

Detroit has shown little long-term vision until now, but these days the race is on to build the car of the future.

The same spirit of innovation—and revolution—that propelled Silicon Valley is taking wind in the auto industry.

ZOOM—by Iain Carson and Vijay Vaitheeswaran

In an interview given in late 2006, Bob Lutz, vice chairman of GM, offered a mea culpa for missing the hybrid-car trend: “I think there’s a bone-deep awareness in the American public now that \$1.20 gasoline ... is not some God-given right.” More than a decade prior to Mr. Lutz’s mea culpa, the engineers at Toyota Motors were asked to accelerate the development of a project known as “Global 21,” a project that would lead to the development of the Toyota Prius—the first mass-produced, alternative car to conventional, internal-combustion engines.

In *ZOOM: The Global Race to Fuel the Car of the Future*, authors Iain Carson and Vijay V. Vaitheeswaran, correspondents for *The Economist*, argue that oil is the problem and cars are the solution. They tell us that we are living in the midst of a “Great Awakening” – a time when more and more consumers are seeking environmentally sound alternatives to gas guzzling automobiles. We must, argue the authors, reinvent the automobile.

Big Oil clearly has no interest in seeing its main product fall by the wayside, and the car industry in Detroit has shown few signs of real innovation or long-term vision. All this said, one can see the dynamics of the ‘creative destruction’ process on the horizon in a growing band of entrepreneurs, innovators and outsiders who are working furiously to spur the kinds of innovations that the established industry powers, Big Autos and Big Oil, simply refuse to develop.

The authors note that the energy industry has long had the knowledge to pursue petroleum substitutes but has chosen instead to defend and milk its existing gasoline assets. The auto industry has also had the technical ability to produce cars with much greater fuel efficiency but have chosen to build gas-guzzlers instead. Most people do not realize this, but Henry Ford’s Model T was a “flex-fuel” car that could run on either ethanol or gasoline and got better gas mileage than the average new vehicle sold in America today. What’s more, say Carson and Vaitheeswaran, both Big Oil and Big Autos have bitterly fought government efforts to encourage the development of more efficient cars and alternative fuels or co-opted and corrupted such efforts to the point that they became meaningless.

It is against this backdrop of resistance to change among the big players in oil and autos that the seeds of a clean-energy revolution are being planted. The same spirit of innovation that propels Silicon Valley forward in high technology is beginning to seep into the automotive market. Carson and Vaitheeswaran tell the story about battery executive Greg Hanssen, who two years ago caused a sensation during an auto-industry convention when he told the audience how he hacked the hardware and software in his Toyota Prius and converted it into an electric hybrid with a significant boost in fuel efficiency. Hanssen’s Prius contained the same kind of lithium ion battery technology found in laptops, and he also hacked the software to prevent the gasoline engine from kicking in until the car is traveling at high speed. After his presentation, Hanssen was greeted with a standing ovation. The authors tell us Toyota was reluctant to bring out an electric hybrid version of the Prius because they were concerned that people would be turned off by cars that needed to be plugged in. However, since Hanssen’s presentation, the company has been provoked into action. GM has also promised to begin producing plug-in hybrids in the near future.

The authors note that the plug-in hybrid Prius is not the car of the future. It is, they say, the machine that will teach Toyota and others about what will be the automotive future in a world challenged by carbon emissions and oil’s geopolitical complications. Toyota is not alone in betting that something drastic will have to change in coming years, as the world gropes toward oil-free and quite possibly hydrogen-powered motor transport. Automobile manufacturers in the U.S., Europe and elsewhere have innovative ideas that will factor into the global race to fuel the car of the future. While the authors of *Zoom* seem to favor and propose a healthy dose of government intervention to usher in new era of clean energy technology, they make the crucial point of telling readers that it is important to leave it to the market to pick the winning technologies of the future.