

# CARBON NEUTRAL ACTION REPORT 2012



"Bringing Learning to Life"

SCHOOL DISTRICT NO. 85 VANCOUVER ISLAND NORTH

2012 Carbon Neutral Action Report



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## executive summary

*On behalf of the Vancouver Island North School District, I am pleased to submit the 2012 Carbon Neutral Action Report. This report provides an over view of the steps that the Vancouver Island North School District has taken to reduce its greenhouse gas emissions as well as other environmentally sustainable actions that have been undertaken in the 2012 calendar year.*

*Environmental Sustainability is deeply important to the Vancouver Island North School District as evidenced by the fact that we have started an Energy Management Committee for the district in 2012. The Board of Education has supported effective practice in Environmental Sustainability focus areas such as Curriculum, Energy Conservation, Community Gardening, Sustainable Purchasing, Sustainable Transportation, Water Conservation and Waste Management.*

*Greenhouse Gas reduction initiatives in 2012 were focussed primarily on reducing emissions from buildings, which is our largest source. The main GHG reduction initiatives in 2012 were improving energy efficiency with initiatives such as upgrades to high efficiency condensing boilers, energy efficient hot water on demand systems, and higher efficiency lighting fixtures.*

*We continue to engage both our students and our employees, leveraging their knowledge and enthusiasm as we strive for lower GHG emissions. Doing so has benefits beyond the environment as it generates both financial savings and social benefits. Our employees are more engaged in working towards sustainability, and the students who will create our future are more passionate about caring for their communities and the world that surrounds them.*

*Dr. Scott Benwell*  
*Superintendent of Schools*

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## greenhouse gas emissions

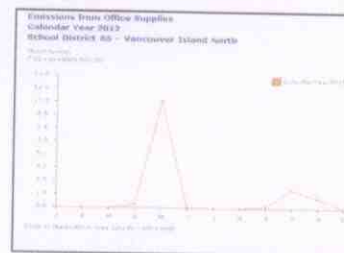
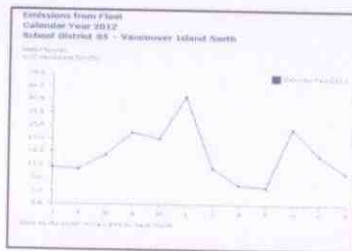
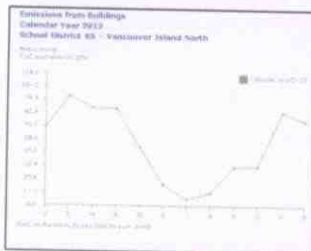
Total Greenhouse Gas Emissions for the Vancouver Island North School District for the 2012 calendar year were 258.38 tonnes CO<sub>2</sub>e. The picture below shows the district's emissions by source.

**Total Emissions**  
**Calendar Year 2012**  
**School District 85 - Vancouver Island North**

Metric tonnes  
CO<sub>2</sub>-equivalent (tCO<sub>2</sub>e)



Click on the bars to view data for each month





## greenhouse gas emissions

### buildings

The GHG emissions from buildings are the result from the fossil fuels used to provide heating, cooling, ventilation and electricity. These emissions account for the large majority of School District No. 85's overall emissions at 78 %.

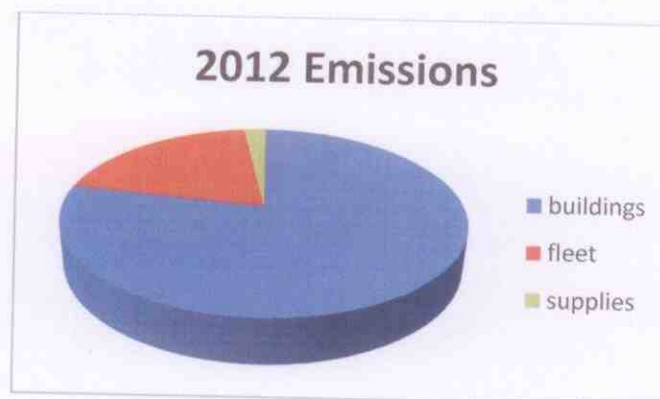
### fleet

Emissions from fossil fuels (gas, diesel and propane) used to power our district's maintenance vehicles and school busses are categorized as "fleet". They account for 20% of School District No. 85's overall emissions.

As required by section 5 of the Carbon Neutral Government Regulation emissions resulting from the operation of school buses were reported as part of the greenhouse gas emissions profile in 2012. These emissions account for the majority of our fleet emissions and are not offset as they are out-of-scope under section 4(2) (c) of the Carbon Neutral Government Regulation.

### supplies

Emissions from purchased office paper are categorized as direct emissions and account for 2 % of School District No. 85's overall emissions.



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## fugitive emissions

The following fugitive emissions are deemed by the British Columbia Provincial Government Carbon Neutral Government Regulation (CNGR) as out of scope for reporting:

- Gases used for research purposes (e.g. science labs)
- Type R-22 coolant from stationary air conditioning and refrigeration units in schools
- Any emission sources that comprise less than 1% of the district's total GHGs

In-scope fugitive emissions (HFCs released to the environment from leaks in cooling equipment) for the Vancouver Island North School District are well below the 1% threshold for reporting and therefore are not included.

## travel related emissions

Under the Carbon Neutral Public Sector commitment, only core government organizations that report through the Consolidated Revenue Fund (e.g. ministries, special offices, tribunals) are required to track and report the emissions from the business travel of public officials. Vancouver Island North School District does not fall within 'core government' and therefore does not track travel-related emissions.





## carbon neutral 2012

### offsets applied to become carbon neutral

In order to become carbon neutral for 2012, the Board of Education of School District No. 85 (Vancouver Island North) purchased carbon offsets for 720 tonnes of CO<sub>2</sub>e from the Pacific Carbon Trust in March 2013 at a cost of \$18,900.00.





## reducing emissions

### overview

School District 85 covers a total of 22,500 square kilometers of the northern end of Vancouver Island. An abundance of wildlife, including orca, whales, bald eagles, Roosevelt elk, deer, black bear and Pacific salmon, can be viewed throughout the region. The panoramic beauty and vistas of snow-capped mountains, tree-bordered lakes and coastal waters is a photographer's haven and a magnet for naturalists. Year round, moderate temperatures are normal for this large area of forests, towns, small villages, fish farms and logging camps. Forestry, commercial/sports fishing and tourism are the key industries on the North Island.

In the midst of this natural beauty and resource-based activity is School District 85, Vancouver Island North which has approximately 1,400 K to grade 12 students attending 12 schools. The smallest school is a one-room school with less than 10 students and the largest are two secondary schools with approximately 350 students each.

Staff and students are located in 8 elementary schools, a junior secondary school, 2 secondary schools, an alternative school, the Administration building, a Technology Services Centre and 2 maintenance and transportation yards. With over 250 staff, we ensure that we are able to properly support students in the District. During 2012, the Vancouver Island North School District was engaged in a diverse range of environmental sustainability initiatives.

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## actions taken to reduce greenhouse gas emissions in 2012

In 2012 much of our focus was on building the necessary structures to enable consistent sustainability practices across the district. In 2012 the Board of Education supported the formation of an Energy Management Committee, comprised of staff from senior management, Maintenance and Operations, Curriculum and Education and a member of the Board of Education. The Committee members worked together to develop Environmental Stewardship plans.

The Energy Management Committee (EMC) is developing a system-wide plan to inspire staff and students to become even better environmental stewards. The plan is being launched in order to create the structures that will embed environmental stewardship in the day-to-day operations of the district, incorporating Environmental Stewardship into the school curriculum and into the delivery of each employee's core mandates. The Environmental Stewardship Plan will coordinate and support the system-wide implementation of effective Environmental Stewardship practices through site-based Green Teams with the goal of having educational, financial and environmental impacts being considered in everyday decisions about operations, teaching and learning.

The Vancouver Island North School District is coordinating and planning for sustainability initiatives in focus areas: curriculum, development, energy conservation, gardening, sustainable transportation, sustainable purchasing, waste reduction and water conservation. Guidelines of effective practice will be developed in each of these areas. Goals have been defined for these areas and metrics created to assess how we're progressing towards achieving the goals.

Our carbon neutral objectives and GHG reduction endeavours are linked to our environmental stewardship

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initiatives. Of the Environmental Stewardship focus areas, Energy Conservation is the most mature in terms of plan

development and presents the greatest opportunity for both GHG reductions and financial savings. The largest proportion of the district's greenhouse gas emissions continues to come from buildings, and therefore the largest proportion of our GHG reduction initiatives are focussed on energy conservation within our schools and administrative facilities. We are continuing with the District's comprehensive energy conservation program and in 2012 undertook a number of energy conservation initiatives:

- We operated a wind turbine generation system at Alert Bay Elementary School to reduce our reliance on electricity supplied by the grid. It also provided excellent opportunities for students to study alternative energy.
- We continued working with conservation partner BC Hydro. We renewed our commitment as a Power Smart Partner with BC Hydro to reduce energy consumption and implement energy conservation measures.
- We completed several energy conservation projections, often with assistance of incentives from conservation partner BC Hydro, including the following:
  - Completed T12 to T8 fluorescent lighting upgrades at one elementary school, the School District Administration office, the Transportation/Operations office, one carpenter's shop and the bus garage.
  - Installed LED lights as a pilot to test this newer energy efficient lighting technology
- We undertook a number of investigations to identify opportunities future energy conservation measures in many of our facilities in order to meet energy conservation targets in upcoming years.

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- An HVAC upgrade was made at one secondary school and new roof top heat pumps were installed.
- Plumbing fixtures, low flow aerators and faucets were replaced with water saving models at the Transportation/Operations office, two Elementary schools and one secondary school.
- A new pressure storage hot water tank was installed at one of our remote schools and this will reflect a further reduction in hydro costs.
- In technology our District has replaced three aged printers with energy star models and we encourage staff to be more resourceful in paper usage.
- We have also replaced two hundred and sixty 80 watt usage computers throughout the district with lower 45 watt usage computers.
- A slight reduction in fossil fuels was accomplished by our Transportation and Maintenance Departments with an emphasis placed on better work site scheduling, marshalling yards and also on small changes to our district school bus routes to alleviate unnecessary mileage.







School District No. 85's energy conservation efforts in 2012 resulted in a slight reduction in our District's energy consumption.

Our Fleet had a reduction of 5.23 tonnes of greenhouse gases and our Buildings had a reduction of 9.26 tonnes of greenhouse gases.

Better reporting from our individual schools resulted in an increase of emissions from the purchase of office paper from 7.83 tonnes to 15.03 tonnes and increase of 7.20 tonnes of greenhouse gases. Paper purchases are no longer purchased in bulk by the School District but are purchased individually by our schools.







## future plans

### plans to continue reducing greenhouse gas emissions 2013-2015

In the past two years we have had a gradual decrease in our energy consumption throughout School District 85, Vancouver Island North and we feel that we are definitely heading in the right direction and will continue to slowly reduce our carbon foot print.

The main objectives in 2013 – 2015 will be the replacing of three buses with newer more energy efficient models plus the upgrading of the HVAC system at North Island Secondary in Port McNeill.

We will continue to encourage our staff to car pool and will be upgrading our telephone conference ability in our School District Administration office. We are exploring the possibility of upgrading some of the printers throughout the district with more energy efficient printers and will encourage our staff to use the double sided printer function more often to reduce the use of paper. The upgrading of computers is ongoing and older models will be replaced as needed.

Our Energy Management Committee continues to review our district's energy usage and will make our schools more aware of their carbon footprint and we will continue on our quest to explore energy conserving methods and equipment.





Why frogs? They are one of the first of the animal species which are affected by climate change and the decrease in the thickness of the ozone layer protecting Earth. With the reduction of greenhouse gases in our carbon foot print we help to save Earth's creatures and our environment.



School District 85 Vancouver Island North - 2012 Carbon Neutral Action Report

Actions Towards Carbon Neutrality					
The actions listed below contribute to a reduction in greenhouse gas emissions from sources for which public sector organizations are responsible under the carbon neutral government regulation of the Greenhouse Gas Reduction Targets Act.					
Action	Status	Steps Taken	Steps Planned	Start Year	End Year
Mobile Fuel Combustion (Fleet and other)					
Behaviour change program					
Provide fleet driver training to reduce fuel use	Ongoing/In Progress	all bus drivers attend a one day workshop prior to start of school year to be reminded of energy conserving driving skills	the bus driver education program will continue in August 2013	2009	No End Date (Continuous)
Introduce anti-idling policy and/or raise anti-idling awareness for fleet drivers (e.g., signs, stickers, messages)	Completed (in Previous Year)				No End Date (Continuous)
Vehicle fuel efficiency					
Perform regular fleet maintenance to improve fuel-efficiency	Ongoing/In Progress	maintaining schedule of regular maintenance for fleet vehicles	to keep on maintaining regular maintenance for all fleet vehicles	2009	No End Date (Continuous)
Stationary Fuel Combustion, Electricity					
Behaviour change program					
Help staff reduce personal energy use through ""workstation tune-ups""	Not Yet Evaluated				No End Date (Continuous)
Ask staff to unplug electrical equipment or switch off power bars when not in use	Not Yet Evaluated				No End Date (Continuous)
Ask staff to unplug electrical equipment or switch off power bars when not in use	Not Yet Evaluated				No End Date (Continuous)
Provide reminders for turning off lights (e.g., signs, stickers, messages)	Not Yet Evaluated				No End Date (Continuous)
IT power management					
Install power management software which shuts down computers outside of regular business hours	Completed (in Previous Year)				No End Date (Continuous)
Implement server virtualization	Not Yet Evaluated				No End Date (Continuous)
Apply auto-sleep settings on computer monitors and CPUs	Completed (in Previous Year)				No End Date (Continuous)
Remove stand-alone printers, copiers, and/or fax machines and install multi-function devices as part of a print management strategy	Not Yet Evaluated				No End Date (Continuous)
Apply auto-sleep settings on printers, fax machines, and/or multi-function devices	Ongoing/In Progress	as new printers replace older models this feature is automatic.	to continue to replace printers, etc. as required	2009	No End Date (Continuous)
Replace computers with ENERGY STAR models during regular computer upgrades	Ongoing/In Progress	Older computers are replaced with energy star computers as required.	To continue to replace older computers with newer more energy efficient models as required.	2009	No End Date (Continuous)
Owned buildings					
Establish energy performance baseline for owned buildings	In Development	With the use of information gained through B.C. Hydro we have been able to see the energy usage in the past year. A baseline has been set by B.C. Hydro.	Baselines will be altered by B.C. Hydro as warranted by actual amount of use of energy.	2012	No End Date (Continuous)
Perform energy retrofits on existing, owned buildings	Completed (in Previous Year)				No End Date (Continuous)
Retrofit details for owned buildings					
Upgrade lighting systems during retrofits	Completed (in Reporting Year)	Lighting upgrades were done in three locations: Fort Rupert Elementary, Sunset Elementary and the Operations/Maintenance/Warehouse location.		2012	2012
Supplies (Paper)					
Behaviour change program					

School District 85 Vancouver Island North - 2012 Carbon Neutral Action Report

Actions Towards Carbon Neutrality					
The actions listed below contribute to a reduction in greenhouse gas emissions from sources for which public sector organizations are responsible under the carbon neutral government regulation of the Greenhouse Gas Reduction Targets Act.					
Action	Status	Steps Taken	Steps Planned	Start Year	End Year
Train staff to use collaborative software for electronic editing (e.g. SharePoint, Groove, etc.)	Not Yet Evaluated				No End Date (Continuous)
Encourage staff to hold paperless meetings or presentations (i.e., no handouts)	Completed (in Reporting Year)	smartboards have been installed in classrooms and meeting rooms, staff are encouraged to use computers and electronic notebooks.		2009	No End Date (Continuous)
Electronic media in place of paper					
Install collaborative software for electronic editing (e.g. SharePoint, Groove, etc.)	Not Yet Evaluated				No End Date (Continuous)
Use electronic document library for filing common documents	Completed (in Previous Year)				No End Date (Continuous)
Switch to an electronic payroll notification system in place of paper pay stubs	Completed (in Previous Year)				No End Date (Continuous)
Paper Type					
Purchase 30% post-consumer recycled paper	Ongoing/In Progress	This seems to be the most popular type of paper purchased by our schools on an ongoing basis.	to continue to encourage schools to purchase paper with at least a 30% recycled content	2009	No End Date (Continuous)
Purchase 40% post-consumer recycled paper	Not Yet Evaluated				No End Date (Continuous)
Purchase 100% post-consumer recycled paper	Not Yet Evaluated				No End Date (Continuous)
Printer/document settings					
Switch networked printers and photocopiers to automatic double-sided	Not Yet Evaluated				No End Date (Continuous)



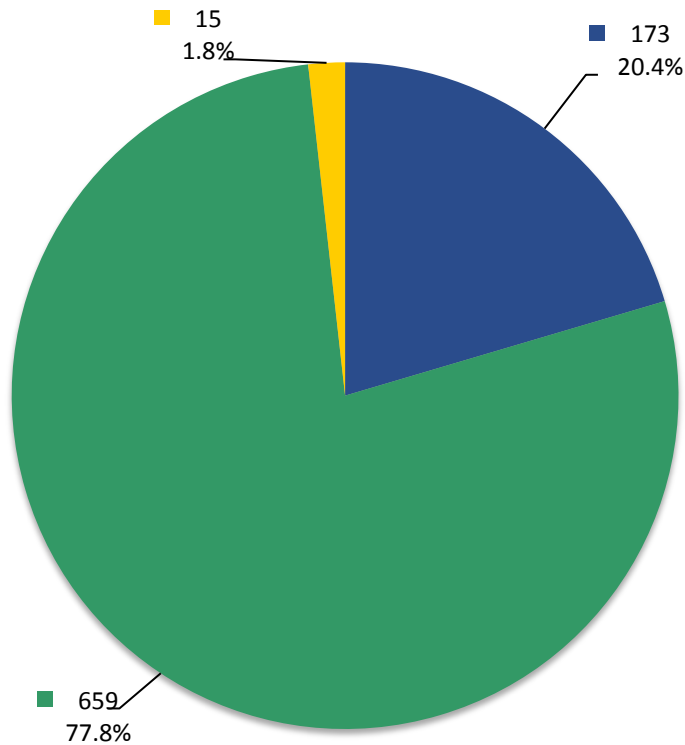
School District 85 Vancouver Island North - 2012 Carbon Neutral Action Report

Actions to Reduce Provincial Emissions and Improve Sustainability					
The actions listed below contribute to a reduction in greenhouse gas emissions from sources that fall outside of the reporting requirements defined in the carbon neutral government regulation of the Greenhouse Gas Reduction Targets Act. Public sector					
Action	Status	Steps Taken	Steps Planned	Start Year	End Year
Business Travel					
Behaviour change program					
Encourage staff to consider virtual attendance/presentation at events where possible	Not Yet Evaluated				No End Date (Continuous)
Encourage carpooling to meetings	Completed (in Previous Year)				No End Date (Continuous)
Encourage alternative travel to meetings (e.g., bicycles, public transit, walking)	Completed (in Previous Year)				No End Date (Continuous)
Policy and budgeting					
Create a low-carbon travel policy or travel reduction goal	Not Yet Evaluated				No End Date (Continuous)
Virtual meeting technology					
Install web-conferencing software (e.g., Live Meeting, Elluminate, etc.)	Completed (in Previous Year)				No End Date (Continuous)
Make desktop web-cameras available to staff	Completed (in Previous Year)				No End Date (Continuous)
Install video-conferencing units in meeting rooms or provide mobile video-conferencing units	Completed (in Previous Year)				No End Date (Continuous)
Education, Awareness, and Engagement					
Awards/Recognition					
Establish a sustainability/green awards or recognition program	Not Yet Evaluated				No End Date (Continuous)
Staff Professional Development					
Support green professional development (e.g., workshops, conferences, training)	Ongoing/In Progress	encourage participants at workshops to use non disposable plates, etc. and to bring their own cups and water bottles to meetings.	to continue to encourage participants to recycle, reuse at meetings.	2009	No End Date (Continuous)
Include green options in employee performance measurement system	Not Yet Evaluated				No End Date (Continuous)
Staff awareness/education					
Provide education to staff about the science of climate change	Not Yet Evaluated				No End Date (Continuous)
Provide education to staff about the conservation of water, energy, and raw materials	Not Yet Evaluated				No End Date (Continuous)
Provide green tips on staff website or in newsletters	Not Yet Evaluated				No End Date (Continuous)
Provide sustainability education during new staff orientation	Not Yet Evaluated				No End Date (Continuous)
Team-building					
Create Green, Sustainability, Energy Conservation, or Climate Action Teams with executive endorsement	Not Yet Evaluated				No End Date (Continuous)
Provide resources and/or dedicated staff to support teams	Not Yet Evaluated				No End Date (Continuous)
Providing behaviour change education/training to teams (e.g., community-based social marketing)	Not Yet Evaluated				No End Date (Continuous)
Other Sustainability Actions					

School District 85 Vancouver Island North - 2012 Carbon Neutral Action Report

Actions to Reduce Provincial Emissions and Improve Sustainability					
The actions listed below contribute to a reduction in greenhouse gas emissions from sources that fall outside of the reporting requirements defined in the carbon neutral government regulation of the Greenhouse Gas Reduction Targets Act. Public sector					
Action	Status	Steps Taken	Steps Planned	Start Year	End Year
<b>Adaptation to Climate Change</b>					
Assessed whether extreme weather events and/or long term changes in climate will affect the organization's business areas	Not Yet Evaluated				No End Date (Continuous)
Integrated considerations of extreme weather events and/or long term changes in climate into the organization's decision making.	Not Yet Evaluated				No End Date (Continuous)
<b>Building construction, renovation</b>					
Establish a policy to reuse materials where possible and divert construction and demolition debris from landfills and incineration facilities	Not Yet Evaluated				No End Date (Continuous)
Incorporate lifecycle costing into new construction or renovations	Not Yet Evaluated				No End Date (Continuous)
<b>Commuting to and from home</b>					
Introduce telework/work from home policy	Not Yet Evaluated				No End Date (Continuous)
Offer staff a compressed work week	Not Yet Evaluated				No End Date (Continuous)
Provide shower or locker facilities for staff/students who commute by foot or by bicycle	Not Yet Evaluated				No End Date (Continuous)
Provide secure bicycle storage	Completed (in Previous Year)				No End Date (Continuous)
<b>Procurement (non-paper supplies)</b>					
Incorporate minimum recycled content standards into procurement policy for consumable, non-paper supplies (e.g., writing instruments, binders, toner cartridges, etc.)	Not Yet Evaluated				No End Date (Continuous)
Establish green standards for goods that are replaced infrequently and/or may require capital funds to purchase (e.g., office furniture, carpeting, etc.)	Not Yet Evaluated				No End Date (Continuous)
Implement sustainable purchasing program for cleaning products, disposable paper products and trash bags	Completed (in Previous Year)				No End Date (Continuous)
<b>Waste reduction/diversion</b>					
Put in place an operations policy to facilitate the reduction and diversion of building occupant waste from landfills or incineration facilities	Not Yet Evaluated				No End Date (Continuous)
Implement a hazardous waste reduction and disposal strategy	Not Yet Evaluated				No End Date (Continuous)
<b>Water conservation</b>					
Establish a water conservation strategy which includes a plan or policy for replacing water fixtures with efficient models	Ongoing/In Progress	water fixtues are replaced as required with energy efficient models.	to replace older water fixtures as required.	2009	No End Date (Continuous)

**School District 85 - Vancouver Island North  
Greenhouse Gas Emissions by Source  
for the 2012 Calendar Year (tCO<sub>2</sub>e\*)**



**Total Emissions: 847**

- Mobile Fuel Combustion (Fleet and other mobile equipment)
- Stationary Fuel Combustion (Building Heating and Generators) and Electricity
- Supplies (Paper)

**Offsets Applied to Become Carbon Neutral in 2012 (Generated May 31, 2013 12:14 PM)**

Total offsets required: **720**. Total offset investment: **\$18,000**. Emissions which do not require offsets: **127** \*\*

\*Tonnes of carbon dioxide equivalent (tCO<sub>2</sub>e) is a standard unit of measure in which all types of greenhouse gases are expressed based on their global warming potential relative to carbon dioxide.

\*\* Under the *Carbon Neutral Government Regulation of the Greenhouse Gas Reduction Targets Act*, all emissions from the sources listed above must be reported. As outlined in the regulation, some emissions do not require offsets.