

THE UNIVERSITY OF NORTH DAKOTA ENERGY & ENVIRONMENTAL RESEARCH CENTER

The Energy & Environmental Research Center (EERC) is recognized as one of the world's leading developers of cleaner, more efficient energy to power the world and environmental technologies to protect and clean our air, water, and soil.



PRACTICAL, PIONEERING SOLUTIONS TO THE WORLD'S ENERGY & ENVIRONMENTAL CHALLENGES

WE ACCOMPLISH THIS MISSION THROUGH: OUR PEOPLE • OUR PARTNERSHIPS • OUR PRIORITIES.



undeerc.org

Critical Challenges | Practical Solutions

VISION TO LEAD THE WORLD IN DEVELOPING SOLUTIONS TO ENERGY & ENVIRONMENTAL CHALLENGES

OUR PEOPLE

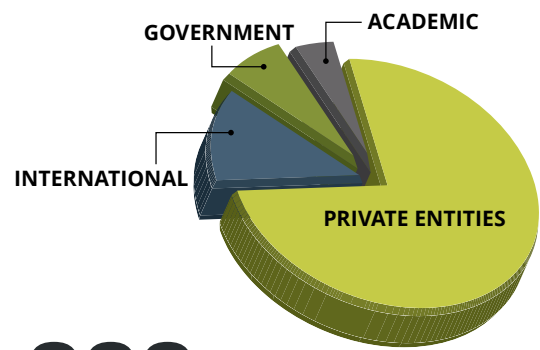
At our core are our people—our greatest asset. Our team of more than 200 scientists; engineers; and finance, operations, and other support professionals work together to develop practical solutions to critical global issues. Our comprehensive research portfolio comprises a wide array of services tailored to meet each client's needs.

200+ INTERNAL, TEMPORARY, REMOTE, AND STUDENT EMPLOYEES



OUR PARTNERSHIPS

Working in partnership with clients to develop, refine, demonstrate, and commercialize marketable products that provide practical solutions to real-world challenges.



13,000+ CLIENTS
IN **53** COUNTRIES



OUR PRIORITIES

Today's energy and environmental needs require a total-systems approach that focuses on technical details while retaining a broad perspective. Utilizing decades of energy research, we are a driving force for innovation and new opportunities in the energy industry.



COAL UTILIZATION & EMISSIONS

We pioneered the understanding of fossil energy air pollutants and other emissions. We work to develop innovative control and measurement technologies to better monitor and control emissions from refineries, incinerators, and other industrial sources.



CARBON MANAGEMENT

We are on the forefront of carbon management climate research. As industry and government continue to seek ways to reduce greenhouse gases, we continue to be a leader in the research of carbon capture, utilization, and storage (CCUS). Our track record stands in the design and deployment of CCUS technologies, including full-scale industrial applications.



OIL & GAS

Working with state and industry leaders, we are a respected partner in developing technologies to enhance safety and efficiencies throughout the industry. From working with new technologies to eliminate pipeline leaks to using enhanced oil recovery to extend the life of a well, we lead the way in research focused on resource assessment and optimization of exploration and production performance.



ALTERNATIVE FUELS & RENEWABLE ENERGY

A total-systems energy approach means research in all sources of energy. We are dedicated to the research and development of renewable fuels and technologies as well as committed to an all-encompassing integrated energy approach. We work to develop biomass fuels for heat, power, and transportation to advance all of North Dakota's energy resources.



ENERGY—WATER

For over three decades, we have investigated, developed, and demonstrated innovative, integrated approaches for water utilization and quality management. Our focus on partnerships, stakeholder-driven input, and applied research leads to the development of intelligent solutions that solve real-world problems.



ADVANCED ENERGY SYSTEMS BIOMASS & FOSSIL FUEL CONVERSION BRINE EXTRACTION AND STORAGE CCUS CO₂ CAPTURE & STORAGE COMBUSTION SYSTEMS CONVENTIONAL & UNCONVENTIONAL OIL PLAYS EOR GASIFICATION SYSTEMS GEOLOGIC CHARACTERIZATION HIGH-TEMPERATURE CORROSION & MATERIALS HYDROGEN GENERATION LIQUIDS GATHERING PIPELINES MATERIALS SCIENCE OIL & GAS PROCESSING OIL & GAS PRODUCTION OPTIMIZATION OILFIELD TENORM WASTE MANAGEMENT PIPELINE MONITORING/LEAK DETECTION PRODUCED WATER RARE-EARTH ELEMENTS SUPERCRITICAL & SUPERHEATED FLUIDS TIGHT OIL FORMATIONS TRACE ELEMENT EMISSIONS AND CONTROL UNCONVENTIONAL RESERVOIRS MORE

TECHNOLOGY DEMONSTRATION

With more than 54,000 square feet of technology demonstration facilities, we bring together state-of-the-art equipment and the expertise of a multidisciplinary team to solve global energy and environmental issues. This synergy expedites the rapid development and demonstration of client technologies for commercial deployment.

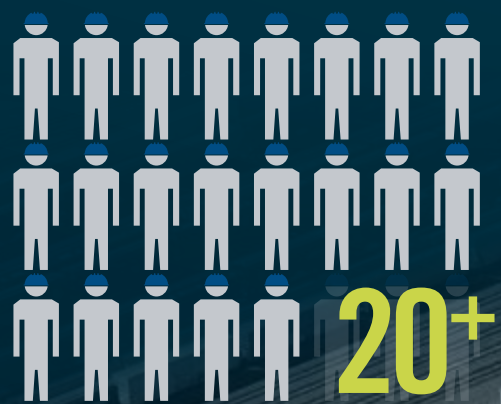
Our facilities contain a variety of space for a multitude of technologies, as well as room for construction of new components to meet client needs. Much of the design and creation of the equipment and machinery is done on-site, allowing us to demonstrate technologies in a more rapid, cost-effective manner.

550,000–
650,000^{BTU}/HOUR

SOLID FUEL
TESTING

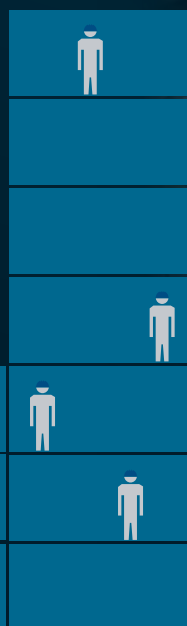
SPECIALIZED
SUPPORT
TEAM:

OPERATORS
ELECTRICIANS
WELDERS
INSTRUMENT
TECHNICIANS
MACHINISTS



3 CITY BLOCKS
WITH STRUCTURES
RANGING FROM

3 TO
7
STORIES



IN-HOUSE FABRICATION SHOP

Design and construction
of project-specific
machinery and
equipment



LAB EXPERTISE

The need for practical, economical, and environmentally sound energy solutions has never been more urgent. Our strong energy heritage in conducting applied research and development provides real-world solutions to pressing energy and environmental issues for clients worldwide. As energy sources and needs change, our facilities continue to grow to meet those challenges.

Our labs work collaboratively to perform a multitude of standard and nonstandard tests designed to exceed client needs. We perform all scales of materials analysis and characterization. Our state-of-the-art equipment and experienced staff provide full service sample analysis, characterization, and research across all of our core priorities: Coal Utilization & Emissions, Carbon Management, Oil & Gas, Alternative Fuels & Renewables, and Energy-Water.

EXPERTISE IN
Geologic Materials Characterization
Environmental Organic and
Inorganic Chemistry
Water and Wastewater Treatability
Fuel Testing
Emissions Research
Process Chemistry

ADVANCE CERAMICS
TESTED IN ORBIT
ON THE
INTERNATIONAL SPACE STATION

1ST JET FUEL FROM
**100%
RENEWABLE
RESOURCES**



WORK YOU CAN BE PROUD OF

Our people are our greatest asset. Our team of over 200 is sought after worldwide to solve energy and environmental challenges in innovative ways. Our multidisciplinary team gives us the ability to approach a problem from all angles.

22 STATES

1/4 ARE FROM GRAND FORKS!

13 COUNTRIES

YOUR PASSION COULD BE OUR NEXT BIG THING

140+ DISCIPLINES, INCLUDING SCIENCES, ENGINEERING, IT, COMMUNICATIONS, AND MORE

PERSONAL & PROFESSIONAL DEVELOPMENT

We encourage lifelong learning through our Employee Development Program and offer many opportunities for both professional and personal growth.

14% HOLD A MASTER'S DEGREE OR HIGHER

ENGAGED EMPLOYEES

It's not just enough to like our job; we like the people here too! We are fortunate to have diverse, motivated, and creative employees whose interests lie not only in the work they do at the EERC but in the community as well.



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