LCE> Vol.3 No.4, December 2012

OPEN ACCESS

Carbon Credits on Private Lands in British Columbia

PDF (Size:124KB) PP. 144-153 DOI: 10.4236/lce.2012.34019

Author(s)

Balbinder Deo, Han Donker, Michael Schulz

ABSTRACT

This study assesses the production potential of carbon credits on private land in Central British Columbiathrough pine forest plantation projects. This study identifies the quality characteristics for determining the quality standards for carbon credits, and then uses those quality characteristics along with the standardized procedure to assess the quality and quantity of carbon that can be fixed in forest projects and thus be registered on the carbon exchange as carbon credits or offsets for trading on per hectare basis. Using the Table Interpolation Program for Stand Yields (TIPSY) which is a tree growth simulation model, sites of various productivities (Site Index values of 24, 21, 18, and 12) in the PGTSA, BC, Canada were modeled to generate data related to stands of trees for timber volume, lumber production, and subsequent carbon credit/offsets generation. Using data and information from the industry and the Government of British Columbia Ministry of Forests and Range (BCMoFR), cost-related data for forest stand establishment and maintenance was generated. Using market pricing methodology for offsets in the "over the counter" (OTC) market, Internal Rate of Return (IRR) calculations were performed. The results of the study indicated that rate of return varied in the range of 0.27% to 0.51% over a period of 57 to 100 years. Only three out of sixteen modeled production scenarios indicated positive rates of return. Overall, the study concluded that sequestering carbon in forest projects on private land inPGSTA,BCis not restricted by any production quality criterion, but that it is financially unviable given the current costing and carbon offset pricing regimes.

KEYWORDS

Production Potential; Forests; Carbon Credits; Private Land

Cite this paper

B. Deo, H. Donker and M. Schulz, "Carbon Credits on Private Lands in British Columbia," *Low Carbon Economy*, Vol. 3 No. 4, 2012, pp. 144-153. doi: 10.4236/lce.2012.34019.

References

[1] K. Hamilton, M. Sjardin, T. Marcello and G. Xu, "Forging a Frontier: State of the Voluntary Carbon Markets 2008," New Carbon Finance and Ecosystem Marketplace, New York, 2008.

[2] T. Rotherham, "Discussion of Various Policy and Technical Aspects of Forest Carbon Protocols and Forest Carbon Project Management," Discussion Paper, Vol. 1, Canadian Federation of Woodlot Owners, Canada, 2009.

[3] M. Greig and G. Bull, "Carbon Management in British Columbia's Forests: Opportunities and Challenges," Forrex Forum for Research and Extension in Natural Resources Society, Kamloops, 2009.

[4] T. Neeff and S. Henders, "Guidebook to Markets and Commercialization of Forestry CDM Projects," Tropical Agricultural Research and Higher Education Center (CATIE), Turrialba, 2007.

[5] X. Niu and S. Duiker, "Carbon Sequestration Potential by Afforestation of Marginal Agricultural Land in the Midwestern US," Forest Ecology and Management, Vol. 223, No. 1-3, 2006, pp. 415-427. doi:10.1016/j.foreco.2005.12.044

[6] Pacific Carbon Trust, "Pacific Carbon Trust Annual Service Plan Report 2008/9," Pacific Carbon Trust,

• Open Special Issues
• Published Special Issues
• Special Issues Guideline

LCE Subscription

Most popular papers in LCE

About LCE News

Frequently Asked Questions

Recommend to Peers

Recommend to Library

Contact Us

Victoria, 2009.

[7] K. Hamilton, R. Bayon, G. Turner and D. Higgins, "State of the Voluntary Carbon Market 2007: Picking up Steam," Ecosystems Marketplace and New Carbon Finance, New York, 2007.

[8] L. Ashford, J. Calvert, T. Neeff, et al., "The Forest Carbon Offsetting Survey," 2009. http://www.greenbiz.com/research/report/2009/04/17/forest-carbon-offsetting-survey-2009

[9] A. Kollmuss, M. Lazarus, C. Lee and C. Polycarp, "A Review of Offset Programs: Trading Systems, Funds, Protocols, Standards and Retailers," Stockholm Environment Institute, Stockholm, 2008.

[10] J. L. Beane, J. M. Hagan, A. A. Whitman and J. S. Gunn, "Forest Carbon Offsets: A Scorecard for Evaluating Project Quality," Manomet Center for Conservation Sciences, Brunswick, 2008.

[11] M. Kim, B. A. McCarl and B. C. Murray, "Permanence Discounting for Land-Based Carbon Sequestration," Ecological Economics, Vol. 64, No. 4, 2008, pp. 763-769. doi:10.1016/j.ecolecon.2007.04.013

[12] G. Marland, K. Fruit and R. Sedjo, "Accounting for Sequestering Carbon: The Question of Permanence," Environmental Science & Policy, Vol. 4, No. 6, 2001, pp. 259-268. doi:10.1016/S1462-9011(01)00038-7

[13] C. Palmer, M. Ohndorf and I. A. MacKenzie, "Life's a Breach! Ensuring 'Permanence' in Forest Carbon Sinks Under Incomplete Contract Enforcement," Institute for Environmental Decisions, Zurich, 2009.

[14] R. T. Watson, I. R. Nolin and B. Bolin, "Land Use, Land-Use Change, and Forestry: A Special Report of the Intergovernmental Panel on Climate Change," Cambridge University Press, Cambridge, 2000.

[15] A. Black, R. S. Jassal and A. L. Fredeen, "Carbon Sequestration in British Columbia's Forests and Management Options," Pacific Institute for Climate Solutions, Victoria, 2008.

[16] W. A. Kurz, C. C. Dymond, T. M. White, G. Stinson, C. H. Shaw, G. J. Rampley, C. Smyth, et al., "CBM-CFS3: A Model of Carbon-Dynamics in Forestry and Land-Use Change Implementing IPCC standards," Ecological Modeling, Vol. 220, No. 4, 2009, pp. 480-504. doi:10.1016/j.ecolmodel.2008.10.018

[17] K. J. Lewis, "Forestry and the Forest Industry in the Central Interior of British Columbia," Western Geography, Vol. 12, 2002, pp. 185-215.

[18] B. Lim, S. Brown and B. Schlamadinger, "Carbon Accounting for Forest Harvesting and Wood