

Title: Economic optimization of sustainable energy systems based on forest resources with consideration of the global warming problem: International perspectives

Dr. Peter Lohmander

Professor of Forest Management and Economic Optimization
Swedish University of Agricultural Sciences, SLU
Sweden

Abstract

The forest is the Worlds largest sustainable biomass resource. National forest production capacity utilization levels are very different. In Russian Federation and Canada, sustainable harvest levels are very much higher than present harvests. Sustainable energy systems, global warming, economic development, industrial processes, infrastructure, logistics, forest resource management and international trade, are interdependent topics. An operations research approach to the total optimization problem is suggested, that maximizes the expected present value and takes the CO2 considerations into account in different forms. In order to generate optimal total results, infrastructure investments have to be coordinated with forest utilization expansion. Furthermore, all other related decisions have to be handled in an optimal way. It is possible to generate considerable economic results and simultaneously reach the CO2 targets. It is important to update existing national forest laws and regulations and to investigate the problems without considering national boundaries as strict constraints. Economics and environmental issues are global topics and have to be treated as such, in the interest of general economic development and the sustainability of life on our planet.

Biography

Peter Lohmander obtained MSc exam with thesis in mathematical statistics, in 1981. He defended his doctor of forestry thesis in forest economics, SLU, 1987, and became acting professor in forest economics, SLU, 1990. He was declared as competent, and as the most competent of three competent applicants, for professorship (by all the three referees) in forest economics, SLU, 1990. He became associate professor of forest economics, SLU, 1995 and was declared competent for professorship (by all the three referees) in forest planning, forest management, SLU, 1995. Peter Lohmander was appointed professor of forest management and economic optimization, SLU, faculty of forest sciences, 2000. Furthermore, he was declared competent (by all the three referees) for professorship in industrial economics, SLU, 2009. Lohmander is presently developing the global project: *“Rational and sustainable international policy for the forest sector - with consideration of energy, global warming, risk, and regional development”*.

Peter Lohmander has recently chaired these international conferences:

2010: “European Biomass and Bioenergy Forum”, MarcusEvans, Stockholm, Sweden, September 13-15, 2010.

2009: “European Biomass and Bioenergy Forum”, MarcusEvans, London, UK, 8-9 June, 2009.

2009: “Economics of Forestry and the Forest Sector”, Saint Petersburg, Russia, 26-27 March 2009.

2008: “Energy Forum”, Stockholm, 6-7 Feb 2008.

2007: “Operations Research in the Forest Sector”, INFORMS International, Puerto Rico, USA, 2007”

Peter Lohmander has been the supervisor and advisor of five PhD students that have already defended their doctor degrees and become doctors. Two of these former PhD students are now professors. Three of his PhD students that have obtained their PhDs have come from P.R. China, one from Iran and one from Sweden.

Peter Lohmanders website: <http://www.lohmander.com/>