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# The Feasibility of a Yukon Carbon Offset Fund

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## Summary

A carbon offset is an emission reduction credit from a project that results in less carbon dioxide or other greenhouse gases in the atmosphere than would otherwise occur. Carbon offset projects to date have tended to fall into the following broad categories:

- Energy efficiency — reducing current energy use;
- Renewable energy — producing energy through renewable means and thereby displacing the burning of fossil fuels;
- Reducing emissions by reducing environmental degradation and deforestation; and,
- Bio-sequestration — usually tree planting.

However, there are other project categories that are gaining currency as viable means of offsetting including:

- Carbon capture and storage;
- Capture and use of landfill gas;
- Changing agricultural tillage practices — no till agriculture; and,
- Use of biodigesters for livestock waste.

In 2007, the largest share of offset projects in the over-the-counter voluntary market were renewable energy (31%), energy efficiency (18%), methane destruction (16%), and forestry land based projects (18%).

Buying carbon offsets is an increasingly popular means for individuals and businesses to take action in reducing their impact on global climate change. By paying someone else to reduce emissions elsewhere, the buyer of a carbon offset aims to compensate for — or offset — their own emissions. Governments are now also becoming increasingly involved in the carbon offset markets, both through providing guidelines and oversight in the voluntary markets and by purchasing offsets for government operations.

Carbon markets are growing rapidly, with over US\$64 billion traded world-wide in 2007. There are a large number of carbon offset funds that operate either under compliance markets that are created and regulated by mandatory carbon reduction regimes (which make up a large majority of transactions), or voluntary markets (worth approximately US\$331 million in 2007) that are largely unregulated. In the current Yukon context, only voluntary carbon offset markets are relevant.

### Key Findings

If Yukon individuals, businesses or governments simply wish to offset their greenhouse gas emissions by purchasing carbon offsets, there are many sources of such offsets currently available in Canada. Therefore, efforts to create a Yukon carbon offset fund imply that the purpose of the fund is to provide offset credits by investing in Yukon projects that will result in less carbon dioxide or other greenhouse gases in the atmosphere than would otherwise occur. These Yukon-based projects will have the added benefit of helping to create more economic development in the territory and will be a positive selling feature for the fund raising money locally. However, there is a risk that a shortage of suitable projects might develop.

It is clear from the literature that the voluntary carbon market is well into the process of transition from a “Wild West” phase of almost anything goes to a much more organized and regulated phase. Part of that transition is the increasing need for experienced and professional management

for funds that must now deal with more complex and expensive systems of oversight, verification and accountability. A Yukon carbon fund will be faced with not only the standard challenges of any carbon fund in Canada but also the likely small pool of suitable projects to draw from. This in turn implies that the proposed fund may be a financier and perhaps manager of the projects creating the offset credits, not simply a broker matching up buyers of credits with existing or proposed projects. The need to be a financier and perhaps project manager adds to the need for professional and experienced management of the fund.

The Yukon is a large territory with a small population and the heavy reliance on government that is typical of relatively remote jurisdictions across the circumpolar north. The Yukon's economic structure makes the active participation and support of governments, and especially the Yukon government, crucial to the fund's success. The Yukon government's recently released *Climate Change Action Plan* commits to making the government's operations carbon neutral by 2020 and that commitment means YTG must find means of offsetting the emissions that it cannot directly eliminate. A Yukon carbon offset fund, investing in Yukon projects, will be very attractive to the territorial government in light of its carbon neutral commitment.

The relatively short history of carbon offset funds in Canada show them to be highly vulnerable to a loss of credibility or any form of poor publicity. Poor choice of projects, inadequate follow-through, a lack of transparency, or poor accountability will quickly kill a fund. A Yukon carbon offset fund will need to create and maintain credibility, accountability and transparency from the beginning or it will not succeed.

Almost all existing Canadian carbon offset funds are for-profit firms, most of whom act as brokers between the purchasers of offsets and the projects (many of which are located outside of Canada). Tree Canada is an exception, being a not-for-profit registered charity that that retails bio-sequestration offsets to individuals and businesses as a part of its work. Another model is the Pacific Carbon Trust, a BC government crown corporation created to allow the BC government to offset its own greenhouse gas emissions through acquiring offsets from projects that are located in B.C. and that meet provincial eligibility criteria. The Pacific Carbon Trust also plans to acquire and retire offsets for BC residents and businesses in the near future.

Three models were considered for a Yukon carbon offset fund:

- A stand-alone not-for-profit organization;
- A fund operated as part of an existing not-for-profit such as the Yukon Conservation Society to keep start-up and overhead costs to a minimum; and,
- A fund operated at arm's length by the Yukon government (in a similar fashion to the Pacific Carbon Trust in BC) that also allows the participation of other governments, the private sector, and individuals.

There are three possible sources of income for a Yukon carbon fund: individuals, corporations, and governments. How many Yukoners are likely to buy carbon offset credits from a Yukon carbon fund and how much are they willing to pay? To help answer these questions, a statistically valid survey of Yukoners was carried out by DataPath Systems of Marsh Lake, Yukon in October of 2008. A prudent analysis of the survey results (allowing for people's strong tendency to overstate their willingness to pay for good causes) indicates that a Yukon carbon fund should be able to raise approximately \$100,000 annually from individuals in the territory.

It is much more difficult to estimate what a fund might realistically raise from Yukon businesses. It would be prudent to assume that business contributions to a fund would be very modest initially but would gradually increase as the fund showed that it was credible and successful.

As noted above, a Yukon carbon fund will require that governments, and especially YTG, purchase offset credits from it in order to succeed. The amount of credits that governments may purchase is not known, however, if the Yukon government commits to purchasing its needed offsets from the fund and especially if it also operates it at arm's length following the Pacific Carbon Trust model, then the fund will have a guaranteed base of funding and will find it easier to sell offsets to Yukon residents and businesses.

In order for the Yukon carbon offset fund to have the required credibility, the fund will need to meet an independent acceptable standard. An obvious candidate is the Canadian Offset System created by the federal Department of Environment. The process and the need to hire a third-party verifier will be relatively costly but are crucial steps for creating and maintaining credibility and accountability. There will also be the opportunity to develop sufficient local capacity to provide the verification services to an acceptable standard. The Canadian Offset System specifies that the third party verification be carried out to the ISO 14064 standard.

Feasibility of the models considered for a Yukon carbon offset fund:

- The stand-alone not-for-profit model is not currently feasible in the Yukon context. The challenges of finding sufficient start-up capital, securing the support and commitment of governments for a new, untested organization, and attracting sufficient support from Yukon residents and businesses are too high for this model.
- A fund operated as part of an existing not-for-profit such as the Yukon Conservation Society to keep start-up and overhead costs to a minimum is more also not currently feasible. The staff and budgets of existing organizations such as YCS are already fully engaged and, although start-up costs would be lower, attracting the support and participation required to fund ongoing operations at the high level required for broad credibility would be difficult. Furthermore, the risks to the reputation of an existing organization such as YCS in the event that the fund did not meet expectations would also be high.
- A fund operated at arm's length by the Yukon government (the Pacific Carbon Trust model) that also allows the participation of other governments, the private sector, and individuals is feasible. The Yukon government has the resources required to provide sufficient start-up funds and hire the people with the required skills and experience. A Yukon carbon fund that operates as a crown corporation will also provide sufficient credibility for individuals, businesses and other governments to participate with confidence from the outset. Given its commitment to carbon neutrality by 2020, the Yukon government will need to find some means of offsetting emissions and a Yukon carbon fund investing in Yukon projects (and therefore Yukon economic development) is a win-win solution.

## Recommendations

The Yukon Conservation Society should:

- Have a detailed outline of a Yukon carbon offset fund ready to form the basis of discussions with the Yukon government by September 2009, when the new Climate Change Secretariat is to be up and running.
  - The outline will not be a detailed business plan; a business plan will require a far higher degree of certainty around the Yukon government operations' actual emissions, how and to what degree it intends to offset those emissions, and how

- carbon offsetting will fit with the government's broader carbon economy plans and intentions if any.
- The key findings and recommendations of this study could themselves form the basis of the outline.
- As part of the process of developing the outline, the Society should seek to engage partners from other levels of government (particularly CYFN) and the private sector. These partners would be not only a part of the discussion with the Yukon government on the set-up of a Yukon carbon fund, but ideally also committed to remaining as key stakeholders once the fund is up and running.

Recommended features of a Yukon carbon offset fund:

- The proposed Yukon carbon fund should be based on the Pacific Carbon Trust model and be an arm's length Yukon government agency, e.g., a crown corporation.
- The fund should have a governance structure that includes representatives from CYFN, the private sector and the NGO community.
- The offset fund would require an initial investment of seed money from the Yukon government to become operational, but should plan to be self-financing through the sale of offset credits in the medium term.
- The fund should allow Yukon individuals, businesses and other governments to buy carbon offsets.
- A Yukon carbon offset fund will need to create and maintain credibility, accountability and transparency from the beginning.
- Excellent and experienced management will be required from the beginning.
- The Yukon carbon offset fund should meet the standards of the federal government's Carbon Offset System, including the very broad range of projects permitted, and third-party verification to ISO 14064 standards.
- The fund cannot expect to act simply as a broker of carbon offsets. It will likely need to assist some project proponents plan and, to a certain degree, oversee and manage projects.
- The Yukon carbon fund will need to make building relationships with project proponents, other Yukon businesses, governments and the general public a key part of its operating plans.
- A Yukon fund should assist and encourage the development of local capacity as qualified third-party verifiers. This will be a crucial step in reducing the costs of third-party verification and will make smaller-scale offset projects more viable.

## Contents

<b>Summary .....</b>	<b>i</b>
<b>Contents .....</b>	<b>v</b>
<b>1.0 Introduction .....</b>	<b>1</b>
1.1 Background .....	1
1.2 Yukon context .....	3
<b>2.0 Carbon offset fund models.....</b>	<b>5</b>
2.1 Canadian models.....	5
2.1.1 The Canadian government’s offset system.....	6
2.1.2 Pacific Carbon Trust.....	7
2.2 Carbon offset standards.....	9
2.2.1 ISO 14064.....	10
<b>3.0 Analysis .....</b>	<b>11</b>
3.1 Revenue sources.....	11
3.1.1 Individuals .....	12
3.1.2 Businesses.....	13
3.1.3 Governments.....	14
3.2 Risks, projects and investment strategy.....	15
3.3 Fund models and feasibility.....	16
3.3.1 Stand-alone not-for-profit model.....	16
3.3.2 Fund as part of an existing not-for-profit model.....	16
3.3.3 The Pacific Carbon Trust model.....	16
3.4 Recommendations.....	17

## 1.0 Introduction

In the summer of 2008 the Yukon Conservation Society received funding from Indian and Northern Affairs Canada and the Yukon Energy Solutions Center to commission this study on the feasibility of a Yukon carbon offset fund.

The goal of this study is to produce a complete and logical analysis of the issues, opportunities, and constraints around the proposed Yukon carbon offset fund along with recommendations on approaches and next steps. Some of the important questions for the analysis and recommendations include:

- Is a Yukon carbon offset fund financially feasible? Will there be a realistic possibility of raising enough contributions in the Yukon, from individuals, businesses and governments, to both cover operating costs and provide the means to invest in projects? How much can the fund realistically expect to receive in donations?
- If a Yukon fund does not appear to be financially feasible at present, what would make it feasible?
- What is the recommended basic structure of the fund and how would it be best administered? What would start-up and operating costs be? How would costs be kept to a minimum? Would it be best operated in partnership with a government for example?
- How would a Yukon carbon offset fund best fit in with existing efforts and programs aimed at decreasing the output of carbon dioxide in the Yukon without duplication and competition? Should the fund offer support for research?
- What would be the best, most cost effective means of investing in projects? Would the fund focus on projects determined by large versus small scale, or projects with verifiable carbon sequestering numbers or carbon emissions reduction numbers versus projects that are beneficial but for which it is hard to verify exact numbers?
- Would the fund offer loans, low-interest loans, no-interest loans, grants, or some combination?
- How would projects be monitored and verified and by whom?
- What system should the fund use for carbon accounting and how (and to whom) should this be reported?
- What are the recommended next steps?

### 1.1 Background

A carbon offset is an emission reduction credit from a project that results in less carbon dioxide or other greenhouse gases (GHGs) in the atmosphere than would otherwise occur.

Carbon offset projects to date have tended to fall into the following broad categories:

- Energy efficiency — reducing current energy use;
- Renewable energy — producing energy through renewable means and thereby displacing the burning of fossil fuels;
- Reducing emissions by reducing environmental degradation and deforestation; and,
- Bio-sequestration — usually tree planting.

However, there are other project categories that are gaining currency as viable means of offsetting including:

- Carbon capture and storage;
- Capture and use of landfill gas;

- Changing agricultural tillage practices — no till agriculture; and,
- Use of biodigesters for livestock waste.

In 2007, the largest share of offset projects in the over-the-counter voluntary market were renewable energy (31%), energy efficiency (18%), methane destruction (16%), and forestry land based projects (18%).<sup>1</sup>

Only the energy efficiency and renewable energy project types are considered to be unequivocal carbon offsets if done correctly. Bio-sequestration (and especially tree planting) is often criticised as both a very temporary means of reducing atmospheric carbon and as highly vulnerable to forest fires or other destruction.<sup>2</sup> Measuring the carbon value of reducing environmental degradation and deforestation is fraught with technical problems.

Buying carbon offsets is an increasingly popular means for individuals and businesses to take action in reducing their impact on global climate change. By paying someone else to reduce emissions elsewhere, the buyer of a carbon offset aims to compensate for — or offset — their own emissions. Because greenhouse gases mix well in the atmosphere and travel around the world quickly the location of the offset project relative to the emissions being offset is irrelevant. Governments are now also becoming increasingly involved in the carbon offset markets, both through providing guidelines and oversight in the voluntary markets and by purchasing offsets for government operations.

Carbon markets are growing rapidly, with over US\$64 billion traded world-wide in 2007. There are a large number of carbon offset funds that operate either under compliance markets that are created and regulated by mandatory carbon reduction regimes (which make up a large majority of transactions), or voluntary markets (worth approximately US\$331 million in 2007) that are largely unregulated.<sup>3</sup>

Most Canadian carbon offset funds are firms in the business of retailing carbon offsets to individuals and businesses, usually by acting as brokers between buyers and the providers of the projects that reduce emissions. However, there is at least one example of a not-for-profit organization selling carbon offsets in Canada (Tree Canada which manages its own bio-sequestration projects) and recently the BC provincial government has set up the Pacific Carbon Trust, a crown corporation that is buying offsets from BC projects on behalf of the provincial government.

Voluntary carbon offsetting has some advantages over compliance regimes, but has also suffered from a number of problems. The benefits of voluntary carbon offsetting include:

- Allowing broad participation, including by individuals;
- Preparing businesses for further future participation if compliance regimes established;
- Encouraging innovation and experimentation;
- Creating corporate goodwill for firms that participate;
- Cost effectiveness (no regulation and enforcement costs to governments); and,

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<sup>1</sup> Ecosystem Marketplace & New Carbon Finance. May 2008. *Forging a Frontier: State of the Voluntary Carbon Markets 2008*. p.7 Available at:

[www.ecosystemmarketplace.com/documents/cms\\_documents/2008\\_StateofVoluntaryCarbonMarket2.pdf](http://www.ecosystemmarketplace.com/documents/cms_documents/2008_StateofVoluntaryCarbonMarket2.pdf)

<sup>2</sup> See, for example, the David Suzuki Foundation's 2008 paper *Credit Check: A Comparative Evaluation of Tree-Planting and Fossil-Fuel Emission Reduction Offsets*. Available at:

[www.davidsuzuki.org/files/reports/Credit\\_Check\\_080701.pdf](http://www.davidsuzuki.org/files/reports/Credit_Check_080701.pdf)

<sup>3</sup> Ecosystem Marketplace & New Carbon Finance. May 2008. *Forging a Frontier: State of the Voluntary Carbon Markets 2008*. p.6

- Achieving higher overall greenhouse gas reductions without creating the equity concerns associated with compliance regimes. (Which sectors or industries must comply, and whether existing operators receive free emission credits for example).

Criticisms of voluntary carbon offsetting include:

- Poor quality of projects funded;
- The funding of projects that would have occurred anyway, without the addition of carbon offset funds;
- Concerns that funding projects in developing countries simply allows developed countries to perpetuate unsustainable lifestyles;
- Concerns that accounting methods for offsets are not accurate enough to justify claims of real emission reductions or to support the achievement of genuine carbon neutrality; and,
- A general lack of transparency, quality assurance and third-party standards.

Clean Air-Cool Planet, in its guide to carbon offsets<sup>4</sup>, offers the following as a list of questions that consumers should ask a retailer before buying carbon offsets.

- Do your offsets result from specific projects?
- Do you use an objective standard to ensure the additionality and quality of the offsets you sell?
- How do you demonstrate that the projects in your portfolio would not have happened without the greenhouse gas offset market?
- Have your offsets been validated against a third-party standard by a credible source?
- Do you sell offsets that will actually accrue in the future? If so, how long into the future, and can you explain why you need to 'forward sell' the offsets?<sup>5</sup>
- Can you demonstrate that your offsets are not sold to multiple buyers?
- What are you doing to educate your buyers about climate change and the need for climate change policy?

These questions also provide an excellent focus for any organization that proposes to sell carbon offsets.

## **1.2 Yukon context**

The Yukon is a large territory with a small population and the heavy reliance on government that is typical of relatively remote jurisdictions across the circumpolar north. Although the Yukon has a variety of economic and industrial sectors, government — largely financed through federal transfers — is by far the largest. It can be said that Canadian sovereignty is the Yukon's largest export.

In 2007 34.5% of the Yukon's employed labour force was directly employed by the federal, territorial and municipal governments. The size and importance of the Yukon government in particular was recently emphasized by the release of the 2009/10 territorial budget. The budget contains planned spending of \$1.003 billion. This is an economy with a GDP of \$1.385 billion in 2007.

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<sup>4</sup> Clean Air-Cool Planet. December 2006. *A Consumers' Guide to Retail Offset Providers*. Available at: <http://www.cleanair-coolplanet.org/ConsumersGuidetoCarbonOffsets.pdf>

<sup>5</sup> Forward selling is a means for funds to raise money for projects before the projects themselves are undertaken. Buyers of forward sold credits are buying the promise that a project will be undertaken and that carbon will be offset in the future.

This economic structure makes the active participation and support of governments, and especially the Yukon government, crucial to the fund's success. The Yukon government's recently released *Climate Change Action Plan* commits to making the government's operations carbon neutral by 2020 and that commitment means YTG must find means of offsetting the emissions that it cannot directly eliminate. A Yukon carbon offset fund, investing in Yukon projects, will likely be very attractive to the territorial government in light of its carbon neutral commitment.

In 2006 all human activities in the Yukon produced a total of 394,000 tonnes of CO<sub>2</sub> equivalent emissions according to the federal Department of Environment.<sup>6</sup> Of the total, transportation makes up the lion's share at approximately 63% of emissions while stationary combustion sources (including homes and commercial and institutional buildings) accounts for another 31%. The overall trend in the Yukon's greenhouse gas emissions has been generally downward since 1990 (with an up tick in 1996), dropping from 538,000 to 394,000 tonnes.

The Yukon's small population and economy may also make it challenging for a Yukon carbon offset fund to find sufficient high quality projects that both meet the appropriate standards for reducing green house gas emissions and that need the additional investment by the carbon fund in order to be viable. A further challenge arising from a small population and economy will be that projects may also be small in scale. The expense of monitoring and third party verification may make smaller scale projects less viable than large projects.

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<sup>6</sup> National Inventory Report 1990-2006. p.588. Available at:  
[http://www.ec.gc.ca/pdb/GHG/inventory\\_report/2006\\_report/2006\\_report\\_e.pdf](http://www.ec.gc.ca/pdb/GHG/inventory_report/2006_report/2006_report_e.pdf)

## 2.0 Carbon offset fund models

In general, most carbon offset funds act simply as a carbon offset broker, buying offsets from project providers who meet whatever set of standards the fund follows and selling them to fund customers. Other funds however, are much more involved in the projects, either working closely with project providers to design and implement the project, create and manage the project themselves, and/or provide some level of up-front financing for the project.

### 2.1 *Canadian models*

The following is a list of Canadian carbon offset funds or organizations with carbon offset units:

- Blue Source Canada. A Canadian subsidiary of an American firm that retails carbon offsets and offers management and advisory services to carbon offset project producers. Sells offsets to businesses. For profit organization.
- CarbonZero Offsets. A Canadian retailer of carbon offsets and consulting firm that sells to individuals and businesses. Renewable energy and energy efficiency offsets only. For profit organization.
- Clean Air Pass. Canadian retailer of bio-sequestration carbon offsets to individuals. For profit organization.
- coolAction.com Inc. Canadian retailer of renewable energy offsets to individuals. For profit organization.
- Less. Canadian retailer of renewable energy offsets sourced from Gold Standard projects to individuals and businesses. For profit organization.
- Offsetters. Canadian retailer of renewable energy, energy efficiency and bio-sequestration offsets to individuals and businesses. For profit organization.
- Pembina Institute. Canadian research, consulting and advocacy organization that retails renewable energy offsets to individuals and businesses as one aspect of its organization. Not-for-profit organization.
- Tree Canada. A Canadian not-for-profit registered charity that retails bio-sequestration offsets to individuals and businesses as a part of its work.

Almost all of the existing Canadian offset organizations are for-profit firms acting as offset brokers. These firms do not release details of their costs and revenues. Offsetters, perhaps the largest and best known, has 10 employees and claims to retain only 20% of its revenues for operating expenses. Less has committed to publish an annual independent audit of its operation but the first is not due until April 2009.

Tree Canada appears to be one of the very few not-for-profit organization offering carbon offsets in Canada. It retails bio-sequestration offsets, specifically tree planting, to individuals and businesses. The organization claims that 85% of donations go directly to its tree planting efforts and 15% are retained to cover overhead costs.

In addition to the private sector offset organizations, two examples of government-run offset systems, the planned federal system and the recently created BC government crown corporation, are outlined in Sections 2.1.1 and 2.1.2 below.

### 2.1.1 The Canadian government's offset system

In April of 2007 the government of Canada announced its plan, *Turning the Corner*,<sup>7</sup> on how it intended to move forward toward its goals of reducing greenhouse gas emissions. That plan includes commitments to:

- Establish a market price for carbon; and,
- Set up a carbon emissions trading market, including a carbon offset system, to provide incentives for Canadians to reduce their greenhouse gas emissions.

In mid-2008 Canada's Department of Environment released *Turning the Corner: Canada's Offset System for Greenhouse Gases*<sup>8</sup> which outlines the proposed federal offset system that is due to come into full effect in January 2010. In effect, the federal government plans to create and administer a Canadian carbon offset fund that issues marketable offset credits but does not sell them.

The system will create the offset credits via the following steps:

- A project proponent applies to register a project with Environment Canada.
- Environment Canada reviews the application and registers the project.
- The project proponent implements the project, provides a report on the reductions achieved and engages an approved verifier to verify the reduction claims.
- The verifier verifies the project and submits a separate report to Environment Canada.
- Environment Canada then certifies that all conditions have been satisfied and issues offset credits to the project proponent's account within the offset system.
- The proponent can then sell the credits to a regulated entity that either retires them to comply with a regulatory requirement or banks them for future retirement. The sale can also be made to a voluntary purchaser who can then cancel the credits (to offset their own emissions) or bank them for future cancellation.

Canada's offset system is planning to accept a very broad range of project types including:

- Carbon capture and storage
- Energy efficiency and demand-side management projects
- Electricity and/or heat projects
  - Renewable electricity
  - Capture and flare or use of landfill gas
  - Biodigesters (capture and flare or use of methane generated from livestock waste)
- Transportation projects
  - Modal shifts
  - Fleet conversion to hybrid
  - Reduced idling technologies
  - Hydrogen fuel injection
- Biofuels
- Agriculture
  - Tillage practices
  - Nutrient management
  - Innovative feeding of livestock
  - Manure storage/spreading

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<sup>7</sup> Available as Regulatory Framework for Air Emissions at:  
<http://www.ecoaction.gc.ca/news-nouvelles/pdf/20070426-1-eng.pdf>

<sup>8</sup> Available at: [http://ec.gc.ca/doc/virage-corner/2008-03/526\\_eng.htm#bfn1](http://ec.gc.ca/doc/virage-corner/2008-03/526_eng.htm#bfn1)

- Forestry
  - Afforestation / Reforestation (planting trees on land that has not been a forest or that requires restocking)
  - Forest management
  - Avoided deforestation

Some further key points on the federal offset system:

- The system will be open for anyone, individuals, firms or organizations, to buy offset credits, whether to meet mandatory greenhouse gas reductions or to voluntarily offset their own emissions.
- The DOE retains control of the credits within the system; credits cannot be sold outside the system.
- The price of credits will be entirely set by supply and demand within the system, there is no guarantee that credits will have any financial value or any cap on how high that value may go.
- Verification of projects will be based on the ISO 14064 Part 3 protocol (see Section 2.2.1).
- Three further guides for users of the system, protocol developers, project proponents, and verification bodies, were due to be released by the summer of 2008. However, only a draft of the *Guide for Protocol Developers* is currently available.<sup>9</sup> The remaining two guides will be particularly important for providing the details needed for projects to go ahead within the system.

## 2.1.2 Pacific Carbon Trust

Pacific Carbon Trust (PCT) was incorporated as a BC provincial Crown corporation in March 2008. The PCT is one component of the BC government's Climate Action Plan which includes a commitment to make the public sector carbon neutral by 2010 as part of an overall goal of reducing provincial greenhouse gas emissions 33 per cent by 2020.

The Pacific Carbon Trust was primarily created to allow the BC government to offset its own greenhouse gas emissions through acquiring offsets from projects that are located in B.C. and that meet provincial eligibility criteria.<sup>10</sup> However, the PCT also plans to acquire and retire offsets for BC residents and businesses in the near future. Given the Yukon context and the importance of the Yukon governments active involvement in any carbon offset fund, the Pacific Carbon Trust provides an interesting model.

Pacific Carbon Trust key points:<sup>11</sup>

- The corporation has three core business functions – procurement & project delivery, business & client relations, and strategy & operations.
- A primary focus of the PCT is to work with industry to develop credible, BC-made offsets.
- This will not only include the organizations that develop offset projects but also offset aggregators or wholesalers, third party validators and verifiers and related industry groups.

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<sup>9</sup> Available at: <http://www.ec.gc.ca/creditscompensatoires-offsets/default.asp?lang=En&n=7CAD67C6-1>

<sup>10</sup> These criteria are outlined in the *Emissions Offset Regulation* issued in December 2008 and available at: <http://www.env.gov.bc.ca/epd/codes/ggrta/pdf/offsets-reg.pdf>

<sup>11</sup> Taken from: *Pacific Carbon Trust Service Plan 2009/10 to 2011/12* February 2009. Available at: [http://www.pacificcarbontrust.ca/Portals/0/service\\_plan\\_pct.pdf](http://www.pacificcarbontrust.ca/Portals/0/service_plan_pct.pdf)

- Offsets are to be acquired in a transparent and competitive manner, meet the provincial eligibility criteria, be acquired through contracts and contribution agreements, and take in to consideration other government priorities provided these do not impede the credibility and effectiveness of the offsets.
- The PCT is developing a risk management strategy that will include a diversified portfolio of offset projects and establishing sufficient reserves to ensure that any offsets that are reversed can be replaced.
- There is some uncertainty in the supply and cost of high quality offsets in B.C., given the infancy of the offset industry. One of the immediate risks facing PCT is their ability to purchase required offsets in time for legislated deadlines, in particular the initial 35,000 tonnes required by June 2009.
- By June 2011 the corporation is expecting to procure between 700,000 and 1,000,000 tonnes of carbon offsets annually.
- In its initial procurement, the PCT has set a maximum price of \$25.00 per tonne that it is willing to pay for the offsets. \$25.00 per tonne is also the initial price at which the corporation is proposing to sell the offsets to its clients. (In the medium to long-term it is obvious that the Pacific Carbon Trust must buy its offsets for a lower price than it sells them for in order to be a self-sustaining).

**Table 1 Pacific Carbon Trust financial summary<sup>12</sup>**

	2007/08 <i>Actual</i>	2008/09 <i>Forecast</i>	2009/10 <i>Budget</i>	2010/11 <i>Forecast</i>	2011/12 <i>Forecast</i>
\$ thousands					
<b>Revenue</b>					
Operating grant	9,000	5,000	5,000	5,000	0
Offset revenue	0	875	3,250	21,250	21,250
Interest on investments	0	175	210	210	150
<b>Total Revenue</b>	9,000	6,040	8,460	24,460	21,400
<b>Expenses</b>					
Salaries and benefits	0	200	1,685	1,885	1,920
Professional services	0	800	490	435	355
Board & committee	0	0	55	55	55
Administration and rent	0	190	845	880	885
Subtotal	0	1,190	3,075	3,255	3,215
Offset purchase expenses	0	105	5,315	23,100	18,090
<b>Total Expenses</b>	0	1,295	8,390	26,355	21,305
<b>Net Income</b>	9,000	4,745	70	105	95
Capital expenditures	0	75	75	50	25
FTE employees	0	2	13	16	16

<sup>12</sup> Taken from: *Pacific Carbon Trust Service Plan 2009/10 to 2011/12* February 2009. Available at: [http://www.pacificcarbontrust.ca/Portals/0/service\\_plan\\_pct.pdf](http://www.pacificcarbontrust.ca/Portals/0/service_plan_pct.pdf)

The financial summary is based on the following key assumptions:

- PCT has received funding of \$9 million (2007/08) and \$5 million (2008/09) as seed money to set up its operations. The government has committed a further \$5 million for each of the following two years.
- Offset revenues are based on a transaction price of \$25/tonne of CO<sub>2</sub>e and on average demand for PCT offsets rising to stabilize at approximately 855,000 tonnes (755,000 from the BC government and 100,000 from businesses and individuals) by 2010.
- Implicit in the financial summary is that the cost of purchasing offsets from project providers will vary considerably but is expected to stabilize at about \$21.28/tonne by 2011/2012.
- Employee costs are based on 2 FTEs in 2008/09, 13 in 2009/10, and 16 in subsequent fiscal years.
- The Administration and rent category includes expenses for rent, administration, information technology and travel. This includes an allowance for capital expenditures for computer equipment, furniture, and leasehold improvements.
- Offset purchase expenses have been based on calendar year offset estimates and a build-up of inventory required to strategically manage risks related to delivering fully verified offsets.
- Offsets will be acquired through competitive bid processes that are expected to provide “best value” offsets.

From the financial summary it is clear that the PCT plans to become financially self-sustaining by the 2011/12 fiscal year. The key to achieving a self-sustaining organization at the expected volume of offsets will be that the PCT sells its offsets for a minimum of \$3.75/tonne more than it buys them for.

## **2.2 Carbon offset standards**

A Yukon carbon offset fund will need to create and maintain credibility, accountability and transparency from the beginning or it will not succeed. Choice of and adherence to a credible and acceptable offset standard is a crucial step in avoiding failure.

There are a plethora of standards against which carbon offsets can be measured including:

- Clean Development Mechanism (CDM)
- Gold Standard (GS)
- Voluntary Carbon Standard 2007 (VCS 2007)
- VER+
- The Voluntary Offset Standard (VOS)
- Chicago Climate Exchange (CCX)
- The Climate, Community & Biodiversity Standards (CCBS)
- Plan Vivo System
- ISO 14064-3
- GHG Protocol for Project Accounting

A very good and detailed analysis and comparison of standards and protocols can be found in a March 2008 paper written for the World Wild Life Fund.<sup>13</sup>

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<sup>13</sup> Kollmuss, Anja, Helge Zink and Clifford Polycarp. March 2008. Making Sense of the Voluntary Carbon Market: A Comparison of Carbon Offset Standards. Stockholm Environment Institute and Tricorona and World Wildlife Fund. Available at: [http://assets.panda.org/downloads/vcm\\_report\\_final.pdf](http://assets.panda.org/downloads/vcm_report_final.pdf)

The Gold Standard has received the most attention and is generally recognized as the most rigorous currently in use. The Gold Standard imposes high additionality criteria to ensure that offset funding does not flow to projects that would happen anyway, it includes a full set of social and environmental indicators that must be considered, it requires full and rigorous third party verification of all projects, it only allows energy efficiency and renewable energy projects while specifically disallowing tree planting projects, and only projects located in the developing world are eligible under the standard. The last requirement means that the Gold Standard cannot be considered for a Yukon carbon offset fund. And, because the Gold Standard's demanding reporting and documentation requirements, it has also struggled to find project developers willing to absorb the extra time and costs involved in following the standard.

The ISO 14064 protocol (see Section 2.2.1) is now gaining strong currency in Canada through its adoption by the federal government (see Section 2.1.1) and the Pacific Carbon Trust (see Section 2.1.2). The ISO 14064 protocol's greatest weakness, its general use of guidance rather than specific requirements, is also its strength. Adopting ISO 14064 allows for flexibility in choosing specific requirements and standards tailored to local conditions if necessary.

### **2.2.1 ISO 14064**

The ISO 14064 was developed by the International Organization for Standardization and launched in the spring of 2006. It is a three part protocol designed to be a policy-neutral, independent, and voluntary. The protocol's three parts are:

- ISO 14064-1 which provides requirements and guidance on how to design and develop greenhouse gas inventories for an organization;
- ISO 14064-2 which provides requirements for quantifying, monitoring, and reporting emission reductions; and,
- ISO 14064-3 which provides requirements and guidance for greenhouse gas reduction project validation and verification.

ISO 14064 is a protocol rather than a complete offset standard. It provides definitions, procedures and guidance on how to account for and verify greenhouse gas reductions but for the most part does not define eligibility criteria. For example, ISO 14064 does not define what types of projects are eligible under the protocol; it is up to the programme or entity adopting the protocol to define project eligibility. Similarly, the protocol has no formal requirements, only general guidelines, for determining additionality (whether a project will result in greenhouse gas reductions that would not have happened otherwise). And while third party verification is strongly recommended under ISO 14064, it is only required if the greenhouse gas reductions claims of a project are to be made public.<sup>14</sup>

In 2007 the International Organization for Standardization also released ISO 14065 which lays out requirements for greenhouse gas validation and verification bodies for project accreditation and emissions reductions verifications. Still under development is ISO 14066 which will provide the framework and guidance on how individuals can become accredited auditors and how the auditors will be reviewed.

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<sup>14</sup> Kollmuss, Anja, Helge Zink and Clifford Polycarp. March 2008. Making Sense of the Voluntary Carbon Market: A Comparison of Carbon Offset Standards. Stockholm Environment Institute and Tricorona and World Wildlife Fund. Available at: [http://assets.panda.org/downloads/vcm\\_report\\_final.pdf](http://assets.panda.org/downloads/vcm_report_final.pdf)

### 3.0 Analysis

If Yukon individuals, businesses or governments simply wish to offset their greenhouse gas emissions by purchasing carbon offsets, there are many sources of such offsets currently available in Canada. Therefore, efforts to create a Yukon carbon offset fund imply that the purpose of the fund is to provide offset credits by investing in Yukon projects that will result in less carbon dioxide or other greenhouse gases in the atmosphere than would otherwise occur. These Yukon-based projects will have the added benefit of helping to create more economic development in the territory and will be a positive selling feature for the fund raising money locally. However, there is a risk that a shortage of suitable projects might develop.

It is clear from the literature that the voluntary carbon market is well into the process of transition from a “Wild West” phase of almost anything goes to a much more organized and regulated phase. Part of that transition is the increasing need for experienced and professional management for funds that must now deal with more complex and expensive systems of oversight, verification and accountability. A Yukon carbon fund will be faced with not only the standard challenges of any carbon fund in Canada but also the likely small pool of suitable projects to draw from. This in turn implies that the proposed fund may be a financier and perhaps manager of the projects creating the offset credits, not simply a broker matching up buyers of credits with existing or proposed projects. The need to be a financier and perhaps project manager adds to the need for professional and experienced management of the fund.

As noted in Section 1.2, the Yukon is a large territory with a small population and the heavy reliance on government that is typical of relatively remote jurisdictions across the circumpolar north. The Yukon’s economic structure makes the active participation and support of governments, and especially the Yukon government, crucial to the fund’s success. The Yukon government’s recently released *Climate Change Action Plan* commits to making the government’s operations carbon neutral by 2020 and that commitment means YTG must find means of offsetting the emissions that it cannot directly eliminate. A Yukon carbon offset fund, investing in Yukon projects, will be very attractive to the territorial government in light of its carbon neutral commitment.

The relatively short history of carbon offset funds in Canada show them to be highly vulnerable to a loss of credibility or any form of poor publicity. Poor choice of projects, inadequate follow-through, a lack of transparency, or poor accountability will quickly kill a fund. A Yukon carbon offset fund will need to create and maintain credibility, accountability and transparency from the beginning or it will not succeed.

#### 3.1 Revenue sources

There are three major sources of revenue for a Yukon carbon fund: individuals, corporations, and governments. In addition, once a fund is established, it may generate investment income from funds held.

Any estimate of how much revenue a Yukon carbon fund will generate through the sale of offset credits is fraught with challenges. The territory currently produces a total of approximately 400,000 tonnes of greenhouse gas emissions annually (see Section 1.2) and a current estimate of the price of a one tonne carbon offset credit is approximately \$25.00 (see Section 2.1.2). Therefore if every tonne of Yukon emissions was offset, the theoretical maximum annual revenue of a Yukon carbon fund would be \$10 million. Of course the theoretical maximum will never be

reached nor should it be. Reducing emissions at their source will usually take priority over offsetting, and, as offset projects themselves are implemented, overall emissions should drop as well.

### 3.1.1 Individuals

For retail carbon funds individuals are the primary source of income. As noted in Section 1.0 above, individuals buying carbon offset credits from a fund are effectively making a voluntary donation of money to that fund.

How many Yukoners are likely to buy carbon offset credits from a Yukon carbon fund and how much are they willing to pay? To help answer these questions, a statistically valid survey of Yukoners was carried out by DataPath Systems of Marsh Lake, Yukon in October of 2008. The initial un-weighted 304-person sample of Yukoners surveyed was weighted to balance between men and women and between urban and rural. The survey is considered accurate to within plus or minus 5%, 19 times out of 20.

The basic results from the survey are laid out below.

**Question 1:** In order for people to reduce their individual impacts on global climate change it is now possible to voluntarily buy carbon offset credits. Carbon offset credits are not a tax. Have you ever heard of carbon offset credits?

- 71% yes
- 29% no

**Question 2:** Have you ever purchased carbon offset credits yourself?

- 10% yes
- 90% no

**Question 2b:** If a Yukon Carbon Fund were created would you be willing to now buy your offset credits from the Yukon Fund rather than from where you are currently buying them?

- 61% yes
- 39% no

**Question 3:** If a Yukon Carbon Fund were created, would you be willing to voluntarily buy offset credits from that Fund to reduce your impact on global climate change?

- 48% yes
- 52% no

**Question 4:** How important to you is it that you to purchase enough credits to offset your household's total carbon production?

- 30% not at all important
- 15% somewhat unimportant
- 30% somewhat important
- 14% important
- 10% extremely important

**Question 5:** In Canada, the current retail price for a credit is about \$20 per tonne but may rise to as much as \$50 per tonne as more people and businesses buy credits. What price do you feel the Yukon Fund should sell each credit for?

- 36% \$20/tonne
- 6% \$35/tonne
- 2% \$50/tonne
- 56% whatever the current Canadian retail price is

**Question 6:** And, in total, how much money per year would you be willing to spend on credits from a Yukon Carbon Fund?

- Average \$330.40
- Median \$250.00

From the survey of individuals we see that 48% say they would buy carbon offsets from a Yukon fund and on average these people are willing to spend \$330.40 annually to buy offsets. There are 12,615 households in the Yukon according to the 2006 Census. If the responses to the survey are taken at face value, and each represents a household, then individuals are willing to contribute over \$2 million annually to a Yukon Carbon Fund. Given the well documented tendency of people to overstate their willingness to pay (especially for good causes) in surveys, this is simply not realistic to expect.

However, 10% of individuals stated that they have bought offsets in the past and 61% of those say they would be willing to buy their offsets from a Yukon fund in the future. If 6.1% of Yukon households contribute the median of \$250 annually, total contributions will be approximately \$192,000 annually. Unfortunately, we do not know how many of those who buy or have bought offsets have done so on a regular basis. Some of the respondents may have simply bought offsets as a one-time gift for example and they will not, in practice, buy offsets regularly or in quantity.

A prudent initial estimate of how much a Yukon carbon fund could expect to raise from individuals, therefore, would be more likely to be in the \$100,000 range annually.

### **3.1.2 Businesses**

Yukon businesses are a potential source of revenue for a Yukon carbon offset fund. In general, businesses buy offsets in order to generate good publicity and general corporate goodwill with their customers and other stakeholders. Of course, there are business owners who will buy offsets or attempt to make their firms carbon neutral because they see the costs and effort as simply being the right thing to do, but generating good publicity is generally the crucial driving force.

How much revenue can a Yukon carbon offset fund expect to receive from the Yukon's business community? Understandably, the business people spoken to for this study (and in work done by volunteers prior) were very reluctant to make any kind of guess, let alone commitment, as to how many offsets they would be willing to buy. (The exception was Whitehorse Motors, see below). Businesses want to see what the fund actually looks like, how it is managed, the projects it is undertaking, and the costs and benefits of buying offsets before they will commit, even in principle, to a Yukon fund. It would be prudent to assume that business contributions to a fund would be very modest initially but would gradually increase as the fund showed that it was credible and successful.

However, Yukon businesses should not be simply viewed as a source of revenue. They are also a source of offset projects, of various kinds of expertise and are potential stakeholders in different ways. It will be crucial for a Yukon carbon fund to build and maintain good relationships with the Yukon business community and be highly conscious of not simply approaching them as a cash

cow. If a firm becomes involved with a Yukon carbon fund as a project provider for example, that relationship may well lead that business to reassess its own policies on emissions and offsetting.

Some concrete examples of the interrelated means that businesses might become involved in reducing their emissions in general and in offsets in particular include:

- Tina Woodland of Whitehorse Motors is actively seeking a credible Yukon carbon offset fund so that the car dealership can buy offsets for the first year's emissions of each vehicle they sell on behalf of their customers. Obviously this in itself would create a relatively small revenue stream for the fund, but it could also be built up by: contacting the customers directly once that year is up to encourage them to continue offsetting, convincing other car dealers to match the Whitehorse Motors program for their own car sales, and using the company's obvious awareness and interest in carbon emissions and climate change to encourage it to look to reducing emissions and perhaps offsetting in its own operations.
- NorthwesTel does not currently buy carbon offsets nor does the company have a specific plan to reduce emissions from its operations. However, NWTel has recently installed a wind turbine at its Quiet Lake microwave site to reduce the amount of diesel it needs to generate power there. (Diesel must be flown in by helicopter). A Yukon carbon fund might approach NorthwesTel as a potential project provider for other sites where a wind turbine would reduce emissions but where the financial payoff to the company is not attractive enough for it to install them. If the company becomes a project provider, its interest and direct involvement in offsetting may also be increased.
- Air North has had discussions around offsetting and a possible Yukon carbon offset fund and has expressed interest in being involved. An obvious approach would be to help the airline set up a system which allows its customers to contribute enough to offset their air travel at the time of ticket purchase. Acting as a collector of revenue would be an in-kind contribution in and of itself from Air North to the fund. And again, a good working relationship between the company and the fund opens up other possibilities.
- Finally, a Yukon carbon fund should not ignore the Yukon's mining industry. For example, North American Tungsten is currently in the permitting process for its proposed tungsten mine near Mac Pass at the north end of the North Canol Road. The company has begun studying the possibilities for renewable energy generation near its site in order to reduce the amount of diesel needed for the proposed operation. A wind test tower has been erected and the possibilities of mini-hydro are also under consideration. Depending on the economics of the renewable projects, there may be a role for a Yukon carbon fund in the projects.

### 3.1.3 Governments

As noted above it is crucial that the Yukon government purchase the offset credits it requires to meet its carbon neutral targets from the Yukon carbon offset fund if the fund is to succeed. But how many offset credits will it require? Currently there are no accurate estimates for how many tonnes of emissions the Yukon government is responsible for through its operations. In its Climate Change Action Plan, the government commits to having its operations audited annually by a third party, the Climate Registry. Once the first audit is available, it will become easier to estimate the government's need for offset credits. Even then estimates will be complicated by the choice of how to account for existing, ongoing, and planned projects and programs that effectively offset greenhouse gas emissions (see Section 3.2 below).

The City of Whitehorse was one of the first municipalities in Canada to become a member of the Partners for Climate Protection (PCP), a network of Canadian municipalities and the Federation

of Canadian Municipalities who have committed to reducing greenhouse gas emissions and acting on climate change. However, the City's sustainability plan<sup>15</sup> indicates that the City has fallen behind its greenhouse gas emission reduction goals and has stopped monitoring greenhouse gas production by internal operations. And carbon offsets are not a part of the sustainability plan at all. When contacted about possible participation in a Yukon carbon offset fund, the City's senior management responded with, "In general, the City of Whitehorse believes that Carbon Fund principles would be consistent the sustainability principles as outlined in the City of Whitehorse Strategic Sustainability Plan. Therefore, should a Yukon Carbon Fund evolve in the future, then the City would be interested in reviewing its various features." Revenue from the sale of offsets to the City of Whitehorse is therefore estimated to be zero in the short to medium term.

### **3.2 Risks, projects and investment strategy**

The Yukon has a small population and a limited number of industrial sectors of significant size. This creates the risk that there will be an insufficient number of high quality offset projects in the Yukon. Therefore, adopting the broad range of types of projects permitted under the federal offset system will be necessary (see Section 2.1.1). This brings its own risks however, as many project types are relatively new and their carbon offset credits subject to possible reversal if the project(s) fail to achieve their expected outcomes.

Another related risk is that the number of Yukon offset projects will be further limited by the need for each project to be verified by an approved and qualified third party. The recent experience of getting the renovated Taku building independently verified as meeting LEED standards indicates that such verification will run well in to the tens of thousands of dollars per project. If such substantial price tags remain the norm, there will be little hope of developing small-scale Yukon carbon offset projects; only very large projects with substantial carbon offsets will be viable. This will mean the loss of a substantial amount of emission reduction potential that, while decentralized, might also be very cost-effective without the verification costs. A Yukon carbon fund would need to make an effort to square this circle through creative approaches to aggregating similar small-scale project for example.

One challenge for the Yukon government is how it will account for its existing efforts and programs aimed at increasing energy efficiency or decreasing emissions in the Yukon. The Yukon Housing Corporation, for example, has a number of programs designed to assist homeowners in improving the energy efficiency of their homes. These improvements have the effect of reducing overall greenhouse gas emissions (and residential structures accounted for nearly 10% of Yukon emissions in 2006). Would the YHC be acting as a project proponent and its energy efficiency programs creating carbon offset credits that it would sell to the Yukon carbon fund who in turn could sell those credits to the Yukon government? Would existing, ongoing programs even meet the additionality criteria set for the fund?

How new government programs, initiatives, or projects will fit into a Yukon carbon offset fund will need to be clearly delineated. If a government department reduces its carbon emissions would it then sell the carbon offsets created to the Yukon carbon fund which would in turn sell the offsets back to the Yukon government at a higher price? Or would Yukon government internal emission reductions not be considered as offset projects?

Should a Yukon carbon fund offer loans, low-interest loans, no-interest loans, grants, or some combination to project providers? Or should it simply buy offsets as they are verified? At this

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<sup>15</sup> Available at: <http://whitehorse.visiblestrategies.com/>

stage, a detailed analysis of what a Yukon carbon fund's investment strategy should be is not possible. However, it appears likely that, again due to the relatively small pool of projects available, the fund will not be able to simply buy credits as they are verified. As noted above, a Yukon carbon fund will likely need to provide up-front financing for some projects and may even need to help manage them. Flexibility in the financing arrangements will allow the fund to maximize both the quality and quantity of projects.

### **3.3 Fund models and feasibility**

After some initial research, three models were considered for a Yukon carbon offset fund:

- A stand-alone not-for-profit organization;
- A fund operated as part of an existing not-for-profit such as the Yukon Conservation Society to keep start-up and overhead costs to a minimum; and,
- A fund operated at arm's length by the Yukon government (in a similar fashion to the Pacific Carbon Trust in BC) that also allows the participation of other governments, the private sector, and individuals.

#### **3.3.1 Stand-alone not-for-profit model**

The stand-alone not-for-profit model is not recommended as it is not currently feasible. The challenges that make this model not feasible include:

- The need for a group of people to dedicate a large amount of volunteer time and energy to championing this specific approach and the new organization along with the concept of carbon offsetting in the Yukon in general.
- The need to find and secure sufficient start-up funding to cover office space and equipment, cover initial operating costs including the salaries and benefits of a small professional management team.
- The need to secure the support and commitment of governments for a new, untested organization, and to attract sufficient support from Yukon residents and businesses.
- The ongoing need for, and costs of, governing and managing the fund and its staff.

#### **3.3.2 Fund as part of an existing not-for-profit model**

The fund as part of an existing not-for-profit (such as the Yukon Conservation Society) model is not recommended as it does not appear to be feasible.

The attraction of this approach is the idea that start-up and operating costs can be greatly reduced by relying on existing staff and budgets to help get the fund operational. However, the staff and budgets of existing organizations such as YCS are already fully engaged and, although start-up costs would be lower, attracting the support and participation required to fund ongoing operations at the high level required for broad credibility would be difficult. Furthermore, the risks to the reputation of an existing organization such as YCS in the event that the fund did not meet expectations would also be high.

#### **3.3.3 The Pacific Carbon Trust model**

A fund operated at arm's length by the Yukon government (the Pacific Carbon Trust model) that also allows the participation of other governments, the private sector, and individuals is feasible. Like the BC provincial government, the Yukon government has the resources required to provide sufficient start-up funds and hire the people with the required skills and experience. A Yukon carbon fund that operates as a crown corporation will also provide sufficient credibility for individuals, businesses and other governments to participate with confidence from the outset.

Given its commitment to carbon neutrality by 2020, the Yukon government will need to find some means of offsetting emissions and a Yukon carbon fund investing in Yukon projects (and therefore Yukon economic development) is a win-win solution.

### **3.4 Recommendations**

The Yukon Conservation Society should:

- Have a detailed outline of a Yukon carbon offset fund ready to form the basis of discussions with the Yukon government by September 2009, when the new Climate Change Secretariat is to be up and running.
  - The outline will not be a detailed business plan; a business plan will require a far higher degree of certainty around the Yukon government operations' actual emissions, how and to what degree it intends to offset those emissions, and how carbon offsetting will fit with the government's broader carbon economy plans and intentions if any.
  - The key findings and recommendations of this study could themselves form the basis of the outline.
- As part of the process of developing the outline, the Society should seek to engage partners from other levels of government (particularly CYFN) and the private sector. These partners would be not only a part of the discussion with the Yukon government on the set-up of a Yukon carbon fund, but ideally also committed to remaining as key stakeholders once the fund is up and running.

Recommended features of a Yukon carbon offset fund:

- The proposed Yukon carbon fund should be based on the Pacific Carbon Trust model and be an arm's length Yukon government agency, e.g., a crown corporation.
- The fund should have a governance structure that includes representatives from CYFN, the private sector and the NGO community.
- The offset fund would require an initial investment of seed money from the Yukon government to become operational, but should plan to be self-financing through the sale of offset credits in the medium term.
- The fund should allow Yukon individuals, businesses and other governments to buy carbon offsets.
- A Yukon carbon offset fund will need to create and maintain credibility, accountability and transparency from the beginning.
- Excellent and experienced management will be required from the beginning.
- The Yukon carbon offset fund should meet the standards of the federal government's Carbon Offset System, including the very broad range of projects permitted, and third-party verification to ISO 14064 standards.
- The fund cannot expect to act simply as a broker of carbon offsets. It will likely need to assist some project proponents plan and, to a certain degree, oversee and manage projects.
- The Yukon carbon fund will need to make building relationships with project proponents, other Yukon businesses, governments and the general public a key part of its operating plans.
- A Yukon fund should assist and encourage the development of local capacity as qualified third-party verifiers. This will be a crucial step in reducing the costs of third-party verification and will make smaller-scale offset projects more viable.