

VISION Model

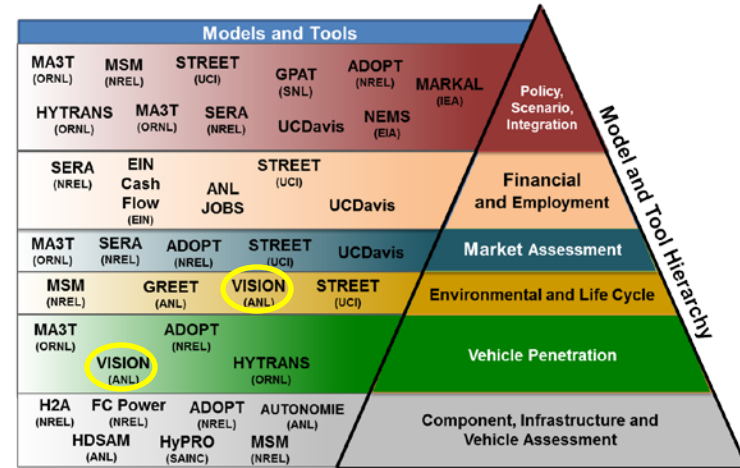
(Argonne National Laboratory)

Objectives

To provide estimates of the potential energy use, oil use, and carbon emission impacts of advanced light- and heavy-duty highway vehicle technologies and alternative fuels, up to the year 2100.

Key Attributes & Strengths

Uses vehicle survival and age-dependent usage characteristics to project total light- and heavy-vehicle stock, total vehicle miles of travel, and total energy use by technology and fuel type by year, given market penetration and vehicle fuel economy assumptions developed exogenously. Total carbon emissions for on-highway vehicles by year are also estimated. VISION complements the NEMS model with its relative “user-friendliness” and by extending the time frame of potential analysis. Can be used to respond rapidly to quick turnaround requests, as well as for longer-term analyses.



Platform, Requirements & Availability

Spreadsheet model in Microsoft Excel that consists of two Excel workbooks: a Base Case of U.S. highway fuel use and carbon emissions to 2100, and a copy of the Base Case that can be modified to reflect alternative assumptions about advanced vehicle and alternative fuel market penetration. Publicly available at: http://www.transportation.anl.gov/modeling_simulation/VISION/.

