

## ***The Partnership for a New Generation of Vehicles— Industry/government partners working to build an 80 mpg car and revitalize the American auto industry***

In the 1950s, nearly all of the cars sold in America were made in America, as were more than 3/4 of the cars sold worldwide. With increasing competition from foreign automakers, the American auto industry, which accounts for 1 in 7 American jobs, has since lost substantial market share both domestically and abroad. The domestic market share for American cars slipped below 75% in the late 1980s, and, by the early 1990s, fewer than 20% of the cars on roads worldwide were made in America.

Individual automobile manufacturers have in recent years made significant inroads in reversing these trends, further improving the quality and value of their products. In 1993, they recognized an opportunity to achieve a quantum leap in strengthening U.S. automotive competitiveness by leveraging the expertise of a diverse group of private and public sector partners.

### **Effort begun by Presidential initiative**

The Partnership for a New Generation of Vehicles (PNGV) is a result of a vision shared by President Clinton, Vice President Gore, and the CEOs of the Big Three automakers—Chrysler, Ford, and General Motors. They joined together on September 29, 1993 to announce that they would work in tandem to achieve three aggressive, interrelated R&D goals:

- develop manufacturing techniques to reduce the time and cost of automotive development

- improve fuel efficiency and emission performance
- develop a vehicle with up to three times the fuel efficiency of today's cars while maintaining or improving safety, performance, and price

The first two goals are shorter term and will help form a foundation for meeting the third and most ambitious goal. An aggressive timetable has

been established, with a concept vehicle capable of providing 80 miles-per-gallon due within six years and a production prototype due within ten years.



*President Clinton announces a partnership with automakers for developing the car of the future.*

### **An unprecedented scope of industry/government cooperation**

In early 1991, Chrysler, Ford, and General Motors formed a historic cooperative partnership called the U.S. Council for Automotive Research (USCAR) to share technology in selected research areas. In one effort under the USCAR umbrella, the U.S. Advanced Battery Consortium, the Department of Energy joined with USCAR to pool technical resources and expertise to

develop electric vehicle batteries with greater storage capacity quickly, effectively, and cost-effectively.

These efforts laid the groundwork, but the scope of the partnership represented by PNGV is on a scale never before envisioned. Led by the Department of Commerce (DOC), it includes nearly every area of the Federal government involved with transportation-related technologies and policies: DOC, Department of Defense (DOD), Department of Energy (DOE), Department of Transportation (DOT), National Aeronautics and Space Administration (NASA), Environmental Protection Agency (EPA).



## *The Partnership for a new generation of vehicles*

National Science Foundation (NSF), as well as the Office of the Vice President, Office of Science and Technology Policy, Office of Management and Budget, Office of Environmental Policy and National Economic Council. Of all the Federal agencies, DOE has been most involved in automotive technologies and has dedicated the most significant budget to accelerating the PNGV goals.

The resources of all these organizations are being joined with the extensive resources of the Big Three automakers to meet ambitious goals. In the future, American academia, related manufacturers, industry suppliers, and others will likely join the partnership effort.

The PNGV Operational Steering Group, consisting of representatives from both private and public sector partners, identifies and prioritizes research projects. The PNGV Technical Task Force will then build task-oriented project teams whose members will be chosen from among all partners for maximum effectiveness. The creation of a master Cooperative R&D Agreement (CRADA) has helped streamline the process of private and public sector partnering, and will likely serve as a model for future efforts.

### **Combining pockets of isolated expertise**

The scope of the R&D work needed to meet the PNGV goals would likely be cost-prohibitive for a single or even a small number of organizations. In addition to cost-sharing, the extensiveness of the partnership offers many precedent-setting opportunities to combine and build upon complementary technologies that may have been developed separately for other purposes. As examples, DOD has extensive expertise in advanced materials areas developed originally for high tech weapons programs; NASA has state-of-the-art systems integration expertise developed through work on the space shuttle; and DOE offers technologies developed in materials, alternative fuels and propulsion systems areas through decades of cutting-edge R&D work. These and other pockets of expertise may be combined as PNGV moves forward.

### **A wide variety of technologies in the portfolio**

It is too early to determine which specific technologies will lead the way in meeting the three goals or what form the New Generation Vehicle may take, but there are a number of technologies which will be considered in both the shorter- and longer-term. These include: advanced manufacturing technologies, lightweight materials, high-performance computing, alternative fuels, fuel cells, fuel reformers, hybrid vehicles, batteries, ultracapacitors and flywheels, efficient air conditioning systems, and low emissions technologies.

The end result will be a vehicle similar in size, range, acceleration, and interior volume to today's Ford Taurus, Chevy Lumina, or Chrysler Concorde. It will also have equivalent in-use safety performance and a comparable sticker price, adjusted for future economics.

### **A wide range of benefits for the U.S.**

The New Generation Vehicle will significantly benefit the American auto industry, the American economy, and the environment. A more competitive auto industry will improve our balance of trade, keeping more dollars in the domestic economy. And, if the Vehicle utilizes a domestic fuel, as it is likely to do, the domestic economic benefits are further compounded. The effort will also strengthen one of the largest employment sectors of the American economy, creating and sustaining quality jobs. In addition, the widespread use of vehicles of substantially higher fuel efficiency will mean substantially lower emissions per mile driven and help to improve the quality of our air.

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