



Natural Resources
Canada

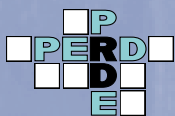
Office of Energy
Research and Development

Ressources naturelles
Canada

Bureau de recherche et de
développement énergétiques

Energy Research Today, *Energy Solutions Tomorrow*

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Energy Research Today, *Energy Solutions Tomorrow*

Office of Energy Research and Development

At Natural Resources Canada (NRCan) we believe that focused energy research lays the groundwork for finding innovative solutions for how we produce, use and manage energy. Whether at home or abroad, NRCan's Office of Energy Research and Development (OERD) is committed to energy research today for energy solutions tomorrow.

At home

OERD has coordinated energy research and development activities in Canada for more than 20 years. How? – through the design and funding of interdepartmental R&D programs which support Canada’s energy priorities.

Current examples of these priorities include:

- reducing greenhouse gas emissions
- improving the energy efficiency of our homes, offices and industries
- finding practical, affordable alternate sources of energy
- developing cleaner, more efficient transportation vehicles and systems
- ensuring the integrity of Canada’s energy infrastructure
- providing economic opportunities for Canada’s energy-related industries



Abroad

The above priorities are not unique to us here at home. OERD is also active outside Canada by coordinating the Government of Canada’s participation in international energy R&D. Indeed, we derive great benefits from our collaborations with other countries. By pooling resources and expertise, exchanging new ideas, and working together on scientific and technical programs, OERD works hard at using our international partnerships as a tool for meeting our domestic energy challenges.

Canada’s international energy R&D objectives are mainly advanced through OERD’s participation in the Committee for Energy Research and Technology of the International Energy Agency (IEA). Established in 1974, the IEA facilitates the development and commercialization of energy technologies which promote the energy security, environmental protection and economic development of its Organisation for Economic Co-operation and Development (OECD) member countries. This is accomplished through Implementing Agreements, frameworks which facilitate the initiation, implementation, monitoring and review of these collaborative efforts.

Canada participates in the following Implementing Agreements:

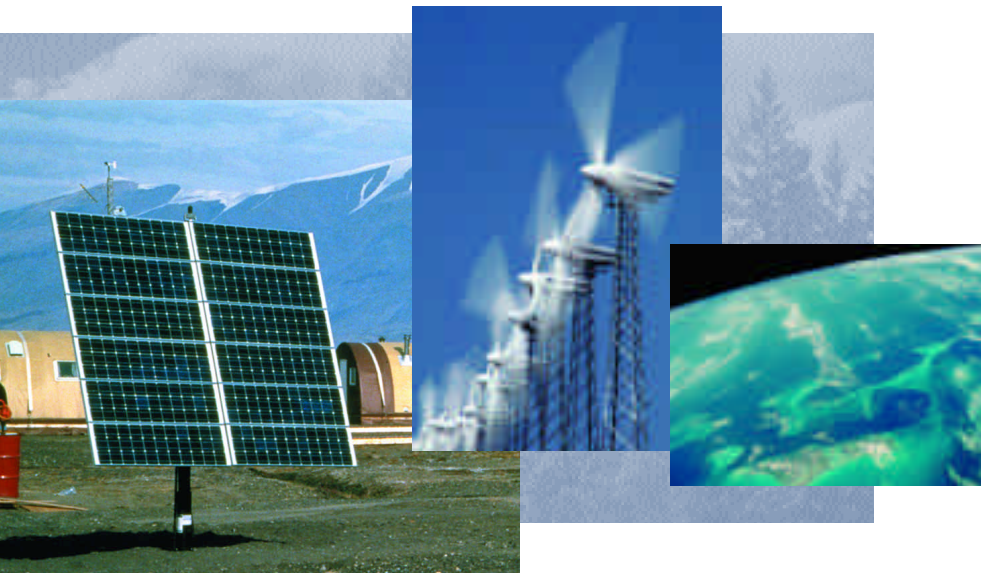
- Advanced Fuel Cells
- Advanced Motor Fuels
- Bioenergy
- Buildings and Community Systems
- Centre for Analysis and Dissemination of Demonstrated Energy Technologies (CADET)
- Coal Combustion Sciences
- Demand Side Management
- District Heating and Cooling
- Energy and Environmental Technologies Information Centres
- Energy Conservation in Buildings
- Energy Efficiency in Combustion
- Energy Storage
- Energy Technology Data Exchange (ETDE)
- Energy Technology Systems Analysis Programme (ETSAP)
- Enhanced Oil Recovery
- Environmental, Safety and Economic Aspects of Fusion Power
- Fluidised Bed Combustion
- Greenhouse Gases Derived From Fossil Fuel
- Heat Pumping Technologies
- High-Temperature Superconductivity
- Hybrid and Electric Vehicles
- Hydrogen
- Hydropower Technologies
- IEA Coal Research
- IEA Wind Research
- International Natural Gas Technology Information Centre
- Multiphase Flow Sciences
- Plasma Wall Interaction in TEXTOR
- Photovoltaic Power Systems
- Process Integration
- Pulp and Paper
- Small-scale Hydro Resources and Technologies
- Solar Heating and Cooling
- Wind Turbine Systems

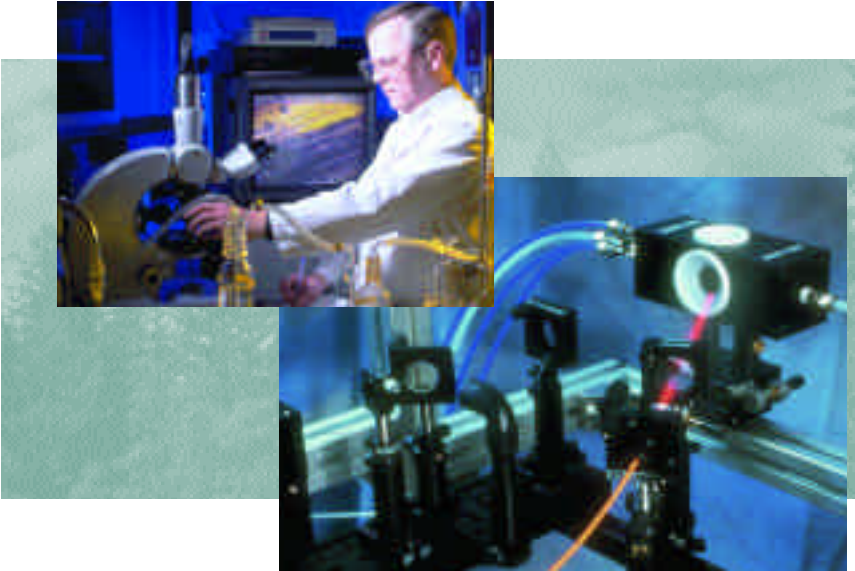
Canada also collaborates bilaterally. For example, Natural Resources Canada has recently signed Implementing Arrangements on fossil fuels and fuel cells under its Memorandum of Understanding on Energy R&D with the U.S. Department of Energy.

What is PERD?

The federal Program of Energy Research and Development (PERD) exists for one important reason: to support R&D designed to ensure a sustainable energy future for Canada in the best interests of both our economy and our environment. It directly supports 40 per cent of all non-nuclear energy R&D conducted in Canada by the federal and provincial governments, and is concerned with all aspects of energy supply and use, with the exception of nuclear energy. PERD operates through 11 participating federal departments and agencies:

- Agriculture and Agri-Food Canada
- Canada Mortgage and Housing Corporation
- Environment Canada
- Fisheries and Oceans
- Health Canada
- Indian and Northern Affairs Canada
- National Defence
- National Research Council of Canada
- Natural Resources Canada
- Public Works and Government Services Canada
- Transport Canada





What is PERD trying to achieve?

PERD funds energy R&D programs to further the national interest, investing in activities designed to:

- advance economic growth and job creation
- protect the environment
- support regional development
- encourage energy diversity
- protect health and safety
- help fulfill federal responsibilities for the development of appropriate standards, regulations and policies

Who is eligible?

PERD provides funds directly to its partner departments and agencies, which then team up with the following agents:

- federal laboratories
- the private sector (industry, research institutes, companies, consortia and alliances, individuals)
- associations
- other funding agencies such as the National Sciences and Engineering Research Council (NSERC), the Industrial Research Assistance Program (IRAP) and Technology Early Action Measures (TEAM)
- universities
- provincial and municipal governments and research organizations
- international organizations



How can PERD help?

If you:

- need information on energy R&D
- want to participate in existing programs
- want to know more about PERD support for proposed R&D programs or
- need information on energy R&D policies and priorities,

contact the Office of Energy Research and Development (OERD) at Natural Resources Canada. If we cannot answer your question, we will put you in touch with an appropriate expert who can.



More information about what PERD does

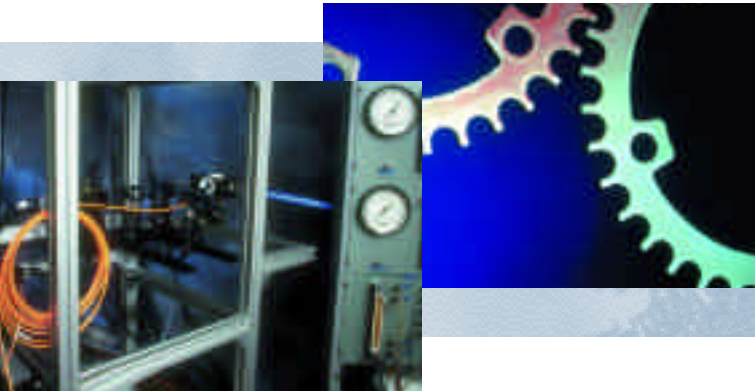
Although PERD covers a broad spectrum of activities in the field of energy R&D, it is mainly focused on six strategies, specifically chosen to address the Government of Canada's energy priorities. When contacting OERD, use the following guide to match your request to the appropriate strategy.

Strategy 1 Diversifying Canada's Oil and Gas

- Offshore and northern oil and gas
- Oilsands and heavy oil
- Environmental and safety issues (flares, pipeline integrity, and groundwater and soil remediation)

Strategy 2 Cleaner Transportation for the Future

- Improved urban air quality including reduced emissions and greenhouse gas production
- Transportation fuels from renewable energy sources
- Improved vehicle and transportation system efficiency
- Fuel cells, electric and hybrid vehicle components



Strategy 3 Energy-efficient Buildings and Communities

- Building research and development
- Waste recovery and utilization
- Integration of energy efficiency and renewable energy technologies
- Improvements in sustainable development of communities
- District heating and cooling

Strategy 4 Energy-efficient Industry

- Innovative products, processes or systems for improved energy efficiency by industry
- Heat management
- Process integration
- Primary agricultural production
- Fisheries
- Forestry
- Mining and metals
- Agricultural and forestry biomass



Strategy 5 Canada's Electricity Infrastructure

- Alternative electric power generation to reduce environmental impacts of Canada's electricity infrastructure
- Efficient conversion of renewable and non-renewable energy to electricity
- CO₂ capture and storage

Strategy 6 Climate Change

- Support for Canadian energy sector's response to impacts of climate change
- Enhanced natural uptake of greenhouse gas

We want to hear from you

Find out more about OERD and PERD by visiting our website at

<http://www.nrcan.gc.ca/es/oerd>.

We welcome your questions and comments and our on-line questionnaire is designed to get you the information you need, quickly and easily.

For general telephone inquiries, call (613) 947-3481. Or if you prefer, send us a fax (613-995-6146) or an e-mail (oerd.brde@nrcan.gc.ca).

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