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CO<sub>2</sub>e  
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- CO2e.com is where businesses can find:
  - brokerage of greenhouse gases, renewable energy, and other related environmental instruments
  - advisory services for Clean Development Mechanism, JI and other Offset projects and portfolios
  - climate neutral solutions
  - structured environmental financial products
  - integrated trading technology for trading of commodities and bilateral instruments
  - advisory and technical services from associated firms
  - information, research, tools and resources

- The market for project-based reductions
- Forestry's role in those markets
- What is restricting supply/demand?
- What is the outlook for 2008 and beyond?

# The Context



# Carbon Finance vs. Project Finance

- Most buyers of carbon purchase ERs generated by a CDM project as a commodity. Very few invest either equity or debt in a project and get the emission reductions as part of its returns.
- Buyers also tend to pay for the carbon on delivery to reduce their exposure to project risks.
- Although this future cash-flow adds to the Internal Rate of Return, the projects often need upfront financing to cover construction costs. (particularly since there is virtually no demand for post 2012 CERs)

2004 volumes: 90 million tonnes transacted

2004 market value: USD\$350 million

For project-based credits:

- Japanese companies still main private sector buyers
- Excess demand – increasing rapidly now from the EU
- Secondary market for CERs emerging

- No baseline and monitoring methodology for afforestation and reforestation CDM project activities has yet been approved by the Executive Board (only 3 have been put forward).
- A/R projects represent only 4% of the total volumes traded in 2004
  - Biomass: 14%
  - LFG: 18%

Companies are looking for the most risk-free volumes at least cost. Additional SD benefits aren't affecting most buying decisions, because:

- Host country SD approval is already taking place
- Who defines/ranks additional benefits and when? (Gold Standard)
- Supply too scarce for ranking of projects beyond risk and price



Typical pricing for CER paid for on delivery is currently USD \$5.00 to \$6.00. Prices are expected to begin to converge with EUAs as CER trading risks reduce and secondary market for CERs develops. What are those risks?

- Underlying technology risk (familiarity)
- Political risk of not becoming compliance instruments (measurement)
- Credit risk (financial stability of project developers)
- Size of the underlying project (lag time)
- Delivery risk (permanence)

## 1. Temporary credit

- represents storage of 1 tonne of CO<sub>2</sub>e for 1 year
- LFE would be required to replace temporary credit after one year

## 2. Permanent credit

- represents permanent storage of 1 tonne of CO<sub>2</sub>e
- liability for replacement if the sink is reversed will be shared between project proponent & government (insurance?)

So they are not fully fungible (and potentially not cost-effective) and need to be tracked and monitored for replacement.

What could drive increased interest in forestry projects as a source of carbon credits in Canada?

- Regulation allowing public and private-sector purchases
- Approved methodologies
- Political approval of forestry credits as part of post-2012 regime
- Preparation/Bundling of supply – average carbon transaction size is 1-3 million tonnes
- Access to international demand and pricing: the federal gov't will offer LFEs the option to contribute to a technology fund at \$15 per tonne for any shortfall. What does this mean for developers of forestry (or any other) offsets in Canada?

- renewables: 0.5 - 3 Mt/year
- forests: > 4 Mt/year
- agriculture: 10 Mt/year
- landfills: 8 -10 Mt/year
- energy efficiency: 0.5 - 2 Mt/year
- other: 1 - 3 Mt/year

Total: ~30 MT/year

Amount the Canadian gov't needs: ~100 MT/year

**Canada**

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