

Hydrogen Infrastructure Modeling in USEPA-MARKAL

Ken Harrison

U.S. EPA ORISE Fellow, Triangle Park, NC, USA
<harrison.kenneth@epa.gov>

A national USEPA-MARKAL model is being developed to assess the potential evolution of environmental stressors due to technological change in the energy and transportation sectors. In this paper, the USEPA-MARKAL modeling of the infrastructure necessary to refuel hydrogen fuel cell cars will be described. The focus will be on practicable approaches to modeling the infrastructure within the confines of a linear programming framework. Strategies will be described for capturing the important factors affecting the costs of delivering hydrogen (e.g., car density) and handling the economies of scale in hydrogen production, pipeline transport, and refueling stations. In addition, issues in transitioning to a hydrogen infrastructure will be discussed.

Abstract for the International Energy Workshop
jointly organized by the
Energy Modeling Forum (EMF), International Energy Agency (IEA) and IIASA.
24-26 June 2003 at IIASA Conference Center, Laxenburg, Austria