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End of the Fossil-Fuel Era

Will the European Union take the lead in staking out the future of energy?

Today the world gets a glimpse of the future. General Motors' revolutionary Hy-wire car makes its debut at the Paris Motor Show. GM's automobile runs on hydrogen, the most basic and lightest element in the universe. When burned, hydrogen emits only pure water and heat.

The automobile is built on a fuel-cell chassis that lasts for 20 years. Customers can snap on any model they want. The car has no conventional steering wheel and no pedals and is steered with a joystick. It is a by-wire car for the dot-com generation.

While GM financed the car, much of the engineering, design and software was developed in Europe. The GM car marks the beginning of the end of the internal combustion engine and the shift from an oil-based civilization to a hydrogen age. Its debut in Europe also speaks to a great change taking place in the way Europe and America view the future.

The European Union and the United States are beginning to diverge in the most basic aspect of how a society is organized: its energy regime. Nowhere was this more apparent than in Johannesburg, at the World Summit on Sustainable Development, when the EU pushed for a target of 15 percent renewable energy by 2010 for the whole world, while the United States fought the initiative. The EU has already set its own internal target of 22 percent renewable energy for the generation of electricity, and 12 percent of all energy coming from renewable sources, by 2010.

The difference in approach to the future of energy couldn't be more stark. While the EU is beginning to mobilize its industrial sector, research institutes and the public for the task of making the transition into renewable resources and a hydrogen future, the United States is pursuing an increasingly desperate search to secure access to oil.

The sun is setting on the great fossil-fuel culture that began with the harnessing of coal and steam power more than 200 years ago. Leading petrogeologists disagree about when global production of oil will peak—that is, reach the point where half the known oil reserves and projected oil yet to be discovered are used up. After that point, the price of oil on world markets steadily rises as oil production moves down.

The Cassandras say that peak production is likely to occur as early as the end of this decade, but probably no later than 2020. The optimists say global peak production won't occur until around 2040. What's most striking, however, is how little time separates the two camps—only 20 to 30 years. What they both agree on is that once global oil production does peak, two-thirds of the remaining oil reserves will be in the Middle East, the most politically unstable region of the world. What this means is that countries still dependent on oil will struggle to maintain access to the remaining Mideast oil fields, with all of the risks and consequences that accompany that reality.

The difference in perspective between Europe and America on this score is reflected in the attitudes of the world's giant energy companies. The European-based companies, British Petroleum and Royal Dutch/Shell, have made a long-term commitment to making the transition out of fossil fuels and are spending large amounts of money on renewable energy technologies and hydrogen research and development. BP's new slogan is "Beyond Petroleum." Philip Watts, chairman of the managing directors of the Royal Dutch/Shell Group, has stated that his company is preparing for the end of the hydrocarbon age and is exploring the promise of the hydrogen economy. By contrast, the American energy company ExxonMobil has remained steadfast in its long-term commitment to fossil fuels and has made little effort to explore renewable energy and hydrogen.

The European Union is now in position to become the first superpower to make the long-term shift out of carbon-based fuels and into a hydrogen era. A change in energy regimes of this magnitude over the course of the next half-century is likely to have as profound an effect on society as coal and steam power did.

At some point, the United States must rethink its own energy future. The last time this country was awakened from its somnolence was in 1957, when the Russians sent their first satellite into space. Caught by surprise, we mobilized every corner of American society to the task of catching up and surpassing the Russians. Maybe it's time for another jolt.

The writer is president of the Foundation on Economic Trends and author of "The Hydrogen Economy: The Creation of the Worldwide Energy Web and the Redistribution of Power on Earth."