The Department of Energy (DoE) partners with researchers across the University of Michigan to ensure America’s security and prosperity by addressing its energy, environmental and nuclear challenges through transformative science and technology solutions.

As a key external supporter of research and scholarship at U-M, competitively-awarded DoE funding allows researchers to address pressing energy challenges and opportunities in areas of broad potential impact.

This includes advancing rechargeable battery technology and exploring algae as a biofuel source for diesel engines.

$40M
Research Expenditures during Fiscal Year 2019

263 Active Projects

DoE grants annually support U-M researchers in a wide variety of roles:

- 226 Faculty
- 33 Postdoctoral Fellows
- 27 Graduate Students

For more information about U-M research, visit research.umich.edu
Battery Breakthrough

A rechargeable battery technology developed at U-M, with support from DoE, could double the output of today’s lithium ion cells — drastically extending electric vehicle ranges and time between cell phone charges — without taking up any added space.

By using a ceramic, solid-state electrolyte, engineers can harness the power of lithium metal batteries without the historic issues of poor durability and short-circuiting.

From Ponds to Power

U-M researchers, with support from DoE, are working to make the long-touted promise of algae as a biofuel source for diesel engines into a reality.

Their goal is to create biofuels that work with existing diesel engines and reduce greenhouse gas emissions by 60 percent, compared with normal diesel fuels. To do that, they are working on a three-year project to perform an end-to-end evaluation of how best to grow algae, transform it into a diesel fuel and maximize its performance during the combustion process.

American Laser Renaissance

In an effort to improve American competitiveness in high-intensity laser research, DoE established LaserNetUS, an initiative that involves U-M — one of the field’s pioneers.

High-intensity lasers have a broad range of applications in basic research, manufacturing and medicine. The new network, comprised of six universities and three national laboratories, includes lasers that can exceed a petawatt, or a million billion watts.