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# New Trends and Opportunities in Carbon Markets


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## Summary

CO2 in the atmosphere has increased by 30%  
 Temperatures have risen by 0.8 degrees C since 1880  
 Land use change contributes around 20% global emissions  
 Deforestation is 1.6Gt/yr compared to 6.3Gt/yr from fossil fuel and cement  
 Doubling of CO2 leads to 1.5-4.5 degrees increase  
 Dangerous climate change after 2 degrees


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## Global carbon markets

- Regulated Markets (Kyoto & other compliant)
  - Global markets valued at **US\$176 billion** in 2011, representing 10.3 billion tonnes of CO2e (World Bank)
  - Carbon price forecast \$7.50-\$51 between 2013-2020 with regional North American cap-and-trade (Western Climate Initiative) (Thomson Reuters/Point Carbon)
  - Offset demand in WCI expected to be worth between **\$4B - \$10B** (Thomson/Point Carbon)
- Voluntary/Corporate Social Responsibility (CSR) Markets
  - Global market grew from 12 Mt in 2004 to 93 Mt in 2011, representing **USD \$576 million in value** (Ecosystem Marketplace)
- Total international carbon market to be between **\$670 billion to 2.0 trillion** by 2020 (Point Carbon)


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## Future Growth: Compliance Markets

- California and Quebec: Emissions Trading Systems
  - Estimated demand of over **200 million offsets** under AB-32 in California between 2013-2020, with offset prices ranging from \$7.50 - \$51 per tonne
- Alberta – Specified Gas Emitters Regulation (SGER)
  - ~ **160 million tonnes** of CO2e to 2020, carbon price expected to be \$25+ /tonne
- Federal Oil and Gas Regulations
  - National sectoral regulations which would create demand for **30-65 million offsets**.
- British Columbia
  - LNG regulation with possible effect in 2013, with 2018 rollout
  - Up to **14 million tonnes** per year of offset obligations
- Jurisdictional Nested REDD Initiative (JNRI) in the DRC
  - Recognition by 2014-15, potential for **Mai Ndombe tonnes** to be accepted into bilateral markets.

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## BC's markets want low carbon solutions




**\$25B** (Western Europe), **\$4B** (China), **\$2B** (South Korea), **\$4B** (Japan), **\$0.1B** (India), **\$0.2B** (Australia), **\$0.06B** (New Zealand), **\$7B** (US)

**\$25B per year | 88% of Exports**

Western Europe: 2020 Target (EU): -20-30%, Carbon tax in several states, Cap and trade  
 China: 2020 Target: 15%, Renewable Energy, Preparing cap and trade  
 South Korea: 2020 Target: -15%, Preparing cap and trade  
 Japan: 2020 Target: -25%, Carbon Tax, 2016 cap and trade, Preparing cap and trade  
 India: 2020 Pledge: -20-25% emissions intensity, Renewable targets and efficiency programs  
 Australia: 2020 Target: -8-25%, Carbon Tax in 2017  
 New Zealand: 2020 Target: 10-20%, Cap and trade  
 US: Regulating GHG emissions, California cap and trade

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## Summary

Existing regulated market is large, anchored in Europe and flat  
 New market mechanisms in BC, AB, California and Quebec  
 Multiple jurisdictions testing the ground with carbon markets  
 Debate about what is the best approach to pricing carbon

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## Voluntary markets

Orders of magnitude smaller at \$576m and 95Mt  
 Companies invest in order to demonstrate leadership or to differentiate  
 Convergence of quality assurance approaches.  
 Offer full range of carbon management services  
 Employee retention

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## Carbon Management Solutions

Step 1: GHG Inventories	Step 2: Analytics & Advisory	Step 3: Carbon Reduction Opportunities	Step 4: Marketing & Communication
Carbon Management Solutions			
GHG Inventory Quantification	Carbon Risk Assessment	Offset Origination Opportunity	Marketing Strategies
Lifecycle GHG quantification	Inventory Risk Management	Internal Offset Project Assessment	Communications Support
GHG Reporting	Policy & Market Risk Analysis	Carbon Credit Procurement	Employee Training and Workshops

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## What is Carbon Neutral?

1. Understand your emissions.  
 Utilities  
 Fuel  
 Paper  
 Shipping  
 Packaging  
 Commuting  
 Waste

2. Reduce Direct Emissions  
 Behaviour (energy use)  
 Purchasing  
 Infrastructure

3. Offset the Balance  
 (with high quality carbon credits)  
 Report Publicly

4. You're Carbon Neutral  
 (net zero emissions)

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## How Offsetting Works

Investment in offsets

Investment funds CO<sub>2</sub> reductions elsewhere

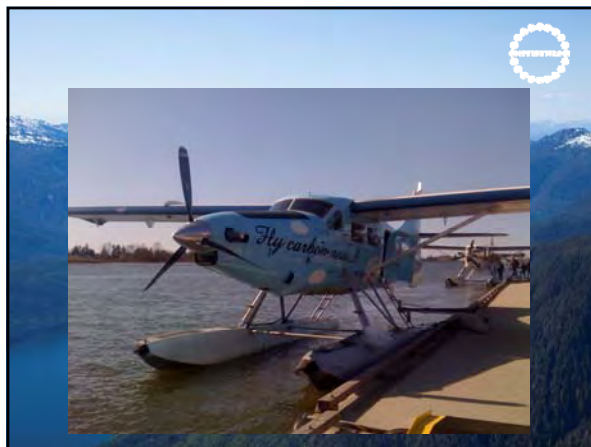
Unavoidable CO<sub>2</sub> emissions

Offset investment cycle

Quantified CO<sub>2</sub> reductions become offsets

Tonnes are retired on investor's behalf

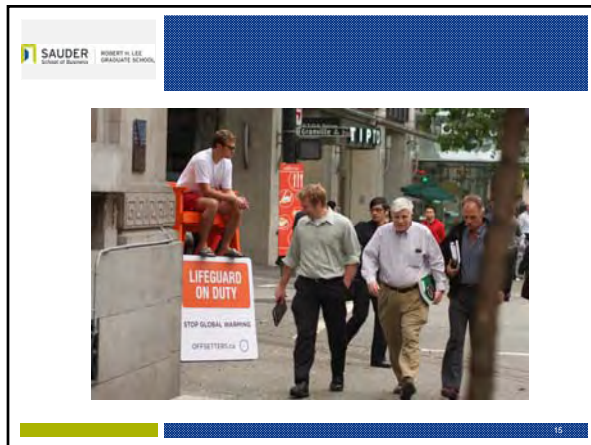
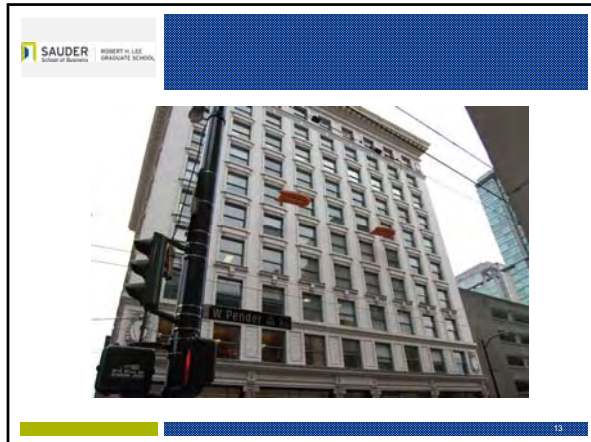
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- LCA of coffee production: 1.8kg per 400g bag
- 2% emissions from growing the beans
- 39% from consumer transport and consumption, 24% from waste disposal
- 2.9m impressions
- \$225,000 earned media

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**Project: Mai Ndombe, DRC**



**PROFILE:** Forest Conservation in the DRC  
**LOCATION:** Congo River basin, DRC  
**TYPE:** REDD+ (Reducing Emission from Deforestation and Degradation)  
**CREDITS:** 2.5 million tCO<sub>2</sub>e / per year  
**STANDARD:** VCS and CCB Gold

**STATUS QUO:** Logging, deforestation & conversion to agriculture  
**INNOVATION:** Preserving 300,000 hectares of Tropical and swamp forest in central part of Congo River basin

**RESULTS:**

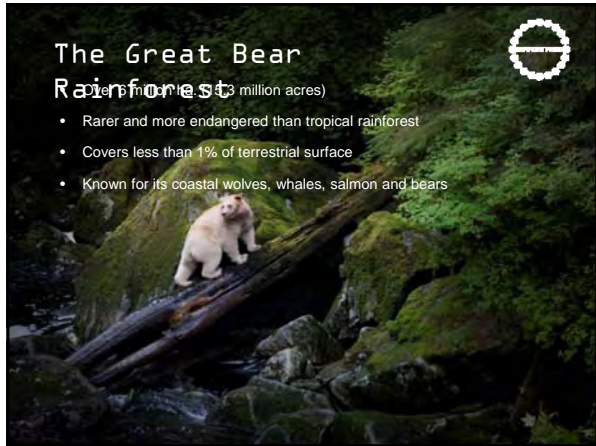
- Low-carbon economic development for local communities
- Enhanced livelihoods and food security for local communities
- Improved access to quality health and education
- Protect rare and ecologically valuable species
- Balance the sustainable use of natural resources



The Great Bear Rainforest







## The Great Bear Rainforest

13 million acres

- Rarer and more endangered than tropical rainforest
- Covers less than 1% of terrestrial surface
- Known for its coastal wolves, whales, salmon and bears



## First Nations Communities

Over 100 First Nations Communities

- Seven in Great Bear Initiative Society
- Five in the Nanwakolas Council Society
- Over 7,000 First Nations people live in the region



## Ecosystem Based Management

- After decades of conflict over logging, EBM approach adopted
- 50% of the Great Bear is now protected from logging
- Forest is valued as a balanced ecosystem that sustains biodiversity and vibrant communities



## Forest Carbon Project

Project Type: Improved Forest Management  
 Project Standard: BC's Forest Carbon Offset Protocol (FCOP)  
 Project Volume: up to 1 million tonnes/year  
 Validated: Stantec  
 Verified: KPMG



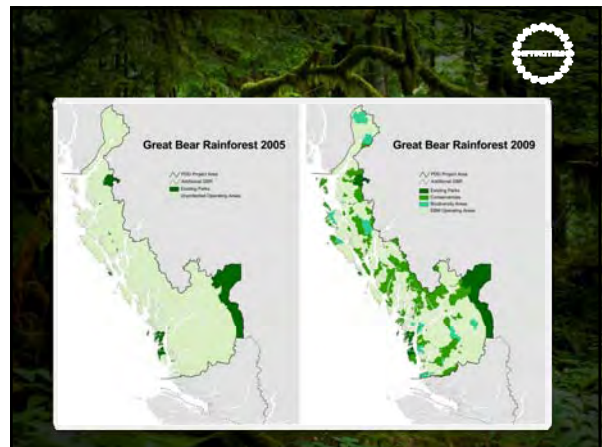
## Forest Carbon Project

The first carbon project in North America on traditional territory with unextinguished Aboriginal rights and title

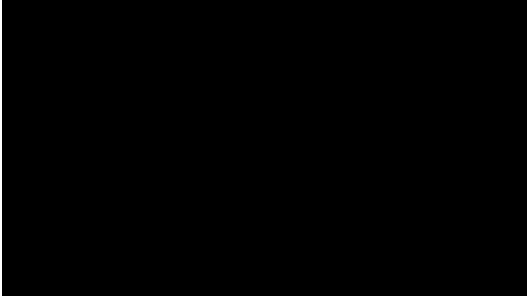
Revenue from the sale of carbon offsets is returned to First Nations Communities for

- Training and employment, supporting the communities and the cultures that originated here
- The development of a conservation economy that values the natural capital of the area

This project demonstrates a model for sustainable development



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## Conclusions

- Regulated markets emerging where forests play a role in sequestration
- Companies can build brand equity by taking leadership positions on climate change
- High quality environmental management systems provide a foundation
- Alignment between the environmental solution and the brand is key
- Its OK to be funny.

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