Catch $25

How mandatory carbon offsets are undermining real emissions reductions in BC school districts

by Charley Beresford, Robert Duffy and Randy Galawan

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A Catch 22 at $25 per tonne

School districts in BC are caught in a Catch 22. Provincial carbon neutral measures are forcing districts to pay for carbon offsets that don't actually reduce the districts' own emissions AND drain funds from education operating budgets.

A 'Catch 22' is a type of paradox, defined as "a problematic situation for which the only solution is denied by a circumstance inherent in the problem."[1] A commonly cited Catch 22, for example, is that to get a particular job, you need experience, but to get experience, you need to get that job.

The 'logic' of the Catch 22 facing British Columbia school districts reads something like this:

- School districts are legislated to reach carbon neutrality, but the province hasn't given sufficient funds to make the necessary infrastructure changes.
- Districts are then forced to buy large numbers of carbon offsets from a government supplier at inflated prices, further reducing their capacity.
- The bigger the emissions gap, the more offsets districts have to buy; the more offsets they have to buy, the less they can shrink emissions.

This Catch 22 is costing BC school districts $25 per tonne of carbon offsets — it's a 'Catch $25.'

Catch $25 drained $4.4 million from BC school district operating budgets for 2010, money that could have funded real reductions in district GHG emissions and energy efficiency improvements that would save districts hundreds of thousands of dollars in energy costs. In effect, classroom dollars, which are already scarce, are migrating from public classrooms to private boardrooms.

The following report looks into the problem in detail and provides new policy ideas to help schools make real progress in emissions reductions.

— Charley Beresford
Executive Director
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Executive summary

Most people have accepted that strong action on climate change is needed. BC took steps in the right direction when the province passed legislation calling for a significant reduction of greenhouse gas emissions by 2020 and established a goal for carbon neutrality. However, it must be noted that while ambitious, the goal falls short of the United Nations targets for developed nations, amounting to a 10 per cent reduction rather than the 25 to 40 per cent below 1996 levels called for by international scientists.

Unfortunately, some provincial policies are working against this important goal. There is growing awareness that the BC government's carbon neutral strategy is overly reliant on the purchase of carbon offsets, and may be getting in the way of the real emission reductions necessary to avoid catastrophic climate change.

> HIGHLIGHTS: The impact of mandatory carbon offset purchases on BC school districts

- **BIG MARKUP.** At $25 per tonne, the Pacific Carbon Trust charges school districts a significant margin above retail prices. BC-based Offsetters charges only $20 per tonne for equivalent offsets. Wholesale prices paid by PCT are estimated to range from $5.70 to $20 per tonne.
- **FROM CLASSROOM TO BOARDROOM.** About half of the $4.4 million of public funds that school districts paid PCT in 2010 was used to purchase carbon offsets from private sector corporations, including Encana, CNRL and Apache. These three oil and gas companies have combined assets of over $120 billion.
- **IT COULD GET WORSE.** PCT offset prices for the public sector are slated to rise to $30 per tonne in 2012. Under this scenario, BC school district offset expenses will rise to more than $5 million annually. Meanwhile, offset prices are falling around the world.
- **DISTRICT PROJECTS SHELVED.** The province provided a specially designated fund of $6 million for emission reduction projects in schools, but provincially legislated mandatory carbon offset purchases clawed back more than 70 per cent of that amount. At the same time, the $110 million fund that districts would normally use for infrastructure improvements was cut. Only half of the fund was reinstated for 2010. Many projects were shelved, forcing districts to spend operational funds buying more offsets at a time when school district budgets are already tight.
- **DISTRICTS COULD HAVE SAVED $740,000.** If school districts had been able to apply money spent on 2010 offsets to energy efficiency in their own operations, they would have saved $740,000 in energy costs and reduced their actual annual GHG emissions by 2,100 tonnes.

As numerous commentators noted over the summer of 2011, Pacific Carbon Trust (PCT), the crown corporation established for supplying carbon offsets to the public sector, is collecting millions of dollars from schools and other public services, and spending those dollars buying carbon credits from private corporations. In effect, classroom dollars, which are already scarce, are migrating from public classrooms to private boardrooms.

BC needs to look for approaches to reduce GHG emissions that are both effective and support public services. A range of alternative policies are already in use in other jurisdictions that can help reduce BC public sector emissions and even save public money through increased energy efficiency. For example, the United Kingdom and the Australian state of New South Wales are pursuing paths to public sector carbon neutrality that prioritize real reductions in emissions from government operations rather than purchases of carbon offsets. Closer to home, Alberta provides a model of school district energy efficiency financing that could help BC school districts cut GHG emissions and reduce energy bills.

> Highlights: Alternatives

Alternative policies for reducing public sector GHG emissions

A range of alternative policies in other jurisdictions are already in use to prioritize real reductions before carbon offsets (as recommended by the United Nations Environment Program). For example:

- The Australian state government of New South Wales has set a target of public sector carbon neutrality by 2020, giving public sector bodies significantly more time to implement real emissions reductions in their own operations. Under the NSW framework, offset purchases will not even be considered until 2014 (year six of the plan), and only after "all other means of reducing emissions have been put in place." If offsets do become part of the NSW plan, they would not be required until 2020, year 12 of the program.
- The UK government has established a special 'pay as you save' financing system to help local authorities and other public sector bodies carry out retrofits and other projects to reduce their emissions, with repayment tied to energy expense savings.
- Alberta allows its school districts to borrow against contractor-guaranteed energy savings for up to 20 years. This provides a source of financing districts can access to implement retrofits and other capital projects that save energy and reduce emissions. A ministry debt cap currently prevents BC school districts from borrowing against future energy cost savings. Allowing BC school districts this borrowing power could open the door to major emissions reductions and big savings in energy costs.

Alternative approaches to carbon offsetting

- Establish a climate action fund, in which schools pay amounts equivalent to their current carbon offsets into a pooled fund for emissions reductions projects in the BC public school sector.
- Allow school districts to develop and sell carbon offsets. Offset revenue could help school districts carry out retrofits and other emissions reductions projects that would otherwise not go ahead.
- Allow school districts to use their 'Scope 3' emission reductions as offsets against their Scope 1 and 2 emissions. Most Scope 3 emissions, such as commuting, staff and faculty travel and embodied impacts of buildings and infrastructure, are not covered under the province's carbon neutral government requirements, but likely account for 40 to 50 per cent of public sector emissions. Under the current framework, public sector organizations have no incentive to make real reductions in Scope 3 emissions. In some cases, reducing Scope 3 emissions may be more affordable or more achievable than reductions in the Scope 1 and 2 emissions (which are largely from energy use in buildings). If school districts were able to use reductions in Scope 3 emissions as offsets, they would have a major incentive to find ways to reduce these significant sources of emissions.
- Allow school districts to purchase offsets from providers other than Pacific Carbon Trust and give districts opportunities to invest in emissions reductions in their own communities (as has been proposed in the regulations for municipal government carbon neutrality) or in high quality 'gold standard' certified carbon credits that combine emissions reductions with international development.

Introduction

In June 2011, the BC Environment Ministry announced that the provincial public sector, including the public school system, had become "officially carbon neutral, a first for any province or state in North America and an achievement that places British Columbia on the leading edge of climate action."[2]

Reducing carbon emissions in the public sector is undoubtedly an important goal. While the public sector itself accounts for less than 2 per cent of direct GHG emissions in the province, there is value in government showing leadership in climate change mitigation efforts.

Unfortunately, it is not clear that the provincial government's current carbon neutral strategy is effective at dropping real emissions or supports the citizens who use and fund them. In particular, an over-emphasis on the purchase of carbon offsets, compounded by a problematic system for purchasing these offsets, may actually be undermining real GHG emissions reductions in BC public sector operations. This compounds problems caused by underfunding and has the effect of draining millions of dollars from provincial public services into private sector subsidies.

The problem

Carbon neutrality requirements collide with the long-term underfunding of BC school districts

Early in 2007, the BC government announced plans to make all provincial public sector entities, including schools, post-secondary institutions, government offices, crown corporations and hospitals, carbon neutral by 2010.

The province's carbon neutrality framework for public sector bodies is based on a four-step process:

1. MEASURE GHG emissions from operations. For school districts, this means the mandatory use of special software to calculate emissions.
2. REDUCE actual emissions from operations through energy efficiency, fuel switching and other measures.
3. OFFSET by purchasing carbon offsets for all GHG emissions not addressed through reduced emissions in operations.
4. REPORT to the province on emissions totals and reductions efforts. For schools, this means the annual submission of Carbon Neutral Action Reports detailing emissions reductions measures over the year and plans for future reductions.

Two pieces of provincial legislation, the *Greenhouse Gas Reduction Targets Act*, and the *Local Government (Green Communities) Statutes Amendment Act* lay out the framework for carbon neutrality. Under the legislation, school districts, hospitals, government ministries and other public sector entities were expected to make significant reductions in their GHG emissions in the relatively short time period before 2010, and purchase carbon offsets to cover all remaining emissions.

Municipalities are not covered under the province's mandatory requirements for carbon neutrality, but were offered the 'incentive' of partial carbon tax rebates to commit to carbon neutrality under the provincial Climate Action Charter. Municipalities have also been given more flexibility in terms of timing (2012, as opposed to 2010 for school districts) and more options in terms of how they reach neutrality targets.

In the case of school districts, emissions from buildings, vehicle fleets, energy and paper are included in the emissions calculations, while a wide range of emissions from transportation, commuting, building lifecycle and waste are not. Carbon offsets must be purchased from Pacific Carbon Trust, a Crown Corporation established by the government. Emissions must be calculated using SMARTTool, a carbon calculation software package

developed by the provincial government and provided to school districts (and other public sector bodies) for a fee.

School facilities make up the largest component of public building stock and thus represent one of the single largest opportunities for reducing real GHG emissions from provincial public sector operations.[3] However, the short initial timeframe to reach carbon neutrality and the scarcity of available funding mean that school districts will for the foreseeable future be required to purchase significant numbers of carbon offsets in order to be certified as carbon neutral. For 2010, the first year of carbon neutrality, BC school districts were required to purchase 176,672 tonnes of carbon offsets at a fixed price of $25 per tonne, for a total of $4.416 million. Money for these purchases comes from the same pool of operating funds school districts use to fund core services, such as instruction and regular building maintenance.

> EDUCATION FUNDING CONTEXT: School districts have limited resources for GHG emission reductions

These additional expenses related to carbon neutrality come at a time when schools are already facing significant funding shortfalls and budget challenges.

There are a number of reasons for this. In 2002, the provincial government changed the way it funds education in BC, moving from a program-and-cost based funding formula to a capped, student-based formula for the operating grants that make up the vast majority of the education budget in the province.[4] While on the surface this seems to be an equitable way to allocate funding across the numerous districts in BC, in reality it has resulted in education funding lagging behind increased costs. As noted in the Centre for Civic Governance report *When More is Less*, a majority of districts faced budgetary challenges in the 2008/2009 year; funding has not increased sufficiently to remedy the problem since that survey was carried out.

A key problem is that the province's per student funding formula does not recognize the fixed costs that do not fluctuate with enrollment numbers. If there are 22 students rather than 25 in the only Grade 4 class, the teacher's salary for that class does not change. Even when it is possible to amalgamate classrooms through the introduction of split classes, administrative and maintenance salaries still need to be paid and the school still needs to be heated and lit. BC Association of School Business Officials figures show that every lost student means $6,740 in reduced revenue from the province, but only about $3,000 in actual cost reductions for the district. So, in practice, every lost student means a net loss of more than $3,700 for the school district, over and above any savings.[5]

Further, while the province has provided grants to offset the cost of labour settlements that the province itself negotiates, these grants do not actually cover the full cost increase to the districts of these settlements. There are also unfunded cost pressures such as the increased cost of utilities, transportation, benefits, and inflationary cost increases on goods and services.[6] In addition, new responsibilities such as early learning and community literacy programs have been downloaded onto school districts without full funding. In May 2011, the province announced that it would no longer cover insurance premiums, adding a further $3 million in annual expenses to already stretched BC school district budgets.[7]

Cumulatively, the failure to fully fund rising education and operations costs amounts to a structural funding shortfall — consistently below the amount needed to maintain services at previous levels. By 2010/11, the BC Association of School and Business Officials estimated that BC school districts faced a funding shortfall of $300 million, which was only partially mitigated by funding increases that year.[8] While 2011/12 saw a slight increase in operating grants, this funding was allocated for the implementation of full-day kindergarten, and did not address the ongoing structural deficit.[9]

> Cuts to the Annual Facilities Grant

During the implementation period for carbon neutrality, the ongoing structural shortfall was compounded by cuts to the Annual Facilities Grant (AFG). The AFG is given to school districts by the provincial government and "intended for annual facility projects required to maintain facility assets through their anticipated economic life and prevent any premature deterioration of these assets."[10] AFG grants are used for a wide range of

projects repairs and improvements to school facilities, many of which result in significant energy savings and GHG reductions, including lighting, boiler replacements, and other upgrades to the heating, ventilation, and air conditioning (HVAC) systems in schools.

In August 2009, the BC government announced it would not be paying out the $110 million Annual Facilities Grant to school districts, triggering cutbacks in work usually funded with AFG money in districts across the province. As a sustainability report in one district noted in January 2010, "until such time as Annual Facility Grant funding is reinstated, the school district has no funding source available to improve its facilities in order to reduce its carbon footprint."[11]

While the government subsequently announced a 'restoration' of AFG funding in 2010, the amount of the 'restored' grant was spread over two years, effectively cutting AFG funding in half during the crucial period when school districts were expected to implement carbon reduction measures in school facilities. The AFG was fully restored for the 2011/12 year, but the unexpected $55 million gap in already stretched AFG funding during 2009/10 to 2010/11 likely undermined the capacity of school districts to reduce their own emissions in time for the 2010 deadline.

While a province-wide picture is not available, examples suggest significant impacts from the cuts to school districts' energy efficiency and carbon neutrality efforts. A February 2010 maintenance report to the Richmond School District reported that at least one major HVAC repair that would have reduced energy consumption was deferred because of shortfalls caused by AFG cuts and that replacement of aging boilers with high efficiency condensing boilers faced problems because of "lack of or limited AFG funding."[12] The Prince George School District deferred at least one ground source heat pump installation that would have cut annual emissions by 108 tonnes of CO2e and saved the district close to $20,000 in annual energy costs.[13] A number of school boards "lost grants awarded through Solar BC for solar water heating systems because they no longer had matching funds."[14]

Concerns have been raised that the restoration of the AFG in 2011/12 may be a one-time only grant, as the province set a precedent by funding the AFG through a capital contingency fund, rather than as a component of regular public schools funding.[15] If this proves to be the case, school districts could be locked in a vicious circle of capital underfunding that prevents them from undertaking key emissions reducing improvements. In this scenario, school district emissions could remain stuck at current levels or even increase as boilers and other infrastructure deteriorate, leading to further losses in operational funding as schools pay out increased carbon offsets to meet provincially mandated carbon neutral requirements.

> Giving with one hand: the Public Sector Energy Conservation Agreement...

To help the BC public sector move towards carbon neutral operations, in 2007 the province launched the Public Sector Energy Conservation Agreement (PSECA), a "three-year, $75 million investment to upgrade, retrofit or transform BC's public sector buildings." With over 6,500 schools, hospitals, government offices and other provincial public buildings in BC, PSECA money was spread relatively thinly across the province. Between 2008/09 and 2010/11, school districts received only about $6 million annually for HVAC upgrades, energy retrofits and other GHG reduction projects. BC school districts were required to offset 176,000 tonnes of carbon in 2010, and more than 729,000 tonnes of carbon offsets were purchased by the public sector as whole. The journal of the School Plant Officials of BC estimated in 2011 that there are "very likely at least $300 million worth of investments in comprehensive emissions reductions measures in BC's K–12 facilities" that would be a better investment than ongoing spending on carbon offsets.[16]

> ...and taking away with the other: Carbon offsets and the Pacific Carbon Trust

PSECA was a modest, if under-resourced, step in the right direction within the "reduce" component of the provincial carbon neutrality framework. While PSECA provided $25 million for building retrofits and other

emissions reductions projects in 2010, mandatory carbon offset purchases for the same year funneled more than $18.2 million out of the public sector, channeling most of that money into private sector projects funded by Pacific Carbon Trust.

Viewed from this angle, the province's mandatory offset requirements clawed back 70 per cent of the funding provided through PSECA, leaving a net inflow of funds available for actual emissions reductions in the public sector of less than $7 million. If the public sector had been allowed to apply the funds used for carbon offsets to actual emissions reductions in their own operations, they would have increased the environmental and economic benefits of PSECA by more than 70 per cent.

This impact was even more pronounced in the education sector, where the $4.4 million paid out by districts as carbon offsets was almost 75 per cent of the amount that came into the sector through PSECA. In addition, school districts were forced to pay for SMARTtool, the provincial government's carbon accounting software at a cost of $0.82 per student, for an estimated total of $456,000 (based on 2010 enrolment numbers). Administrative costs and labour related to carbon neutral requirements added a further burden to school district budgets.

If money paid out for offsets and SMARTtool was kept within the public school system and combined with the $6 million in PSECA funding for 2010/11, BC school districts would have had $10.8 million to improve the emissions profile of their own operations. Instead, clawbacks through offsets and SMARTtool meant that even after PSECA funding, BC school districts were only $1.1 million better off in 2010/2011. Put another way, only 55 per cent of provincial funding allocated for climate change mitigation by school districts actually addressed school district climate change drivers or reduced their real carbon footprint.

> Carbon offset purchases diverted $4.4 million from BC school district operations in 2010

From the perspective of school districts, money paid for offsets is a reduction in funding available for regular operating expenses, including both education delivery and measures that could reduce the carbon footprint of public education. In total, mandatory carbon offsets purchased through Pacific Carbon Trust siphoned $4.4 million out of school district operating budgets for 2010. Surrey School District had the highest offset expenses for the year, paying out almost $500,000; Vancouver was not far behind, at $406,000. Twelve BC school districts paid out more than $100,000 in offsets in 2010, many in Metro Vancouver, but also districts in Greater Victoria, Prince George, Kamloops/Thompson and the Central Okanagan. Many of these districts were at the same time already struggling to keep schools open or carry out badly needed upgrades of facilities. Currently, the Pacific Carbon trust plans to raise offset prices to $30 per tonne by 2012. This will only exacerbate the drain of public dollars from schools without reducing the amount of carbon they generate.

TABLE 1: GIVING WITH ONE HAND, TAKING WITH THE OTHER: IMPACT OF PSECA SPENDING ON SCHOOL DISTRICT EMISSIONS REDUCTIONS UNDERMINED BY CARBON OFFSET AND SMARTTOOL REQUIREMENTS

Total PSECA funding for BC school districts in 2010	$6,000,000
Mandatory carbon offset purchases by BC school districts for 2010	($4,416,798)
SMARTtool costs for BC school districts (estimated total)	($456,485)
Net provincial funding inflow for carbon emissions reductions projects in all BC school districts for 2010	$1,126,717

> Public funding funneled to private corporations

Compounding the problem from a public policy perspective, mandatory offset payments made by school districts and other taxpayer-funded public service providers went to subsidize projects in profitable private sector corporations (see Table 2). Offset purchases listed in Pacific Carbon Trust's "2010 Carbon Neutral Government Portfolio" included $2.1 million worth of offsets to help Alberta-based natural gas giant Encana improve its drilling operations, $575,000 worth of offsets to subsidize fuel switching at a cement plant owned by the French multinational Lafarge, and more than $1 million worth of offsets to subsidize energy efficiency and fuel switching in the operations of the multi-billion dollar Canfor corporation. See Appendix 1 (p. 19) for a list of companies that sold offsets included in PCT's "2010 Carbon Neutral Government Portfolio."

> School districts not permitted to sell offsets to fund their own emissions reductions projects

At the same time, school districts are not permitted to develop and sell offsets to help finance their own carbon reduction projects. While no estimates are available on the potential for revenue generation through offset projects in the BC education sector, an example from a BC First Nations school operating outside the public system points to ways offsets could help schools raise capital for emissions reductions projects that would not otherwise go ahead.

The Sk'elep School of Excellence, a K–7 school for First Nations students in Kamloops, BC, used carbon offset sales via the BC-based Offsetters brokerage to help fund the installation of a ground source heat pump that reduces carbon emissions by about 100 tonnes per year over 15 to 20 years and reduces heating and cooling costs by 75 per cent.[17] At Offsetters' retail price of $20 per tonne, this represents $30,000 to $40,000 worth of carbon offsets generated by a single project at a small elementary school over the 15 to 20 year life of the system. Applied on a grander scale, offset sales by BC school districts could raise millions of dollars to fund GHG reduction improvements that would otherwise not be possible.

> Pacific Carbon Trust offsets: Good value for money?

As noted, school districts are forced to purchase all carbon offsets from Pacific Carbon Trust — but it's not clear that Pacific Carbon Trust offers good value for money. PCT charges a fixed rate of $25 per tonne, which includes a markup to cover its own operating expenses. While the PCT does not publicly disclose the price it pays for specific offsets, PCT documents state that crown corporation purchases offsets wholesale in the band of $10 to $20 per tonne; it then resells to the public sector at a fixed price of $25 per tonne.[18] This means that between $5 and $15 of the $25 paid for every tonne of offsets purchased by school districts actually goes to PCT itself. If this is the case, then at least $880,000 and possibly over $2 million of the $4.4 million in offsets paid by BC school districts went to PCT as 'markup.'[19]

And it's possible the markup may in some cases be even higher than indicated by PCT. An investigation of a major forestry offset project that made up 55 per cent of PCT's "2010 Carbon Neutral Government Portfolio" calculated that PCT may have paid only $5.70 per tonne

TABLE 2: POTENTIAL SAVINGS FROM PURCHASING CARBON OFFSETS FROM SUPPLIER OTHER THAN PACIFIC CARBON TRUST	
Total cost of offsets purchased by BC school districts from PCT at $25/tonne	$4,416,798
Total retail price of equivalent offsets if purchased from another provider at $20/tonne	$3,533,440
Potential savings for BC school districts by using an offset provider other than PCT	$883,358

for these offsets, which were resold to the BC public sector at $25 tonne.[20] If these calculations are correct, PCT's markup from schools is close to $2.6 million, or higher.[21]

Why PCT's markup is this high is not entirely clear. Equivalent quality offsets — and in some cases the very same offsets — are often less expensive through other suppliers. BC-based brokerage Offsetters, for example, charges $20 per tonne *retail* for general portfolio offsets to individual consumers, and is in fact the 'wholesale' broker for many of the offsets that are resold by PCT.

Also unclear is the province's rationale for forcing school districts and public sectors to purchase from a single offset provider that sells above standard market rates. A logical reason to establish a crown corporation to sell offsets to the public sector could be to pool public resources and realize economies of scale in order to reduce the price of offsets purchased with public funds. Instead, public funds are pooled to purchase offsets at a price above the going market rate.[22]

This problem is likely to get worse. PCT plans to raise prices for offsets sold to the public sector to $30 per tonne in 2012. If school districts are not provided with resources to make significant emissions reductions, their total annual offset bill at these prices will rise to $5 million or more. This rate hike is particularly problematic given that global carbon offset prices dropped steeply during 2011. Prices on benchmark "certified emissions reductions" carbon offsets fell as low as 7.40 Euros (CAD$10.28) in August 2011.[23]

> What could $4.4 million mean if used to support emissions reductions and energy cost savings in schools?

To put this loss into perspective, it's worth looking at what kinds of things $4.4 million could do to improve energy efficiency and reduce emissions in BC school districts. Publicly available data on school energy efficiency upgrades — in some cases data used to promote the projects funded by the provincial government through PSECA — allow us to calculate some illustrative examples.

- With $4.9 million funding via PSECA and Fortis BC (that's about the same amount as BC schools districts paid in offsets and SMARTtool expenses for 2010), the Delta School District is transforming energy systems in 19 schools, installing geothermal exchange systems, solar thermal hot water projects, high efficiency condensing boilers at eight sites, and replacing mechanical infrastructure at 11 sites to accept the geothermal technology. The improvements are expected to save the district $500,000 in energy costs each year, and reduce district emissions by 37 per cent compared to 2007.[24]
- For $465,000 (half from the district, half from the province), School District 54 installed high efficiency boiler systems in two secondary schools, and reduced energy use to 50 per cent.[25] $4.4 million could fund at least nine similar scale projects at full cost, or 18 if costs were shared between the district and province. Extrapolating from the SD54 experience, this could mean significant improvements in 18 to 36 schools.
- For $100,000 per school, Surrey School District is outfitting a number of schools with "solar walls" that heat outdoor air as the air enters the gym ventilation system. This technology will lead to about $9,000 in energy savings annually for each installation, and pay for itself within 11 years.[26] $4.4 million would pay for 44 of these installations and save about $400,000 annually at current energy prices.

> Opportunity cost

Carbon neutral requirements as currently structured undermine efforts to achieve real reductions from school district operations by draining funds that could be applied to install better technology. It's a Catch 22 — or in this case, Catch $25. Money needed to install equipment is instead used to pay for offsets, which are larger in number than they would be if the equipment was installed. The provincial government estimates that the $75 million in upgrades funded through PSECA have lead to annual savings of $12.6 million.[27] Assuming a similar spending to savings ratio, the $4.4 million school districts spent on offsets, spent on energy efficiency projects instead, would mean school districts could expect $740,000 in annual savings on energy expenses — money that could in turn be channeled back into further improvements in energy efficiency and carbon reductions. A $4.4 million investment would also lead to an annual reduction of 2,100 tonnes, or just over 1 per cent of total BC school district emissions in 2010.

Solutions

Strategies for a low carbon and financially sustainable K–12 sector

BC needs to look for emission reduction approaches that are both environmentally effective and efficient uses of public resources. In the case of school districts, restoring operations and capital funding to adequate levels will be crucial. In addition, there are a range of policy options that could help reduce public sector emissions and even save public money through increased energy efficiency. Some of these policies are already in place in other jurisdictions. As shown in the case studies (pages 16 and 17), both the United Kingdom and the Australian state of New South Wales are pursuing paths to public sector carbon neutrality that prioritize actual reductions in emissions from operations rather than carbon offsets, and, closer to home, the province of Alberta provides a model for school districts energy efficiency financing that could help BC school districts cut GHG emissions and reduce energy bills.

1. Provide adequate, stable funding for school districts

BC school districts face ongoing education funding shortfalls. In this context, school districts have faced challenges delivering core services and essential maintenance of buildings and facilities. At least 176 public schools in BC have closed since 2001.[28] Ensuring adequate, stable funding for schools is essential if schools are to take on the additional challenge of carbon neutral operations.

While the broader issue of school district funding requires a more detailed analysis that is beyond the scope of this report, we can suggest some key starting points.

Guarantee a full, permanent restoration of the Annual Facilities Grant

Cancellation of the Annual Facilities Grant in 2009 pushed many BC school districts into budget shortfalls and created uncertainty for future maintenance projects. And as noted, the 'restoration' of the AFG in 2010 amounted to cutting the grant in half for two years, draining more than $50 million from budgets schools used to maintain and upgrade facilities. While the AFG has been restored to pre-2009 levels for the most recent year, concerns have been raised that AFG is not being treated as a regular budget item and could be cut again.[29] A guaranteed AFG would be a good first step in providing schools with the resources they need to plan maintenance projects, retrofits and other measures that improve the emissions profile and energy efficiency of district buildings and facilities.

Revise the funding model and formula for BC school districts

The current provincial funding model does not provide districts with enough resources to keep up with rising

costs of education delivery. Funding needs to be allocated with future needs in mind, so that districts aren't faced with a shortage of classroom space and facilities when enrolment rises again, as forecast in ministry documents.

Fully fund the cost of provincial requirements

The province needs to fully fund new requirements imposed on school districts. Recent imposed requirements, such as the SMARTtool software used for calculating carbon emissions, drain education dollars from district operating budgets.

Provide a stable, multi-year funding envelope to finance public sector carbon neutrality

Projects funded through PSECA provide examples of the kinds of emissions reductions, cost savings through energy efficiency and improvements in school district facilities possible when funding is provided. Unfortunately, PSECA involved too little money over too short a time period for these benefits to be realized on a major scale across the province.

A scaled-up program involving more funding and a longer timeframe could significantly reduce emissions, cut public sector energy costs and improve the comfort of our schools and public buildings. Ongoing investment in public sector energy efficiency and renewable energy retrofits would not only save public dollars on utility costs (in some cases enough to pay for the initial costs of construction), but could also act as a significant economic stimulus, creating employment opportunities in trades, construction and manufacturing across the province.

2. Shift offsets to real reductions in BC public sector emissions

BC's carbon neutral public sector initiative is out of step with policy recommendations from leading international organizations, which emphasize actual reduction of public sector emissions until those opportunities are largely exhausted.

ICLEI-local Governments for Sustainability, an international association of more than 1,200 local governments committed to sustainable development, write in their "Framework for Carbon Neutrality" that "emissions reductions, and not offsets, should be the prime focus of local governments in their climate or carbon neutral approach."[30] The ICLEI framework recommends that offsets "should only be used to offset residual emissions, rather than being used as the primary approach to climate or carbon neutrality." Instead, "ICLEI recommends that local governments defer the purchase of offsets until major emissions reduction investment opportunities have been implemented." The United Nations Environmental Program (UNEP) handbook on carbon neutrality similarly states that real emissions reductions should be prioritized over offset purchases.[31] See case studies on page 16 for examples of policies that have supported this approach in other jurisdictions.

To the extent that offsets are used, ICLEI suggests that "priority offsets should be those under municipality control or ownership," and governments may want to purchase "offsets from projects that bring financial or social benefits to their own local community." ICLEI also points out political problems associated with public sector offset purchases that don't benefit the community, and warns that these problems could undermine the long-term sustainability of emissions strategies overly reliant upon offsets. As ICLEI's framework notes, "the on-going purchase of offsets relies on continuing political support and this can be hard to justify for an expense that may not be perceived to provide a financial return to the municipality."

3. Establish a climate action fund to pool money currently paid out as carbon offsets into a fund for real reductions in school district GHG emissions

Another policy option is a 'climate action fund' for the public education sector, in which school districts pay amounts equivalent to offsets, but the funds are kept for investment in projects that reduce GHG emissions.[37]

This type of fund would need clear guidelines, regulations and structures to ensure the quality of projects and criteria for prioritizing projects (e.g. what types of priorities are funded and what percentage goes to each district).

Real reductions before carbon offsets

Alternative approaches for encouraging GHG reductions in the public sector

The British model: the UK Carbon Trust and Salix energy efficiency financing

The UK Carbon Trust and related Salix financing system provide a good example of a model that prioritizes and provides support for real reductions in public sector carbon emissions. The UK Carbon Trust is a not-for-profit company set up by the UK government with a mission to accelerate the move to a low carbon economy. It provides support to help business and the public sector "cut carbon emissions, save energy and commercialize low carbon technologies." Salix is a non-profit social enterprise established through the Carbon Trust for financing energy efficiency and GHG reduction measures in UK public sector bodies.

The UK model combines a range of advisory and support services with an innovative financing model to help public sector organizations implement energy efficiency and emissions reductions projects that save money for public organizations and UK taxpayers.

Collaborative Low Carbon Schools Service

The UK Carbon Trust includes a specific program for schools — the Collaborative Low Carbon Schools Service — which provides seven key steps to effective school carbon management, while offering a flexible approach so that authorities can set and achieve their own goals for carbon reduction. One of the services offered is a carbon survey to identify quick and effective ways to reduce energy waste schools, which has helped participating authorities cut school energy costs by an average of 20 per cent. For 2011/12, the program aims to help local authorities identify at least £40 million (CAD$65.4 million) in annual costs savings.

The Salix financing model: 'Pay as you save'

Salix provides a mixture of loans and grants coupled with technical, organizational and project management support. Since 2004 Salix has engaged with 500 public sector bodies and funded over 4,000 projects, with saved energy valued at £85 million (CAD$139 million).[32]

The core program offered through Salix is a type of revolving loan fund, where municipalities and other public sector organizations pay back loans for energy efficiency projects through savings on energy costs.

Following the principle of 'additionality' in carbon offsets, Salix finances public sector capital projects that couldn't be completed without an additional infusion of capital. Public sector bodies must put up at least 50 per cent of project funding themselves, and Salix matches with a loan at a favourable rate. The money is kept in a 'ring fenced fund,' and repayments are paid back into the fund and continuously recycled, creating funds to sustain a rolling program of projects. The client can continue to recycle energy savings returned to the fund into more projects, and money is returned to Salix only when no more suitable projects can be found.

One example of the UK Carbon Trust/Salix approach is Warwickshire County Council. Warwickshire holds a Salix recycling fund of £600,000 (CAD$981,000), and has used this to fund a range of projects across local services, including schools. Salix financed projects are expected to save Warwickshire County more than £2 million (CAD$3.27 million) and 11,578 tonnes of CO_2 over their lifetime.[33]

New South Wales, Australia

The state government of New South Wales (NSW) in Australia is another example of public sector carbon neutrality that prioritizes real reductions in emissions.

Rather than setting a short timeline that would almost inevitably lead to high offset purchases, the NSW government in 2008 set a target of public sector carbon neutrality by 2020, giving public sector bodies time to implement real emissions reductions in their own operations. Under the NSW framework, offset purchases will not even be considered until 2014 (year six of the plan), and only then after "all other means of reducing emissions have been put in place." If offsets do become part of the NSW plan, they would not be required until 2020, year 12 of the program.[34]

Alberta: Allowing school districts to borrow against future utility savings to finance energy efficiency/ emissions reductions retrofits

Closer to home, Alberta provides a perhaps unexpected example of a more effective approach to emissions reductions in schools.

While a ministry debt cap prevents BC school districts from borrowing against avoided utility costs, Alberta allows its school districts to borrow against contractor-guaranteed energy savings for up to 20 years.[35] This provides a source of financing districts can access to implement capital projects that save energy (and also reduce emissions). As noted in a BC School Plant Officials newsletter, this means that even though the Alberta government puts less emphasis on climate change mitigation, it has given its school districts a better tool for reducing emissions from district operations than has the BC government.[36]

4. Allow BC school districts to develop and sell carbon offsets

School districts in Ontario can develop and sell offsets. In 2010, the Toronto District School Board signed an offset deal with the Greening Canada Fund, which provides carbon credits to large corporate clients such as BMO Financial Group. It will earn the district $1.7 million over the five year contract.

5. Expand the scope of the Carbon Neutral Public Sector mandate to incorporate 'Scope 3' emissions, and allow reductions in Scope 3 emissions to offset emissions in Scopes 1 and 2

BC's "carbon neutral government" mandate currently covers mainly Scope 1 (direct) and Scope 2 (indirect, from purchased energy) emissions. The only Scope 3 (other indirect) emissions covered are those from business travel (for the core government only) and use of paper.

In a case study of the UBC Vancouver campus, researchers from the UBC Sauder School of Business and Pacific Institute for Climate Solutions (PICS) found that Scope 3 emissions not covered under carbon neutral government requirements — such as commuting, staff and faculty travel and embodied impacts of buildings and infrastructure — accounted for about 47 per cent of total campus GHG emissions. Extending the carbon neutral mandate to include reporting of more Scope 3 emissions would achieve a wider reach (including even parts of the public sector supply chain) and open up more opportunities for emission reductions. The Australian state of New South Wales already includes a range of Scope 3 emissions in its carbon neutral government mandate, including business travel emissions for all government agencies, waste and outsourced activities.[38]

Based on this analysis, the PICS study recommends that the BC government:

- Make it mandatory for public sector organizations (PSOs) to assess and report all relevant and significant Scope 3 emissions, including emissions from employee business travel, employee commuting, building lifecycle and

outsourced activity/contracts previously performed by the organization;

- Not require these additional Scope 3 emissions to be reduced or offset, unlike Scope 1 and Scope 2 emissions currently; and
- Allow PSOs to use their Scope 3 emission reductions as offsets, provided these meet the quality standards for offsets.

6. Allow municipalities to use investments in schools as offset equivalents

Under new guidelines for local government carbon neutrality commitments, BC municipalities have been given a much more flexible range of options for offsets, including approved community GHG reduction projects that are outside the boundary of local government corporate operations. While the draft regulations are unclear as to whether municipalities could invest in local schools, we propose that they be explicitly permitted to do so.

7. Give school districts alternative offsetting options, as proposed for BC municipalities

Under the 2011 Green Communities Carbon Neutral Framework, local governments have been provided with multiple options for offsetting missions and are not required to buy through the Pacific Carbon Trust. Local governments are also not required to purchase SMARTtool, and can use an equivalent methodology, including free and open source software.

Extending similar flexibility to school districts could help districts reduce emissions in local communities and/or realize costs savings by turning to suppliers other than PCT.[39]

Local governments have negotiated three carbon offsetting/balancing options within the framework. All involve purchasing forms of carbon offsets outside the local government's corporate operations, but open up possibilities for community investment and choice not currently possible for school districts. As noted in the province's own toolkit for municipalities, these alternative approaches to offsetting "enable communities to invest in local projects that have broader community benefits, such as supporting green jobs and technological innovation, conserving energy, reducing operating costs, enhancing community sustainability, and raising public awareness regarding climate change."

Balancing and offsetting corporate GHG emissions: three options for local governments

(from Becoming Carbon Neutral: A Guidebook for Local Governments in BC, July 2011)

- Option 1 allows local governments to invest locally in provincially approved emission reduction projects, including energy efficient building retrofits / fuel switching, solar hot water, household organic waste composting, and low emission vehicles.
- Option 2 recognizes that local governments will have additional ideas (beyond Option 1) for measurable emission reduction projects that could be undertaken outside their corporate emissions boundary.
- Option 3 allows local governments to purchase offsets from a credible provider (not limited to PCT).

Keep public sector offset purchases focused on socially responsible outcomes

Another option is to ensure that all publicly funded offsets are used to support socially responsible outcomes. For example, the UK's Government Carbon Offsetting Facility, the agency responsible for supplying voluntary carbon offsets to the UK public sector, purchases only high quality, certified 'Gold Standard' offsets that fund sustainable development projects in developing countries.[40] While this type of option would not provide direct benefits to BC schools, it would ensure that public money is funding socially responsible projects for offsetting global GHG emissions.

APPENDIX 1: WHERE THE MONEY WENT: CARBON OFFSETS INCLUDED IN PCT'S 2010 "CARBON NEUTRAL PUBLIC SECTOR" PORTFOLIO			
Economic sector and total retail value of offsets sold to BC public sector	**Company or organization**	**Company's total assets in 2010**	**Amount paid by public sector for offsets from company/organization**
Forestry, pulp and paper: $3,621,250	TimberWest	$1.275 billion	$790,525
	Kruger Products	Information on assets not available, but likely in the billions of dollars. Kruger is a major producer of publication papers, tissue, lumber and other wood products, corrugated cartons from recycled fibres, green and renewable energy, and wines and spirits.	$398,800
	Neucel Specialty Cellulose (owned by Wellspring Capital Management in 2010, but purchased by Fulida Group Holdings Ltd. of China in February 2011)	Wellspring manages more than $3 billion of private equity capital. Fulida Group claims assets equivalent to at least CAD$7.7 billion	$774,650
	Canfor	$ 2.778 billion	$1,039,325
	Interfor	$611.9 million	$618,150
Oil and gas: $3,112,075	Encana Corp.	$34 billion	$2,106,900
	Canadian Natural Resource Ltd. (CNRL) & Apache Canada	CNRL: $42.669 billion Apache Corp: $43.425 billion	$1,005,175
Tourism and recreation: $71,950	Sun Peaks Resort Corporation (subsidiary of Nippon Cable Co.)	Financial information on parent company Nippon Cable Co. is not available, but Nippon Cable is a major manufacturer and installer of such products as circulating gondola lifts, chair lifts, funiculars, car parking systems, ramp elevators, and amusement park rides. It also hold investments in a number of major resort properties.	$71,950
Cement manufacturing: $574,950	Lafarge	$62.49 billion	$574,950
Agriculture: $786,325	Sun Select Farms and Katatheon Farms	Information not available	$786,325
Non-profit (forestry management/conservation): $10,077,800	Nature Conservancy of Canada (non-profit conservation group)	$543.36 million	$10,077,800
Source: Pacific Carbon Trust, "2010 Carbon Neutral Government Portfolio," June 2011. Web: http://www.pacificcarbontrust.com/LinkClick.aspx?fileticket=qtYRzCFf348=&tabid=164			

APPENDIX 2: BC PUBLIC SECTOR GREENHOUSE GAS EMISSIONS AND OFFSET INVESTMENT, BY SCHOOL DISTRICT			
School district	Total emissions (tonnes)	Total offsets purchased (tonnes)	Offset investment (dollars)
School District 05 Southeast Kootenay	3,355	2,717	67,914
School District 06 Rocky Mountain	2,220	1,656	41,397
School District 08 Kootenay Lake	2,651	1,903	47,570
School District 10 Arrow Lakes	403	310	7,761
School District 19 Revelstoke	463	367	9,166
School District 20 Kootenay-Columbia	2,367	1,932	48,300
School District 22 Vernon	3,403	2,617	65,431
School District 23 Central Okanagan	6,405	5,119	127,965
School District 27 Cariboo-Chilcotin	4,688	3,397	84,921
School District 28 Quesnel	2,405	1,657	41,422
School District 33 Chilliwack	2,678	2,255	56,368
School District 34 Abbotsford	4,816	3,829	95,726
School District 35 Langley	6,433	5,845	146,122
School District 36 Surrey	20,102	19,876	496,892
School District 37 Delta	4,061	4,009	100,235
School District 38 Richmond	7,554	7,295	182,387
School District 39 Vancouver	16,258	16,244	406,094
School District 40 New Westminster	2,006	2,005	50,130
School District 41 Burnaby	6,014	6,007	150,175
School District 42 Maple Ridge	3,512	3,506	87,656
School District 43 Coquitlam	9,390	9,342	233,545
School District 44 North Vancouver	4,728	4,579	114,484
School District 45 West Vancouver	1,569	1,568	39,199
School District 46 Sunshine Coast	1,115	1,110	27,744
School District 47 Powell River	1,353	1,144	28,602
School District 48 Sea To Sky/Howe Sound	1,998	1,818	45,461
School District 49 Central Coast	403	344	8,606
School District 50 Haida Gwaii	863	848	21,196
School District 51 Boundary	1,064	828	20,688
School District 52 Prince Rupert	1,010	989	24,730
School District 53 Okanagan Similkameen	1,069	872	21,790

School district	Total emissions (tonnes)	Total offsets purchased (tonnes)	Offset investment (dollars)
School District 54 Bulkley Valley	1,296	918	22,941
School District 57 Prince George	6,585	6,573	164,333
School District 58 Nicola-Similkameen	1,192	974	24,355
School District 59 Peace River South	3,751	2,863	71,578
School District 60 Peace River North	4,145	2,879	71,984
School District 61 Greater Victoria	6,096	6,082	152,040
School District 62 Sooke	2,892	2,306	57,649
School District 63 Saanich	2,181	1,793	44,832
School District 64 Gulf Islands	327	216	5,388
School District 67 Okanagan Skaha	1,933	1,814	45,356
School District 68 Ladysmith	4,456	3,912	97,805
School District 69 Qualicum	2,201	1,707	42,677
School District 70 Alberni	1,646	1,437	35,916
School District 71 Comox Valley	2,499	2,463	61,584
School District 72 Campbell River	2,652	2,279	56,975
School District 73 Kamloops/Thompson	5,846	4,260	106,496
School District 74 Gold Trail	1,183	776	19,400
School District 75 Mission	2,314	1,934	48,338
School District 78 Fraser-Cascade	1,085	871	21,766
School District 79 Cowichan Valley	3,441	2,643	66,068
School District 81 Fort Nelson	699	694	17,356
School District 82 Coast Mountains	2,548	2,533	63,320
School District 83 North Okanagan-Shuswap	3,537	2,471	61,784
School District 84 Vancouver Island West	202	181	4,514
School District 85 Vancouver Island North	788	656	16,392
School District 87 Stikine	485	485	12,129
School District 91 Nechako Lakes	3,641	2,578	64,453
School District 92 Nisga'a	107	88	2,196
School District 93 Conseil Scolaire Francophone	2,300	2,300	57,504
School district total	**198,387**	**176,672**	**4,416,798**

Note: Individual tonnes and dollar values are rounded to the nearest whole number, therefore individual numbers may not equal total values.
Source: Carbon Neutral B.C. – Transforming B.C.'s Public Sector LiveSmart BC, http://www.livesmartbc.ca/attachments/carbon_neutral_action_reports/CarbonNeutralBC-transformingBCpublicsector.pdf

Notes

1 See definition in Merriam-Webster online dictionary at http://www.merriam-webster.com/dictionary/catch%2022

2 BC Ministry of Environment, "Carbon-neutral B.C.: A first for North America," Press Release, June 30, 2011. Web: http://www2.news.gov.bc.ca/news_releases_2009-2013/2011ENV0032-000805.htm

3 Doug Wall, "Climate Action: Leading by example," SPOA BC Ops Talk, Spring 2011, pp. 18-19. As a sector, school districts were just slightly behind health authorities and accounted for 24.4 per cent of public sector emissions in 2010.

4 Heather Fussell and Charley Beresford, "When More is Less," Centre for Civic Governance, 2009. p. 2. Web: http://www.civicgovernance.ca/publications/when-more-less

5 John Malcolmson (Research Representative, CUPE BC Region), "Highest funding ever? Why a funding crisis for BC school districts?," Presentation to SD 41 (Burnaby), February 2, 2011.

6 Fussell and Beresford, supra note 4, p. 10.

7 Janet Steffenhagen, "Some "added pressure" for BC school districts," Report Card (Blog on Vancouver Sun website), May 15, 2011. Web: http://communities.canada.com/vancouversun/blogs/reportcard/archive/2011/05/15/some-quot-added-pressure-quot-for-bc-school-district-budgets.aspx

8 BC Association of School Business Officials, "2010/11 estimated cost and funding pressures," (December 2009) as quoted in Margaret White, "Budget Update: Budget 2011 not enough to resolve funding crisis," BCTF Research Report, February 2011. Web: http://www.bctf.ca/publications.aspx?id=5630

9 Margaret White, "Budget Update: Budget 2011 not enough to resolve funding crisis," BCTF Research Report, February 2011. Web: http://www.bctf.ca/publications.aspx?id=5630

10 BC Ministry of Education, "Policy Document: Annual Facility Grant," Ministry of Education website. Web: http://www.bced.gov.bc.ca/policy/policies/annual_fac_grant.htm

11 School District No. 57 (Prince George), "District Sustainability Committee Report," January 19, 2010. Web: http://www.sd57.bc.ca/fileadmin/cao.sd57.bc.ca/District_Info/Reports/2010.01.19_DSC_Report.pdf

12 Joel Canlas (Assistant Manager Maintenance, SD 38), "Re: School District #38 (Richmond) HVAC Report January 2010," SD 38 Maintenance Department, February 3, 2010. Web:

13 SD 57, "Proposed upgrade—ground source heat pump, Carney Hill Elementary School," MSUP Application, August 26, 2010.

14 Marc Lee, *Fair and Effective Carbon Pricing: Lessons from BC*, CCPA–BC and Sierra Club, February 2011, p. 22. Web: http://www.policyalternatives.ca/sites/default/files/uploads/publications/BC%20Office/2011/02/CCPA-BC_Fair_Effective_Carbon_FULL_2.pdf

15 Margaret White, "Budget Update: Budget 2011 not enough to resolve funding crisis," BCTF Research Report, February 2011. Web: http://www.bctf.ca/publications.aspx?id=5630

16 Doug Wall, "Climate Action: Leading by example," SPOA BC Ops Talk, Spring 2011, pp. 18-19.

17 Offsetters, "Sk'elep School of Excellence," Offsetters website, accessed July 16, 2011. Web: http://www.offsetters.ca/offset-projects/by-country/school-of-excellence

18 Pacific Carbon Trust, "Pacific Carbon Trust Growing BC's Green Economy" (presentation slides), January 2010. Web: http://www.pacificcarbontrust.com/LinkClick.aspx?fileticket=Pl5rkzkaOiI%3D&tabid=124&mid=573)

19 Author's calculations based on wholesale price of $10 to $20 per tonne identified in the Pacific Carbon Trust presentation "Pacific Carbon Trust Growing BC's Green Economy" (presentation slides), January 2010. Web: http://www.pacificcarbontrust.com/LinkClick.aspx?fileticket=Pl5rkzkaOiI%3D&tabid=124&mid=573)

20 Ben Parfitt, "Darkwoods, the murky world of carbon credits and a 'carbon neutral' B.C. government," CCPA Policynote, July 15, 2011. Web: http://www.policynote.ca/darkwoods-the-murky-world-of-carbon-credits-and-a-%E2%80%9Ccarbon-neutral%E2%80%9D-b-c-government/

21 Author's calculation based on Parfitt's estimated price of Darkwoods offsets (55 per cent of PCT's 'Carbon Neutral Public Sector Portfolio' and the middle point of the "$10–20 band" paid by PCT for other offsets, as cited in a PCT presentation (offsets other than Darkwoods accounted for 45 per cent of the 'Carbon Neutral Public Sector Portfolio'): (55% of 176,672 offsets * @ markup of $19.30 = $1,875,373) + (45% of 176,672 offsets * @ markup of $10 = $795,024) = total of $2,670,397.

22 It should be noted that while schools districts are refunded for carbon tax payments, many other BC public sector bodies are in effect paying twice the price of private sector for carbon: $25/tonne carbon tax plus mandatory carbon offset purchases at $25/tonne means they are paying a $50/tonne carbon price (see Lee, supra note 14).

23 Gerard Wynn and Nina Chestney, "Carbon offsets near record low, worst performing commodity," Reuters, August 5, 2011. Web: http://www.reuters.com/article/2011/08/05/us-carbon-low-idUSTRE77442920110805?feedType=RSS&feedName=environmentNews&utm_source=feedburner&utm_medium=feed&utm_campaign=Feed%3A+reuters%2Fenvironment+%28News+%2F+US+%2F+Environment%29&utm_content=Netvibes

24 Delta Board of Education, 2010 Carbon Neutral Action Report, Delta School District website. Web: http://maint.deltasd.bc.ca/sustainability/documents/FINAL_DeltaBoardOfEducation_2010_CNAR.pdf and Government of BC, Carbon Neutral B.C. — Transforming B.C.'s Public Sector, Livesmart BC Website, July 2011. Web: http://www.livesmartbc.ca/attachments/carbon_neutral_action_reports/CarbonNeutralBC-transformingBCpublicsector.pdf

25 Rikki Schierer, "Boiler upgrade to help efficiency," Smithers Interior News, April 5, 2011. Web: http://www.bclocalnews.com/bc_north/interior-news/news/119197504.html

26 "Surrey high schools go green with solar panels," Civic Surrey website, February 11, 2011. Web: http://www.civicsurrey.com/2011/02/11/surrey-high-schools-go-green-with-solar-panels/

27 BC Ministry of Environment, Climate Action Secretariat, "Public Sector Energy Conservation Agreement." Web: http://www.env.gov.bc.ca/cas/mitigation/pseca.html

28 BCTF, "School Closures home page," 2011. Web: http://bctf.ca/SchoolClosures.aspx

29 White, supra note 15.

30 ICLEI European Secretariat, *A Framework for Climate or Carbon Neutrality for Local Governments*, ICLEI-Local Governments for Sustainability website, March 2011. Web: http://toolbox.climate-protection.eu/fileadmin/templates/toolbox-climate-protection/scripts/energyformayors_resources/_tools/put_file.php?uid=701af7f9

31 Alex Kirby et al., *Kick the Habit — A UN Guide to Climate Neutrality,* United Nations Environment Programme, 2008. Web: http://www.unep.org/publications/ebooks/kick-the-habit/

32 See Salix Finance Ltd. website, 2011. Web: http://www.salixfinance.co.uk/

33 "Local Authorities Case Studies," Salix Finance Ltd. website, 2011. Web: http://www.salixfinance.co.uk/local_authorities_case_studies.html

34 Department of Environment and Climate Change NSW, Australia, *NSW Government Sustainability Policy*, accessed July 8, 2011. Web: http://www.environment.nsw.gov.au/resources/government/08453SustainabilityPolicy.pdf

35 Enid Slack, "Capital Funding for Schools: A Report prepared for the Toronto District School Board," April 20, 2010. Web: http://www.tdsb.on.ca/wwwdocuments/about_us/budget_information/docs/November%201%20Enid%20SlackResearch_Report.pdf

36 Wall, supra note 3, pp. 18-19.

37 The Vancouver Elementary School Teachers' Association (VESTA) and others have proposed precisely this type of option — see Chris Harris (VESTA President), Letter to Vancouver Board of Education, May 12, 2010.

38 Kim Lau and Hadi Dowlatabadi, "Expanding the scope of British Columbia's 'carbon neutral government' mandate," Briefing Note 2011 – 31, ISIS, Sauder School of Business, UBC and Institute for Climate Solutions (PICS), March 17, 2011.

39 Government of BC and UBCM, *Becoming Carbon Neutral: A Guidebook for Local Governments in BC* (Version 2). July 2011. Web: http://toolkit.bc.ca/sites/default/files/CNLG%20Final%20July%202011_V2.pdf

40 Government of UK Department of Energy and Climate Change, "The Government Carbon Offsetting Facility" webpage, 2011. Web: http://www.decc.gov.uk/en/content/cms/emissions/co2_offsetting/gov_offsetting/using_gcof/using_gcof.aspx

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