# Magnets: A Missing Link in American Energy Technology -- August 2008

Even though gas prices are slowly beginning to decline, Delaware consumers are still feeling a pinch at the pump. This current energy crunch has highlighted the need for Americans to develop better, cutting edge alternative energy solutions. While Delaware has become the leader in offshore wind development with the Bluewater Wind Project and [fuel cell development, the Dupont Company], it could soon become a leader in another area: Magnet technology.

The average person may think that magnets have no purpose greater than holding papers to the refrigerator. On the contrary, magnets are a key component to most of the energy that we produce! The most cutting-edge magnets are playing an increasingly important role in appliance and car efficiency, including the advancement of new energy technology such as hybrid cars, trains and wind power. As we ramp-up efforts to find new, innovative sources of energy, it is clear that magnets have tremendous potential to help alleviate our dependence on fossil fuels.

For decades, the United States dominated in magnet production, yet, in recent years, our country has become outpaced by China and European countries that have invested far more into research and development in the field. The technology remains crucial to the energy that we produce, leaving some at the University of Delaware (UD) to wonder who will develop the cutting-edge magnet technology that our country needs to stay competitive.

In response to this problem and the growing demand for development of alternative technology, UD physics professor Dr. George Hadjipanayis has proposed the establishment of a UD Center for Advanced Magnets, which would conduct research and promote collaboration between universities, industry, and government to improve the competitiveness of US magnet technology. Last week, I was able to visit UD’s current magnet facilities and speak to Dr. Hadjipanayis about the promise of magnet technology. I was able to view and use the different varieties of magnets and learned of their strength, versatility, and utility. While science was never my best subject in school, this visit helped me to more practically understand the need for US development in this type of science.

The goal of the proposed UD Center would be to develop the expertise and infrastructure necessary to make the US a leader in the advancement of next-generation magnet technology. This type of technology will be critical for our nation's future energy needs and energy independence, and best yet, it can be developed right here in the First State.