S. 1432, the Carbon Fiber Recycling Act of 2015

By Sen. Maria Cantwell (D-Wash.)

The Growing Use of Composite. Composites are increasingly being used in the advanced manufacturing sector because they offer significant advantages, including improved fuel efficiency, performance and corrosion resistance compared to traditional materials. The global composites market is expected to reach more than $27 billion by 2016. It is a critical focus of economic development in the United States because it creates high-paying jobs and many other economic benefits, such as fuel savings and reduced emissions.

The Benefits of Recycled Carbon Fiber. Current methods for manufacturing new carbon fiber tend to be energy intensive and create waste. Under the status quo, 30 percent of the carbon fiber used in manufacturing heads to landfills as scrap. In contrast, producing recycled carbon fiber requires only one-tenth of the energy as compared to manufacturing of new carbon fiber. Reusing and recycling this carbon fiber will help reduce landfill waste and carbon dioxide emissions.

In Washington state alone, 96 composite companies produce two million pounds of production waste carbon fiber each year that is sent to a landfill. This carbon fiber has a potential market value of $50 million if it can be reused and recycled.

Studying the Technology and Energy Savings of Recycled Carbon Fiber. This legislation would direct the U.S. Department of Energy (DOE) to conduct a study on the technology and energy savings of using recycled carbon fiber and production waste carbon fiber.

The study would consider:

- the quantity of recycled and production waste carbon fiber needed to make its use economically viable,
- barriers to use and financial incentives that may be needed for development of recycled carbon fiber and production waste carbon fiber,
- potential savings in energy and reductions in carbon dioxide from producing recycled carbon fiber compared to producing new carbon fiber,
- best uses of recycled carbon fiber,
- economic benefits gained from using recycled carbon fiber and production waste carbon fiber,
- workforce training and skills needed to develop recycled carbon fiber and production waste carbon fiber, and
- how DOE can leverage existing industry efforts to use production waste carbon fiber.

Demonstrating the Benefits and Costs of Carbon Fiber Recycling. The legislation would also direct DOE to consult with the aviation and automotive industries and existing programs of the Advanced Manufacturing Office to develop a carbon fiber recycling demonstration project.

The bill would authorize $10 million for the study and demonstration project.
