

# Characterizing Industrial Efficiency Opportunities in Energy Models

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## *Abstract*

Technology representation is a challenge for most integrated energy-economic policy models. Supply curves are one opportunity to include a non-linear representation of technology and technological change in aggregated policy models. Moreover, supply curves are a common tool in economics. Based on a recent set of energy efficiency technology characterizations for major energy end-use sectors, we have constructed a new methodology to convert discrete technology representations into production isoquants for use in a variety of energy policy models. Following in the tradition of both the LIEF and AMIGA modeling systems, this representation provides a new way to simplify the representation of efficiency investments – given existing hurdle rates or implicit discount rates, changes in energy prices, and level of expected energy savings for a given fuel or energy resource. In this paper we will describe how that methodology can be applied and describe some working results for the U.S. industrial sector. It is hoped the methodology outlined in this paper will be useful to developers of energy-economic policy models.