

2009 Energy & Climate Action Awards

Instructions

Please follow all instructions and carefully complete the entire form to ensure eligibility.

1. Save this document, including the local government name in the document name
i.e. Townsville Energy Action Award Application.doc
2. Complete **ALL** sections by entering information in the grey fields provided within the document.
3. When complete, send this document by email to awards@communityenergy.bc.ca before **5:00pm August 20, 2009**. You may attach additional supporting material (e.g. in PDF format) to the email or by separate email (maximum size for email is 10 MB).

Applications will be judged based upon the following criteria:

- **Energy & Climate Action**
Integration of:
 - Community and corporate energy and GHG emissions reduction planning
 - Dense and compact development and sprawl avoidance measures
 - Urban form that supports low impact transportation
 - Transit improvements
 - Initiatives supporting energy efficient buildings and infrastructure
 - Supply of alternative energy sources, including use of renewables
- **Demonstrated Community Leadership**
 - Leadership shown by elected officials and staff
 - Barriers encountered and overcome (e.g. geography, limited resources, small population base)
- **Impact and Cost Effectiveness**
 - Demonstrated or projected energy produced or saved
 - Demonstrated or projected reduction in GHG emissions
 - Cost savings
- **Best Practices and Innovation**
 - Initiatives are at forefront of local government practices and are replicable by others

Please note that all submitted applications may be posted in whole or in part (e.g. executive summary), to the CEA website to showcase best practices, after the submission deadline.

If you have any questions about the application form or awards, please contact:

Patricia Bell, Sr. Community Energy Planner
Community Energy Association
t: 604-936-0470
pbell@communityenergy.bc.ca

Connecting communities, energy and sustainability

Section 1 Contact Information

Please enter the local government (municipality or regional district) and staff contact information.

Local Government Name The Corporation of Delta
 Contact Name Mike Brotherston
 Title Manager of Climate Action & Environment
 Phone 604.946.3281
 Email Mbrotherston@corp.delta.bc.ca

Section 2 Award Category

Awards are presented in two categories:

- **Community Design and Development**
- **Corporate Operations**

Please select the category in which you are applying. If you would like to apply in both categories, please complete a separate application for each category.

Check one

Community Design and Development

Planning and development in the jurisdiction that reduces energy use and greenhouse gas emissions. Examples include:

- Community energy plans, GHG action plans, Integrated Community Sustainability Plans, sustainable development checklists
- Smart growth / density/ compact development /transit-oriented development, reducing urban sprawl
- Transit improvements and transportation demand management
- Renewable district energy
- Policies encouraging green building development and retrofits

Corporate Operations

Actions, plans, and organization to reduce the local government’s own energy/GHG emissions and move towards carbon neutral operations. Examples include:

- Local government operations energy/GHG inventories and action plans, management systems
- Standards for new local government buildings
- Energy efficiency retrofits of local government buildings
- Participation in E3 or other fleet management programs
- Use of renewable energy and waste heat capture in own buildings
- Municipal development of renewable energy generation (energy utilities, etc)
- Waste management (reduction and diversion of waste, or use of waste for energy)

X

Section 3 Executive Summary

Please enter a summary of the key elements of your application in 250 words or less. This, together with the staff contact name, may be posted on the Community Energy Association website.

Delta's Climate Change Initiative (Initiative) was approved in July 2007 and the revised version approved in March 2009 by Council. It is a plan to reduce Delta's vulnerability and contribution to climate change. The Initiative was endorsed with the intent that it remains a fluid document which will change over time to adapt to emerging technologies, opportunities and priorities.

The plan includes a goal of reducing corporate greenhouse gas emissions by 20% below 2006 levels by 2015. To guide the implementation of the plan and monitor progress in achieving goals and targets, an interdepartmental Climate Change Working Group was formed. This group meets monthly to review the individual climate change action plans that form the Climate Change Initiative and to keep informed about climate change issues, innovations and potential funding opportunities.

The Initiative includes nine individual action plans with specific goals for greenhouse gas reductions and corresponding actions to be undertaken to meet those goals. Responsibility for tracking and reporting on each action plan has been assigned to specific working group members. In addition to the Initiative, staff in many departments are involved in projects and initiatives that relate to what climate change means to Delta, how Delta can adapt to it and how Delta can reduce emissions and contribute less to climate change.

The effects of climate change are pervasive and will impact all aspects of Delta's work and operating practices. We are planning and acting now so that corporate services and the community of Delta are prepared for the future.

Section 4 Application Details

Please enter the details of your application.

A. Context

- Has the applying local government signed the *British Columbia Climate Action Charter*?

The Corporation of Delta became a signatory of the Climate Action Charter on September 12, 2007.

- Has the applying local government participated in the Community Action on Energy and Emissions program? **Yes.**

- If yes, please briefly list the CAEE commitments and key projects and status.

- Under the CAEE program, Delta received \$15,000 to review Delta's Building/Plumbing Bylaw and Delta's Subdivision and Development Standards Bylaw to look for ways to improve energy efficiencies of new buildings and development proposals. Commitments made in relation to this project:

- ✓ Endorse the Province's target of reducing current greenhouse gas emissions by 33% by 2020 – in progress of aligning this goal with current corporate reduction targets.
- ✓ Join E3 Fleets for civic vehicles – Delta obtained a GOLD rating in summer 2009; to be announced at the 2009 UBCM Convention.
- ✓ Achieve a 15% reduction in energy consumption for existing civic building and fleets – in progress.
- ✓ Energuide for New Houses rating of 80 for all new homes by 2010 – in progress.
- ✓ For all commercial, institutional and industrial buildings, a 2% reduction in energy consumption by 2010 and a 25% reduction by 2020, relative to 2007 levels – in progress.
- ✓ Already have or intend to develop a community action energy plan, a greenhouse gas action plan, a local air quality action plan or an integrated community sustainability plan – in progress; complete.

- Also under the CAEE Gold Program, Delta was awarded a \$50,000 GOLD level grant to support sustainable development planning for "Zone C", an industrial land development site. The primary commitments are:

- ✓ To create incentives and promote energy performance 25% better than the Model National Energy Code of Canada for Buildings (MNECB) by 2010 in relation to new industrial and commercial buildings in Zone C. In progress.
- ✓ To create development permit that would be used as a template for other, similar industrial-oriented areas elsewhere in Delta or in other municipalities. In progress.

- Has the applying local government developed a Community Energy Plan, a GHG / Climate Action Plan, or explicitly addressed energy / climate in other planning initiatives (such as Official Community Plan or a plan for carbon neutral operations)? **Yes.**

- If yes or partial, please note adoption date, targets (if any) and a brief list of highlights

In 2007, Mayor and Council adopted “Delta’s Corporate Climate Change Initiative” which commits to a greenhouse gas reduction of 20% of 2006 levels by 2015. The plan was revised in 2009 and is comprised of four mitigation plans (buildings, fleet, infrastructure and education & training) and five adaptation plans (flood management, sustainable development, community outreach, urban forestry and natural areas). It has been recognized nationally by ICLEI Canada and the Clean Air Partnership and internationally by the Georgia Basin Action Plan/Puget Sound Partnership as a progressive and dynamic climate action strategy.

B. Actions

This is the main section of the application, where you can provide the most detail. There is not a specific word limit for this section. Describe actions to reduce energy and GHG’s in each of the following areas that apply. Only complete fields relevant to the application. Note that information entered here should reflect only the category for which you are applying – i.e. community design and development, or corporate operations.

- Planning, management systems, and other approaches that establish high-level direction for reducing energy use and GHG emissions
 - In 2005, the Corporation of Delta revised its Official Community Plan (OCP) to reflect corporate values as related to community liveability through environmentally sound planning initiatives. Through policy, the OCP emphasizes the importance of liveable communities, protection of agricultural land and value of ecologically sensitive areas. These policies have encouraged residential and commercial growth in existing developed areas which promote low carbon development and transportation within the community.
 - In 2007, Delta adopted the Corporate Climate Change Initiative (Initiative), an action document that clearly identifies strategies to reduce Delta’s energy consumption and contribution of greenhouse gases. The Initiative is a comprehensive climate change action plan that reflects both corporate and community values and needs. In 2008, Delta’s Office of Climate Action & Environment was formed with the mandate of implementing the Initiative. Many initiatives are underway or complete. Climate Action & Environment chairs the interdepartmental Climate Change Working Group which is comprised of decision makers from all major departments. This collaborative management system ensures that climate action policy is developed, implemented and monitored in all of the Corporation of Delta’s departments.
 - The Initiative remains the primary planning tool for policy change and implementation. The Initiative will be revised every two years along with a review of corporate energy consumption and greenhouse gas emissions. Within the Initiative, a target of 20% of 2006 levels by 2015 was determined after a variety of energy reduction options were evaluated and assigned. These options include readily achievable reductions in buildings and fleets as well as designating key retrofits over a ten year period and have been incorporated into the Building Efficiency Plan, Green Fleet Management Plan, Infrastructure Improvement Plan and Education and Training Plan.
- Urban form that is dense and compact, avoiding sprawl
Not applicable for this application

- Initiatives that support low impact transportation, including increased use of transit
Not applicable for this application
- Energy efficient buildings
 - Civic buildings consume approximately 73% of the corporation's energy supply and are responsible for 65% of the corporate GHG profiles. Under the Building Efficiency Plan are several policies and personnel responsible for enhancing the efficiency of Delta's facilities:
 - ✓ Retention of an Energy Manager to plan and implement energy saving initiatives throughout the Corporation for all civic buildings.
 - ✓ Adoption of a corporate electrical energy policy. This policy ensures that electrical energy management becomes part of the corporation's broader business plan and includes electricity reduction targets of 5% by 2011, 14% by 2016 and 20% by 2020.
 - ✓ District energy and recreation facility retrofit feasibility studies. The district energy feasibility study is complete and the retrofit feasibility study is in progress. The retrofit study will direct future civic building upgrades and project management for the next 10years.
 - ✓ A variety of facility audits, staff training sessions, installation of enhanced metering and HVAC control timers and Low-E ceilings in all arenas have been completed.
- Energy efficient infrastructure
 - Water, sewer and drainage infrastructure may be upgraded for both efficiency and adaptation reasons. Additionally, waste heat and other energy maybe captured and utilized to offset consumption. Steps being taken to enhance energy efficiency are outlined in the Infrastructure Improvement Plan. Highlights include:
 - ✓ Upgrades of sanitary and water pumps with variable speed drivers to improve energy efficiency.
 - ✓ A popular residential water metering program.
 - ✓ Feasibility study for a Pressure Reducing Valve station power generation project; sewer heat recovery feasibility study.
 - ✓ Elementary school community rain garden program; through this program approximately four rain gardens that utilize green infrastructure design have been constructed.
 - ✓ A variety of cycling lane improvements and bus infrastructure has been installed to promote greener transportation choices throughout the community.
- Alternative energy supply or use of renewable energy
 - ✓ A first in the lower mainland, the Corporation of Delta commissioned a solar hot water system on top of the Municipal Hall roof. It is expected that over 60% of the Municipal Hall's hot water requirements will be met through use of the solar hot

water system. Energy production and natural gas consumption are being monitored. This high profile location for the installation is being used to demonstrate the technology to staff, residents and developers in the community.

- Other

- Delta's fleet consumes 16% of corporate energy reserves and produces 27% of the corporation's greenhouse gases. Through the Green Fleet Management Plan a number of action and policies have been implemented. They include:
 - ✓ Hybrid replacement purchasing policy.
 - ✓ Go Home Green Corporate carpooling program – with a ridership of 52 staff approximately 38 cars were taken off of the road in 2008.
 - ✓ Corporate wide anti-idling policy and fuel efficient driver training programs.
 - ✓ Purchase and installation of GPS units to monitor idling.
 - ✓ Fuel efficient conventional vehicle purchasing and right sizing policy as well as fuel efficient heavy duty and off-road vehicle purchasing.
 - ✓ Gold level E3 Green Fleet accreditation (Summer 2009) – a first in Canada.

C. Results

Describe results (such as costs and benefits, money and energy saved, GHG emission reductions, and other benefits). Describe your approach to calculating results.

Costs and benefits have been assessed in terms of life cycle costs, payback periods, external funding opportunities and sustainability values. In most cases, staff has made successful business cases for projects by utilizing cost savings from planned energy savings, leveraging in-kind support for funding and realizing enhanced system/facility resilience.

Direct results in terms of energy savings have been calculated under the Building Efficiency Plan and the Green Fleet Management Plan:

- ✓ In regards to Delta's building stock, an estimated 450,000 kWh in savings was achieved in 2007/2008 through facility upgrades and conservation efforts. These results were calculated by tracking and comparing current and past electrical consumption as recorded through BC Hydro's billing system.
- ✓ Examining Delta's fleet, fuel efficiency has improved by 6.5%, overall greenhouse gas intensity has decreased by 12.5% and vehicle utilization has improved by 10.6%. These figures were calculated by an independent audit as part of the E3 Fleet Accreditation program. The E3 Program is a joint partnership between the Fraser Basin Council, Western Economic Diversification Canada and the BC Ministry of Environment.

A major energy retrofit of the Sungod Recreation Centre has been planned and approved which is expected to reduce GHG emissions from this facility (Delta's largest GHG emitter) by 375 tonnes. A comprehensive energy audit and efficiency study is currently in progress for four other major recreation facilities.

Indirect results from the variety of action plans implemented include a noticeable positive change in energy conservation efforts by staff as well as enhanced awareness with respect to the philosophy and working knowledge of a range of sustainability practices, e.g. green procurement initiatives, best management practices and community energy efficiency outreach.

D. Leadership

Describe leadership demonstrated by elected officials, staff, and others. Discuss barriers encountered and how they were overcome.

In 2005 Delta started to think seriously about climate change and what we could do to mitigate the negative impacts on our environment. Since 2003, under the leadership of Mayor Lois Jackson, staff has been encouraged to put sound ideas into practice and participate in national and local programs when few local governments at the time were interested.

Since 2005 staff has overcome information and funding barriers by reaching out to the academic community to bridge those gaps. Partners include Natural Resources Canada, the University of British Columbia and ICLEI Local Governments for Sustainability Canada. Projects of interest include:

- ✓ Roberts Bank sea level rise study – Natural Resources Canada; studying the physical, environmental and socio-economic impacts of climate change, specifically sea level rise, on Roberts Bank.
- ✓ Subsidence research – Natural Resources Canada; studying the potential land subsidence occurring in the regions with the potential to exacerbate the impacts rising sea level.
- ✓ Local impacts of climate change project – The University of British Columbia, the Collaborative for Advanced Landscape Planning; four future “worlds” with different degrees of mitigation and adaptation were modeled and visualized based upon Boundary Bay village in Tsawwassen. This internationally recognized work has advanced the communication of the local impacts of climate change significantly and meaningfully.
- ✓ Salt Wedge Study - Natural Resources Canada; the degree to which climate change may affect the Fraser River salt wedge thereby affecting regional agricultural practices was studied.
- ✓ Ecological restoration of Burns Bog – Simon Fraser University and Metro Vancouver; ongoing research into the management and restoration of Burns Bog is actively being pursued.
- ✓ Climate Change Adaptation Toolkit for Canadian Local Governments – ICLEI Local Governments for Sustainability Canada; Delta was one of three pilot cities in Canada to participate in ICLEI’s study in 2008. Since then, we have been chosen as the only local government to sit on ICLEI Canada’s adaptation Toolkit Advisory Committee.

Information gathered from these partnerships has proven to be accurate, reliable and essential in relation to making pragmatic decisions regarding climate action policy and planning. Staff has been able to utilize this information and translate it into real life applications with respect to corporate operations and community development.

E. Other

Use this space to describe anything else that is relevant to your application that does not fit in other sections.

Please find the following attachments in support of this application:

1. 2009 Corporate Climate Change Initiative Council report
2. Delta's Climate Change Initiative 2009
3. Climate Action Progress Report for 2008

THANK YOU!