

G. R. PEARKES PATHWAY TO 100% RENEWABLE

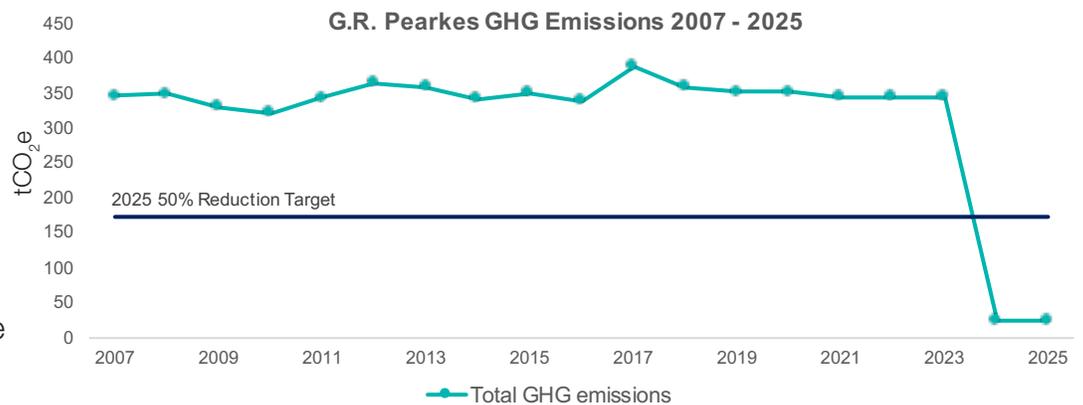


Facility Name	G. R. Pearkes Recreation Centre	Pearkes houses two ice rinks, dressing rooms, a fitness gym, Saanich Neighborhood Place (SNP), the Centennial Public Library, a Field house/ Trade Show space, teen activity centre, several multi-purpose rooms and offices. Approximately 425,000 visits are received from Saanich residents and regional visitors each year and the fall and winter seasons see the heaviest usage on the ice arenas. The facility removes ice from one arena each year for two months, alternating the sides each year.
Facility Address	3100 Tillicum Road, Saanich, BC	
Facility Size	119,527 ft²	

Greenhouse Gas (GHG) Emissions

2007 Baseline GHG 347 tCO ₂ e	2019 GHG Emissions 352 tCO ₂ e ↑ -2%	2025 Projected GHG Emissions 25 tCO ₂ e ↓ 93%
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The ice rinks require considerable energy to keep frozen, generating significant waste heat. A mechanical system upgrade is proposed, which will include heat reclamation and installation of an air source heat pump (ASHP). This will enable reclaimed heat to be distributed for use in the rest of the building and will replace natural gas with renewable electricity. Any remaining natural gas used in back-up boilers will be offset by the purchase of Renewable Natural Gas (RNG).



Key actions to reduce GHG Emissions	GHG Reduction (tCO ₂ e)	Pearkes Total GHGs (tCO ₂ e)	Action Year
C-Op* energy conservation measures	6	346	2022
Connect heat reclaim to ice rink area**	173	173	2024
Connect heat reclaim to rec centre**	42	131	2024
Connect heat reclaim to Fieldhouse**	15	116	2024
Add air source heat pump**	70	46	2024
Purchase RNG	22	24	2025

* C-Op refers to Continuous Optimization Program.

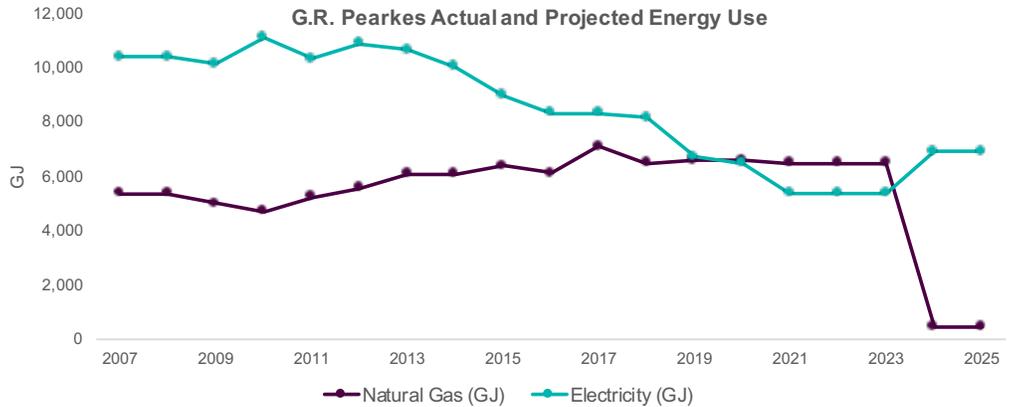
** Subject to Grant Funding (application has been made to the CleanBC Communities Fund)

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Energy Use



Despite an increase in the level of services provided over the years, energy use has gone down. Recent energy conservation projects include the installation of REALice vortex DE Aerators, electric zambonis, Direct Digital Control (DDC) systems, a premium efficiency compressor replacement of the refrigeration system, Variable Frequency Drives (VFD) on the ice plant pump, and lighting upgrades. Pearkes is part of a Continuous Optimization Program (C-Op) that will identify further opportunities for energy savings alongside the proposed heat reclaim system.



Key actions to reduce Energy Use (GJ)	Energy Reduction (GJ)	Pearkes Total Energy Use (GJ)	Action Year
C-Op* energy conservation measures	TBD	TBD	2022
Connect heat reclaim to ice rink area**	2,786	9,091	2024
Connect heat reclaim to rec centre**	751	8,340	2024
Connect heat reclaim to Fieldhouse**	197	8,143	2024
Add air source heat pump**	764	7,378	2024

* C-Op refers to Continuous Optimization Program.

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Climate Adaptation

G.R.Pearkes is designated as a primary emergency reception centre/group lodging facility in the case of evacuations. The public library, Saanich Neighborhood Place, and fitness gym have existing cooling and have increased levels of air quality filtration, which supports users when the region is experiencing extreme heat and/or wildfire smoke.

The proposed mechanical system upgrades (subject to grant funding approval) will be designed to enable future cooling and increased filtration capabilities in additional areas of the facility. Early feasibility work has been completed for the potential future installation of photovoltaics (PV) and associated battery storage to increase resiliency through the provision of an on-site source of renewable energy generation.

Other Sustainability Considerations

G.R. Pearkes offers bike parking, a bike kitchen, two Level 2 EV Charging Stations, direct bus service by BC Transit and a food rescue program operated by Saanich Neighbourhood Place.