

Abstract: Former generation capacity expansion models were formulated as optimization problems. They included a reliability criterion that guaranteed security of supply. The situation is different in restructured markets where investments need to be incentivised by the margin accruing from electricity sales after accounting for fuel and possibly carbon costs. We formulate an equilibrium model of the electricity sector with both investments and operations. Electricity prices are set at the fuel and carbon cost of the most expensive operating unit when there is no curtailment, and at some regulated price cap when there is curtailment. There is a CO<sub>2</sub> market and different policies for allocating allowances. We focus on some of the risks faced today by investors in generation capacity.