

Corporate Operations

District of Hudson's Hope – Solar Initiative

The District of Hudson's Hope received a grant of \$1.35 million from the Strategic Priorities Fund /Federal Gas Tax Fund, which is administered by the Union of BC Municipalities. The money was used to install 1550 solar panels at nine different municipal sites with a total generating capacity of 500 kilowatts.

The solar electricity powers the specific site first and then feeds any excess power into the BC Hydro grid. The excess power is recorded as a kilowatt hour credit on that site's meter. When the solar array is not meeting the site's demand, the BC Hydro grid feeds the site and draws down the credit that was accumulated earlier. At the end of the year, a balance showing a kilowatt credit or deficit is calculated. If the site generated more than was used, the municipality receives 9.999 cents per kWh from BC Hydro. If more electricity was taken from the grid than was generated, the District pays the regular metered rate for the outstanding balance.

There was also an educational aspect to the project. Peace Energy Co-Op, who won the contract, provided two formal public workshops and made themselves available in the community for informal dialogue with people that were curious about the installations. Moch Electric, which was hired to do the installation, employed high school students, which provided further education for students and their families. This was an excellent community-building and community-involvement project.

Town of Smithers – Smithers Regional Airport Terminal Modernization Project

The Smithers Regional Airport Terminal Modernization Project is the largest municipal infrastructure project in Smithers history, as well as its most ambitious foray into the realm of green building. Initiated in 2013, the Town expanded the project in 2015 to include a focus on renewable energy and energy efficiency. It was awarded \$4 million in federal infrastructure funds under the Gas Tax Strategic Initiatives Fund - a significant portion of the project's \$9 million budget.

Working with Victoria-based architecture firm Studio 531, the project team set out to design a building that dramatically reduced greenhouse gas emissions while meeting and exceeding the needs of a modern airport. Through extensive energy modelling involving seventy-five scenarios, the team optimized the building envelope and designed a geo-exchange system to provide heating and cooling loads. The final design reduces greenhouse gas emissions by 53%, energy use by 39%, and energy costs by 31% compared to conventional construction. Town Council awarded the contract for construction of the project to Vector Projects Group, who broke ground in fall 2017. The first phase, which encompasses a beautiful new departure lounge, opens in July 2018.

City of Surrey – Surrey Biofuel Facility

The Surrey Biofuel Facility will process more than 115,000 tonnes of residential and commercial organic waste into renewable natural gas (RNG) and compost. Over 120,000 gigajoules of RNG will be produced per year and utilized to power the City's waste collection trucks and fleet of service vehicles. The high

quality compost product will be used in landscaping, growing food, and other agricultural applications, as well as provide a renewable fuel source for the city's District Energy System. The facility will be the largest biofuel facility in North America, and it will help the City of Surrey and the Metro Vancouver area achieve their regional waste diversion goal of 80% by 2020.

The biofuel facility was developed as a Public-Private Partnership (P3). As part of the P3 partnership, the Government of Canada, contributed up to 25% (to a maximum of \$16.9 million) of the capital cost of the future biofuel facility. The biofuel facility project is now one of P3 Canada's flagship projects.

In 2015, the City selected Orgaworld Canada for designing, building, operating and maintaining the facility for a twenty-five year period. Construction commenced in the spring of 2015, with the facility starting operations in 2017.

Community Planning & Development

City of Abbotsford – Plan 200K: Charting Abbotsford's Course to a Sustainable Future

Abbotsford is in the heart of the Fraser Valley, and is a rapidly growing community with a diverse and vibrant population of over 140,000. City Council's Strategic Plan envisions Abbotsford as the Hub of the Fraser Valley, with a mission to continually improve the quality of life within the community by delivering key services for current and future generations. The vision is supported by four cornerstones, including Vibrant Economy, Complete Community, Fiscal Discipline and Organizational Alignment.

Recognizing its geographical advantages, the City embarked on a journey in 2015 to realize Council's vision as the Hub of the Fraser Valley. The City's Official Community Plan (OCP) was adopted by Council in 2016, and further demonstrates the City's environmental commitment in Council's Strategic Plan by integrating sustainability measures and establishing emission reduction targets. The Plan 200K project incorporates the OCP objectives into the City's plans and regulations, and includes the updating of eighteen Master Plans, Neighbourhood Plans and Special Studies to align with the OCP.

The Plan 200K project includes eighteen key projects within the same timeframe, which is unprecedented and presented a new direction for the City. The result of this 18 month process is a comprehensive, multi-faceted plan for the City's services, including transportation/transit, utilities, fire, and parks, recreation, and culture. The Plan 200K project is a foundational element in establishing the OCP sustainability objectives into the City's plans and regulations, and lays the groundwork for the City to take further steps to achieve its sustainability goals.

City of Campbell River – Educating & Incentivizing to Accelerate the Energy Step Code

The City of Campbell River is working to accelerate and incentivize builders to adopt the Energy Step Code. Local builder adoption of this code aligns with the City's target in the Community Energy and Emissions Plan of 1-2% of buildings being built above the energy efficiency requirements of the BC Building Code by 2020.

The City's Energy Step Code efforts began with outreach with local builders to determine the barriers and opportunities for implementing the Energy Step Code for Part 9 residential buildings (Part 3 buildings are not currently under the jurisdiction of the City for the Energy Step Code for Zone 5). Through a builder's forum and a survey, educational opportunities and incentives were identified as the top priorities initially.

With a combination of an innovative social media and economic development focused photo campaign, a series of regional builder workshops, informational sessions with City Council, and partnerships with industry, builders, and utility companies, the City has been focusing on capacity and knowledge building as the first step to promote the Energy Step Code. The City is also offering financial incentives for local builders that are early adopters of the Energy Step Code, which help to offset the costs of engaging an Energy Advisor to model new Part 9 residential buildings. These are the initial steps that will help to prepare builders for the future requirement for all new buildings to be built to Step 5 of the Energy Step Code by 2032, and potential regulations that will be introduced by either the City of Campbell River or the Province as lead up.

District of Central Saanich – Central Saanich Climate Leadership Plan

The District's continued commitment to regional climate leadership is demonstrated through a newly adopted Climate Leadership Plan. This plan builds on the District's ten year commitment to climate action and sets an ambitious and practical path to 80% lower community wide greenhouse gas emissions, 100% renewable energy use, and 90% fewer greenhouse gas emissions from municipal operations by 2050.

The plan is action oriented in five primary areas: Buildings (residential and commercial), Transportation and Land Use, Solid Waste, Municipal Operations, and Adaptation to Climate Change. Significant actions in the plan are already underway, including becoming a member of FCM's Partners for Climate Protection Program, Energy Step Code implementation in advance of provincial targets, a Building Energy Efficiency Retrofit Incentive Program, a Solar Photovoltaic Demonstration Project, partnering in a Regional Electric Vehicle Charging Infrastructure Strategy, transportation advocacy (modal shift, transit, electric vehicles), and an Accelerated Light Duty Fleet Conversion to Electric Program.

City of Nelson – Nelson Community Solar Garden

The City of Nelson's municipal electric utility, Nelson Hydro, launched the EcoSave Energy Retrofits Program in 2012. The success of this program has led to the continuation and expansion of EcoSave, which includes Canada's first community solar garden. The solar garden was completed in June 2017.

Customers of Nelson Hydro were invited to invest in solar on a per panel basis. Investors receive an annual solar generation credit on their electric accounts in proportion to their investment. Nelson Hydro owns the system and the customers own the generation for twenty-five years. This type of project makes solar accessible to those who wouldn't otherwise be able to access it such as renters, those with unsuitable rooftops, and those who cannot afford an installation on their own. The investors are a great representation of a community project. They include renters, homeowners, business owners, co-ops, churches, School District 8, and Selkirk College.

The system is 60 kW and the 248 solar modules were installed on city owned land above the Nelson Hydro generating station. The system generated approximately 68,000 kWh in the first year, which is close to the estimate of 70,000 kWh/year. Local products and contractors were used when possible.

The project was awarded a spot in Canada's top Clean 50 projects and has been replicated by the City of New Westminster, with interest from several communities across Canada.

Developing local renewable energy aligns with the City of Nelson's climate action goals in the Low Carbon Path to 2040: Community Energy and Emissions Action Plan.

City of Victoria – All Ages & Abilities Bicycle Network

The City of Victoria strives to increase active transportation use as a part its goals to take action on climate change, improve community health, manage population growth, reduce road congestion, and become a more attractive, vibrant and happier community.

After nearly two years of analysis, design and community consultation, the City of Victoria adopted a plan to build a 32 km network of All Ages and Abilities (AAA) cycling infrastructure. Now in the implementation phase, Victoria is on its way to accelerating low-carbon transportation by constructing 5.4 km of protected bike lanes in the downtown core.

Pandora Avenue was the City's first two-way protected bike lane and opened in May 2017. One year later, 425,000 trips were recorded. In May 2018, the City opened the Fort Street protected bike lanes, completing the second of five AAA corridors in the downtown core. With each cycling project, the City applies a "complete street" lens to make simultaneous investments in underground and surface infrastructure to support pedestrian safety, urban forest management, improved transit service, and other asset management objectives.

National and regional data is now showing that more Victorians than ever are using low-carbon, high-performance and affordable transportation options. Nested in the policies and direction from the City's Official Community Plan, the AAA network is helping Victoria achieve its goal to become a 100% renewable city and reduce community-wide greenhouse gas emissions by 80% by 2050.

Public Sector Collaboration

Capital Regional District – Zero Emissions Fleet Initiative

As part of the organization's commitment to reduce greenhouse gas (GHG) emissions within corporate operations, the Capital Regional District (CRD) is undertaking a Zero Emissions Fleet Initiative within its vehicle fleet.

In partnership with researchers at the Institute for Integrated Energy Systems at the University of Victoria (IESVic), the CRD is reducing GHG emissions in its fleet over a three year period by:

- Conducting a field trial of six fuel cell electric vehicles;
- Conducting a smart fleet analysis to develop a suite of tools for fleet optimization;
- Testing and comparing the use of other zero emissions alternatives, including battery electric vehicles where operationally appropriate;
- Testing the use of electric bikes within the CRD Regional Source Control, Active Transportation and Climate Action Programs; and
- Investigating opportunities to use electric vehicles as an emergency power source.

To enable the Zero Emissions Fleet Initiative (ZEFI), the Province of BC has announced the opening of the first hydrogen fuelling station in the Capital Region in fall 2018.

The CRD is technology neutral and committed to investigating any cost effective technology that can reduce GHG emissions and meet operational needs. IESVic researchers will evaluate the economics of this pilot project.

In addition to tangible GHG reductions from the CRD fleet, outcomes of the ZEFI include rigorous evidence-based data on zero emissions vehicles, knowledge mobilization and experience for successful transition to zero emissions fleets, and new applied research findings for optimizing smart fleets.

City of Surrey – Integrated Sustainability Education Program

In 2015, the City of Surrey's Sustainability Office and Engineering Department collaborated to develop an Integrated Sustainability Education Program aimed at Grades 2 through 10. This program goes beyond energy education and offers integrated energy, water and waste concepts across grade levels that are aligned to BC curriculum objectives. Now in its third year, this program is offered in partnership with Surrey School District and reaches 16,000 students each year.

The Grade 2 program focuses on no littering, the Grade 4 programs include both water conservation (Water Wise) and energy conservation (Energy Shift) modules, and the Rethink Waste programs are offered for Grades 5 and 9. Recognizing the links between energy and water conservation, an integrated Grade 10 module was developed called "Wise Shift". More recently, modules on water, waste and energy have been developed for an adult ELL audience.

In the 2015/2016 school year, the program reached over 600 classrooms. In 2016/2017, the program grew to reach 636 classrooms. The City and partners are just completed the third year of this program, delivering 664 workshops in 93 schools, including SD36 elementary schools, secondary schools, and adult ELL learning centres across Surrey. The second year saw the addition of take-home audits on all topics so students could bring their learnings home to their families. This program is a collaborative effort between the City and Surrey schools, with high teacher participation and satisfaction rates.