| DOCKETED | |
|---|---|
| **Docket Number:** | 20-LITHIUM-01 |
| **Project Title:** | Lithium Valley Commission |
| **TN #:** | 242857 |
| **Document Title:** | San Diego State University Comments - SDSU IV Infrastructure and Opportunities Around Lithium Extraction, Alternative Energy, and Meeting CA's Energy Climate Goals |
| **Description:** | N/A |
| **Filer:** | System |
| **Organization:** | San Diego State University |
| **Submitter Role:** | Intervenor |
| **Submission Date:** | 4/27/2022 1:42:32 PM |
| **Docketed Date:** | 4/27/2022 |

*Comment Received From: San Diego State University*
*Submitted On: 4/27/2022*
*Docket Number: 20-LITHIUM-01*

## SDSU IV Infrastructure and Opportunities Around Lithium Extraction, Alternative Energy, and Meeting CA's Energy Climate Goals

*Additional submitted attachment is included below.*

San Diego State University
5500 Campanile Drive
San Diego, CA 92182 · 8000
Tel: 619 · 594 · 5201
Fax:619 · 594 · 8894

THE PRESIDENT

August 18, 2021

Dear Senator Hueso,

Thank you for reaching out to SDSU and making time to discuss the pressing educational needs of the students in the Imperial Valley. As you know, the County of Imperial's own Comprehensive Economic Development Strategy Report identified a dramatic workforce and skill deficit that is facing the region and will continue to grow over the next 10 years. At the same time, the Imperial Valley has unmatched potential for renewable and alternative energy production, which could advance California's own emissions and sustainable energy goals while remaining true to the region's rich agricultural heritage. With the immediate and long term demand for a local skilled workforce in these areas, the attached requested proposal will significantly advance California and Imperial County's economy by maximizing the advantages offered by its abundant renewable resources.

Imperial County is home to one of the largest geothermal plants in the nation, with technology having been recently refined in the region to extract lithium from the brine generated by these facilities to support a new phase of energy storage. Combined with the significant energy production associated with the region's solar infrastructure, investment in the alternative energy infrastructure in the Imperial Valley is unrivaled in its potential to store and export excess energy to support the state's greenhouse emission reduction goals. Expanded infrastructure in this area also serves the regional and statewide goal to further mitigate the environmental impacts presented by the ongoing degradation of the Salton Sea.

San Diego State University (SDSU) is well positioned, as the only four-year university in Imperial County, to help usher in much of the transformative workforce development necessary to support this industry expansion and state-wide energy priorities. In particular, SDSU's immediate goal is to expand its Brawley campus, using its available 200 acres of land, to immediately offer degree programs in STEM fields with a focus on the aforementioned regional economic and environmental priorities. This infrastructure project also provides the support for shared facilities with workforce and industry partners for on-the-job training, research, and development in each of these areas of growth.

Finally, as many of the University of California and California State University are severely impacted, there is a substantial need to expand access to both STEM and Engineering degrees to Californians more broadly. While the need is both greater and more pressing in Imperial Valley, where no 4-year STEM programs currently exist at all, this requested proposal will also allow SDSU to expand enrollment to more Californians in these critical workforce areas.

Sincerely,

Adela de la Torre, Ph.D.
President

**SDSU Imperial Valley:**
***Infrastructure and Opportunities Around Lithium Extraction, Alternative Energy, and Meeting California's Energy and Climate Goals***

## Background

SDSU recognizes the powerful role our campuses play in the region's economic recovery and growth, with a public mission operating at the nexus of workforce development and research and innovation. Further, the Imperial Valley is well poised to become one of the largest hubs for energy innovation and growth in the western US due to its natural lithium and geothermal stores.

SDSU's San Diego campus already has a strong foothold in research and development specific to cleantech and geothermal energy. SDSU faculty across multiple departments and disciplines are already engaged in federally funded projects focused on technological advancement in the field of energy extraction, e.g., four distinguished chemistry professors received federal grants for battery research, cleantech, and renewable energy, in recent months. With proper STEM infrastructure, the SDSU Imperial Valley campus has the potential to not only host these existing collaborations and projects—integrated with new local undergraduate and graduate program offerings—but to significantly expand the scope of research and advancement specific to California and the Imperial Valley's economic and energy goals.

Recent conversations with industry leaders reinforce this need. Private partners in the geothermal energy and lithium extraction and lithium-ion battery sectors have made it clear that SDSU is the best-positioned university to build out research and workforce capacities through bachelor's and graduate degrees in the Valley, especially in relevant chemistry and chemical and mechanical engineering programs. With appropriate and long-overdue investment in STEM facilities, SDSU Imperial Valley is well-positioned to provide the much-needed research, development, and workforce training for the energy and agriculture sectors of the Imperial Valley economy.

## Needs

The facilities and infrastructure necessary to meet this workforce as well as research and innovation need is estimated to require a one-time capital cost of **$80 Million**, which would provide a new research and teaching facility of approximately 65,000 sq.ft. including 25,000 sq.ft. of labs, core facilities with major instruments, and experimental fabrication space for collaborative work with public and private partners, 10,000 sq.ft. of office space, and—critically—20,000 sq.ft. of STEM classroom and teaching laboratory space. These additions would provide the first laboratory space *of any kind* at a 4-year University in the Imperial Valley, and will more than double the current classroom space footprint. In addition, this infrastructure would allow much of the work being done in San Diego to transition or expand within Imperial County, where the proximity to the Salton Sea and the lithium extraction operations create an ideal location for STEM research and curriculum.

Furthermore, the new program offerings in Imperial County would benefit SDSU campuses in San Diego and Imperial Valley by creating opportunities for students without the burden of a two hour commute, while at the same time freeing up coveted slots for students in San Diego. *SDSU is committed to increasing enrollment by 350 more local students by 2025 and doubling overall enrollment in SDSU Imperial Valley, with key growth in mechanical and materials engineering.* Moreover, SDSU is committed to increasing the number of faculty and research experts in the Valley as would be required to unlock the potential of these natural resources in these critical areas. The ability to achieve these goals is contingent on the infrastructure which this proposal provides, and which the region and its workforce demand.

SDSU has been meeting with stakeholders at the County and local levels of government, all of whom have expressed overwhelming support for this expansion project.

Upon request SDSU can provide letters of support from the County of Imperial, the City of Brawley, the City of Calexico, and multiple alternative energy industry leaders. Within public and private industry partners, each has expressed publicly that they foresee 50-75 years of continual operation in the Valley with ongoing needs for local, reliable, and highly trained workers. With these partnerships, and the support of our state and federal elected officials, there has never been a better time to execute this vision and project for the Imperial Valley and for California.