

Dear Sirs,
Enclosed please find an abstract for the energy conference in Teheran 24-27
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Abstract:
Market power in hydro-dominated electricity generation
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The use of market power is a potential problem of the newly deregulated electricity sector in several countries. California experienced a breakdown of the regulatory system in 2001/2002 based on market mechanisms. Norway experienced a period with quadrupling of spot market prices autumn 2003, but the market system withstood the strain quite well. The role of market power has been studied carefully in the case of the California crisis, and is also studied for the later events in Norway. There are inherent problems of discovering whether market power has been used or not studying aggregate market data. The purpose of the paper is to present the basic implications of use of market power in a pure hydro system like in Norway, introducing foreign trade of electricity and in a combined hydro and thermal system like in Nord Pool covering the Nordic countries. The standard approach of identifying use of market power by comparing marginal production costs with price does not work well in a pure hydro setting, because hydro power is a special case with zero variable cost, high effect capacity and water storage implying that water can be used very flexibly whenever the producer decides (within his physical limitations). The basic driving force of market power in a hydro system is to reschedule the use of water over time such that marginal revenues are equalised. Water spillage may not be optimal, and then total supply is not constrained as in the standard market power case, just redistributed over time. Constraints on hydro reservoirs and trade volumes modify the basic rescheduling in more or less intricate ways.