State Energy Research Center (SERC) – Driving North Dakota’s Energy Future

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Tom Erickson
COO and VP for Intellectual Property
EERC VISION

TO LEAD THE WORLD IN DEVELOPING SOLUTIONS TO ENERGY AND ENVIRONMENTAL CHALLENGES.
EERC Quick Facts FY22

- Fiscal Year Funding: $76 Million
- Total Active Contracts: 179
- 77% of contracts were with private industry
- Economic Impact in the Grand Forks Region: $108.3 Million

Critical Challenges. Practical Solutions.
BEFORE SERC: Significant Reduction in New EERC Innovation and Invention

Reduced Exploratory Research Funding Results in Fewer Inventions
SERC FOCUS AREAS

• Exploratory energy research
  – Explore fundamental, transformational ideas to shape the future energy portfolio of North Dakota.

• Rapid response to critical North Dakota issues
  – At the request of the North Dakota Industrial Commission (NDIC), conduct research to address emerging issues.

• Education and outreach
  – Provide opportunities for all ages and demographics to learn about North Dakota energy – not academic.

• $5 million/biennium (currently has a sunset clause in 2027)
• Funded by NDIC contract, with reporting requirements to NDIC and the interim Energy Development and Transmission Committee (EDTC)
State Energy Research Center

Clean Sustainable Energy Authority

Lignite, Oil and Gas, Renewable Research Programs, and Legislatively Directed Projects
KEYS TO INNOVATION

- Innovation is inclusive not exclusive.
  ◆ Broad involvement and broad topics
- Innovation needs time and resources.
- Innovation needs a nurturing atmosphere.
  ◆ Healthy balance of structure and freedom
- Innovation is not a project or a program; it’s a culture.
  ◆ Innovation breeds innovation.

MANAGING UNCERTAINTY IS THE KEY TO INNOVATION

- Minimize Financial Uncertainty
- Risk Acceptance
- Agility
- Flexibility
- Changing Dynamics of the Future

INNOVATION

COMMERCIAL EMPLOYMENT
SERC ACCOMPLISHMENTS

$21 Million in Other Proposals
$9 Million in Pending Proposals
$6 Million in Other Awards

50 Projects Focused on ND Energy

13 Invention Disclosures
8 Patent Applications
3 Patents Granted

Nearly 60 Energy Hawks from 5 Higher Education Institutions

3 Federal Opportunities Pursued for the State – Grid, Hydrogen, Direct Air Capture
SERC EFFECT ON INNOVATION

Invention Disclosures since SERC

- # of New Inventions/IP Disclosures
- SERC Developed IP Disclosures

Years: 2006 to 2022
Bring together a diverse group of college students and immerse them in all things North Dakota energy, resulting in the following:

- A new perspective on the energy research needs for North Dakota
- Future energy leaders
- Knowledgeable North Dakota energy advocates/peers
- Knowledgeable voters (North Dakota and beyond) on topics affecting energy
THE KETTLES

2019

2020

2021

2022
2022 ENERGY FIELD TRIP

- County Line Gas
- Neset Consulting and Nabor Drilling
- City of Williston
- MHA
- Verendrye Electric
- Prairie Wind Farm
- Blue Flint Ethanol
- Freedom Coal Mine
- Milton R. Young Station
- NDPC, NDPA, BEPC, and PSC
SUMMARY

• SERC has reignited invention and innovation by EERC researchers leading to:
  – New energy technologies for
  – Additional nonstate funding in
  – Technology demonstrations in
  – Student experiences across

• Removing the sunset clause will allow SERC to continue to do the same with certainty.
• Increased funding will be used effectively for even greater results.
THANK YOU

Critical Challenges. Practical Solutions.