

Energy Resources Council (ERC)

Minutes

November 17, 2017

Hilton Garden Inn

8:00 AM – 2:00 PM

JOINT SESSION – University of Wyoming (UW) Board of Trustees

The Energy Resources Council met with the UW Board of Trustees preceding the regularly scheduled meeting. The work session opened with the UW Board of Trustees, Mr. John MacPherson, introducing fellow trustees present including: Kermit Brown, Dave Fall, Mel Baldwin, Macey Moore, Jim Rose, Dave True, Dave Foster, UW President-Laurie Nichols and ASUW President, Ben Wetzel. SER Chairwoman, Jeane Hull, welcomed everyone in attendance and the opportunity to share with the UW Board of Trustees the mission, responsibilities and actions of the School of Energy Resources. She then introduced Executive Director, Mark Northam. Dr. Northam provided an extensive presentation overviewing the School of Energy Resources' current status and plans for the future. A copy of the presentation is available upon request.

CALL TO ORDER:

The regular ERC meeting was called to order at 10:00 AM by Chairwoman Hull.

ATTENDANCE:

ERC Members Present

Carl Bauer, Mindy Benson, Rob Wallace, Tom Lockhart, Vello Kuuskraa, Dave Emery, and Jeane Hull.

ERC Members Absent

Tom Botts, Wy House Representative Mike Greear, Senator James Anderson, and Cindy Crane

SER Staff in Attendance

Mark Northam, Diana Hulme, Rob Hurless, Trish Steger, Pam Henderson, Rachel Ferrell, Emma Jane Alexander, Kyle Summerfield, Matt Wittstock, and Carrie Ver Burg

Others in Attendance

Brett Befus, Jan Maxey, Madison Vahle, Cole Bundy

MEETING ITEMS BY DETAIL:

Approval of Agenda

Action: A motion was made by Mr. Bauer to accept the agenda as presented. It was seconded by Mr. Emery. Motion passed without objection.

Approval of August 2017 Minutes

Action: A motion was made by Mr. Lockhart to accept the minutes as presented, and it was seconded by Mr. Bauer. Motion passed without objection.

Introduction of New Board Member, Mindy Benson

Summary: Ms. Benson was introduced to the ERC council as the new Dean of the Haub School of Environment and Natural Resources at the University of Wyoming. She will replace the ERC position formerly held by Indy Burke. Ms. Benson holds a JD from the University of Idaho, College of Law and an MS in community counseling from the UW College of Education. Her teaching and research focus on water resources, environmental management, nature and society, law, geography and other areas. Prior to joining the University of Wyoming, she was a faculty member in the University of New Mexico Department of Geography and Environmental Studies.

Debrief of UW Board of Trustees Work Session

Summary: Chairwoman Hull commended Dr. Northam on the excellent presentation. She noted Mr. Emery's suggestion regarding the overall reach of the School of Energy and the interactive role it plays with the University of Wyoming. She supported the development of a framework that would define the role of the SER in regard to its impact not just on students, but also the many colleges, schools and institutions. The council specifically requested the framework include the funding provided for the myriad of colleges: faculty, programs, research and special projects. Mr. Bauer suggested this framework also include the many companies across the state with which SER is involved and to describe how UW/SER assists the companies with industry development. Mr. Kuuskraa echoed comments by Mr. True to be inclusive in the report about emerging research and commercialization, as well as how the educational program has grown. Dr. Northam agreed to provide a framework of this report for the ERC to review.

DIVISION UPDATES

Full copies of all SER division reports are available in the **March 2018 ERC Notebook** or upon request.

Research

Additional Comments: Ms. Hulme specifically mentioned two centers of excellence as having excelled in their endeavors over the past year: The Center for Produced Water Management (CEPWM) and the Center for Air Quality (CAQ). CEPWM has received \$1.7 million dollars of funding from Strategic Environment Solution, Inc., a private water treatment engineering company, to help them further develop their “Aqua Rift” technology for treating and managing oil and gas produced waters. CEPWM will explore the benefits of integrating the “Aqua Rift” process in municipal water reuse and other water resource recovery applications.

CAQ has received \$800 thousand dollars in funding (five year grant) from the Bureau of Land Management, in addition to the \$100 thousand in funding from Jonah Energy received earlier this past year, to measure emissions that are operated with different forms of emission technology. The goal is to determine if estimates for emissions reductions match reality and the types of technology that are most effective at reducing emissions. Going forward and building on this research, CAQ will be applying for a \$500 thousand dollar three-year grant from Pinedale Anticline Project Office and industry stakeholders to develop a 3D photochemical model that can accurately simulate ozone events.

Outreach

Additional Comments: Ms. Hulme reported that six events have been hosted since August 2017: Wyoming-JCOAL Workshop, 5th Annual Energy Day Celebration, Western States Section-Combustion Institute Annual meeting, Wyoming’s Wind Energy Future Conference and the Energy Law Conference. She highlighted the success of the Wyoming-JCOAL workshop which was a follow-up to the 2016 MOU between the State of Wyoming and the Japan Coal Energy Center (JCOAL). It was attended by sixteen JCOAL representatives. Sixty-four attendees including Wyoming legislators, and private industry leaders attended the event. Governor Matt Mead provided opening remarks followed by Mr. Osamu Tsukamoto, President of JCOAL. A Japanese translator was available during the meeting to provide real time translation. Since its conclusion, SER Outreach has developed a restricted website to display the presentations and share future ideas and next steps among the participants.

Moving forward to UW Spring semester 2018, SER Outreach will reinstitute the Speaker Series. Throughout the semester on Friday afternoons, directors and representatives from the Centers of Excellence will provide a campus talk about their centers. The series will culminate with an open house hosted by the SER Outreach at the Energy Innovation Center. This series has been very successful in the past and well attended by students, faculty and the public. SER is excited and happy to bring it back to its program.

EE&P/CMI

Additional Comments: Dr. Northam provided comments on the EE&P/CMI report due to Director Kipp Coddington's absence. Dr. Northam relayed to the council the proposed name change of the Carbon Management Institute to the Center for Economic Geology Research. This name change will align more directly with the type of work the center is currently undertaking. Mr. Coddington will remain the director and continue to pursue policy and economics issues and the seven fulltime researchers will remain the core employees.

The center is currently seeking a \$10 million grant for Phase II, Carbon Safe Management. It is favored to receive a successful award. It will require a \$2 million in match funding. SER will know the outcome of the award by mid- 2018.

Mr. Coddington stepped in as requested by Dr. Northam to provide testimony before the Senate for Environmental Works Committee. Senator Barrasso has expressed his gratitude and commendations for SER's participation. He specifically mentioned the carbon management programs instituted in the State of Wyoming and the integrated test center.

Carbon Engineering

Additional Comments: Dr. Northam stressed the importance of working with the UW Research Office to protect the intellectual property being developed. It is essential this is done as rapidly as possible due to the huge competition by outside entities working on the same technologies as SER. The UW Research Office is working diligently to protect the intellectual property as it is an ever more important asset development for the State of Wyoming and the University of Wyoming.

3D Visualization Lab

Additional Comments: None

Academic

Additional Comments: Enrollment as predicted has begun to decline as more students are graduating from SER programs and freshmen enrollment has diminished. Dr. Northam and Mrs. Henderson have stepped up recruitment efforts to include more statewide efforts and visits to Wyoming High Schools. The degree program is still performing well. There are currently more jobs available than Professional Land Man students to fill as more and more companies are recruiting at UW. Fossil Energy has one remaining student and most like this concentration will end when they graduate. Ms. Henderson has been asked to assist with the development of the new student advisement centers on campus. This has been a large function of her focus over the past several months and will continue to be into the spring.

EORI

Additional Comments: The Enhance Oil Recovery Commission (EORI) has submitted a revised MOU to the UW President regarding administrative support from the UW to the EORI. Some

issues have come up since the relocation of EORI to Casper, Wyoming. Dr. Northam has worked with the UW Human Resources to designate a specific employee classification for EORI professional staff that includes a career development track. Going forward this change should alleviate many of the human resource challenges that have come up recently. Not much can be done about the grants management or contract arrangement; however negotiations are taking place with the Office of Research to reduce overhead costs as EORI currently pays for their own overhead expenses. It is hoped the MOU will be completed by January 2018.

Tier I Engineering

Summary: It is anticipated that the new Engineering building will open February 2019 as everything is progressing well and is \$4 million dollars under budget. The drilling simulator will be moved to the new building and expanded. The College of Engineering has actively engaged in a partnership with Drilling Systems and has currently received a \$1 million dollar in-kind gift from them for software for the new simulator. For a preview of what the expected plan will look like a 3D image is available in the SER 3D Visualization Cave. A new academic professional lecturer has been hired for the drilling simulator.

A new indirect cost recovery has been developed to help pay for equipment upgrades and new purchases at the High Bay Research facility.

Enrollment has basically remained static. In Petroleum Engineering a two plus two articulation agreement with Southern Alberta University has been established. Articulation agreements are also underway with mechanical, architectural and chemical engineering all of which will assist with recruitment efforts. Currently there is a 70% placement rate upon graduation and an 85% placement rate if the student has done an internship.

The college lost 18 positions last year as part of the re-organization. It has been able to replace three of those positions: two computer science and one mechanical engineering faculty. Additionally, Tier I Initiative funds were utilized to fund a position, a professor of practice in wind energy. The college is currently seeking approval to hire six additional faculty: two in computer science cyber security, two in mechanical engineering, one for carbon engineering and one for power engineering. Approvals to hire have not yet been granted, and the timeline for approvals is not known at this time. The carbon engineering position will require some bridge funding for the first year.

The five-year strategic plan for the college has been completed and roll-out is scheduled for December 7, 2017. The plan is based on four major themes: establishing academic prominence, engaging creative growth, engaging economic development and becoming a best practice organization.

Going forward the college is planning to host an artificial intelligence conference in Jackson, Wyoming next year, launching an Honors program, and tracking performance for research activities to increase productivity. Some concerns are the effects on the Tier I Initiative and the Science Initiative caused by the recent hiring and retention changes created with the re-organization of UW; the loss of projects due to the delays in getting the Office of Research up and

running soundly, and the need to foster and grow internal leadership within the college.

Dean Pishko spoke about ENDOW and the University of Wyoming's efforts to assist with statewide economic growth. President Nichols charged Dean Pishko- College of Engineering, Dean Chicoine- College of Business and Vice President Ed Synakowski- Office of Research with developing an institute of innovation and entrepreneurship. Its purpose would fulfill the UW's responsibility and strengthen its capacity to be an engine of economic growth and diversification for the State of Wyoming. It would provide educational opportunities for student who would like to grow their own businesses and it would assist in the diversification of the state's economy. He noted this would be a university-wide effort with all of the colleges working together. Active engagement with ENDOW is ongoing and a meeting with Governor Mead has been arranged for December 5, 2018.

SER Budgets

Additional Comments: Ms. Ferrell explained WYO CLOUD, the new financial system, continues to undergo changes. Many of the reports are still not available for viewing and impact the way SER budgets are displayed. Staff are working to produce understandable reports with limited access to information.

Two new accounts have been added to the Foundation report: G.W. Anderson Landman Fellowship and the Charles Koch Foundation. The G.W. Anderson Landman Fellowship has been designated for scholarships and the Koch Foundation designated for research.

Dr. Northam has requested \$600 thousand dollars be reinvested back into the corpus of the Anadarko account because SER is unable to currently spend it at the rate needed. He has been working with Anadarko to convert these funds into a chair position. Anadarko has agreed to the change and the conversation will to continue until details are completed.

The FY18 SER operation budget is on target for expenditures. SER has currently spent \$1.5 million dollars of the Carbon Management funding and the remaining \$500 thousand dollars is expected to be spent by year end. SER is requesting a one-time general fund appropriation exception of \$1 million dollars to continue funding for the carbon management project in the next budget session.

SER has made an offer to a new employee to replace the vacant accounting position.

Center for Economic Energy & Public Policy (CEEPP)

Summary: CEEPP, a SER Center of Excellence, has not been able to achieve its full programmatic potential as originally envisioned. SER would like to see the group engage in more rigorous analysis and communicate about the impact of energy policy and regulations, not only on the state, but on the environment, the energy sector and the economy. To that end a proposal to build a new policy institute was developed. Simultaneously, a much larger program being developed through the UW Foundation emerged. One of the cornerstones of the new program would be a policy institute. Rather than evolve CEEPP, SER has decided to allow the larger

program to develop and hopefully envelop SER's concept for the institute of Energy, Environment and the Economy. Initial discussions have been favorable to this inclusion.

SER UW Strategic Plan

Summary: The council asked Dr. Northam to make the strategic plan available to them prior to the UW Christmas holiday break.

Adjournment

Mr. Emery proposed adjournment to enter into an executive session for the purpose of discussing SER personnel and it was seconded by Mr. Bauer. No objections. The meeting was formally adjourned at 12:58 PM.

Respectfully submitted:

Jeane Hull
Chairwoman

James Anderson
Vice-Chairman