



Environmental Performance
Accountability Report

Environmental sustainability is everyone's story.



fraserhealth

Better health. Best in health care.

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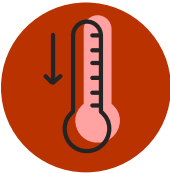
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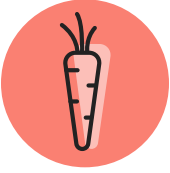
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Climate Change



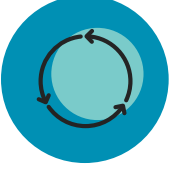
Energy and Carbon



Food



Leadership
and Innovation



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.
Each report details progress and achievements
in the seven Focus Areas.

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As health-care providers, we are dedicated to serving our patients, families, communities and each other. We know that in order to take care of our people and communities now and in the future, we must focus on maintaining the health of the planet on which we depend.

The climate-related challenges facing our planet can be daunting and overwhelming, and Fraser Health is up to the challenge. By working together to identify what we are able to control and change, we can transform our health system so it is resilient to current and future environmental threats, making it sustainable for healthy people and a healthier planet.

The recent global pandemic and local extreme climate events have shown us how interconnected we are with the health of the planet — on both an individual and health system level. These events have underscored the need for urgent action on climate change and planetary health. We all have a part to play in finding new solutions to protect the future.

Our environmental sustainability work has matured significantly in recent years, allowing us to achieve our goals and set new ones. Working together with our Energy and Environmental Sustainability (EES) team, the GreenCare network, **Green+Leaders**, and dedicated staff and medical staff, we are taking action to keep our people and planet healthy.

We have continued to achieve carbon neutrality with purchased offsets for the past twelve years as part of the provincial public sector commitment to net-zero emissions. As part of our organization's net-zero carbon commitment, we are actively working to reduce greenhouse gas (GHG) emissions intensity by one per cent in all of our owned and operated facilities by the end of the 2022/23 fiscal year. We're implementing systems to reduce waste by making different decisions about our supply chain, and we're increasing access to and uptake of transportation modes for our staff that reduce negative environmental impacts and enhance health and wellness. Our Climate Change Strategy and Adaptation Framework will help our services and

communities to be more resilient to climate events. This includes supporting provincial, municipal and community partners to develop procedures and resources for extreme heat, which is projected to be one of the major health threats from climate change.

This 2021 Environmental Performance Accountability Report is evidence of our united efforts to address our climate reality. Read more to learn about how we can achieve better health and well-being for our patients, teams, communities and planet.



Victoria Lee,
MD, MPH, MBA, CCFP, FRCPC
President and Chief Executive Officer
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1.1 Executive summary

The 10th annual Environmental Performance Accountability Report (EPAR) acknowledges the hard work, commitment, progress and success of everyone at Fraser Health in their continuing efforts to achieve environmental sustainability in all facets of our health system.

2021 was a year of many firsts and changes, along with continued work and new challenges. Over the course of the year, Fraser Health reached sustainability milestones and achievements that we are proud to share, as exemplified by the many staff who have shown initiative and commitment to the meaningful change necessary to meet the 2025 and 2030 targets for environmental sustainability.

We also recognize that we are not trending to meet all of the targets necessary to achieving a truly sustainable health system. In some areas, pandemic and extreme weather events have presented challenges to our progress. In others, more work is needed due to complex, multiple department engagement and systemic change. Although older facilities and increasing demand for facility space present a challenge, they are also an opportunity to rethink health-care design, construction and operations. To ensure that we get back on track to meet our 2025 and 2030 targets, we know that there must be continued progress in decision-making and the action that we take.

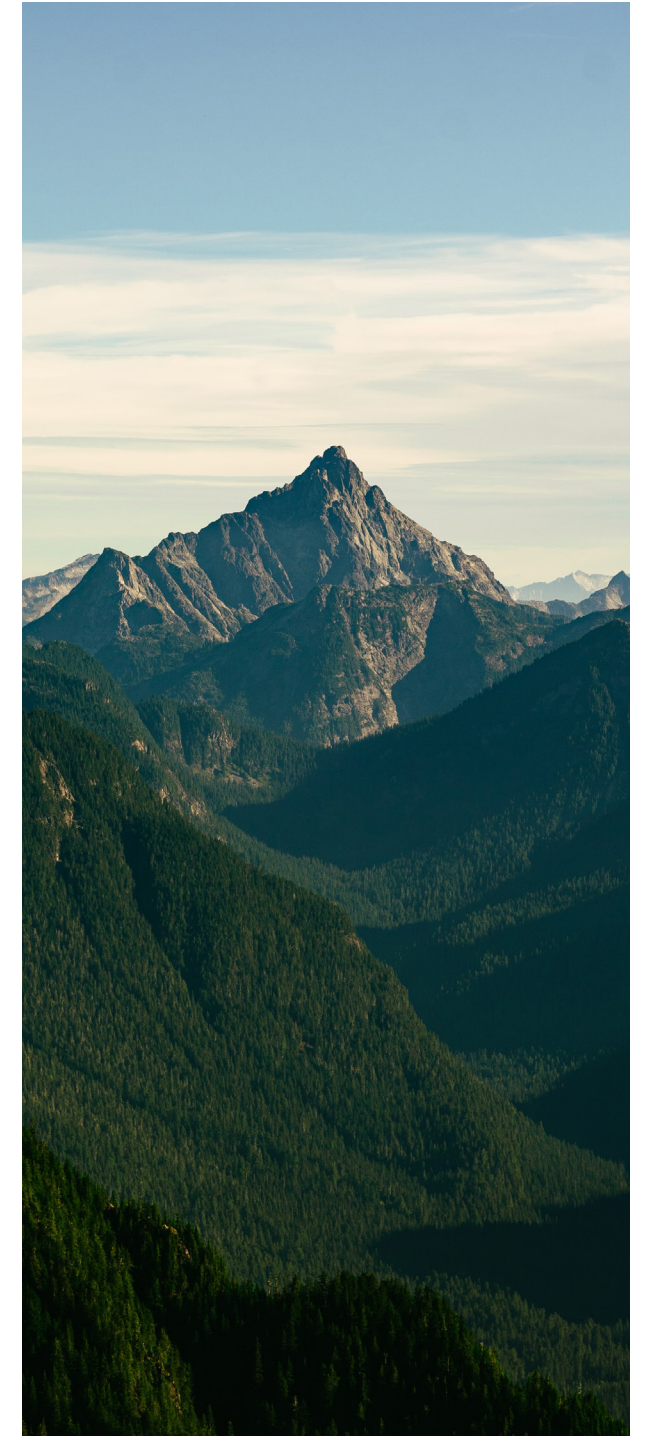
No individual, department or group can do it alone.

As this report shows, there is both a need and opportunity for staff and medical staff across Fraser Health to continue to collaborate more closely in clear, consistent and invested efforts for change. Together we must:

- Inform and motivate each other to take action to nurture and protect our planet.
- Share, learn about and co-develop action plans for sustainability.
- Innovate, and scale up and out the approaches that are working.
- Transform our processes and health system away from business as usual.
- Reinforce and celebrate the change we want to see.

Addressing climate change and restoring health to our health system, environment and planet is something we need to work on every day. From departmental meetings, to short- and long-term planning, to decision-making and budgeting, environmental sustainability must be a priority in all aspects of our workplace and in our daily lives.

We are confident that we can face the challenges head on and do the work necessary to deliver low-carbon, resilient and environmentally sustainable care for the health of people, place and planet.



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Here's a summary of our 2021 milestones and achievements, and what to watch for in 2022 and beyond:

First ever!

- Created Circular Health Care Framework to support departments at Fraser Health to develop strategies to avoid and reduce waste
- Converted William Rudd House at Queen's Park Care Centre to fully electric, achieving zero site level emissions
- Conducted cycling (bicycle) assessment evaluating accessibility of staff cycling to work (at Burnaby Hospital) to inform future infrastructure and programs

Refreshed and updated

- Energy and Environmental Sustainability (EES) team's Strategic Framework updated to reflect the importance of collaboration for low-carbon, resilient and environmentally sustainable health care
- GreenCare website launched, resulting in an average of 1,300 users a month and an increase in Green+Leader registrations by 75% (from 3/month to 5.25/month)

Infrastructure projects

- Implemented 21 mechanical and lighting building retrofit projects that are expected to reduce carbon emissions by more than 1,083 tCO₂e per year
- Royal Columbian Hospital Redevelopment Phase 1 certified [LEED](#) Gold

Environmentally preferable decision-making

- Environmental questions were used in annual pre-qualification for Facilities Management contractor services and in the disposable surgical packs, drapes and gowns requests for proposals (RFPs).
- Staff commuting by electric vehicle increased by 6% compared to 2020.

2022 highlights

- Cross-health-authority and departmental participation in the [2021-2023 Nourish Anchor Cohort Collaborative](#) to tackle interconnected challenges related to a lack of low-environmental-impact, healthy and culturally appropriate food choices in health-care facilities
- PHSA Supply Chain (the procurement group for all B.C. health authorities) initiation of a working group on sustainable procurement
- Sharing the [Low Carbon Resilience & Environmental Sustainability Guidelines for New Construction \(LCRES Guidelines\)](#) with Capital Project teams and other infrastructure project partners
- Modifying our environmental sustainability policy to align with updates to legislation, mandates and other guidance from government
- Development of a Planetary Health Leadership Group to support embedding sustainability across the organization
- Sharing the [Climate Change and Health Adaptation Framework](#), developed as part of the HealthADAPT project, including current actions and new priorities up to 2026

“

Given our climate reality, changing how we approach environmental sustainability at an organizational level is one of the most fundamental challenges of our time. But people are taking action, and it's so encouraging and rewarding to work alongside them across teams and departments, in such a spirit of collaboration.

–Mauricio Acosta, Executive Director, Facilities Management and Business Performance

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1.2 The 2021 Dashboard: Setting sustainability targets and measuring results

2021 was a year of reflecting on progress and shifting gears to determine action moving forward. The Energy and Environmental Sustainability (EES) team refreshed its purpose and approach; identified 2025 key performance indicators (KPIs); and, in some Focus Areas (Climate Change, Leadership and Innovation, and Transportation), identified new targets to help us on our journey. Captured in the 2021 Dashboard are some, but not all, of the targets and KPIs that reflect progress in each of the Focus Areas. There are no targets and KPIs related to the Climate Change and Food Focus Areas in this year's dashboard as these are still relatively new for Fraser Health. They are, however, covered in section 3.0: We're Finding Solutions: Together.

Targets and KPIs help us all to determine challenges, recognize achievements and guide the actions we need to take to transform our health-care system toward environmentally sustainable and climate-resilient care for healthy people, place and planet. Strengthening our partnership approach to how we take action and measure progress will be vital to increasing our impact as we move towards our 2025 and 2030 targets. For information on the methodology behind the KPIs below, look [here](#).

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Energy and Carbon

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

| 2025 Target (baseline 2007) | | 2021 Results | Traffic Light | 2030 Target |
|---|-----|--------------|---------------|-------------|
| Reduce energy-use intensity (ekWh/m²/year) by | 20% | 12.9% | ● | 25% |
| Reduce absolute in-scope GHG emissions (tCO ₂ e/year) by | 16% | -12.7% | ● | 50% |
| Reduce in-scope GHG-emissions intensity (tCO ₂ e/year/m²) by | 25% | 17.7% | ● | 50% |

- 2025 target on track
- 2025 target behind schedule
- 2025 target requires attention

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Leadership and Innovation

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

| 2025 Target | 2021 Results | Traffic Light | 2030 Target |
|--|--------------|---------------|-------------|
| Increase total number of <u>Green+Leaders</u> (registrations) to 283 | 156 | ● | 437 |

- 2025 target on track
- 2025 target behind schedule
- 2025 target requires attention

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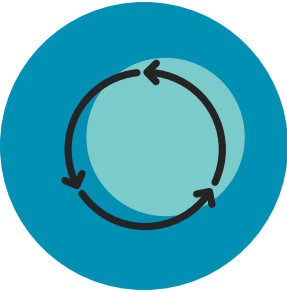
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Materials

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

| 2025 Target | | 2021 Results* | Traffic Light | 2030 Target |
|---|------|---------------|---------------|-------------|
| Increase waste-diversion rates (% of waste diverted, annual average) to | 44% | 39.0% | ● | 50% |
| Decrease waste-intensity rates (kg/m ² /year) to | 14.5 | 17.2 | ● | 12.0 |

- 2025 target on track
- 2025 target behind schedule
- 2025 target requires attention

* Our waste diversion reflects only waste segregation, as our recycling provider paused the collection of recycling for most of 2021 due to concerns for staff safety during the COVID-19 pandemic. All recycling and general garbage streams were instead taken to a local waste-to-energy facility. Recycling was restarted in smaller facilities in November 2021.

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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.

| 2025 Target | | 2021 Results | Traffic Light | 2030 Target |
|---|-----|--------------|---------------|-------------|
| Increase proportion of staff commuting by sustainable transportation modes to | 40% | 23.0% | ● | 60% |

- 2025 target on track
- 2025 target behind schedule
- 2025 target requires attention

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Water

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

| 2025 Target (baseline 2010) | 2021 Results | Traffic Light | 2030 Target |
|---|--------------|---|-------------|
| Reduce building water (use) performance intensity (m ³ /m ² /year) by | 17.5% |  | |

-  2025 target on track
-  2025 target behind schedule
-  2025 target requires attention

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2.0 Our Sustainability Story



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2.1 Fraser Health's dedication to planetary health and climate change

Fraser Health Together priorities

These include creating value by innovating for sustainability and transformation. As part of this, we will provide more training and opportunities for staff and medical staff to learn about climate change and health, and to be able to support innovation in sustainability, including the creation of a planetary health leadership group.

Policy

Achieving energy and environmental sustainability is a priority for Fraser Health. Our [environmental sustainability policy](#) highlights the importance of developing a triple-bottom-line approach to sustainability, which balances ecological, societal and economic imperatives, and recognizes the link between a healthy environment and a healthy population. As such, we recognize our duty to minimize our environmental impact through leadership and strategic partnerships, facility construction and operations. Further, we recognize the need to modify this policy to align with updates to legislation, mandates and other guidance from government, an activity that will be initiated in 2022.

Advocacy

As a health leader, Fraser Health has an opportunity to provide leadership on advocating for healthy public policies that reduce emissions and environmental degradation, and help communities adapt. We know that these policies can also have significant benefits for population health. Of staff and medical staff, 94% agree^A that health-care organizations should work to support healthy policies that support action on climate change and biodiversity loss.^B

Addressing health inequities

Fraser Health believes that everyone has a right to optimum health and well-being and that we must work to overcome inequities that place a disproportionate burden of poor health on some of our most vulnerable communities. Our work recognizes that climate change does not impact individuals and population groups uniformly. Instead, the impacts tend to correspond with existing health inequities. As such, we must put efforts to address health inequities at the core of our climate action. Securing the benefits of climate and wider environmental action provides an unprecedented opportunity to improve population health and reduce health inequities.

Approach

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 for healthy people and a healthy planet. We will achieve these priorities by embracing our We Culture, providing Connected Care, creating New Solutions, and Partnering in Health.

“

As health-care providers, we are dedicated to serving our patients, families, communities and each other. We know that in order to take care of our people and communities now and in the future, we must focus on maintaining the health of the planet on which we depend.

–Dr. Victoria Lee, President and Chief Executive Officer

Learn about who Fraser Health is and what they do, [here](#).

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.

We acknowledge that there is much to be learned about environmental stewardship from these nations and communities.

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Regulatory guidance

The [Climate Change Accountability Act](#) (CCAA) and the [CleanBC plan](#) have set ambitious targets for public sector organizations, requiring a reduction in emissions by 40% by 2030, 60% by 2040, and 80% by 2050. The CleanBC plan is the pathway to achieve these targets and (over the 2007 baseline) has set even more aggressive targets of:

50%

reduction in emissions for public sector buildings
by 2030

40%

reduction in fleet vehicle emissions by 2030

Of the total measured in-scope emissions generated by Fraser Health sites, over 96% are from buildings, while the remaining 4% are from supplies (paper usage) and transportation (fleet vehicles) combined. To achieve carbon neutrality, Fraser Health minimized greenhouse gas (GHG) emissions, reported the remaining GHG emissions, and then purchased carbon offsets. In addition, the CCAA also requires public sector organizations to “manage the risks to the public sector organization that could reasonably be expected to result from a changing climate.”

2021 Public Sector Organization Climate Change Accountability Report Fraser Health

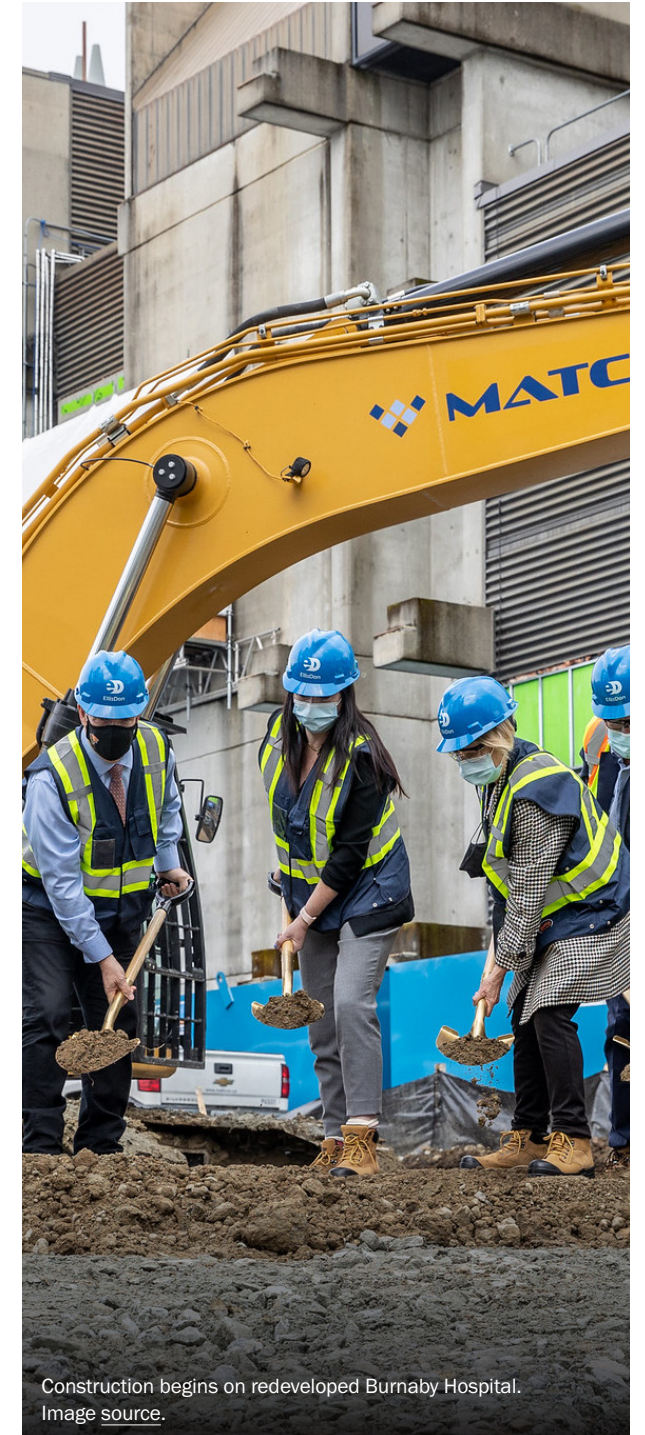


The Fraser Health Climate Change Accountability Report

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

In 2021, and including prior year adjustment, Fraser Health had a carbon footprint offset of 41,203 tonnes of carbon dioxide equivalent (tCO₂e), which was offset at a total cost of \$1,034,400. This represents a 17.7% decrease in emissions per floor area relative to the carbon footprint base reporting year, 2007.

[Download the Fraser Health Climate Change
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Construction begins on redeveloped Burnaby Hospital.
[Image source.](#)

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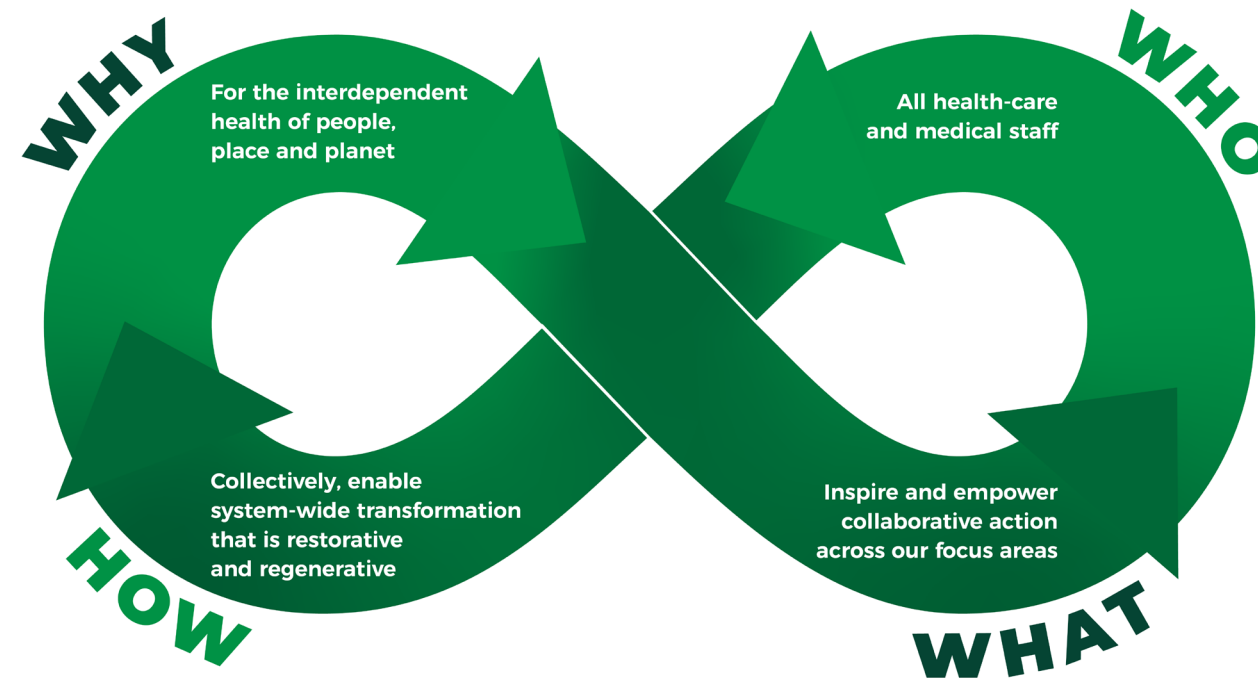
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2.2 The Energy and Environmental Sustainability team

The Energy and Environmental Sustainability (EES) team is driving the push for low-carbon, climate-resilient and environmentally sustainable health care, but realize it can't be done alone.

In 2021, the EES team updated its strategic framework. Because environmental sustainability work is a journey that doesn't end, but continually refines the why, the what, the who and the how, in order to have increasing and meaningful impact, the framework is presented as an infinity symbol. This symbol also reminds us of the interrelationships of all aspects of environmental sustainability.

The EES Strategic Framework



THE EES TEAM'S PURPOSE:

To inspire and empower everyone we work with to collaboratively enable systemic transformation so that we can restore and regenerate the interdependent health of people and planet — now and for future generations.

“

I am very passionate about our environment and the need to reduce our emissions and adapt to climate change — and the interrelationship between the GreenCare Focus Areas and meaningful impact is so essential to this. Leading and being part of a collaborative dynamic team that wants to inspire change is the most rewarding aspect of my work.

– Robert Bradley, Director,
Energy and Environmental Sustainability

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2.3 Building and operating for energy and environmental sustainability

In the design and construction of new facilities, and in the operation of existing ones, 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
- Assessing how the design, construction and operation strategies of a facility will impact the environment and human health
- Implementing low-carbon, climate risk and 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 regulations and targets
- Drawing on credible evidence that links health outcomes to planning and design of the built-environment (e.g. [The Healthy Built Environment Linkages Toolkit](#))

Our buildings ^C

736,881m²

usable facility space

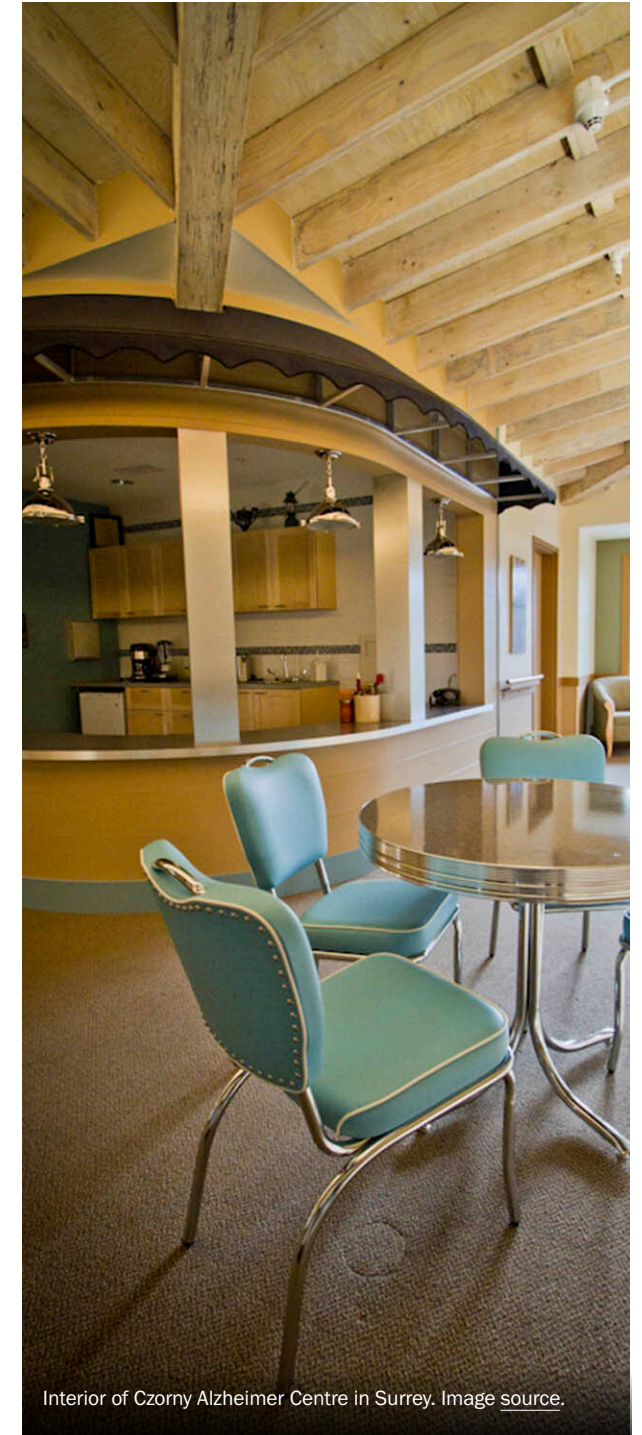
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distinct buildings

“

Being energy efficient is about more than just finding ways to save money; it's about doing the right thing for the health and well-being of everyone — in our community, in our country and across the globe. Striving to be leaders in sustainability and green design gives our staff a sense of pride in what we do, and the teamwork required across all departments to develop solutions and achieve our goals brings us all closer together.

– Martin Wright, Director, Facilities Maintenance and Operations,



Interior of Czorny Alzheimer Centre in Surrey. Image [source](#).

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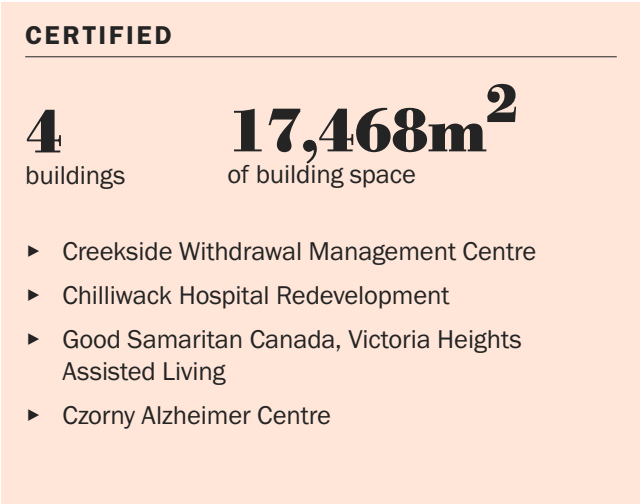
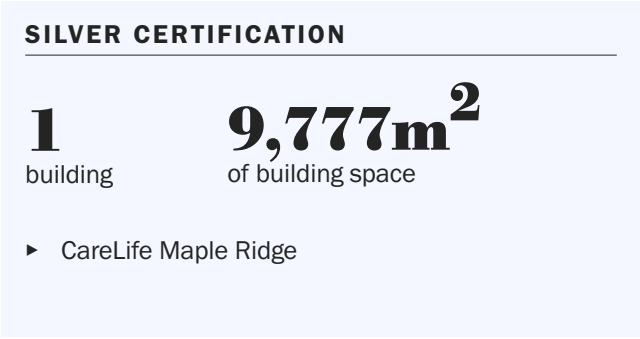
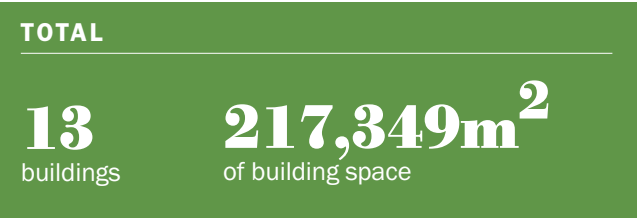
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Our LEED projects

LEED certification is a globally recognized symbol of sustainability achievement and leadership. LEED certified buildings save money, improve efficiency, lower carbon emissions and create healthier places for people. They are a critical part of addressing climate change and meeting environmental, social and corporate governance (ESG) goals; enhancing resilience; and supporting more equitable communities.



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[Water](#)

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3.0 We're Finding Solutions: Together.



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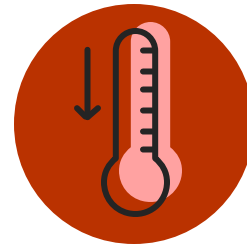
Providence Health Care EPAR

Provincial Health Services Authority EPAR

3.1 Our Focus Areas

Efforts to transform the system for environmentally sustainable and climate-resilient health care have been categorized into seven Focus Areas. The results in each Focus Area are not limited to work undertaken by the Energy and Environmental Sustainability (EES) team. Results are also a culmination of health-care and medical staff efforts to create environmentally friendly workplaces, along with work undertaken in collaboration and partnership with departments across Fraser Health and B.C. As the title of this section suggests, progress in these Focus Areas is really about finding solutions together.

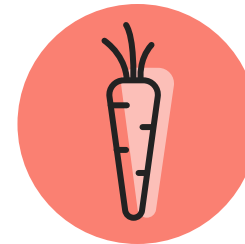
By pursuing meaningful change collaboratively across the health system, Fraser Health can assess its progress and plan for future efforts. Each of the following Focus Areas highlights the associated 2025 and 2030 goals and targets. Each section then outlines 2021 actions and achievements to move towards these targets, as well as stories to highlight each Focus Area. These Focus Areas include:



Climate Change



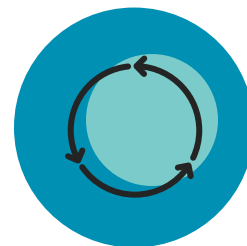
Energy and Carbon



Food



**Leadership and
Innovation**



Materials



Transportation



Water

In some cases, a target is influenced by but not necessarily aligned with provincial or regional mandates and targets. In others, it is based on aspirational progress that is required based on the urgency of the health system's need to fight climate change.

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

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

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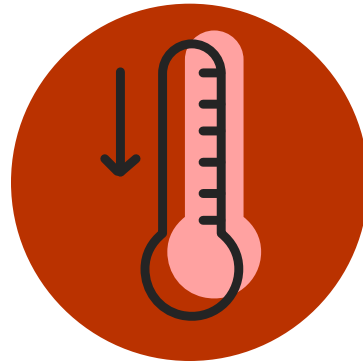
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1. Climate Change

Our goal: Move toward a climate-resilient health system and reduce greenhouse gas (GHG) emissions in facility design and operations.

LEARN MORE



Our 2025/2030 targets (newly created)

**Increase the proportion of existing facilities where
climate risk and resilience impacts and opportunities
are understood.**

**Increase proportion of relevant infrastructure
retrofit projects where climate risk and resilience
are considered.**



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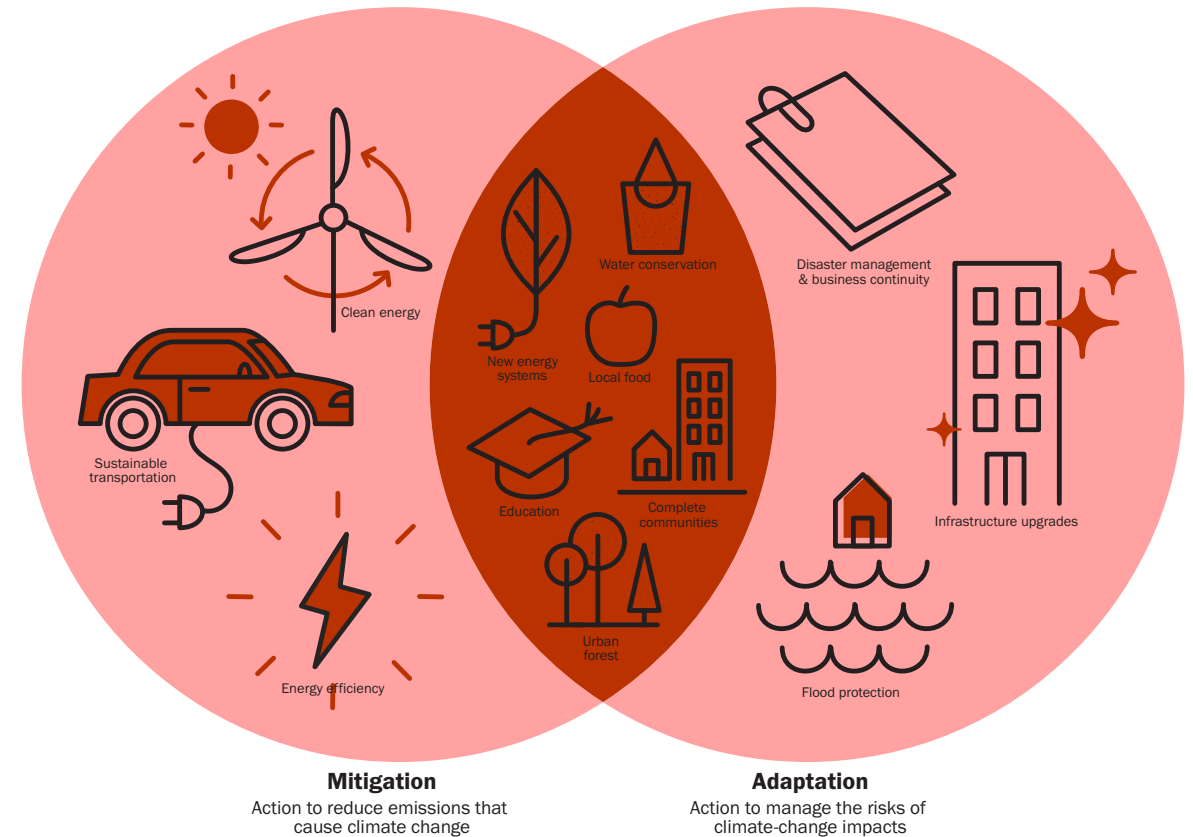
Providence Health Care EPAR

Provincial Health Services Authority EPAR

2021 actions

- Participated in the federally funded [HealthADAPT project](#) (2019-2022), via a collaboration between Population and Public Health at Fraser Health and at Vancouver Coastal Health, Health Emergency Management BC, and Facilities Management
- Brought together a range of project stakeholders representing project planning, facilities, clinical service delivery and occupant care, among others, to incorporate climate mitigation and resilience strategies into capital project design and construction, in line with the [Climate Resilience Guidelines for BC Health Facility Planning & Design](#)
- Worked across EES Focus Areas to strengthen collective understanding of low-carbon resilience
- Strengthened cross-sectoral relationships and worked with utility partners (i.e. BC Hydro, FortisBC) in relation to integrated planning for existing and new facilities
- Collaborated with the Asset Risk & Quality: Technical Services team on the development of an extreme weather performance assessment process for acute facilities
- Released a [Medical Health Officer Update](#) on the climate and ecological crisis as a health emergency

Building climate resilience



HealthADAPT update

The EES team partnered with the Population and Public Health teams for Fraser Health and Vancouver Coastal Health, and Health Emergency Management BC, on the federally funded HealthADAPT project from 2019 to 2022. HealthADAPT began with a climate change and health vulnerability and capacity assessment, which explored the degree to which communities, populations, health facilities and services are susceptible to and prepared for the effects of climate change. Based on the results and extensive engagement, the four partner organizations drafted a [Climate Change and Health Adaptation Framework](#) that outlines current actions and new priorities (finalized in 2022).

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Our partners

Asset Risk Quality: Technical Services

BC Housing

BC Ministry of Environment and Climate
Change Strategy

BC Ministry of Health

Canadian Coalition for Green Health Care

Environment and Climate Change Canada

First Nations Health Authority

Health Canada

Health Emergency Management BC

Interior Health

Island Health

Local governments

National Research Council Canada

Northern Health

Pacific Climate Impacts Consortium

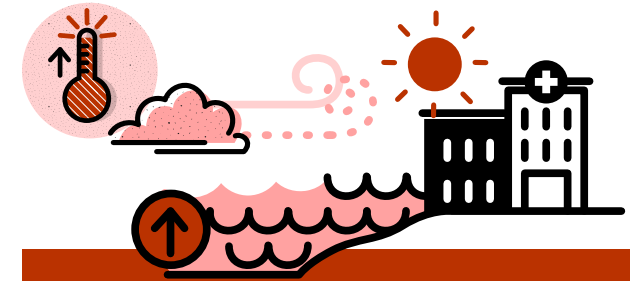
Population and Public Health

Simon Fraser University

University of British Columbia

Our achievements

- Drafted an update to the [Low Carbon Resilience & Environmental Sustainability Guidelines for New Construction \(LCRES Guidelines\)](#), including standard scope of work language for procurement (finalized in 2022)
- Completed three climate hazard exposure screens and risk assessments for capital projects, including the Burnaby Hospital Redevelopment and the long-term care facilities in Abbotsford and Chilliwack
- Completed a physical risk report for numerous Fraser Health facilities to understand potential risk costs under changing climate conditions
- Initiated improvements to ventilation, indoor air quality and indoor cooling at numerous long-term care facilities through site-scale retrofits supported by the Federal Infrastructure Fund
- Secured system redesign funding to hold two climate-related engagement sessions with physicians: one on reducing GHG emissions associated with inhalers and another on supporting populations that are more vulnerable to climate change impacts



OUR STORY

Climate risk-y business

North of the Trans-Canada Highway, near the Abbotsford Regional Hospital and the existing Maplewood House, Fraser Health is planning a new long-term care (LTC) home with 200 beds. The project team for the much needed facility knew that climate would have a major impact on the design and feasibility for this major project. However, 2021, a year of extreme heat, fire and floods, brought the need to plan for climate hazards into sharper focus.

In April 2021, the EES team and project team initiated a climate risk assessment for the LTC facility business plan. The assessment happened alongside an environmental sustainability and LEED Gold strategy and a low carbon study. The utilization of a climate risk assessment, particularly in the context of extreme weather events, led to a better understanding of site-specific hazards, vulnerabilities and risks related to climate change. The process also helped the design team to innovate new resilient design strategies.

With this holistic and necessary approach, the project team for the new long-term care facility in Abbotsford took steps toward a climate-resilient facility, so that care — not climate — makes the biggest impact.

Read more ►

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

77%

of Fraser Health staff said their job duties were impacted by extreme weather events in 2021. The most disruptive events were extreme rainfall and flooding, wind storms, extreme cold, snow or ice storms, and heat waves.

The most common impacts on job duties were:

- ▶ Workspace was physically impacted.
- ▶ Couldn't physically get to place of work.
- ▶ Child care or other service interruptions made it difficult to come into work.
- ▶ Had to miss work due to personal responsibilities/duties related to the impacts of extreme weather events.
- ▶ Supply chain disruptions occurred.

“

We have to have reserve capacity for extreme events. We need to expect these events and respond faster. We need better relationships with community partners.

– Fraser Health GreenCare Survey respondent

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2. Energy and Carbon

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

LEARN MORE

Our 2025/2030 targets

Reduce energy-use intensity by:



Reduce absolute in-scope GHG emissions by:



Reduce in-scope GHG-emissions intensity by:



Snapshot in numbers

\$450,000

invested in energy efficiency initiatives from
 the Green Revolving Fund

\$3.5 million

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

21

mechanical and lighting building retrofit
 projects initiated

1,083 tCO₂e

of projected carbon emissions reduced

\$1,034,400

carbon offsets paid to become carbon neutral

\$1.2 million

in utility incentives received from BC Hydro
 and FortisBC in fiscal year 2021/2022

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2021 actions

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

- ▶ Invested over \$5 million in Energy and GHG-reduction studies and projects in 2021-2022
- ▶ Initiated waste-heat recovery and partial fuel switching projects at Mission Memorial Hospital, Fraser Canyon Hospital, Delta Hospital and Ridge Meadows Hospital
- ▶ Initiated a heat recovery chiller system optimization project at Eagle Ridge Hospital
- ▶ Completed lighting energy efficiency projects at Cottage and Worthington Pavilions, and at Fraser Canyon Hospital
- ▶ Initiated change from gas to all-electric plus solar thermal heating at William Rudd House long-term care residence at Queen's Park Care Centre, while improving air quality and thermal comfort
- ▶ Refreshed BC Hydro's Continuous Optimization program at Eagle Ridge Hospital, Mission Memorial Hospital and The Residence in Mission building
- ▶ Engaged Facilities Maintenance & Operations staff on energy performance (optimizing existing heating and cooling plants), emission reduction, operational excellence and identifying conservation opportunities
- ▶ Connected main gas meters at nine core sites to the regional electrical Power Monitoring Expert platform to centralize monitoring and management of site energy with real-time data
- ▶ Partnered with the Asset Risk and Quality: Technical Services team to plan a major indoor air quality, heat recovery and energy efficiency retrofit project at Queen's Park Care Centre



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Our partners

Asset Risk and Quality: Technical Services

BC Hydro^D

BC Emergency Health Services

Climate Action Secretariat

Facilities Maintenance & Operations (FMO)

Facilities Management Procurement

Finance

FortisBC^D

Ministry of Environment and Climate Change Strategy

Ministry of Health Capital Services Branch

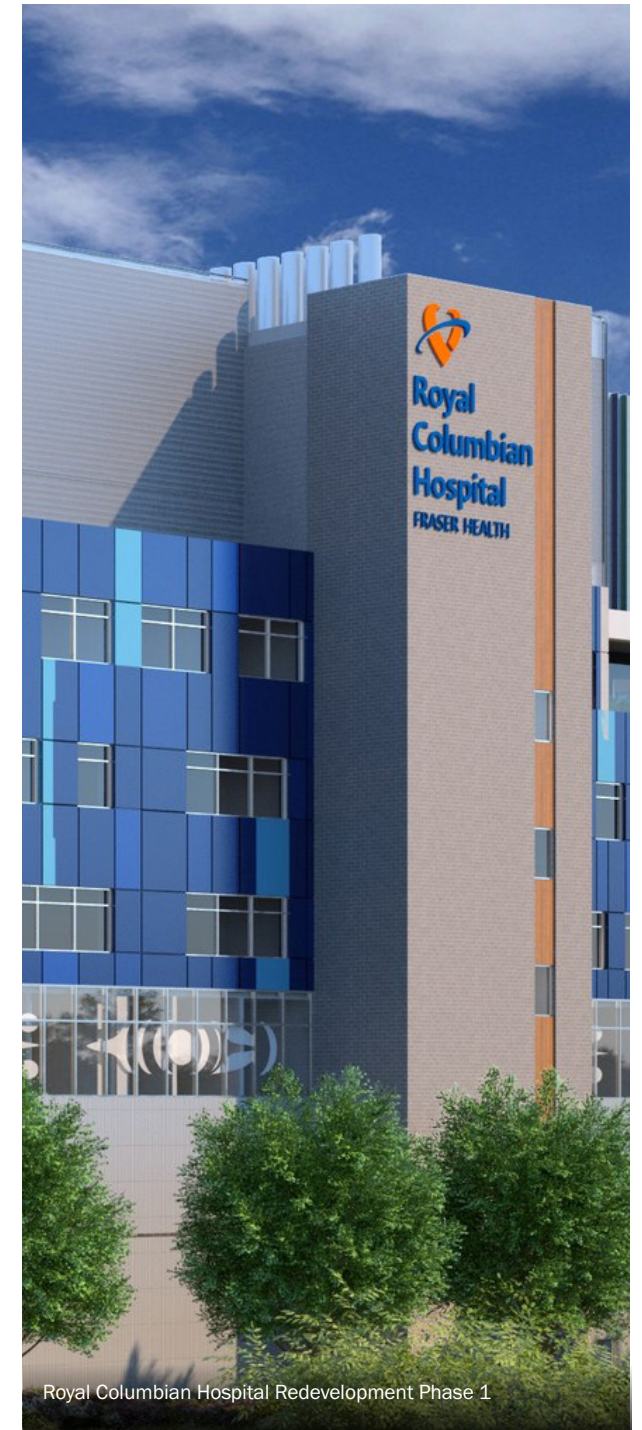
Municipal governments

Projects & Planning teams

PHSA Supply Chain

Our achievements

- Initiated 21 retrofit projects, with a total estimated energy savings of 6.2 GWh resulting in GHG savings of 1,083 tCO₂e
- Royal Columbian Hospital Redevelopment Phase 1 certified **LEED** Gold
- Collaborated with project compliance team to target a site net-zero design for the New Surrey Hospital BC Cancer Centre
- Demonstrated novel heat and cool recovery at Heritage Village to meet cooling needs for the 2021 heat dome, enhancing facility resilience while reducing overall gas and electricity consumption
- William Rudd House became Fraser Health's first zero fossil fuel long-term care facility, with a combination of heat pumps, solar thermal, and novel heat recovery ventilators that bring needed fresh air to resident rooms
- Fully used funding from BC's Carbon Neutral Capital Program, utility incentives, and operation funds for the study and implementation of all energy- and emission-reduction capital and operational projects



Royal Columbian Hospital Redevelopment Phase 1

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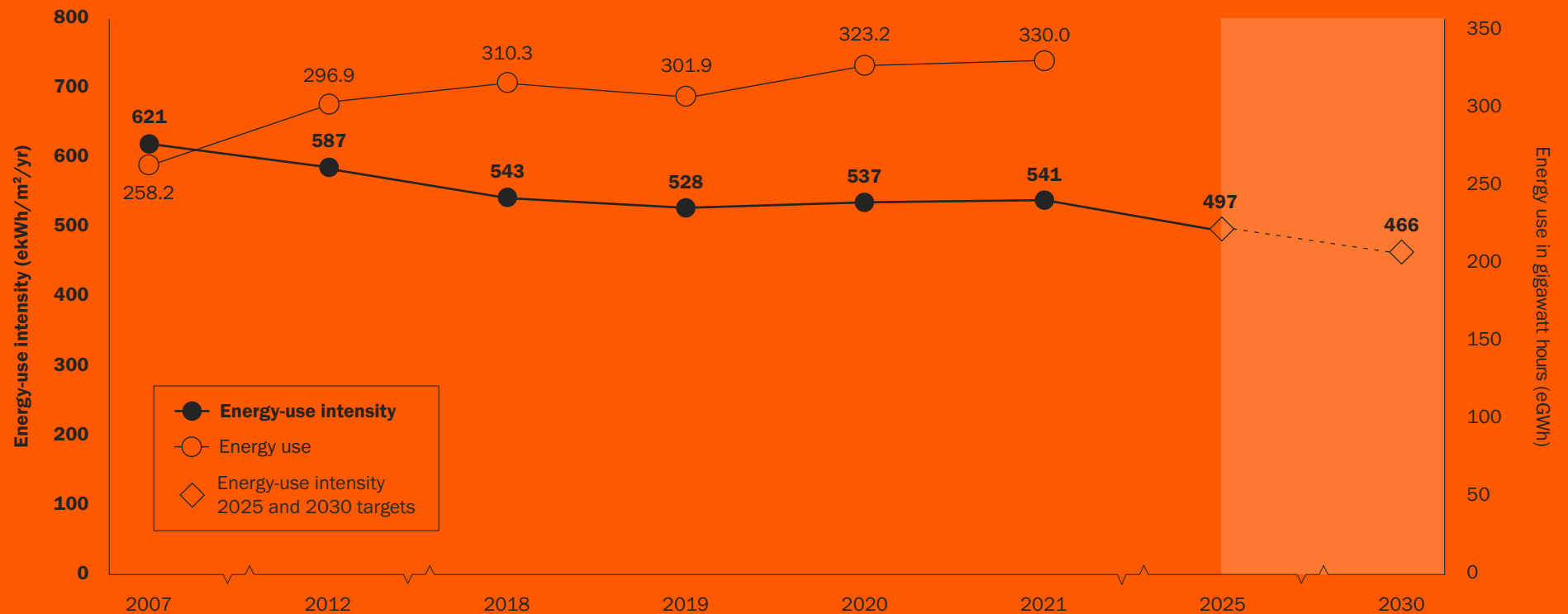
Energy Use and Intensity

Want to learn more about the graphs and how
the results are calculated?

VISIT HERE

12.9%↓

Energy-use intensity has decreased
by 12.9% since 2007, and, despite
an increase of 47% in core facility
space, our energy use only increased
by 27.8%.



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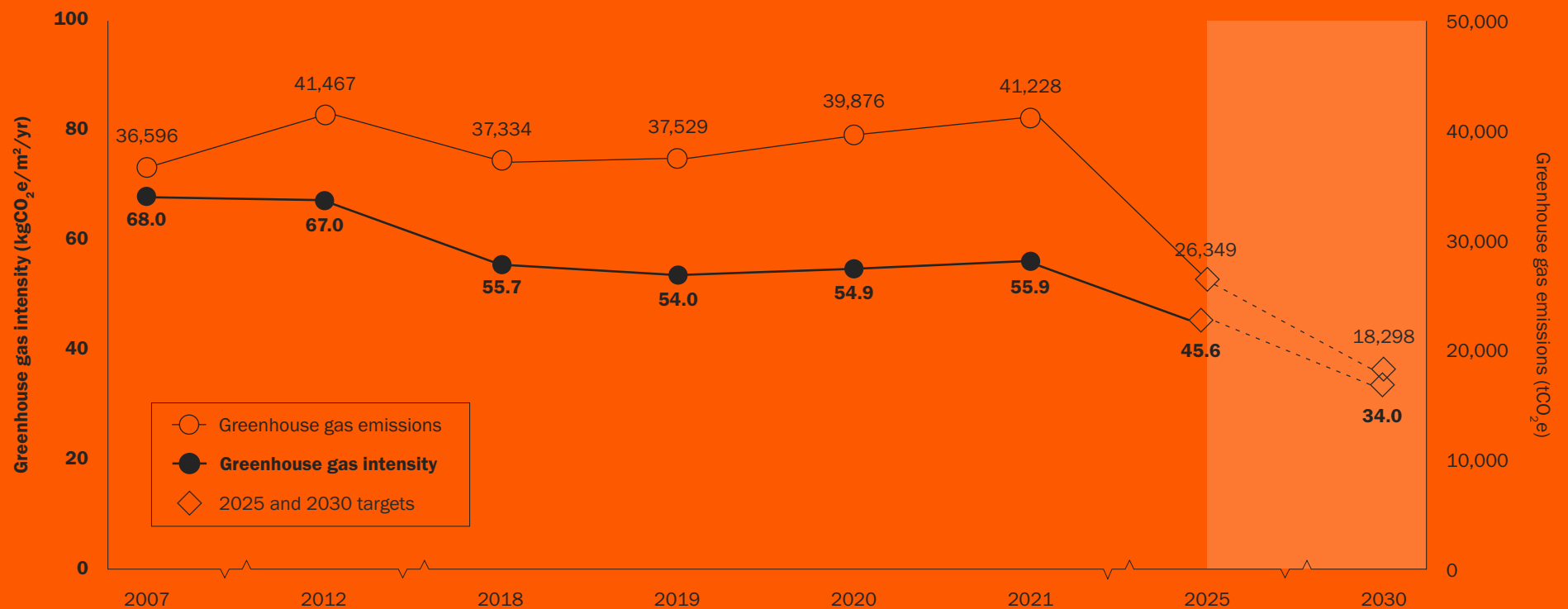
Greenhouse Gas Emissions and Intensity

Want to learn more about the graphs and how
 the results are calculated?

VISIT HERE

17.7%↓

GHG intensity has decreased by
 17.7% since 2007, and, despite a
 37% increase in total usable facility
 space, absolute emissions have only
 increased by 12.7%.



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Challenges to reaching our targets

- Fraser Health is experiencing a rapid increase in facility floor space, due to newly built, acquired and expanded acute and long-term care facilities.
- Hospitals are energy-intensive due to 24-hour operations, tightly controlled indoor air quality and the need for high-pressure steam for sterilization.
- Meeting the 2030 target for 50% reduction in carbon emissions will require a combination of net zero designs for new construction, combined with very aggressive retrofits to existing facilities. To make this shift, designs and technologies to achieve these targets require close, multi-stakeholder collaboration; clear leadership direction; adequate funding; and support for FMO.
- Current funding is not adequate to retrofit all sites to achieve a major shift from gas to electricity.
- Low-carbon projects are limited by existing electrical capacity and infrastructure expansion is cost prohibitive.
- Although renewable gas is a viable low-carbon alternative, at this time provincial supplies are not adequate to supply a major portion of Fraser Health facilities.
- The need for increased fresh air ventilation in response to the COVID-19 pandemic increased demands on heating and cooling systems in 2021.
- Climate-related events such as the heat dome and extended cold weather increased demands on heating and cooling systems in 2021.
- To maintain efficiency and carbon reductions, heat pumps and complex heating and cooling systems require new and additional FMO resources for operation and maintenance.
- Inflation and supply chain delays are increasing costs and adding uncertainty to timelines.
- Designing for future climate change and extreme weather events adds costs to capital projects.
- There is a need to maintain a balance of competing project goals for energy efficiency versus low-carbon electrification, as well as operability, redundancy and costs.

“

We should be bringing environmental priority into every department meeting and make it a standing agenda item.

– Fraser Health GreenCare Survey respondent



OUR STORY

Putting (steam) pressure on carbon emissions — Ridge Meadows Hospital's boiler upgrade is a model for collaboration

In 2021, it became clear that the Cleaver Brooks gas-fired steam boiler at Ridge Meadows Hospital (RMH) wasn't meeting today's energy efficiency standards. In response, the EES team initiated an upgrade of the steam boiler, which has lowered utility cost, and is projected to save 3.6 tonnes of CO2 annually and use 3-5% less natural gas. The EES team partnered with RMH's Facilities Maintenance & Operations (FMO) team to renew the hospital's boiler. The result of their collaboration is not only a win for Fraser Health's zero carbon strategy, but for FMO as well. The upgrade simplifies the work of operating and maintaining the equipment and supports FMO staff in fulfilling their mission. Given the successes of the project, the EES team is exploring similar upgrades at other Fraser Health hospitals, including Surrey Memorial Hospital's three large steam boilers.

Read more ►

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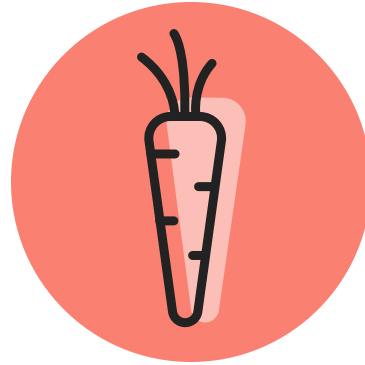
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3. Food

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

LEARN MORE

A new Focus Area in 2021, this is a great example of how a Focus Area can be interrelated with others and how meaningful impact requires working together. This collaborative work includes the following:

- ▶ Improving patient and staff options for food in our facilities will reduce waste and GHG emissions. This is the work of many dietitians and medical and food services staff at Fraser Health and in partnership with efforts at PHSA, Providence Health Care and Vancouver Coastal Health.
- ▶ New facilities and major renovations at our facilities offering opportunities for capital project teams to consider food assets (places where people can grow, prepare, share, buy, receive or learn about food) on site or adjacent
- ▶ Public health staff working on community-led solutions towards sustainable, equitable and just local food systems in order to keep populations healthy, reducing pressure on the health-care system

As a partner in these efforts, the EES team is helping to identify the environmental impacts of food choices, food-related climate resilience measures and best practice in other health systems. In addition, we are providing Green+Leaders with seed-funding for projects that include workplace gardens and food initiatives. The momentum for this work is palpable, and it is highly collaborative. Staff are increasingly expressing their interest in healthy, local and culturally

appropriate food. Moreover, the annual GreenCare Survey results continue to show that direct care staff support the development of a menu that would aim to improve inpatient satisfaction and decrease environmental impact.^B

2021 actions

- ▶ Collaboration with Fraser Health Food and Dietitian Services on the creation of a [toolkit](#) for sustainable food choices
- ▶ Successful application and selection to the [2021-2023 Nourish Anchor Cohort Collaborative](#), leading to innovative cross-health authority collaboration around healthy, sustainable and culturally appropriate food in health care
- ▶ Environmental impact questions included in retail food and food services requests for proposals (RFPs)
- ▶ Update of the Public Health Food Security Action Plan initiated in order to emphasize the impacts of climate change on food systems and food security

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Our partners

Aboriginal Health

Business Initiatives & Support Services

Clinical dietitians

Population and Public Health

Quality Improvement

Sustainable Food Operations Committee

Our achievements

- Successful application to the [2021-2023 Nourish Anchor Collaborative Cohort](#)

“
**Part of decolonizing health
care is acknowledging the
ecological harm climate change
has on our minds/bodies/and
spirits, and acknowledging that
food is a form of medicine.**

– Fraser Health GreenCare Survey respondent



OUR STORY

Green food for the people

In her role as the Food Systems and Food Security Project Leader for Population and Public Health (PPH), Anne Todd is an advocate for a just and sustainable food system where everyone has affordable access to good, healthy food. “All of us need to eat and we all benefit from eating foods that nourish our bodies and souls that we enjoy, that fit with our culture, traditions and celebrations, and help us connect with each other,” she says.

In this relatively new role with the Wellness Promotion Programs team, she brings quality evidence and best practices to Fraser Health’s food security and sustainable food systems work. Currently, Anne is focused on addressing two threats to long-term food security: rising inequality and climate change. Working in population and public health offers Anne opportunities to create partnerships to address these urgent issues.

Lately, Anne has noticed there’s interest “at all levels” to develop climate-friendly, local, culturally relevant and equitable food systems, and says, “It’s exciting to be involved in this work ... We’ve only just begun!”

Read more ►

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4. Leadership and Innovation

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

LEARN MORE

Our 2025/2030 targets

Increase total number of **Green+Leaders**.



Snapshot in numbers

10

Green+Leader newsletters

6

lunch and learn/dialogue sessions

2

orientation sessions

1

recruitment campaign

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2021 actions

- Refreshed GreenCare website with input from the Fraser Health Communications team and Green+Leaders
- UBC Sustainability Scholar supported the EES team to research monitoring and assessment frameworks for engagement
- Supported implementation of the B.C. Ministry of Health's chapters 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 business planning for major strategic projects

Challenges to reaching our targets

- Engagement activities shifting from face to face to virtual due to COVID-19
- Staff and medical staff experiencing COVID-19 fatigue
- Competing staff priorities, and environmental sustainability not seen as part of everyone's job description
- Supporting staff to go from passive engagement to active action-taking as GreenCare network members and Green+Leaders
- Sustaining active participation of Green+Leaders and growing the community

Our partners

BC Hydro

CASCADES Canada

Clinical and non-clinical direct-care staff

Communications

Employee Experience

Innovation, Planning and Transformation

Population and Public Health

Our achievements

- In 2021, two new staff registered for the program, bringing the total number of Green+Leaders at Fraser Health to 156 since 2009. This is a low number compared to registrations in previous years but, due to the pandemic, it was not unexpected.
- Launched new GreenCare website; since then it has averaged 1,300 users a month, and has seen an increase in Green+Leader registrations by 75% (from 3/month to 5.25/month)
- Two staff featured in the Green+Leaders Together Campaign

“
**We have to work as a team,
encouraging and supporting
adherence to do our part for
the health of our only planet.**

– Fraser Health GreenCare Survey respondent

OUR STORY

Sustainability carts roll out at Delta Hospital

Bedside carts are the key to over a quarter million dollars in annual savings for Delta Hospital. In the early days of the COVID-19 pandemic, Amy Setterstrom, a Green+Leader and registered nurse at Delta Hospital, noticed the waste created by the need to don new personal protective equipment (PPE) each time a nurse left a patient's bedside to retrieve supplies.

She saw an opportunity to reduce waste, save time and increase infection control by bringing supplies to the patient's bedside in a “sustainability cart” containing the supplies nurses most frequently use for patient care. After the initial success of the pilot, made possible through seed-funding from the EES team, Amy's team gathered data to appeal to the Delta Hospital and Community Health Foundation (DHCHF) for funding to purchase more carts.

They discovered that the project could result in approximately \$256,000 in annual savings for the hospital. DHCHF responded by investing in 13 carts to serve the acute ER at Delta Hospital.

Amy is a shining example of how Green+Leaders make a difference for patients and through their care for the environment. Being empowered to lead has made all the difference for her and the Delta Hospital community. This project also demonstrates the importance of the interrelationship between healthy people and a healthy environment — when we take care of the planet, it takes care of us.

Read more ►

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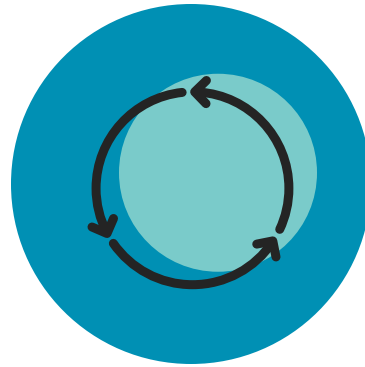
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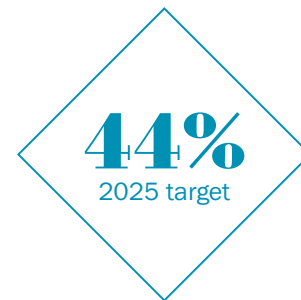
5. Materials

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

LEARN MORE

Our 2025/2030 targets

**Increase waste-diversion rates at existing acute
and long-term care sites to:**



**Decrease waste-intensity rates at existing acute
and long-term care sites to:**



Snapshot in numbers

1,538

staff took the Waste Management module
on the Learning Hub

10,048

tonnes of non-hazardous waste was
generated, equivalent to 2,010 elephants

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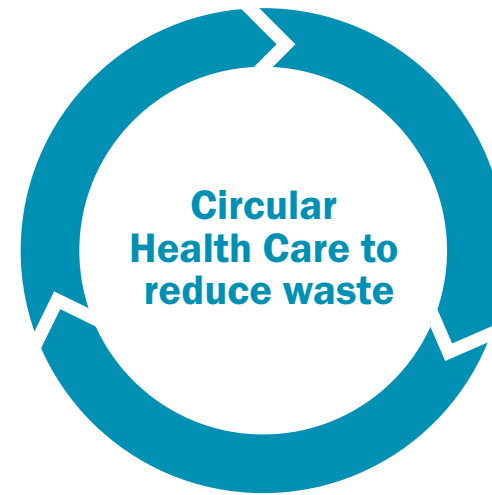
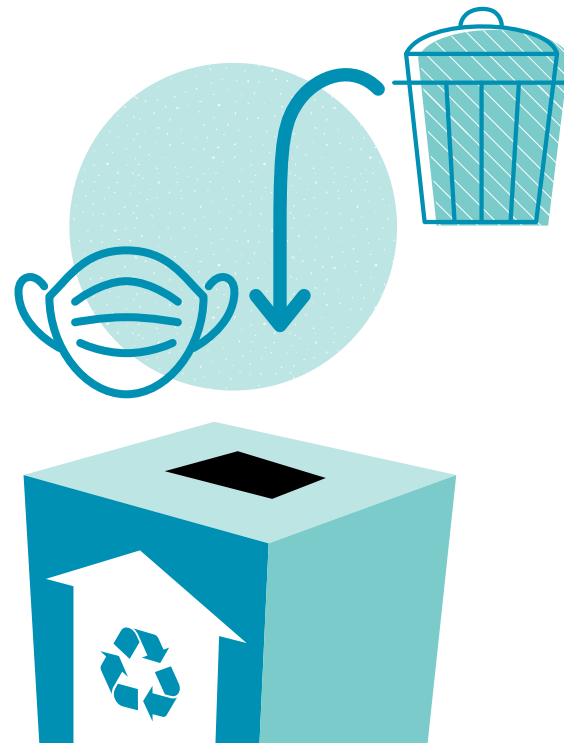
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Our 2021 actions

- Sustainable Food Operations committee identified food waste reduction strategies and reduced single-use plastic waste
- Supported an Operating Room Sustainability Ideas Generation campaign
- Initiated work on facility waste assessment at Burnaby Hospital
- Researched best practice communications for circular economy in health care
- Worked with PHSA Supply Chain and clinicians to understand the environmental impact of disposable items used in surgery

Our partners

Business Initiatives & Support Services

Environmental Vendor Services

Facilities Maintenance & Operations

Facilities Management Procurement

Infection Prevention and Control (IPAC)

PHSA Supply Chain

Projects & Planning teams

Provincial Nursing Skin and Wound Committee (PNSWC)

Quality Improvement

Sustainable Food Operations Committee

Workplace Health & Safety

Our achievements

- Created the Circular Health Care Framework, intended to support departments at Fraser Health to develop strategies to avoid and reduce waste
- Used environmental questions in annual pre-qualification for Facilities Management contractor services and in the disposable surgical packs, drapes and gowns requests for proposals (RFPs)

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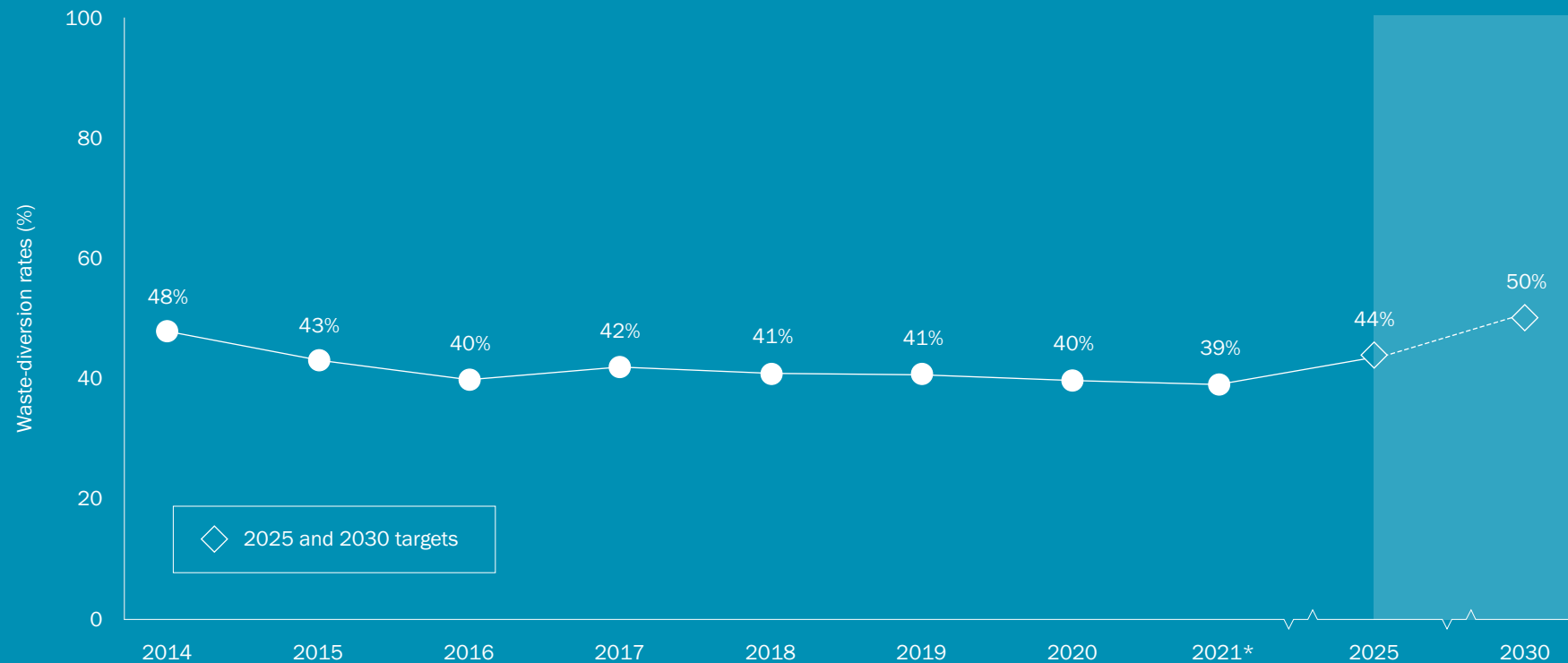
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Waste-Diversion Rates

Want to learn more about the graphs and how
the results are calculated?

VISIT HERE

We have not made tangible
progress toward our waste-diversion
goal, and aggressive garbage waste
reduction is needed.



* Our waste diversion reflects only waste segregation, as our recycling provider paused the collection of recycling for most of 2021 due to concerns for staff safety during the COVID-19 pandemic. All recycling and general

garbage streams were instead taken to a local waste-to-energy facility. Recycling was restarted in smaller facilities in November 2021.

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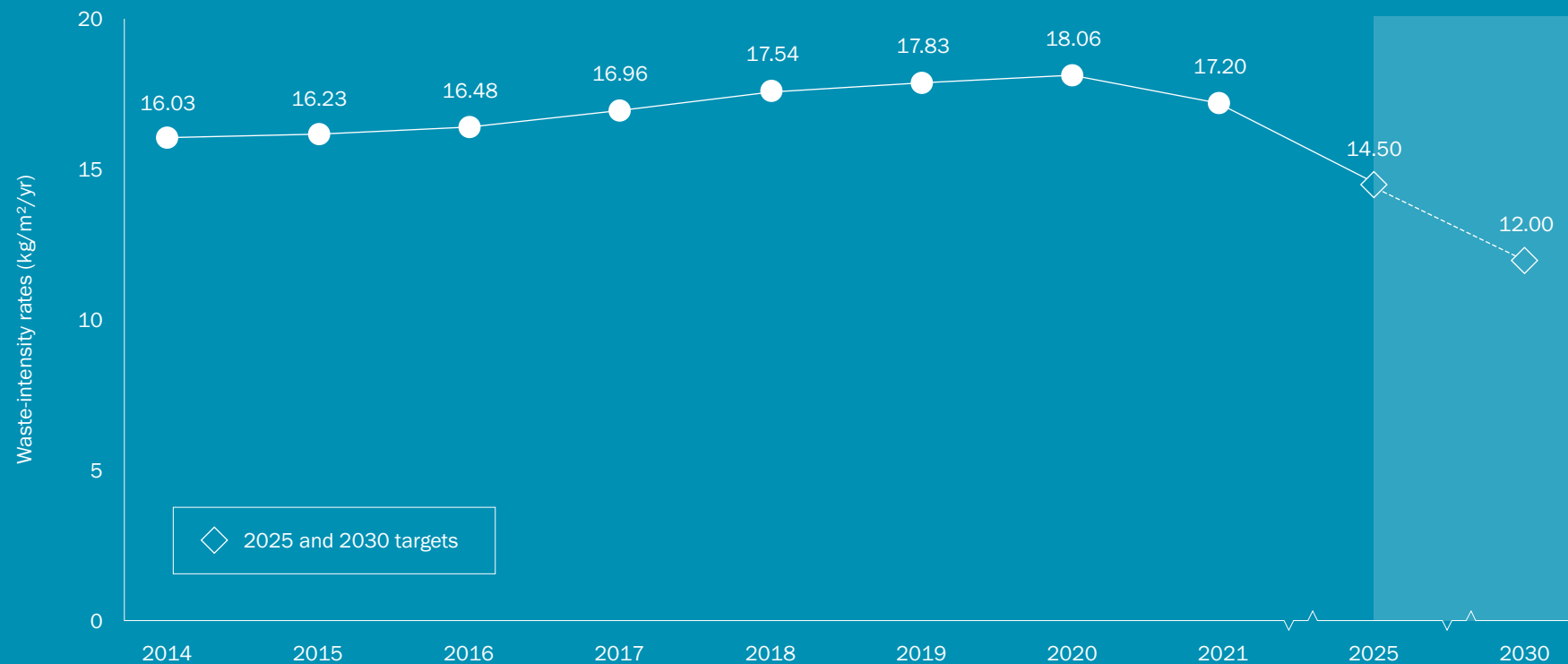
Waste-Intensity Rates

Want to learn more about the graphs and how
the results are calculated?

VISIT HERE

7.3% ↑

Total waste intensity has increased
by 7.3% since data collection was
initiated in 2014.



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Challenges to reaching our targets

- Recycling is limited by [global market demand](#), ability of local processors, complexity of materials and facility logistics.
- Clinical engagement on waste reduction is hindered by competing priorities, and lack of time, capacity and resourcing.
- Organizational priorities need to shift away from recycling alone, and toward reusables over disposables, using an asset-sharing platform to prevent usable items from going into landfill, and prioritizing repair over replacement.

OUR STORY

Collaborating to reduce plastic waste at Royal Columbian Hospital

What difference does a spoon make? On its own, a disposable spoon might feel like a drop in the bucket, but the Royal Columbian Hospital's (RCH) Food Service Department discovered that 229,000 disposable plastic spoons were brought into RCH between August 2020 and July 2021. The One Less Plastic Project started from the idea that changing how they used this one everyday piece of cutlery could lead to positive environmental impacts.

Led by Regional Manager of Food Operations Elaine Chu, the project pilot replaced single-use spoons with reusable metal spoons in nursing unit 4N. After patient use, the metal spoons were collected and replenished with clean ones daily. In August 2021 alone, the One Less Plastic Project pilot saved 600 spoons from the landfill; in a year, 7,000 fewer spoons would end up in landfills.

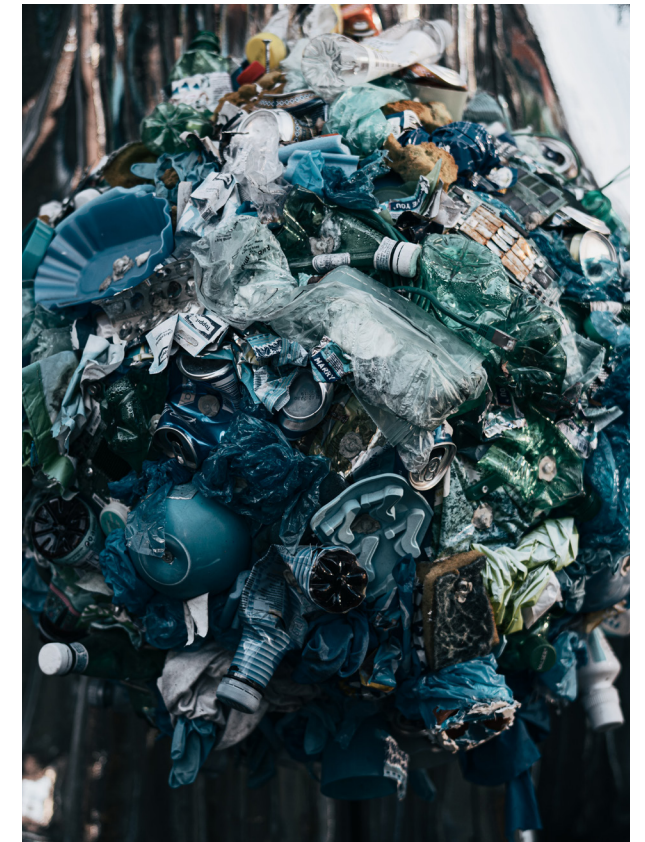
Following the pilot, the project expanded and was adopted by the Speech and Language Pathology team and nursing units 5N and 5S a few months after. Though plastic disposable items are convenient, health care's negative impacts on the environment are more costly and unmanageable if left unchecked. Even a spoonful of change can go a long way.

[Read more ►](#)

“

The plastic waste in health care is astronomical. [Products] labelled as single-use by manufacturers ... could easily be sanitized with appropriate methods ... reducing plastic waste and saving money.

– Fraser Health GreenCare Survey respondent



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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

Our 2025/2030 targets

**Increase staff commuting by sustainable
transportation modes.**



**Increase staff commuting by active transportation.
(new target)**



Snapshot in numbers

43

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

29%

increase in shuttle rides (4 hospital shuttles
provided 101,000 rides)

255

staff per month participated in the
Fraser Health transit incentive program
(a 15% subsidy)

11

of 25 core sites have secure bicycle storage (i.e.
a bike room or cage) and showering facilities

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Our 2021 actions

- Fraser Health's first cycling assessment was completed at Burnaby Hospital, evaluating access to cycling to inform Phase 2 of the Burnaby Hospital Redevelopment project.
- An EV baseline and feasibility study was completed, to inform a regional EV strategy, inclusive of staff/ public charging, as well as health organization fleet electrification.
- Cycling education stations were hosted at Surrey Memorial Hospital, Royal Columbian Hospital and Burnaby Hospital for the 2021 spring and autumn Go by Bike Weeks.
- The Sustainable Transportation webinar series was created to inform, enable and empower health-care staff to make changes to how they get around.

Our partners

BC Hydro

Projects & Planning teams

Climate Action Secretariat

Facilities Maintenance & Operations

Integrated Protection Services, Commuter Services

PHSA Supply Chain

Population and Public Health

Our achievements

- Commuting by EV increased from 3% to 8% of commutes (compared to 2020).
- The second hospital shuttle to Royal Columbian Hospital completed its first full year of service.



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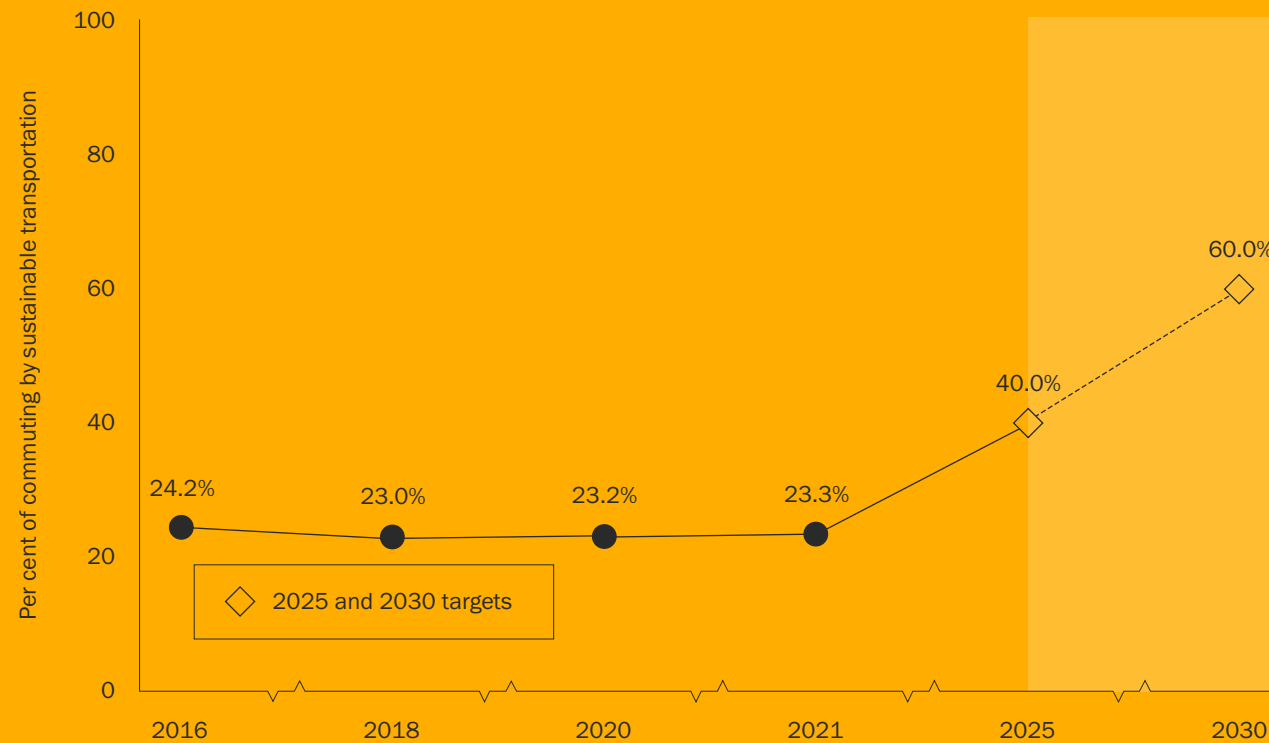
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Sustainable Commuting

Want to learn more about the graphs and how
the results are calculated?

VISIT HERE

There was no change in overall
percentage of commutes taken by
sustainable modes of transportation.



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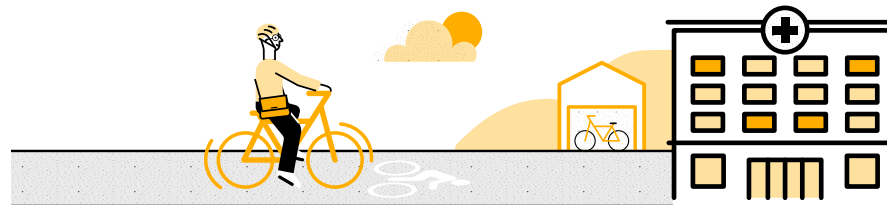
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Challenges to reaching our targets

- ▶ 60% of Fraser Health staff used exclusively a gas/diesel single occupancy vehicle to commute to work, which indicates a very high dependence on this transportation mode and may make encouraging behaviour change more challenging.
- ▶ Access to sustainable commuting is dependent on municipal and regional transportation infrastructure between home and work locations.
- ▶ Long commuting distances limit the feasibility of using active modes of transportation, such as cycling and walking.
- ▶ Lack of access to safe, connected and frequent cycling and transit networks in the Fraser Health region makes it difficult for many staff to choose any transportation mode other than an automobile.



OUR STORY

Cycling into the future of Burnaby Hospital

Katie Quirk, a clinical planner with the Burnaby Hospital Redevelopment Project team, is part of a growing community of Fraser Health medical staff and volunteers who bike to work. In 2021, while cycling only accounted for 1.2% of all commutes by Fraser Health staff, it's people like Katie who are working to change that.

As a member of the team guiding the \$1.4 billion Burnaby Hospital Redevelopment Project, she saw the need for an assessment to find opportunities to make cycling to the hospital safer, more accessible and more enjoyable. The assessment would also be a way to show that there are practical alternatives to driving to work. Key recommendations from the assessment include improvements to bike storage, access to bike maintenance facilities and increased engagement with cyclists.

Katie hopes that this assessment will inform the growth and design of the hospital campus — which is among B.C.'s largest health-care investments — and be part of a wider prioritization of sustainable transportation at health-care facilities. As someone passionate about climate action, Katie is energized by this project: “Making a positive impact, however big or small, gives me hope.”

Read more ►

“

There needs to be more infrastructure for electric vehicle charging stations at health-care facilities. Right now, there are not nearly enough places to charge. And there should be charging at not just acute care sites, but ALL health-care facilities, including clinics, long-term care and public health offices.

– Fraser Health GreenCare Survey respondent

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

13%
currently own an EV.

47%
plan to own an EV in the next five years.

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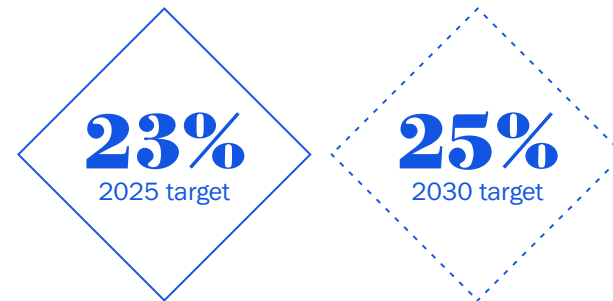
7. Water

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

LEARN MORE

Our 2025/2030 targets

Reduce building water-utilization intensity.



Snapshot in numbers

4
inefficient “once-through” water cooled units eliminated at two acute hospitals

4
energy-saving projects completed which also contributed to water savings

6
LEED water efficiency points achieved for the new Mental Health and Substance Use Centre, by choosing low-flow plumbing fixtures and air-source chillers

9
acute sites working towards a five-year Pollution Prevention Plan

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Our 2021 actions

- ▶ UBC Sustainability Scholar helped identify water-saving opportunities for health-care facilities in [new report](#)
- ▶ Initiated projects to eliminate waste water from once-through cooling mechanical systems
- ▶ Optimized water use through behavioural change
- ▶ Investigated and promoted use of low-flow devices, where applicable

Our partners

BC Emergency Health Services

Climate Action Secretariat

Facilities Maintenance & Operations

Finance

Ministry of Environment and Climate Change Strategy

Ministry of Health Capital Services Branch

Municipal governments

Projects & Planning teams

PHSA Supply Chain

Our achievements

- ▶ Submitted Pollution Prevention Plan annual reports for nine acute care sites to report on activities that improve and reduce wastewater effluent, in compliance with the Metro Vancouver bylaw five-year action plans
- ▶ Started multi-phase project to replace the once-through walk in refrigerators and freezers cooler with high-efficiency evaporators and condensers at Surrey Memorial Hospital



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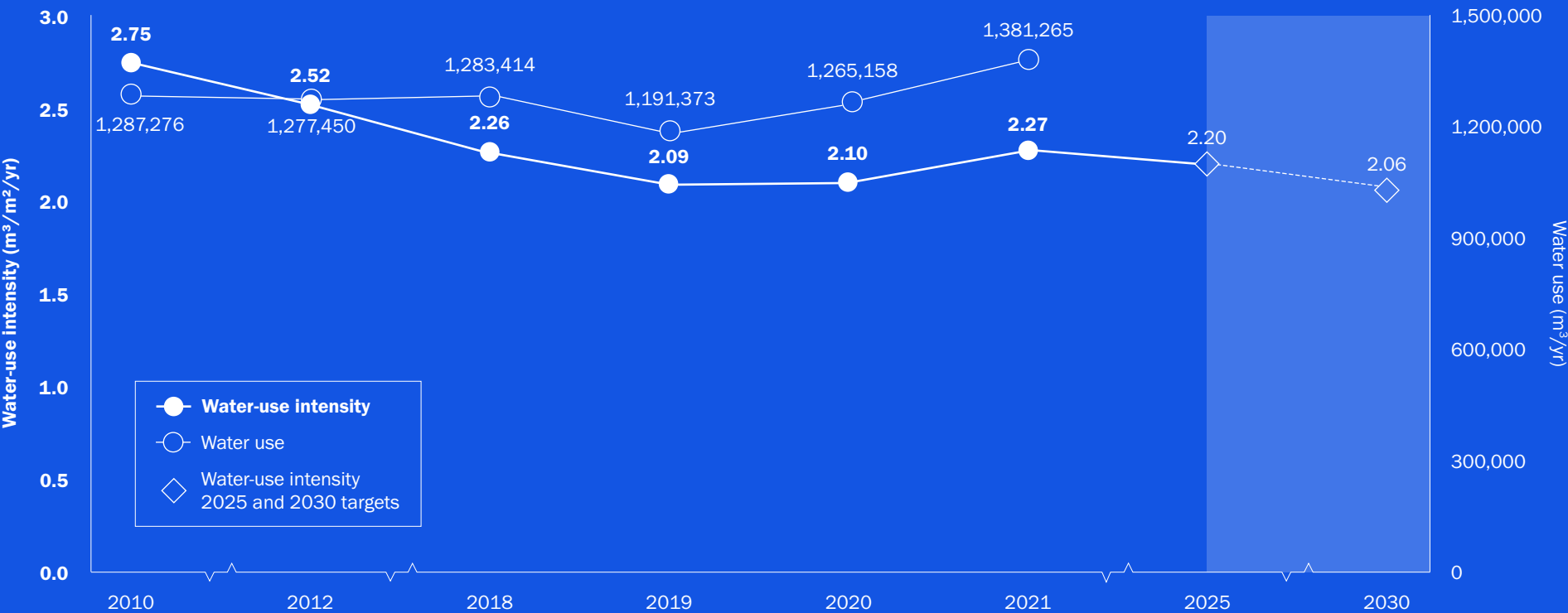
Water Use and Intensity

Want to learn more about the graphs and how
the results are calculated?

VISIT HERE

17.5%↓

Water-use intensity has decreased by 17.5% since 2010, and, despite an increase of 30% in core facility space, absolute water use has only increased by 7.3%.



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Challenges to reaching our targets

- ▶ A regional list of once-through equipment has been identified, but locating funding resources to implement water saving alternatives remains challenging
- ▶ Lack of prioritization of funding and resources
- ▶ Perceived risks to facilities operations and infection control
- ▶ Lack of awareness about water consumption, and educational barriers that reduce willingness for water conservation
- ▶ No existing Water Management Plan

OUR STORY

Water-saving opportunities for health-care facilities

Sustainable water use and conservation practices in health-care facilities can have a significant impact on human health and the environment. With the health-care sector being one of the most intensive water users in North America, the EES team has been undertaking research to identify best practices for water conservation.

Under the supervision of Ghazal Ebrahimi, energy and carbon emissions manager at PHSA, UBC Sustainability Scholar Monika Korczewski worked with the EES team on the study. The study reviews opportunities for water management, as well as recommendations for operational, maintenance and training strategies. The final report will offer a range of water-saving opportunities and water management guidance.

“Soon we will have more drought problems, more wildfires, and more and more water restrictions,” says Sabah Ali, a regional energy coordinator. So EES is taking a proactive approach to water management instead of letting the well run dry.

Read more ▶

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Thank you for your ongoing support.

Given the challenges posed by climate change, it's clear that environmental sustainability is everyone's story. If we are to continue to offer staff, volunteers and patients the very best quality of life 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. The Energy and Environmental Sustainability team 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.

There are a number of ways in which you can make a difference.

- Inform and motivate each other to take action to nurture and protect our planet.
- Share, learn about, and co-develop action plans for sustainability.
- Innovate, and scale up and out the approaches that are working.
- Transform our processes and health system away from business as usual.
- Reinforce and celebrate the change we want to see.

LEARN MORE ABOUT SUSTAINABLE
AND RESILIENT HEALTH CARE.

Check out the GreenCare website [here](#).

MEET OTHERS INTERESTED IN
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Find out more about the Green+Leaders
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Share your environmental sustainability
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- A GreenCare survey respondents were asked to select from a scale of 0-10 (0=strongly disagree, 5=neither agree nor disagree, 10=strongly agree). The reported percentage of staff who “agree” includes all staff who selected 6-10 for their response.
- B 2022 Fraser Health GreenCare Survey [Internet]. British Columbia, Canada: GreenCare Community; 2022 [cited 2022 June 8]. Available from: <https://bcgreencare.ca/wp-content/uploads/2022/05/2022-GreenCare-Survey-Infographic-Fraser-Health.png>
- C ARCHIBUS and Fraser Health Real Estate Department
- D Partnership with BC Hydro and FortisBC that provides guidance, advice and incentive support for ongoing funding for energy and emissions reduction support projects

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