Chapter 28B.156 RCW
JOINT CENTER FOR DEPLOYMENT AND RESEARCH IN EARTH-ABUNDANT MATERIALS

Sections

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 § 1.]

RCW 28B.156.010 Joint center for deployment and research in earth-abundant materials. The joint center for deployment and research in earth-abundant materials is created to:

(1) Establish a transformative program in earth-abundant materials to accelerate the development of next generation clean energy and transportation technologies in Washington;

(2) Establish a coordinated framework and deploy resources that can facilitate and promote multi-institution collaborations to drive research, development, and deployment efforts in the use of earth-abundant materials for manufactured clean technologies or recycling of advanced materials used in clean technologies; and

(3) Promote environmentally responsible processes in the areas of manufacturing and recycling of advanced materials used in clean technologies. [2015 3rd sp.s. c 20 § 2.]

RCW 28B.156.020 Operation and administration of joint center. The joint center for deployment and research in earth-abundant materials must be operated and administered as a multi-institutional education and research center, conducting research and development programs in various locations within Washington under the joint authority of the University of Washington and Washington State University. The initial administrative offices of the center shall be west of the crest of the Cascade mountains. In order to meet industry needs, the facilities and resources of the center must be made available to all four-year institutions of higher education. Resources include internships, on-the-job training, and research opportunities for undergraduate and graduate students and faculty. [2015 3rd sp.s. c 20 § 3.]

RCW 28B.156.030 Board of directors—Membership—Powers and duties—Executive director—Operating plan—Report. (1)(a) The powers of the joint center for deployment and research in earth-abundant materials are vested in and shall be exercised by a board of directors consisting of ten voting members and a chair, appointed by the governor, who shall not vote, except as provided in (c) of this subsection.

(b) Of the ten voting members, one member must be the dean of Washington State University, one member must be the dean of the University of Washington, one member must represent Pacific Northwest National Laboratory, one member must represent an energy institute at a regional university, one member must represent the community colleges engaged in training of the next generation workforce in the relevant areas, one member must represent large industry companies, one member must represent medium industry companies, one member must represent small industry companies, one member must have professional experience in the fields of national security and energy policy, and one member shall have professional experience in innovation and development of policy to address environmental challenges.

(c) In the event of a tie vote among the voting members, the chair may vote to break the tie.

(d) The terms of the initial members must be staggered.

(2) The board shall hire an executive director. The executive director shall hire such staff as the board deems necessary to operate the joint center for deployment and research in earth-abundant materials. Staff support may be provided from among the cooperating institutions through cooperative agreements to the extent funds are available. The executive director may enter into cooperative agreements for programs and research with public and private organizations including state and nonstate agencies consistent with policies of the participating institutions.

(3) The board shall:

(a) Work with the clean technology and transportation industry associations and firms of all sizes to identify the research areas that will benefit the intermediate and long-term economic vitality of Washington's clean technology and transportation industries;

(b) Identify entrepreneurial researchers to join or lead research teams in the research areas specified in (a) of this subsection and the steps the University of Washington and Washington State University will take to recruit and retain such researchers;

(c) Assist firms to integrate existing technologies into their operations and align the activities of the joint center for deployment and research in earth-abundant materials with those of impact Washington to enhance services available to clean technology and transportation firms;

(d) Develop internships, on-the-job training, research, and other opportunities and ensure that all undergraduate and graduate students enrolled in programs for clean technology and earth-abundant research and deployment-related curriculum have direct experience with the industry;

(e) Assist researchers and firms in safeguarding intellectual property while advancing industry innovation;

(f) Develop and strengthen university-industry relationships through promotion of faculty collaboration with industry and sponsor at least one annual symposium focusing on clean energy earth-abundant research and deployment in the state of Washington;

(g) Encourage a full range of projects from small research projects that meet the specific needs of a smaller company to large scale, multipartner projects;

(h) Develop nonstate support of the center's research activities through leveraging dollars from federal and private for-profit and nonprofit sources;

(i) Leverage its financial impact through joint support arrangements on a project-by-project basis as appropriate;

(j) Establish mechanisms for soliciting and evaluating proposals and for making awards and reporting on technological progress, financial leverage, and other measures of impact;

(k) Allocate appropriated seed funds for at least one of the following purposes:

(i) Collaboration on research and product development that would further the commercialization of renewable energy and battery storage technologies that use earth-abundant materials in place of critical materials or rare earth elements;

(ii) Collaboration on research for joining dissimilar materials in a way that minimizes titanium content by employing earth-abundant materials for advanced manufacturing commercialization;

(iii) Collaboration on research and deployment of technologies and processes that facilitate reclamation and recycling of rare-earth elements from existing products; and

(iv) Providing assistance to community colleges and trade schools in program development and equipment for training the skilled workforce necessary for the successful commercialization and integration of earth-abundant technologies, as the workforce training needs are defined by forthcoming deployment opportunities;

(l)(i) By December 1, 2015, develop an operating plan that includes the specific processes, methods, or mechanisms the center will use to accomplish each of its duties as set out in this subsection (3);

(ii) The operating plan must also include appropriate performance metrics to measure total research dollars leveraged, total researchers involved, total workforce trained, and total number of products or processes that have progressed to commercialization and private sector deployment; and

(m)(i) Report biennially to the legislature and the governor about the impact of the center's work on the state's economy and the development of next generation clean energy and transportation technologies in Washington using earth-abundant materials. The report must include performance metrics results, projections of future impact, indicators of its current impact, and ideas for enhancing benefits to the state.

(ii) The report must be coordinated with the governor's office and the department of commerce. [2015 3rd sp.s. c 20 § 4.]

RCW 28B.156.040 Gifts, grants, donations. The joint center for deployment and research in earth-abundant materials may solicit and receive gifts, grants, donations, sponsorships, or contributions from any federal, state, or local governmental agency or program or any private source and expend the same for any purpose consistent with this chapter. Members and employees associated with the joint center for deployment and research in earth-abundant materials are presumed not to be in violation of solicitation and receipt of gift provisions in RCW 42.52.150. [2015 3rd sp.s. c 20 § 5.]

RCW 28B.156.900 Short title. This chapter may be known and cited as the JCDREAM act. [2015 3rd sp.s. c 20 § 6.]