



Power Smart Certified Communication Plan School District #34, Abbotsford

1. OVERVIEW

Abbotsford, one of the most diverse and fastest growing communities in Canada, is situated in the beautiful Fraser Valley of British Columbia just one hour from Vancouver and borders the US. Abbotsford School District #34 enrolls 19,500 students (in the top fifteen percent in Canada) and is Abbotsford's largest employer with approximately 2,000 teaching and support staff. The District has 52 school buildings (225,646 m²) including, 35 elementary schools, 6 middle schools, 6 secondary schools and 5 other school related buildings.

School District #34 has been actively involved in energy management and involved with Power Smart programs since the launch in the 1990's. The District's achievements over the years including a Canadian Leadership Award in reducing greenhouse emissions has distinguished them as a leader in the Public School District Sector, and based on the District's significant results achieved to date and will continue to strive for more efficiency, BC Hydro has designated School District #34, Abbotsford as a **Power Smart Certified** Energy Efficiency Leader.

School District #34, Abbotsford, would be the first school district and only the ninth Power Smart Partner to receive this designation, joining: Canadian Autoparts Toyota, City of Richmond, Fairmont Hotels & Resorts, Hudson's Bay Company, Kwantlen University College, UBC, VanCity Credit Union, and Vancouver International Airport Authority.

2. SITUATION ANALYSIS

School District #34, Abbotsford has improved their overall energy performance since 1992. Even though the gross area of the District has increased each year, (from 1992 –2004 an increase of 38% or 61,997 m²) their Energy Use Indicator (EUI, kWh/sq m) has decreased. From 2002 – 2004, they have improved electrical energy efficiency by 34%. This equates to 3.14 GWh/year in electrical savings per year with an additional 1.23 GWh/year in electrical savings when factoring in additional space.

The District's success can be contributed to various initiatives including:

- Senior management and Board support and commitment for energy efficiency and sustainability
- Commitment was solidified back in 1996 with an Environmental Conservation Board Policy which included awareness and initiatives, since then, revisions to the policy were done in 2001 and staff will make recommendations for future policy changes in 2005.
- A detailed Energy Master Plan in place. The 2002 Energy Master Plan outlined targets to reduce electrical energy use in all buildings by 10% by 2008.
- District has had a full-time dedicated Energy Coordinator since 2002 to ensure extensive monitoring and tracking is in place, and in doing so making energy management a priority, so not to get side-tracked.
- Collective commitment by many including school district support staff, teachers, administrators, students, trades/technical staff, supervisors and especially the custodial staff.
- The 10% targets have already been achieved (4 years early) by the District, and a new target of a further 5% reduction in the energy use by 2008.
- The new 2008 target will be achieved by:
- A ramp up with their behavioral program involving school staff and students with facility maintenance and custodial staff, and have entered a pilot and replication project program with NRCAN involving 19 schools.
- Other works proposed include district gym lighting project, tying photocells into time clocks, computer shutdown on PC's (Macs), adopting dark campus, corridor/hallway lighting level changes and applying ASRAE lighting standards to over lit areas.
- As part of the District's overall commitment to reducing greenhouse gas emissions, the District has purchased Power Smart Green Power Certificates, enough to power their School Board Office & the Facilities Department Office Buildings by 100%.

Power Smart Certified – Current Electricity Reduction Target

- In 2002, an aggressive 7-year energy retrofit plan was developed to achieve a 10% reduction in their electricity by 2008.
- By the end of 2004, (13.7 GWh in 36 months) these savings have already been achieved, and a new target has been set to achieve another 5% electricity reduction by 2008 through intensified behavioral initiatives and retrofits to 19 schools, this represents .68 GWh/year.
- This in essence will have reduced the District's energy use index (Kwh/sq m) by 50% since 1992.



3. KEY MESSAGES

- School District #34, Abbotsford has been designated as a Power Smart Certified Customer by BC Hydro, a distinction granted to select companies that achieve an exceptional level of energy efficiency leadership – they are the first school district to achieve this status.
- The District has been actively involved with energy management for over a decade, and operates in a sustainable manner without imposing additional costs. Emphasis is on an underlying principle that efficiency is both cost-effective and sustainable.
- Through energy saving strategies and initiatives, the District has achieved a 34% reduction in electricity performance (kWh/sq m) since 2002. This means that even as floor space increased significantly over the years, electricity consumption was being reduced.
 - This equals 3.14 GWh/year in electricity savings and represents a cost savings of \$188,400/yr.
- By 2008, the District has committed to another 5% reduction in electricity performance, and when achieved will represent an overall reduction of 50% energy use index (Kwh/sq m) since 1992 levels.
 - This represents a reduction of approximately 3 GWh/year in electricity savings, enough to power the entire Abbotsford School District for 2 of the heaviest consumption months of the year.
- Dale Churchill is a true energy champion, and is always looking for new and more efficient ways to save energy (Examples of this are the timers and schedules on outside lights, banning of incandescent light bulbs, night-shift electrician & staff training). And when he finds a new energy-saving idea, he is not content to keep it to himself – he is constantly sharing his ideas with other school districts as well.

4. SUPPORT

The District has achieved their significant energy efficiency reductions through:

- A dedicated team in place with support from all levels within the District, including the Board, senior management, administrative staff, teachers, students, trades/technical staff, and an exceptional custodial department.
- A detailed master plan (Energy Management Plan) that involves continuous tracking and monitoring. The District' philosophy to know your facilities operating schedules and systems extensively, so you can measure your efforts.
- Environmental Conservation Board Policy.
- Specific energy efficiencies initiatives include:
 - Numerous technological upgrades in every school :
 - T12 to T8 or T5 with electronic ballasts, LED exit signs, tying in photocells to timeclocks, occupancy controlled lighting in gym, mechanical system controls, vending misers, and PC shutdown software to ensure computers are off when not in use.
 - Banning of incandescent bulbs.
 - Operational changes that simply/modify staff shifts, or shut down equipment/systems when not in use.
 - Adopting a dark campus philosophy to reduce vandalism where timers are set for all lights out when buildings are not in use. This has also saved in energy consumption and costs.
 - Aggressive summer shutdowns, which means limiting rental and summer use to a few buildings to maximize the use of each facility, and shutting down power and HVAC systems in the unused buildings.
 - Software installed on computers to shutdown machines when not in use.
 - A focus on behavioral changes for students, faculty and custodians, as it has proven to make a difference with restricted budgets.
 - Training for trade staff and awareness for custodial staff done on a regular basis.
 - Established bi-weekly energy management team meetings, to ensure regular monitoring and reporting of energy usage.
 - Initiatives aimed at the education students and teachers (eg. Destination Conservation and Power Smart Student program) about energy efficiency. School District has partnered with the City of Abbotsford to promote the "One Tonne Challenge"