Research Areas

Rutgers Energy Institute (REI) is coordinating research in these areas:

Biofuels—Reducing the Need for Fossil Fuels

- Exploring ways to use biological materials to produce energy for heat, electric power, and transportation
- Optimizing energy yields from commercial crops, like corn and soy, through innovative genetic techniques
- Developing cost-e ective technologies with minimal impact to the environment

Solar Energy—Alternative Electricity

- Improving technologies that convert solar energy to electricity
- Advancing the fundamental optical and electronic science required to produce solar cells
- Cultivating cost-e cient technologies that convert solar energy to hydrogen—an important renewable fuel

Wind Power—Clean, Renewable Energy

- Focusing research on wind energy technology as an alternative to burning coal or oil
- Improving our wind prediction capabilities along the New Jersey coastline through collaborations with the state of New Jersey and PSE&G
- Implementing a ground-breaking program that utilizes real-time data to collect and distribute wind energy at strategically located sites

Green Building—Ef cient Energy Use

- Advancing the energy efficiency of buildings, industrial processes, and transportation in New Jersey
- Merging fundamental research in materials science and technology with practical building applications
- Putting theory into practice with building improvements for homeowners - such as energy-saving techniques and equipment, healthier indoor air-quality systems, building material reuse, and solid waste reduction

Carbon Capture and Sequestration – Reducing CO2 Emissions

- Developing technology to capture CO2 from coal-fired power plants and other point sources such as oil refineries and cement factories

- Exploring the potential for large-scale and long-term storage of CO2 in both onshore and offshore geologic formations