

Conservation Offsets:



A Revenue Tool to Conserve
Natural Areas, Watersheds
and Community Resilience

Land Trust Alliance of B.C.
Presented by Dr. Briony Penn for
AVICC,
April 11th, 2010



"What the world needs is 'Less emissions, more sinks'"

Indonesia's President Susilo Bambang Yudhoyono opening the political session of the 2007 UNFCCC's MOP3/COP13 in Bali.

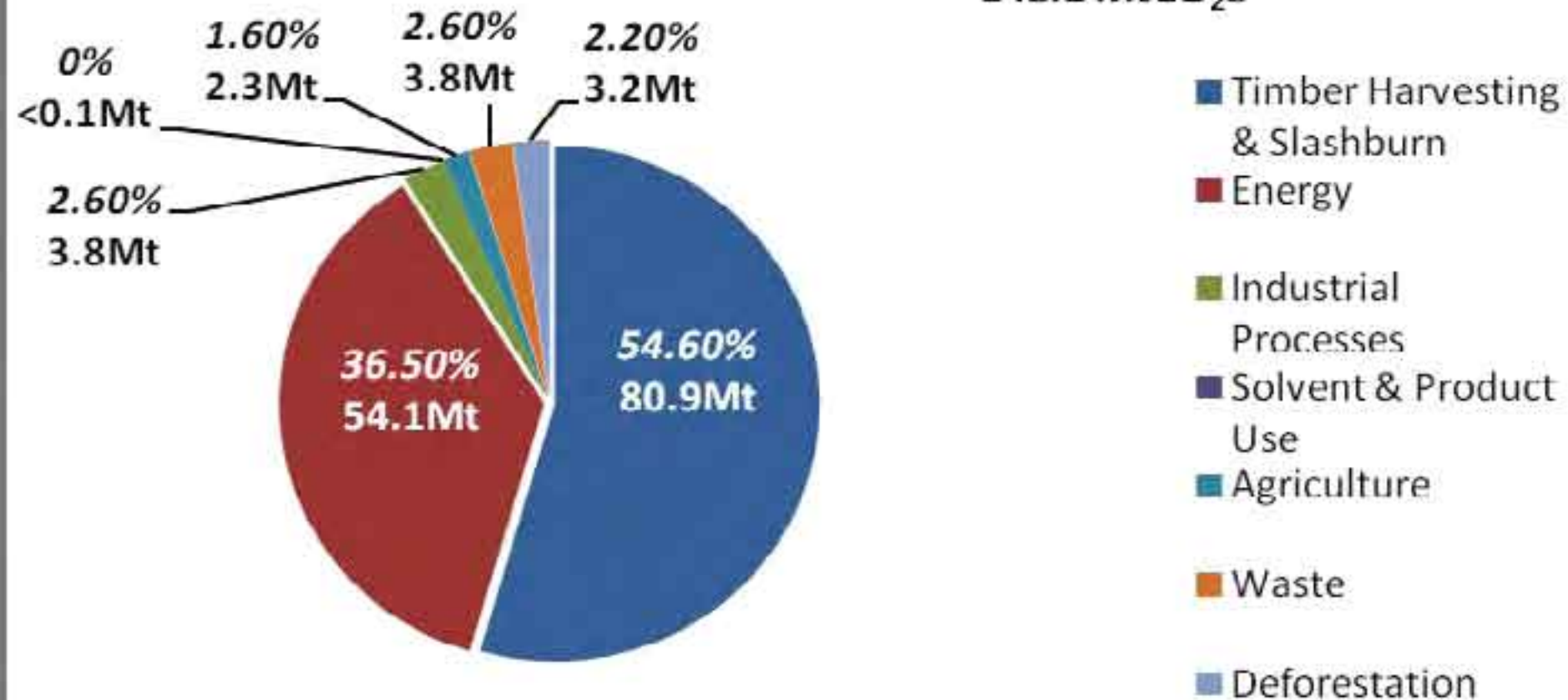
Climate Change Challenge

Reduce CO₂ - Mitigation

Prepare for changes - Adaptation

The conservation of
nature is a key strategy
to reduce CO₂

B.C. Gross GHG Emissions by Sector - 2007 with accounting for Forestry Emissions 148.1 MtCO₂e



Notes – this does not include removals from hard wood products, reforestation, or net primary productivity (natural removals), or reforestation; and does not include natural emissions from decomposition or natural disturbance. 72.7 Mt timber harvesting + 8.2 Mt slashburn.

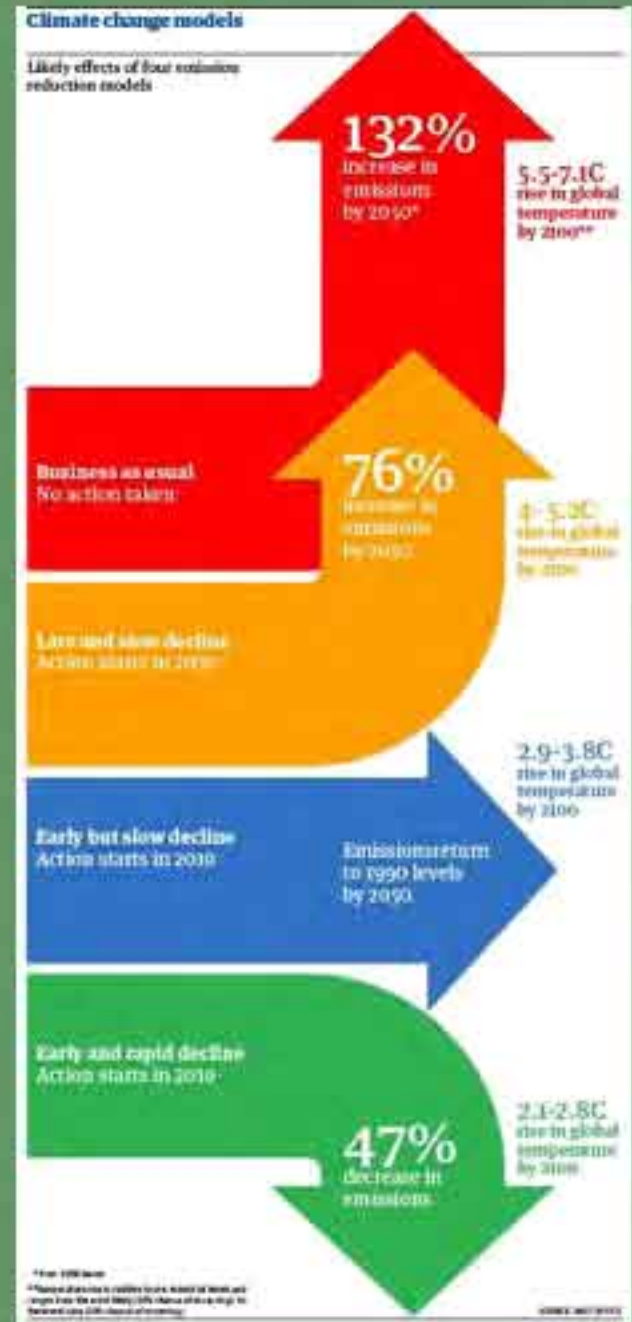
Energy includes: emissions from stationary and transport fuel combustion and fugitive emissions from the fossil fuel industry.

Adapted from BC GHG Inventory Report 2007

In BC, over 57% of our total gross emissions come from deforestation (conversion to other land use), harvesting forests and slash burning.



As a society, we
MUST do
everything in our
power to keep
rising temperatures
below 2°C increase.



Our forests store, on average, 300 tonnes / hectare.

Old temperate rainforests store up to 1300 tonnes / hectare - the highest storage capacity in the world.



The conservation of nature is a key strategy to adapt for changes

Natural ecosystems

- **Are more resilient**
- **Enable species to move and adapt better**
- **Hold the genetic material for evolution**

A photograph of a dense forest with large trees and a crowd of people in the foreground. The trees are tall and have thick trunks. The foliage is green. A large group of people is gathered in the foreground, many wearing red and yellow jackets. The text is overlaid on the image.

Ecosystem services

Pull carbon

Prevent emissions

Provide resilience

Protect ecosystem services

Tools for conserving nature:

- Legislation, e.g., parks, Species at Risk Act, Wildlife Management Areas
- Tax incentives, e.g., Natural Area Protection Tax Exemption Program
- Zoning, e.g., ecologically sensitive area DPAs, tree-cutting by-laws,
- Market incentives, e.g., **conservation offsets**

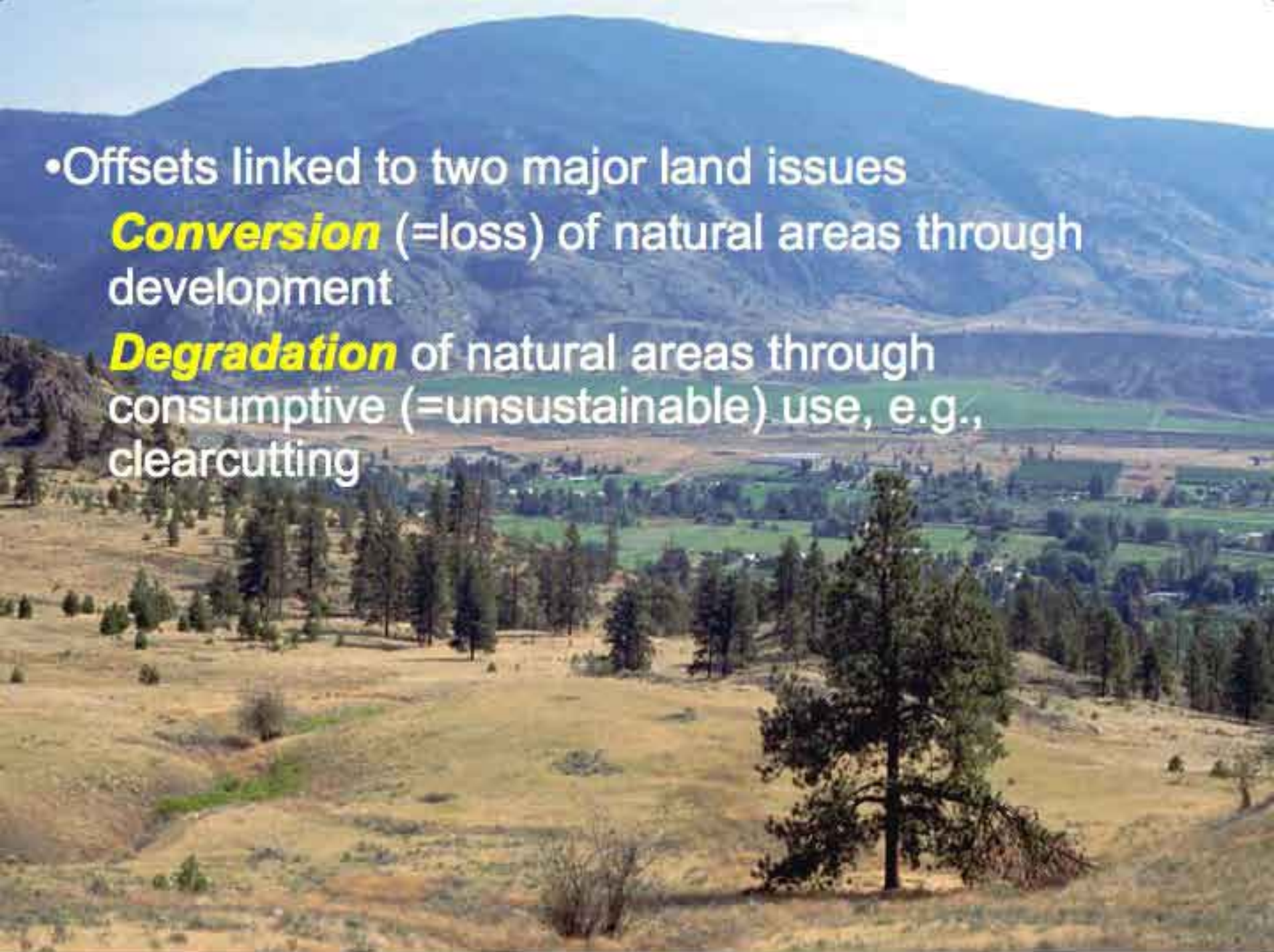
What is a conservation offset?

A financial instrument aimed at reducing greenhouse emissions through conserving natural ecosystems.

- Offsets linked to two major land issues

Conversion (=loss) of natural areas through development

Degradation of natural areas through consumptive (=unsustainable) use, e.g., clearcutting



An aerial photograph showing a large area of deforestation on a hillside. The foreground and middle ground are covered in brown, reddish soil and sparse green vegetation, indicating recent clearing. In the background, a dense forest of tall, thin evergreen trees stands on a higher elevation. The text is overlaid on the deforested area.

• Preventing carbon emissions released when ecosystems are deforested, degraded or simplified.

• Protecting and increasing carbon sinks that provide annual sequestration services.

Why should local governments be interested?

- To become Carbon Neutral
- To supply green space, nature conservation
- To protect watersheds
- Diminishing revenue to do all these things

What is local government's role?

1. Account for emissions from land use change and set targets, i.e., Bill 27, Climate Action Charter.
2. Adopt land use zoning/legislative mechanisms, e.g., tax incentives, DPAs and bylaws.
3. Work with land trusts and use financing mechanisms such as **conservation offsets**.
Land trusts provide the long term stewardship role.

What is the land trust role?

1. Help local government to acquire lands and provide additional revenue stream, e.g., foundations and donations.
2. Hold covenants which guarantee permanency for 100 years and provide monitoring role over the years. Critical for meeting offset standards.
3. Provide community commitment and continuity to place. Supply buyers of offsets.
4. Pool risk of conservation offset properties and provide insurance against disturbance.

Conservation Offset Rationale

- Cannot avoid all fossil fuel emissions and ecological impacts
- So, offset these emissions with conservation of nature
- Opportunity to choose market and shape standards, e.g., buying local offsets like buying local food

Strategies Forest Carbon

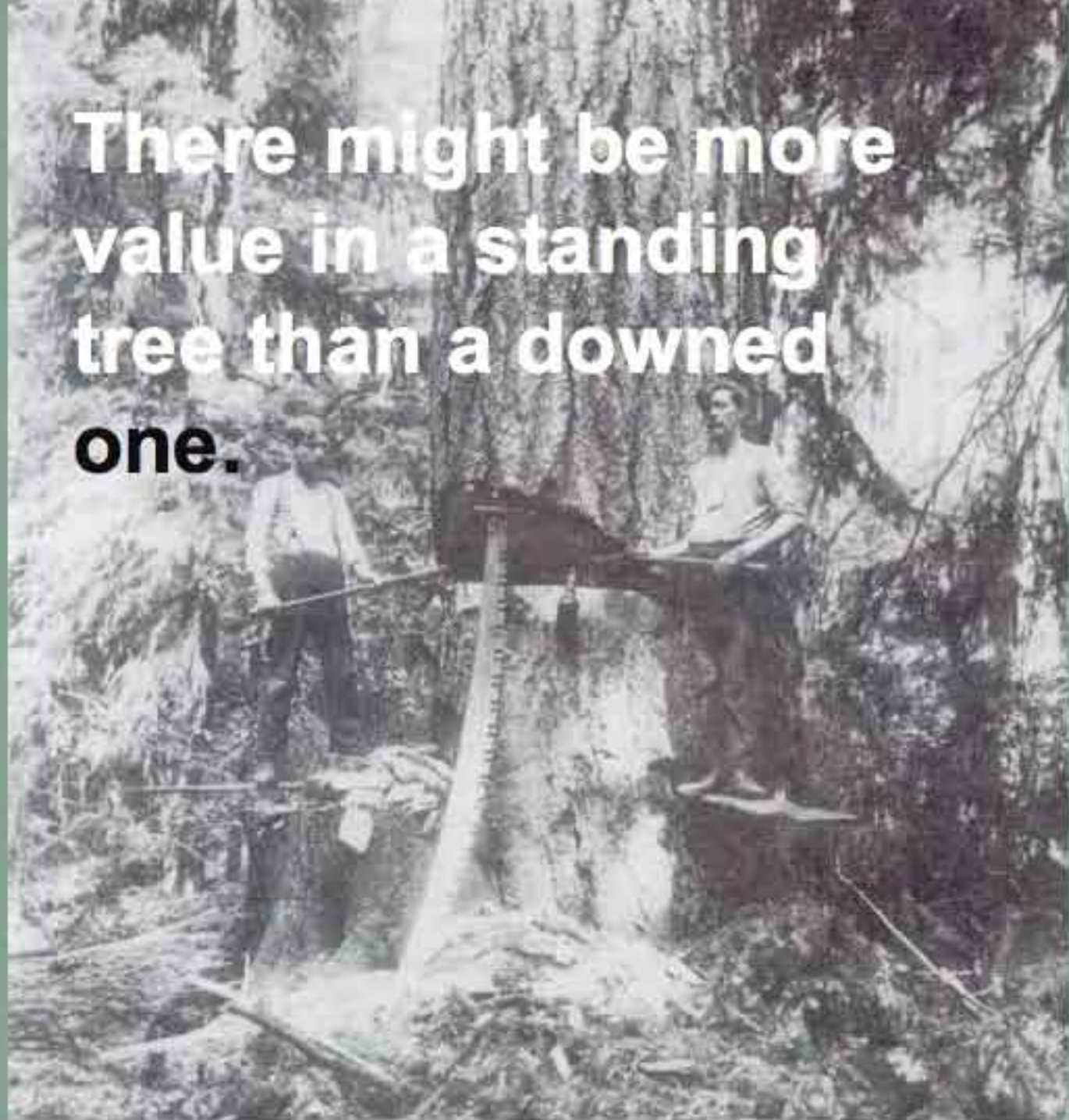
- *REDD*: reduced emissions from deforestation and degradation (=conservation)
- *IFM*: improved forest management (=sustainable forest management)
- *ARR*: Afforestation, reforestation, restoration = putting trees back

	Mitigation Activities	Type of Impact	Timing of Impact	Timing of Cost
1A	Increase forest area (e.g. new forests)	↑		
1B	Maintain forest area (e.g. prevent deforestation, LUC)	↓		
2A	Increase site-level C density (e.g. intensive management, fertilize)	↑		
2B	Maintain site-level C density (e.g. avoid degradation)	↓		
3A	Increase landscape-scale C stocks (e.g. SFM, agriculture, etc.)	↑		
3B	Maintain landscape-scale C stocks (e.g. suppress disturbances)	↓		
4A	Increase off-site C in products (but must also meet 1B, 2B and 3B)	↑		
4B	Increase bioenergy and substitution (but must also meet 1B, 2B and 3B)	↓		

Legend

Type of Impact	Timing (change in Carbon over time)	Timing of cost (dollars (\$) over time)
Enhance sink ↑	Delayed	Delayed
Reduce source ↓	Immediate	Up-front
	Sustained or repeatable	On-going

**There might be more
value in a standing
tree than a downed
one.**



Markets for offsets

compliance = required to do so

voluntary = want to do so

Offset Opportunities

- Voluntary informal
 - No valuation or standards, investor trusts the agency offering the offset
- Voluntary formal
 - Formal policy-based offset that comply with international/national standards protocols and valuation, e.g., VCS.

Offset Opportunities

- Compliance general standards
 - Simple valuation and standards
- Compliance high standards
 - International standards such as the those required by UNFCCC.
 - Strict regional or other standards such as California Forest project protocols

Voluntary and Compliance standards are converging

Currently, Voluntary Carbon Standards higher in quality than Climate Action Reserve standards.

High standards matter

- Ensure that offsets are really being provided
- Less CO₂ in atmosphere
- Real ecosystems services provided
- Higher \$ return
- We have to get it right!!

Principles and Language

- *Project* = area or areas with fixed boundaries
 - Described in Project Design Documents
 - >1000 hectares, large enough to pay for development and registration
 - Can be a variety of properties in one project

Principles and Language

- *Baseline* = CO₂ emissions trajectory if no project
- *Additionality* = net reduction in emission or increase in sequestration compared to baseline
- In other words, what is different from “business-as-usual” with the project

Principles and Language

- *Leakage* = CO₂ emissions as a by product of project:
 - displaced logging, shift in grazing
- *Permanence* = 100 years, no reversal

Solve permanence criteria by placing a conservation covenant on the land, with a legally binding commitment to manage land for carbon into the next 100 years.

You need a land trust to do this.

Principles and Language

- *Conservatism* = use lower offset amount than optimum
- *Standards* = methods used in measuring, calculations and reporting
- *Default values* = proxy values where no measured data
 - usually less than measured on Conservation lands

Challenges



- Carbon measurements are technical (soil)
- Many standards have strict requirements
- Cost money
- Ecosystem service valuation evolving rapidly, few standards
- Assigning monetary value difficult
- No BC compliance projects yet
- Expensive for small projects
- Risk off-setting, partial or full failure

Case Study: Darkwoods

- **Name:** Darkwoods SE BC -- voluntary
- **Seller:** Nature Conservancy Canada
- **Buyer:** public, exploring various markets
- **Standards:** CCAR (California),
- **Activity:** REDD, IFM and ARR
- **Additionality:** avoided logging,
- **Cost:** in development, expensive
- **Comment:** huge property, many ecosystem services, carbon sink and sequestration value part of selling point

Case Study: Garcia River

- **Name:** Garcia River, California – “compliance”
- **Seller:** The Conservation Fund (land trust)
- **Buyer:** Traditional supporters and Climate Smart Program
- **Standards:** CCAR
- **Activity:** REDD, IFM ARR
- **Additionality:** Conservation plus reduced logging
- **Cost:** very expensive, but serves as model
- **Comment:** carbon and ecosystem services, first validated conservation project under CCAR, template on-line

Case Study: Lompico Forest, California

Name: Lompico Forest, California --Voluntary

Seller: Sempervirens Fund, (land trust)

Buyer: Pacific Gas Utility

Standards: Calif. Climate Action Registry

Activity: REDD=conservation

Additionality: avoided logging

Cost: privately funded, expensive

Comment: small, formally registered using high CCAR standards

Recommendations

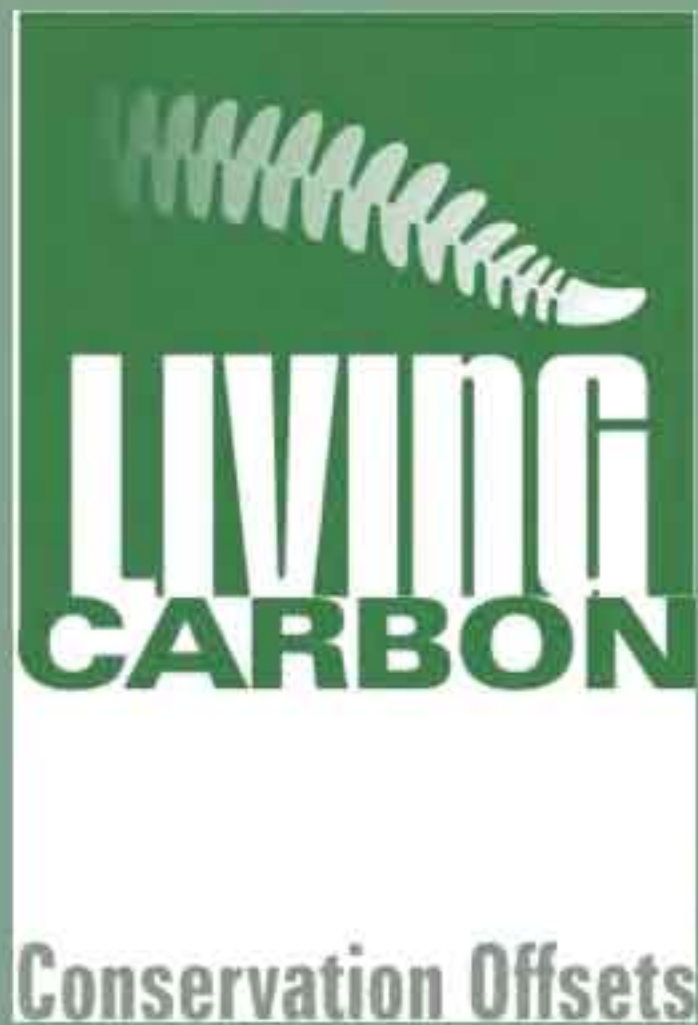
- Offsets a major funding opportunity
- \$Billion\$ and growing
- Small areas and amounts, voluntary and simple
 - Carbon is an added value
- Large areas and amounts, compliance and complex
 - Worth getting involved , especially in BC

A photograph of a tall, slender evergreen tree, possibly a Douglas fir, with a light-colored trunk and dense green foliage. The tree is set against a clear blue sky. The image is framed by a light green border on the left and right sides.

Where is
Land Trust
Alliance of
BC now?

1. Part of a team invited to **draft forest protocols** with 13 other ENGOs, Ministry of Forests and PCT. Hoping list will be accepted as legitimate carbon activities by PCT in 2011.

2. Setting up **Living Carbon**, an enterprising non-profit, that develops projects for conservation credits to fund the conservation of lands.



3. Setting up first **Living Carbon pilot project for 2010.**

Attracted investors/buyers with commitment to purchase 1 million credits. Currently on Phase 1 of evaluating 10+ properties from around BC including ones with local government.

Name: Western Forest Product lands

Local government: Capital Regional District

Trust: The Land Conservancy of BC (TLC)

Location: Sooke

Size: 2350 hectares

Ecosystem: Coastal Douglas-fir second growth

Landownership: CRD

parklands/watershed/carbon buffer forest

Covenant: TLC

Carbon activity: REDD, ARR

Saleable offsets: approx. 250,000 tonnes

Description: Carbon revenues are part of the funding equation, e.g. 65% park levy, 25% carbon, 10% donation

Forest conservation strategies must become an integral part of our climate action approach.



Four pivotal BC reports that have come out in the last year:

1. **New Climate for Conservation: Nature, Carbon and Climate Change**

Dr. Jim Pojar (past BC Ministry of Forests, chief Forest Ecologist)

<http://www.landtrustalliance.bc.ca/docs/NewClimateforConservation.pdf>

Recommendations:

1. **Integrate nature conservation strategies with climate action strategies.**
2. **Broaden core protected areas into a climate conservation network. An additional 35% needs to be managed for biodiversity and carbon.**
3. **Introduce new tools and incentives, e.g., ecosystem and species at risk, conservation offsets**
4. **Provide incentives for stewardship in every sector.**
5. **Take the lead on carbon/biodiversity valuation.**
6. **Establish principle that humans are part of nature and our survival is intertwined with survival of nature.**

2. Credible Conservation Offsets for Natural Areas in British Columbia - Summary Report 2009

Dirk Brinkman and Dr. Richard
Hebda

<http://www.landtrustalliance.bc.ca/>

The technical report outlines the principles of valuing carbon and ecosystem services, and summarizes the rapidly changing institutional framework, mechanisms and markets for originating and selling of offsets for nature conservation in BC. Pioneering case studies are profiled to show the range of emerging opportunities and challenges for developing carbon/conservation offsets in both the voluntary and compliance markets.

3. Managing BC's Forests for a Cooler Planet: Carbon Storage, Sustainable Jobs and Conservation

Ben Parfitt

CCPA; BC Government and Service Employees' Union; Communications, Energy and Paperworkers of Canada; David Suzuki Foundation; Pulp, Paper and Woodworkers of Canada; Sierra Club BC; United Steelworkers District 3 – Western Canada; and Western Canada Wilderness Committee.

www.policyalternatives.ca/newsroom/news-releases/woodworking-unions-and-environmentalists-propose-bold-new-plan-protect-forest

The report calls for:

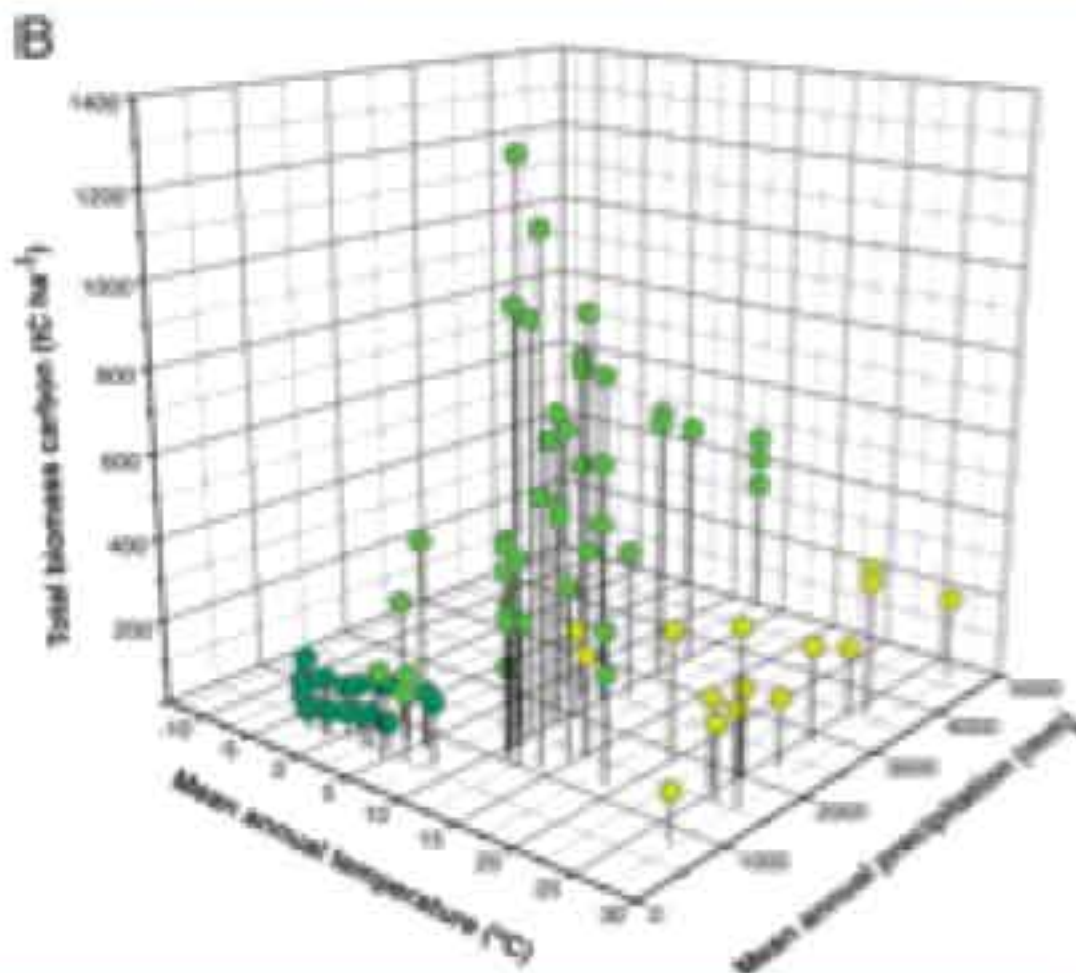
- * **Increased forest conservation**
- * Longer timeframes between logging
- * Replacing the current calculation of how much forest is logged — the AAC or Allowable Annual Cut — with an entirely new approach based on the carbon stored in trees and known as the Carbon Cut Calculation or CCC
- * **Accounting for all forest carbon credits and debits**

**4. Staying the Course, Staying
Alive - Coastal First Nations
Fundamental Truths: Biodiversity,
Stewardship and Sustainability**

Frank and Y. Kathy Brown

Biodiversity BC

"This year is the United Nations International Year on Biodiversity and what should be a time of celebration is a troubling occasion. Scientists believe that the world is in the midst of a biodiversity crisis on par with earlier mass extinction events in the earth's history – some 17 thousand species are now threatened with extinction. This precipitous decline in plants and animals threatens not only ecosystem health, but also the health and wellbeing of human communities that are dependent upon the "ecological goods and services" that nature provides – particularly for indigenous peoples."



Re-evaluation of forest biomass carbon stocks and lessons from the world's most carbon-dense forests, Heather Keith, Brendan G. Mackey, and David B. Lindenmayer, PNAS 2009

Northern Pulp Biomass Harvest Site

Nov., 2009 – Nova Scotia



Clear lack of standards to protect biodiversity
and were forest carbon stores accounted for?