MISSION

The Center for Sustainable Energy at Notre Dame (ND Energy) is a University Research Center whose mission is to foster and grow energy-related research toward sustainable and affordable energy solutions, to support energy-related education and outreach throughout the Notre Dame and surrounding communities, and to influence the national and global discussions of the most pressing energy policy issues and questions of our time. ND Energy plays a pivotal role in developing new and improved energy technologies and systems and focuses on developing engineers, scientists, entrepreneurs, and social scientists to be leaders in their disciplines and literate in the systems of energy production and use.

OBJECTIVES

A University with the stature and aspirations of Notre Dame must excel in energy research, education, and outreach. Toward this goal, ND Energy aspires to achieve the following objectives:

- To serve as a focal point for all University-wide energy-related activities.
- To improve inter-college participation.
- To enhance research collaborations.
- To increase educational opportunities at the undergraduate and graduate levels.
- To create opportunities and promote informed choices for socially responsible and ethical energy production and use internationally, nationally, locally, and individually.
- To influence the national and global views on energy policy, ethics, and international relations.
- To ensure long-term financial viability of these activities at Notre Dame.

COMMUNITY BUILDING AND PEOPLE

ND Energy interacts with all colleges, centers and institutes, and organizations at Notre Dame to promote and develop energy-related research initiatives and educational and outreach programs for the Notre Dame and surrounding communities. ND Energy also seeks opportunities to interface on a national and global level with academic, industry, and government leaders to influence the development of energy policy and international relations. It is ND Energy's aspiration to create a highly visible organization that provides resources for all energy-related activities at Notre Dame and to build a strong community of knowledgeable researchers and influential leaders who play a pivotal role in fulfilling this mission.

Faculty affiliated with ND Energy represent all colleges and schools, creating an environment that is conducive to advancing multi-disciplinary, innovative research, and scholarly initiatives in sustainable energy.

Faculty Fellows are appointed by the ND Energy Director to specific research theme areas and are the primary point-of-contact for faculty and associated researchers at Notre Dame.

Undergraduate, Graduate, and Postdoctoral Fellows are selected through a competitive proposal process and are key to advancing energy-related research at Notre Dame.

Alumni Advisory Board members are comprised of energy-interested members of the College of Engineering Advisory Council who provide advice and counsel on the strategic growth and financial direction of ND Energy.

Technical Advisory Board members are comprised of faculty from major universities and national laboratories who provide advice and counsel on the research initiatives and scholarly advancements of ND Energy.

Internal Advisory Board members represent campus departments, centers and institutes, and organizations that have interests in energy-related issues and topics.

Student Energy Board members are a diverse group of undergraduate and graduate students who plan and execute energy-related activities at Notre Dame and in the surrounding communities.

PETER BURNS
Henry Massman Professor of Civil & Environmental Engineering & Earth Sciences and Concurrent Professor in Chemistry and Biochemistry

- Director of ND Energy
- Director of the Materials Science of Actinides, Energy Frontier Research Center

GREGORY HARTLAND
Professor of Chemistry and Biochemistry

- Associate Director of ND Energy

ND Energy

CENTER FOR SUSTAINABLE ENERGY AT NOTRE DAME

115 Stinson-Remick Hall
Notre Dame, Indiana 46556

http://energy.nd.edu

CENTER HISTORY

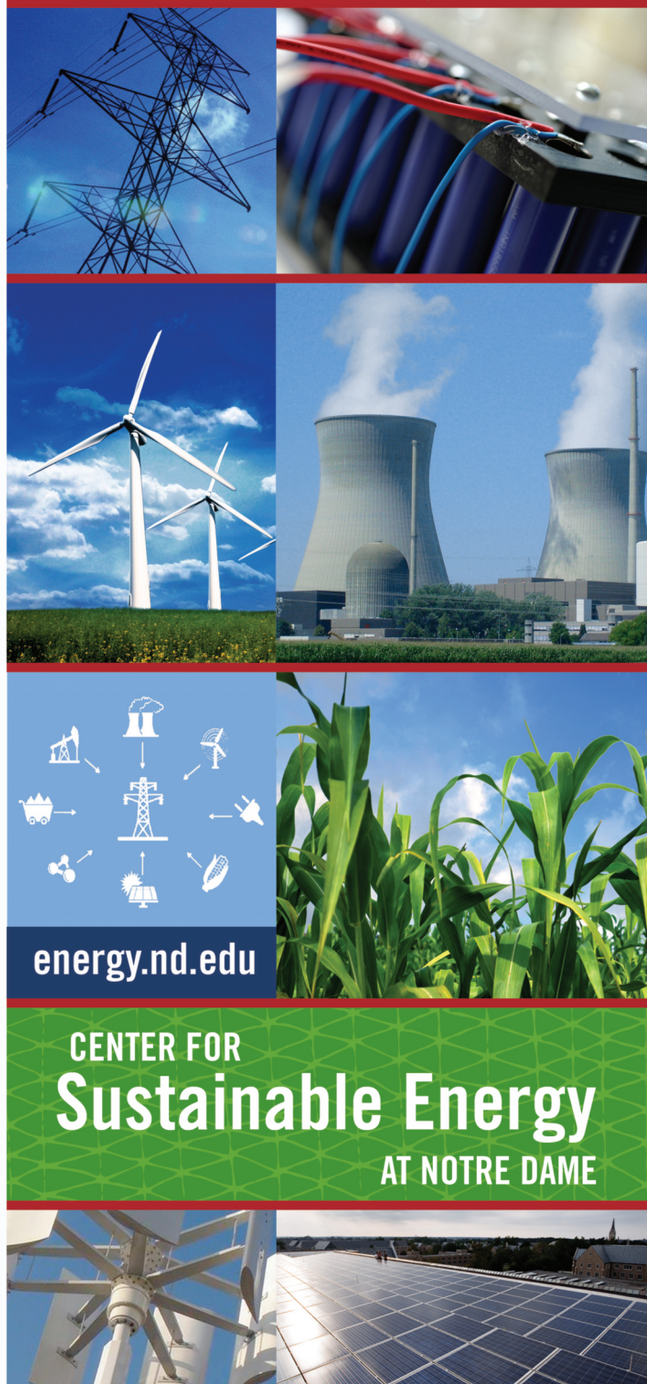
ND Energy is built upon the foundations laid by the Notre Dame Energy Center — a College of Engineering research center initiated in 2005 and the Sustainable Energy Initiative — a Strategic Research Investment funded by the University in 2010.

ND Energy was named a University Research Center in 2011 and is committed to serving the research and educational interests of all colleges and schools at the University of Notre Dame.

ND Energy addresses the global challenges to create an affordable, sustainable energy future, which is a vital part of Notre Dame's mission to respect life, value God's creations, and advance social justice for all people.

UNIVERSITY OF NOTRE DAME

ND Energy



Leading sustainable energy research, education, and outreach at the University of Notre Dame to create a more sustainable energy future for all

RESEARCH

Leading-edge scientific and engineering research aimed at addressing challenges in energy production, generation, and use is the cornerstone of ND Energy.

Research Focus Areas

ND Energy strives to be the umbrella organization for energy-related research across campus. Research efforts are organized into six research themes. These research themes broaden the scope of the ND Energy mission and enable our researchers to address critical energy challenges.

- Energy Conversion and Efficiency
- Smart Distribution and Storage
- Sustainable Bio/Fossil Fuels
- Sustainable and Secure Nuclear
- Transformative Solar
- Transformative Wind

Materials Characterization Facility

To support scientific advancements and new or improved sustainable energy technologies and systems, ND Energy's Materials Characterization Facility (MCF) is a world-class research facility with state-of-the-art equipment and instrumentation. Major capabilities include general materials characterization, photovoltaic and electrocatalyst characterization, and crystallographic characterization. The facility is available to Notre Dame researchers, as well as to those at other academic and industrial institutions. Descriptions of the equipment and instruments are provided at **mcf.nd.edu**.

Materials Simulation Facility

To support Notre Dame's world-class expertise in classical and quantum mechanical simulations, ND Energy's Computational Molecular Science and Engineering Laboratory (CoMSEL) provides a unique, high-quality, cross-college computational research and collaborative space for both scientists and engineers. This facility is charged with developing, managing, and applying computational tool sets with principal investigators and providing the environment and the interactions necessary to multiply the impact of existing individual research programs.

Student Research Fellowships

ND Energy enhances the educational experiences of undergraduate and graduate students at Notre Dame by providing energy-related research fellowships. The competitive selection process ensures that ongoing work in sustainable energy technologies and other scientific advancements are carried on successfully for generations to come. These fellowship opportunities are made possible through the generosity of Notre Dame alumni who support the research and education mission of ND Energy.

The Vincent P. Slatt Endowment for Undergraduate Research in Energy Systems and Processes (2006 – present)

Christopher (ND '80) and Jeanine Slatt in honor of Vincent P. Slatt, Notre Dame Class of 1943

The Fitzpatrick Endowment for Excellence for the Center for Energy (2008 – present)

Edward Fitzpatrick Jr. (ND '54)

The Forgash Undergraduate Fellowship in Solar Energy Research (2009 – present)

John (ND '00) and Karla Forgash

The Patrick and Jana Eilers Graduate Student Fellowship for Energy Related Research (2012 – present)

Patrick (ND '90) and Jana Eilers

The Michael A. O'Sullivan Endowment for Excellence in Energy Research (2014 - present)

Michael A. O'Sullivan (ND '82)

EDUCATION AND OUTREACH

A key goal of ND Energy is to assist faculty in building strong energy-related research programs and creating educational and outreach opportunities to support their research. By collaborating with campus groups, community leaders, and external partners, ND Energy is able to develop educational programs to support community outreach and lay the groundwork for future research and external collaborations. These activities focus on supporting and growing the energy-related research at Notre Dame.

Energy Studies Minor

The Energy Studies Minor is open to undergraduate students in all majors and colleges at the University of Notre Dame. This minor is intended to prepare students to become successful leaders who understand the complexities of our energy challenges. Students may select courses from both the technical and non-technical track. Students in this minor also obtain hands-on experience in a real-world setting through the completion of a capstone project that allows them to pursue a topic of particular interest in more depth. For more information, visit **energystudiesminor.nd.edu**.

GLOBES Graduate Student Certificate in Environment and Society

The GLOBES certification program is housed in the Reilly Center for Science, Technology, and Values and focuses on enriching the research and educational experience of graduate students through additional study in interdisciplinary education and the discovery of better environmental and energy research solutions. ND Energy has partnered with the Reilly Center for Science, Technology, and Values to advance interdisciplinary graduate education in energy studies by offering this program to ND Energy graduate students.

Community Outreach Programs

The Distinguished Lecture Series is designed to bring renowned experts in academia, industry, and government to Notre Dame to discuss best practices, new technologies, and policy development in energy with faculty and students.

Notre Dame Energy Week is an annual event sponsored by the Student Energy Board and is designed to create awareness and educate students on critical energy-related issues and topics.

Science Alive! is an annual event sponsored by the St. Joseph County Public Library. It provides ND Energy the opportunity to teach children in grades K-8 and their families about energy-related issues and topics through hands-on demonstrations and activities.

SERVICES

ND Energy facilitates the advancement and quality of research and scholarship at the University of Notre Dame by providing services in the following areas to its affiliated faculty and associated researchers.

- Proposal Assistance
- Outreach Development
- Project Management
- Laboratory Facilities
- Instrument Grants
- Research Fellowships