

Visionary energy proposal

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With the president's farsighted commitment of resources to the development of a hydrogen economy in the United States, America is taking its first concrete steps in addressing the fundamental problem of our dependence on foreign oil. Since the first OPEC shock, the need for change in energy policy has been apparent, but viable changes have been slow to develop.

President Bush's billion-dollar pledge to development and implementation of hydrogen fuel cell vehicles has focused the nation on where we need to arrive. The more problematic question is how do we get there from here?

Americans are by and large unfamiliar with gaseous fuels, such as hydrogen, and the nation currently lacks an appropriate infrastructure to deliver them to the vehicle market. Fuel cell technology, too, is in its infancy. In order to achieve a hydrogen economy with its benefits of fuel efficiency, environmental windfalls and increases in national security, America needs to develop and follow a transitional plan.

The key to this plan rests with natural gas vehicles.

When alternatives to petroleum-derived fuels were initially investigated, natural gas seemed a logical choice. The U.S. had large domestic supplies; it could be used in conventional internal combustion engines and was environmentally superior.

Two major obstacles, however, impeded development: achieving the necessary driving range and constructing a fueling infrastructure. Recent advances address both of these obstacles.

The first of these is hybrid technology. Currently, hybrid vehicles combine electric power and oil-based fuels dramatically reducing fuel consumption. Using natural gas in such vehicles would solve the range problem. The refinement of natural gas "home fueling" units helps address infrastructure limitations.

The creation of hybrid vehicles combining electricity and natural gas will provide the impetus for the gradual acceptance of gaseous fuels by the American public.

The transition to natural gas vehicles will logically originate in fleet vehicles. Fleets, such as municipal buses, for example, typically are based in central depots, leaving in the morning and returning at night. This makes it possible to place a fueling station in one location where the vehicles can be fueled overnight.

Following the initial focus on fleet operations, natural gas vehicles can progress from commercial to personal usage. The majority of homes in the United States are currently serviced by a natural gas line, which allows for the installation of home fueling stations.

Canadian-based FuelMaker Corp. has already developed the technology for home fueling stations with full production slated for the latter part of 2003. The cost of installing a home fueling station will be rapidly absorbed through the savings resulting from the lower price of natural gas compared with oil-based fuels.

Private sector natural gas companies will have economic incentives to encourage home fueling stations and provide the necessary infrastructure due to the fact a vehicle will consume 4 times as much natural gas in the course of a year than will a typical household.

Along with the development of home fueling stations, natural gas will be able to piggyback on the existing fueling infrastructure. Prior to the first OPEC shock, one would have been hard-pressed to find a diesel pump outside of truck stops; now with the existence of a diesel vehicle market, virtually every fuel station has at least one diesel pump. This gradual addition of diesel to the fueling infrastructure sets the stage for a similar piggyback strategy with natural gas.

The incremental development of the natural gas infrastructure would enable it to grow at a pace where development expenditures are equaled by increasing revenues as the technology gains popularity.

Enormous benefits will be garnered on many fronts during this transitional natural gas phase. Energy security will dramatically increase, as natural gas is a domestic resource with supplies in the United States, Canada and Mexico projected to last at least 200 years. The development of this domestic fuel will generate economic activity in the United States, providing much-needed revenue and employment opportunities.

America could position itself as a world leader in natural gas technology and develop a new export market. While not as environmentally clean as hydrogen, it is the cleanest of all fossil fuels. Therefore, a transition to natural gas fuels will dramatically reduce the level of air pollution since natural gas produces much lower levels of harmful emissions per mile than oil-based alternatives.

With the widespread acceptance of natural gas vehicles, the leap to hydrogen becomes just another step forward on a treatment plan to reduce our dangerous addiction to foreign oil.

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