

Leading the way to cleaner air



Implementation Calendar:

- 2008 Fuelling infrastructure is established in Victoria. First bus arrives in Victoria.
- 2009 Fuelling infrastructure is established in Whistler. The fuel cell bus fleet starts regular service in Whistler.
- 2010 Fleet used to showcase Canadian technology at 2010 Olympic and Paralympic Winter Games in Whistler.
- 2010+ Fuel cell fleet continues regular operations over its 20-year life span.

BC Transit Fuel Cell Bus Fleet.

The first fuel cell bus fleet in full regular transit service in the world.

BC Transit is leading the way to cleaner air with 20 fuel cell buses and the hydrogen to fuel them. Assistance from the Province of British Columbia and the Government of Canada is a key element for this initiative.

The Fleet

BC Transit's fuel cell bus fleet will be the world's first to be placed in full regular transit operations, supporting British Columbia's commitment to a cleaner environment. The buses will be showcased in the Resort Municipality of Whistler during the 2010 Olympic and Paralympic Winter Games and will then be placed in regular service at Whistler as part of BC Transit's provincial fleet.

Hydrogen fuel cell buses produce zero greenhouse gas tailpipe emissions. The fuel cell fleet will help BC Transit to contribute to a better quality of life, cleaner air, improved health and a more pleasant riding experience for British Columbians and visitors from around the world.





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Schedule

First Bus

December 2007 – March 2008	Systems integration
March 2008 – July 2008	Validation testing
August 2008	Delivery to BC Transit in Victoria
August – September 2008	In-service evaluation
October 2008 – July 2009	Bus demonstrations, training and in-service operations
September 2009	Delivery to Whistler

Production Buses (19)

March – November 2009	Manufacturing
September – December 2009	Delivery to Whistler
February – March 2010	Olympic and Paralympic Winter Games

Specifications

Buses New Flyer H40LFR, low floor 12.5 metres

Electric Propulsion	ISE Thundervolt® Hybrid Drive system with two 85 kW Siemens drive motors
Fuel Cell Power	Ballard HD6 Fuel Cell Module, 150kW
Fuel and Storage	Dynetek "DyneCell" compressed hydrogen; eight Type 3 tanks 350 bar; total approximately 60 kilograms hydrogen
Energy Storage	Cobasys 576V-340kW NiMH battery system

Fuel and Fuelling Stations Air Liquide Canada

Victoria: 250 kg per day capacity; initial 120 kg/day onsite production (electrolysis) plus delivered hydrogen gas in tube trailer

Whistler: 1000 kg per day capacity; electrolysis production, liquid delivery and station storage

Site Engineering and Maintenance	Sacré-Davey Group
Supplemental Gaseous Hydrogen Supply	Hydrogen Technology and Energy Corporation (HTEC)
Electrolyser	Hydrogenics Corporation, HYOS L60, 120 kg/day

Bus Performance Requirements

- Acceleration: 0-50 km/h in 20 seconds with full-seated load
- Top speed: 90 km/h
- Gradeability: Maintain 30 km/h on 8% grade with full-seated load
- Operating Range: 500 km
- Availability of at least 85%
- Outside parking when not in use
- Ambient operational temperatures: -20 C to +40 C