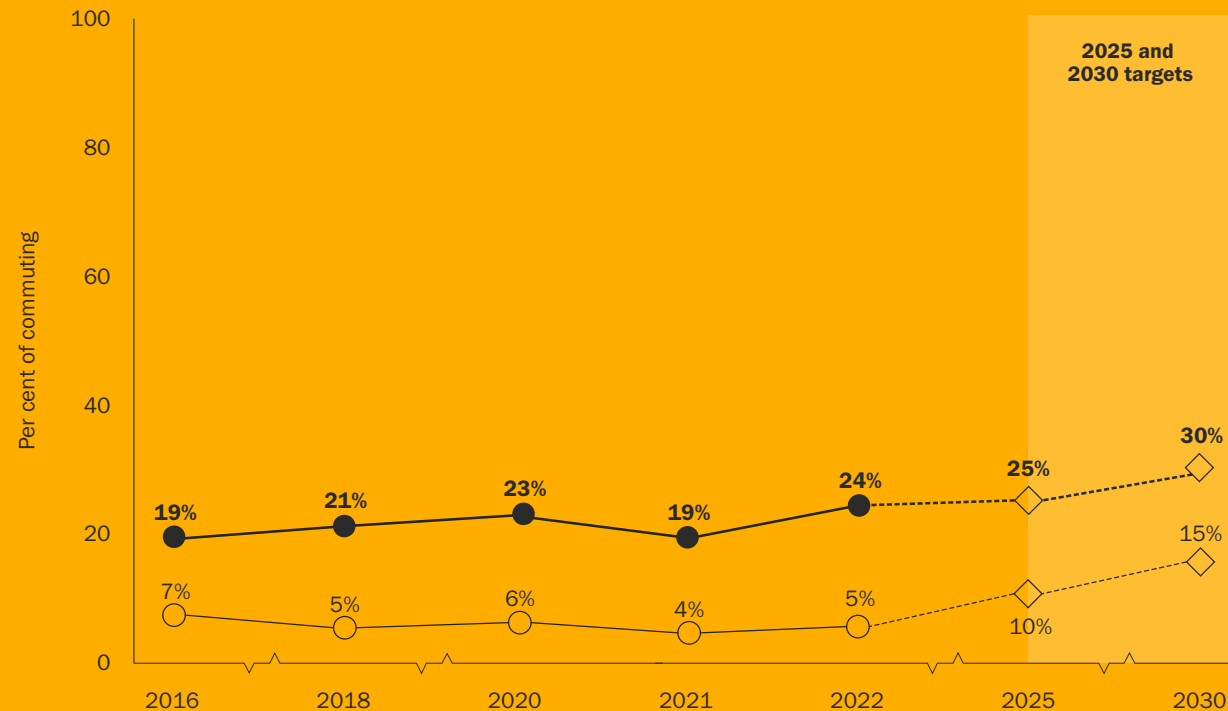
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Active and Clean Commuting

Data shown in the graph is based on health-care staff and medical staff self-reported commuting proportions in the annual GreenCare survey.^E

[Visit the Energy and Environmental Sustainability \(EES\) Methodology and Context for Calculating Key Performance Indicators on the GreenCare website.](#)



* Clean transportation refers to hybrid or electric single occupancy, public transit, carsharing, carpools and hospital shuttles.

** Active transportation refers to bicycles (regular/non-electric, pedal-assist/electric, bike share) and walking/rolling (e.g. wheelchairs, seated electric scooters).

Active commuting by Fraser Health staff and medical staff is

10%

away from the **2030 target**.

Clean commuting by Fraser Health staff and medical staff is

6%

away from the **2030 target**.

● Per cent of commuting by clean transportation*
 ○ Per cent of commuting by active transportation**

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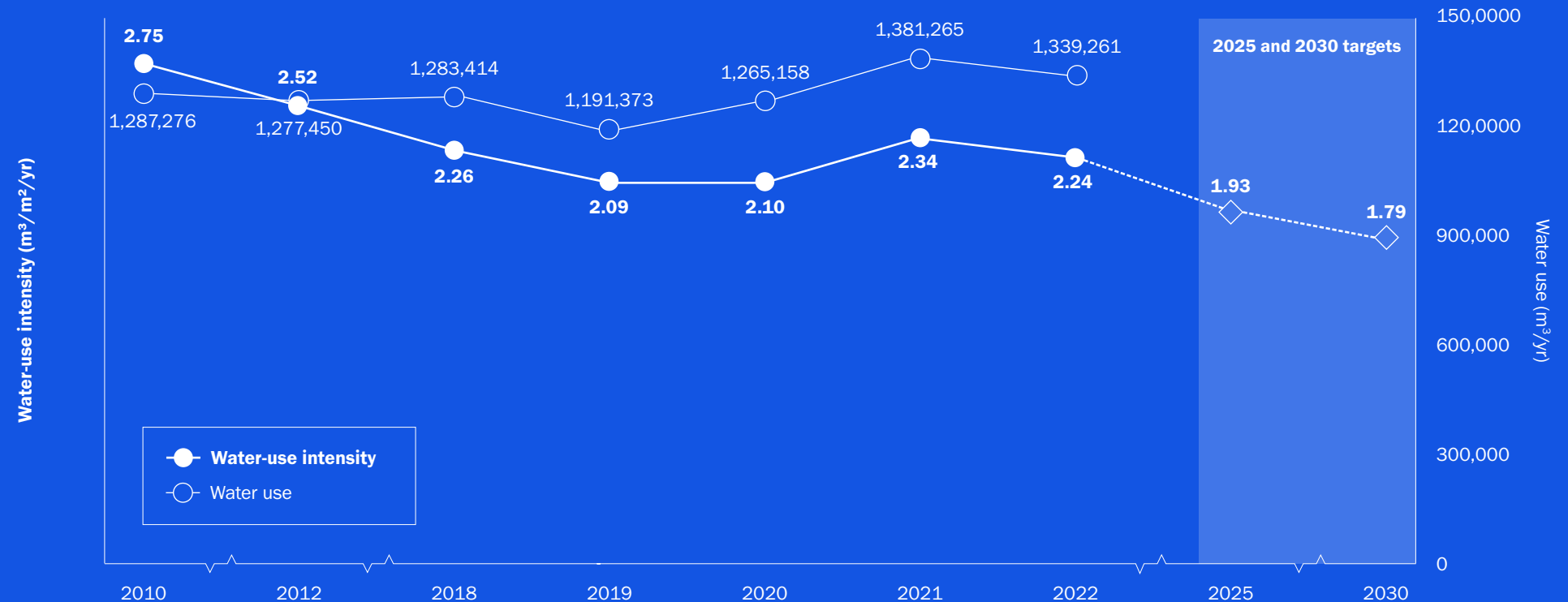
Water Use and Intensity

Visit the Energy and Environmental Sustainability (EES) Methodology and Context for Calculating Key Performance Indicators on the GreenCare website.

Water-use intensity has **decreased** by

18.6%

since 2010, and, despite an **increase of 27.6%** in core facility space,* water use has only **increased by 4.0%**.



* The facility space used to calculate the building water performance intensity is different to energy and carbon facility space due to the difference between the baseline years 2010 and 2007, respectively.

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- A Natural Resources Canada - Office of Energy Efficiency - Demand Policy and Analysis Division. Greenhouse gas equivalencies calculator [Internet]. Government of Canada; 2017 [cited 2023 June 8]. Available from: <https://oee.nrcan.gc.ca/corporate/statistics/neud/dpa/calculator/ghg-calculator.cfm#results>
- B ARCHIBUS and Fraser Health Real Estate Department
- C Full-time equivalent staff and medical staff includes all designated groups reported in the Health Sector Compensation Information System (HSCIS). This includes physicians (doctors on staff), executive/excluded, and non-union and bargaining unit employees. It excludes affiliate employers and BC Emergency Health Services (BCEHS) employees. (Source: Health Employers Association of BC)
- D Fraser Health acute care sites are:
- Abbotsford Regional Hospital and Cancer Centre
 - Burnaby Hospital
 - Chilliwack General Hospital
 - Delta Hospital
 - Eagle Ridge Hospital
 - Jim Pattison Outpatient Care and Surgery Centre
 - Langley Memorial Hospital
 - Mission Memorial Hospital
 - Peace Arch Hospital
 - Ridge Meadows Hospital
 - Royal Columbian Hospital
 - Surrey Memorial Hospital
- E Fraser Health non-acute sites are:
- Creekside Withdrawal Management Centre
 - Cottage Worthington Pavilion
 - Czorny Alzheimer Centre
 - Fellburn Care Centre
 - Queens Park Care Centre
 - Timber Creek
- F The GreenCare survey is an annual survey (biennial prior to 2020) for all staff and medical staff working within Fraser Health, Providence Health Care, Provincial Health Services Authority and Vancouver Coastal Health. The survey collects information on staff and medical staff perspectives, familiarity with, and actions related to planetary health, climate change and environmental sustainability efforts in areas such as transportation and food. The data is used to measure trends and progress, and develop programs that will meet staff and medical staff needs.
- G Based on the assumption that an adult elephant weighs 5,000 kg.

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Be the Change Group for the Energy
and Environmental Sustainability team.

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