



Energy & Environmental Research Center (EERC)

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

Presented to the Senate Energy and Natural Resources Committee  
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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



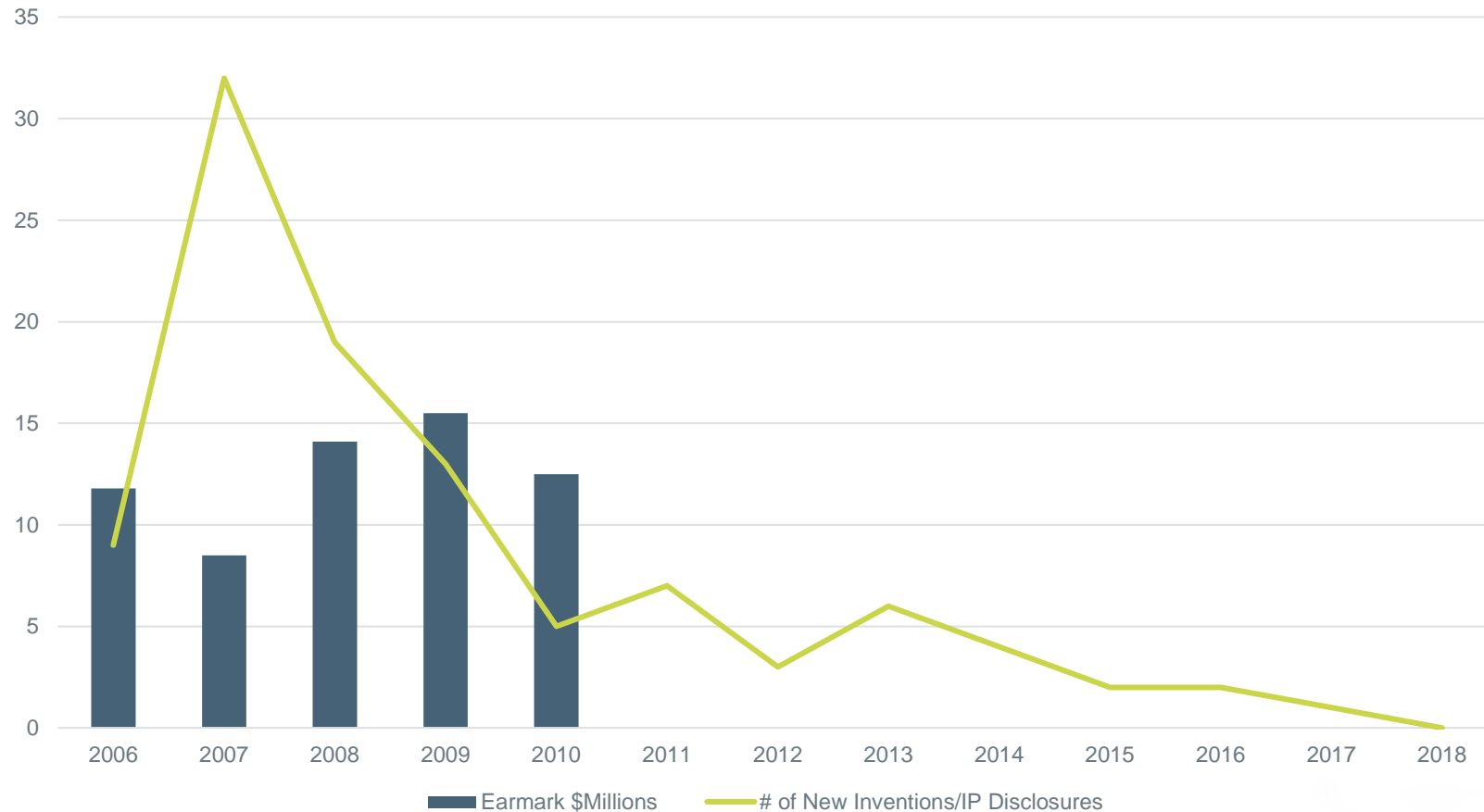
ECONOMIC  
IMPACT  
IN THE GRAND  
FORKS REGION



**\$108.3  
MILLION**

# BEFORE SERC: Significant Reduction in New EERC Innovation and Invention

Reduced Exploratory Research Funding Results in Fewer Inventions

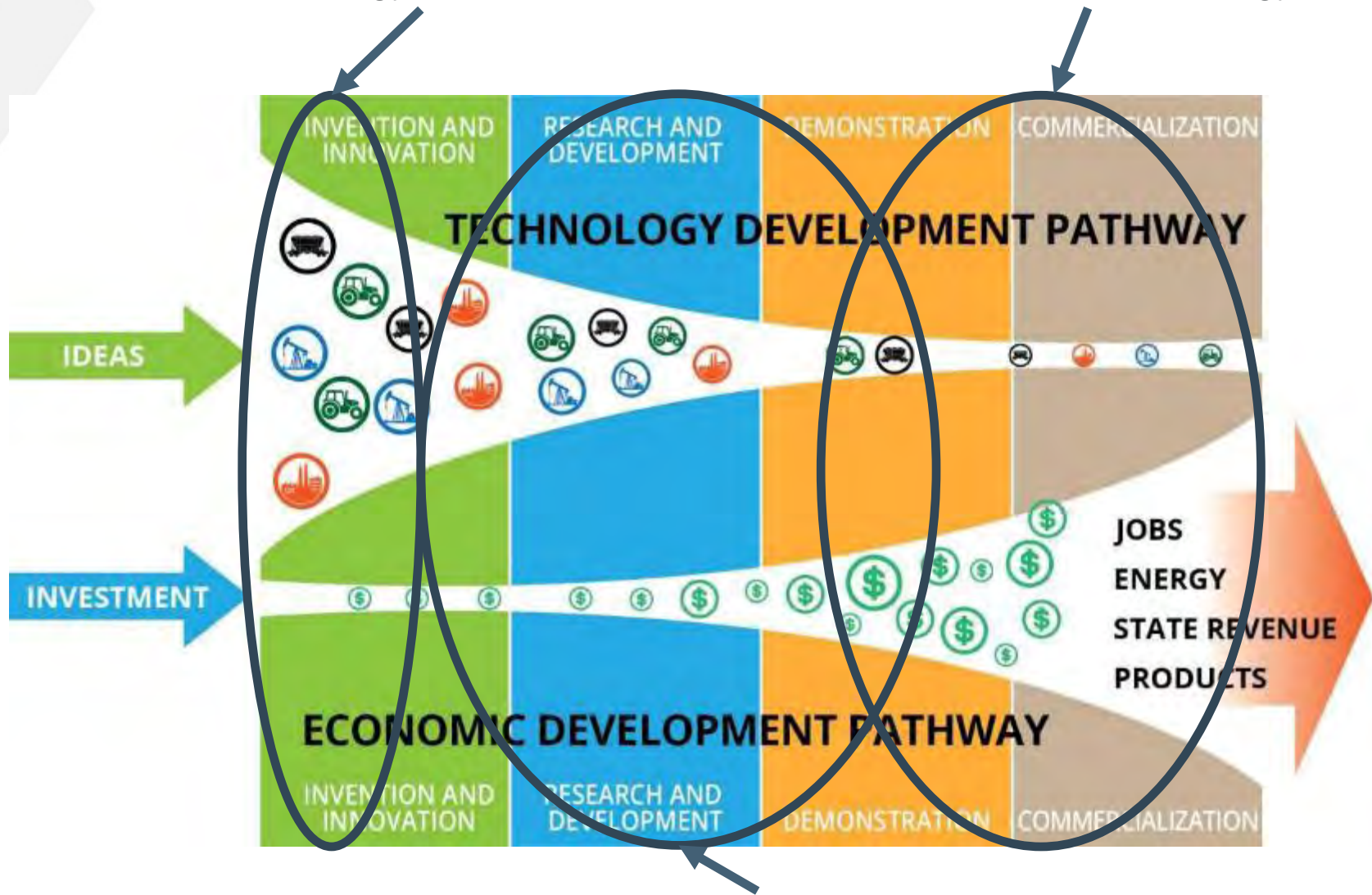


# SERC FOCUS AREAS

- 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



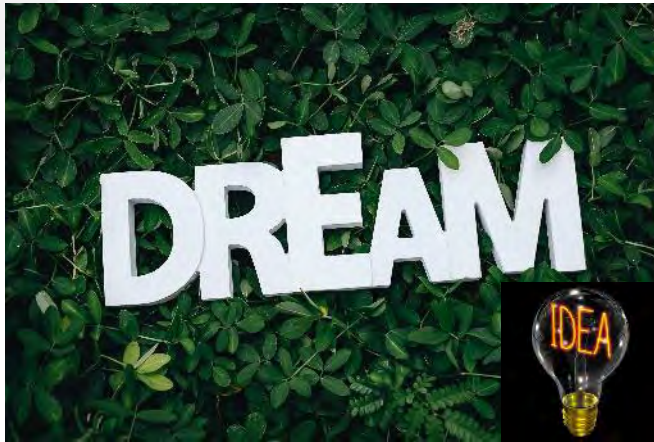
Lignite, Oil and Gas, Renewable  
Research Programs, and Legislatively Directed Projects

# 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.

<https://www.inc.com/erik-sherman/3-rules-to-encourage-innovation.html>

# MANAGING UNCERTAINTY IS THE KEY TO INNOVATION



**INNOVATION**



Minimize Financial Uncertainty



Risk Acceptance



Agility



**COMMERCIAL  
EMPLOYMENT**



Flexibility



Changing  
Dynamics of  
the Future

Critical Challenges. Practical Solutions.



# SERC ACCOMPLISHMENTS

**\$21** Million in  
Other Proposals

**\$9** Million in  
Pending Proposals

**\$6** Million in  
Other Awards

Nearly **60**  
Energy Hawks from  
**5** Higher Education  
Institutions

**50** Projects  
Focused on ND Energy

**3** Federal Opportunities  
Pursued for the State – Grid,  
Hydrogen, Direct Air Capture

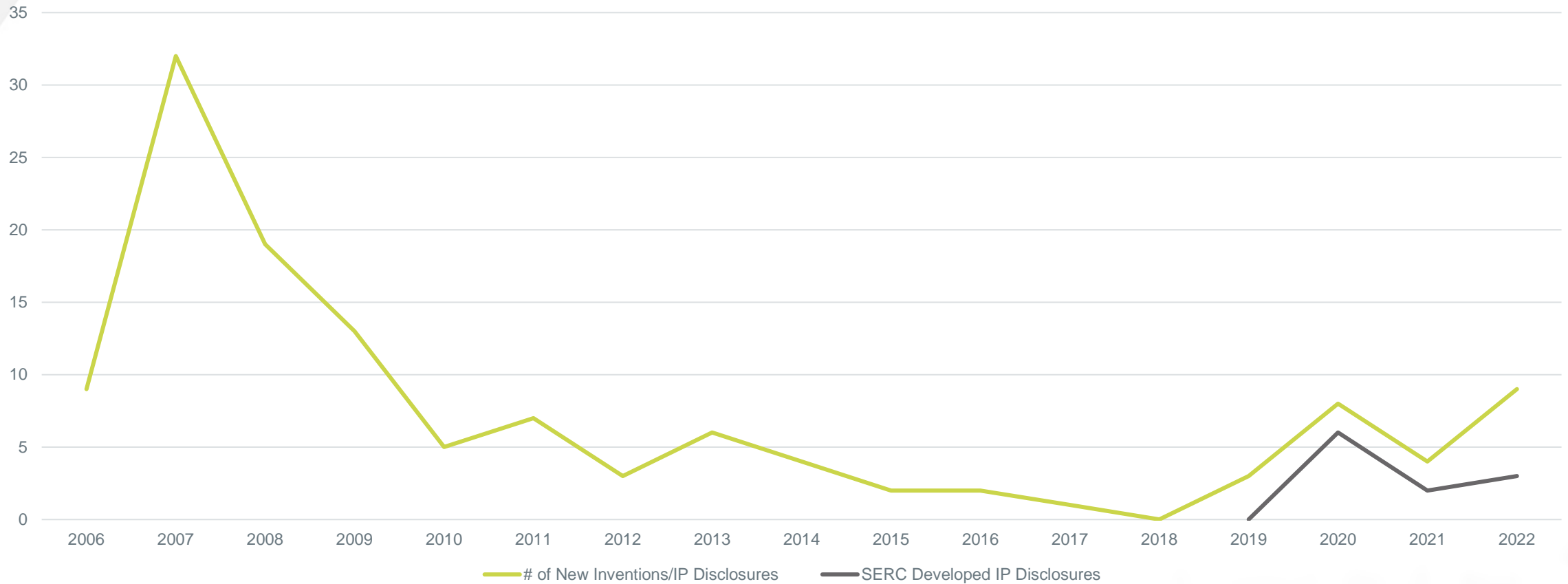
**13** Invention  
Disclosures

**8** Patent  
Applications

**3** Patents  
Granted

# SERC EFFECT ON INNOVATION

Invention Disclosures since SERC



# ENERGY HAWKS – CONCEPT

- 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

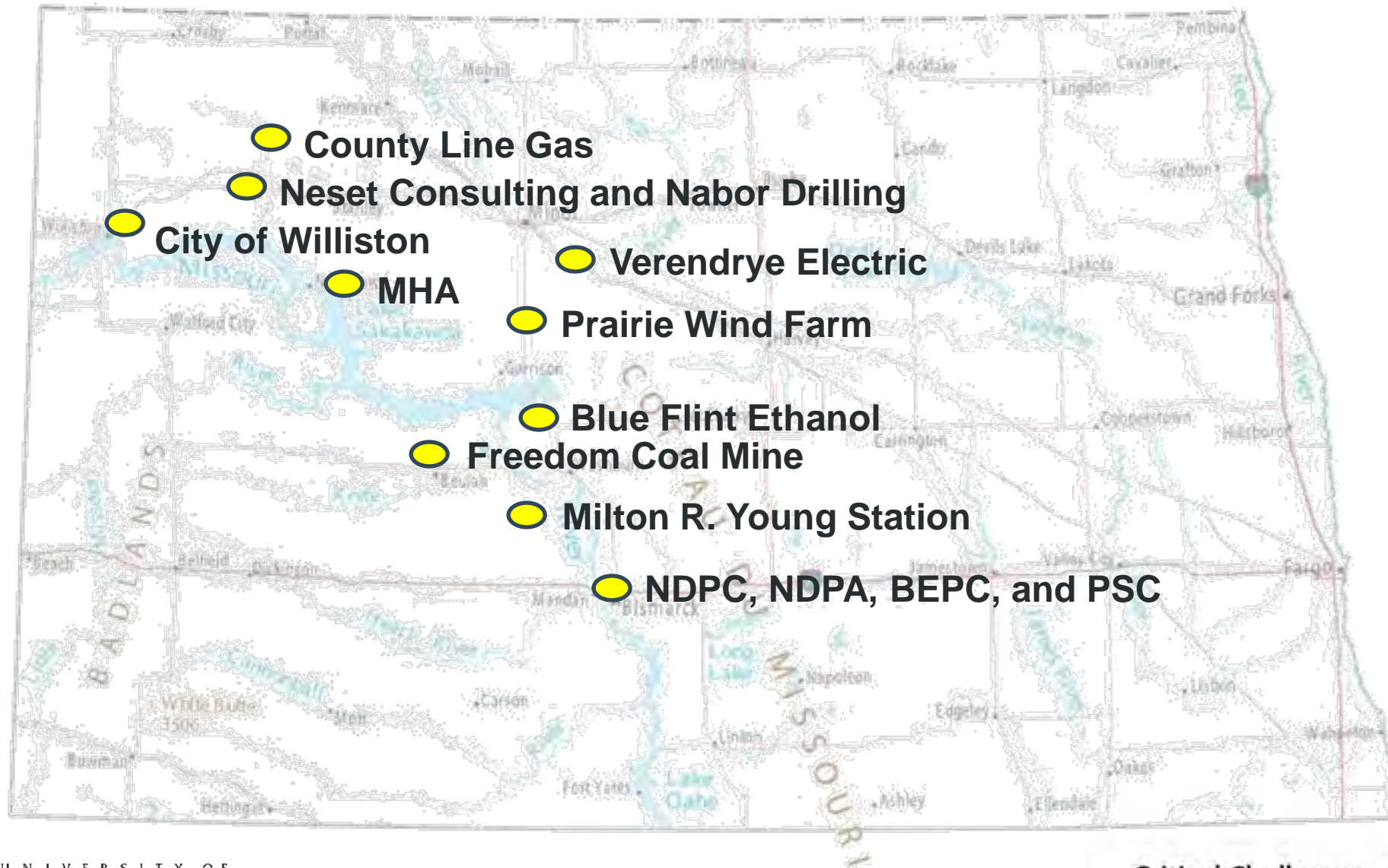


# THE KETTLES



Critical Challenges. Practical Solutions.

# 2022 ENERGY FIELD TRIP



# 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.

# North Dakota!



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A wide-angle photograph of a university campus at sunset. The sun is low on the horizon, casting a warm glow over the scene. In the foreground, there are large trees with yellowing leaves. In the background, there are several large, multi-story brick buildings and a parking lot filled with cars.

**THANK YOU**

Critical Challenges. Practical Solutions.