

**RCW 28B.156.005 Finding—Intent.** The legislature finds that to reach our energy, environmental, and economic goals, it is important to accelerate the development of next generation clean energy and transportation technologies in Washington. Today, a large number of clean and renewable energy technologies are dependent on rare earth elements and other expensive and difficult-to-source earth components. These technologies are critical to reducing carbon emissions, such as wind turbines, solar panels, and electric and hybrid car batteries.

According to a 2012 environmental protection agency report (EPA/600/R-12/572), no rare earth element mining has been conducted in the United States since 1995, and a legacy of environmental destruction has been left in countries where rare earth elements are mined. The same environmental protection agency report notes that recovering rare earth elements from state-of-the-art recycling processes is far more efficient than smelting metals from ores, generates only a fraction of the carbon emissions, and has significant benefits compared to mining in terms of land use and hazardous emissions. The environmental protection report stresses the need for additional research in alternative materials to rare earth materials as well as recycling innovation.

The legislature acknowledges that the people of Washington desire to leave behind a cleaner planet, and to lead the world in the research and innovations to make that possible. Setting aggressive, renewable energy and clean technology standards at home that result in exporting the environmental harms of improper mineral extraction to other nations is not an acceptable strategy. Fortunately, Washington is home to some of the world's leading researchers who have core competencies in developing material substitutes and extracting rare earth elements for recycling.

Leading research institutions have indicated that a program to accelerate the development of next generation clean energy and transportation technologies using earth-abundant materials would fit within their strategic vision and core mission to increase and coordinate their efforts with the private industry and implement this talent and research to work in accelerating the deployment of clean energy and cleaner transportation solutions. The goal is to develop materials to use in the manufacturing process that can be reliably accessed and acquired in environmentally responsible processes. A joint center established for this purpose can bridge the gap between institutions, encourage private-public partnerships, and increase the ability to compete for federal grants.

The legislature recognizes the opportunity for Washington to lead in these areas of research and innovation, fostering true sustainability environmental stewardship, and providing supply reliability and resiliency in next generation technologies. Doing so will contribute to the preservation of national security by increasing energy independence. Therefore, the legislature intends to fund research of earth-abundant materials that can substitute effectively in manufacturing for rare earth elements or other critical materials, with great potential to increase efficiency or reduce emissions in the transportation or energy sector, and to fund research into the recycling of rare earth elements from existing consumer products. The legislature intends to accomplish this by establishing the joint center for deployment and research in earth abundant materials, or JCDREAM, to attract academic talent and research funding to our state,

and develop a workforce for manufacturing next generation earth-abundant technologies. [2015 3rd sp.s. c 20 s 1.]