# CAREERS IN ENERGY

- Architects
- Economic policy researchers and analysts
- Electrical, chemical, geological, petroleum and mechanical engineers
- Meteorologists and climatologists
- Policy researchers and consultants
- Physicists and astronomers
- Biological technologists and technicians
- Control and process operators, petroleum, gas, and chemical
- Civil Engineering & energy related technologists and technicians
- Land surveyors
- Geomatics & meteorology technicians
- Technical specialists – wholesale trade
- Utilities managers
- Central control and process operators
- Construction millwrights and industrial mechanics
- Contractors and supervisors in electrical and telecommunications
- Electrical power line and cable workers
- Trades in energy production & consumption
- Power engineers and power systems operators
- Steamfitters, pipefitters, and sprinkler system installers
- Assemblers and inspectors, industrial motors and transformers
- Chemical technologists and technicians
- Engineering inspectors and regulatory officers
- Oil and gas drilling workers and operators
- Residential and commercial installers and servicers
- Waterworks and gas maintenance workers

For more information on the Specialist High Skills Major Energy program, contact your school guidance counsellor, SHSM board lead or visit **Ontario.ca/SHSM**

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# ENERGY

### Sector Overview

Energy is an emerging and expanding sector that encompasses all aspects of energy generation, distribution, and consumption, including research and development, design, construction, installation, and maintenance. Core industries in this sector include renewable and alternative energy such as wind, solar, and biomass; power generation and distribution; fossil fuels; energy efficiency.

# THE EXPERIENCE

**Students in the Energy Specialist High Skills Major program will:**

- Be exposed to various skilled trades as well as professional areas such as engineering, science, and architecture
- Gain skills and knowledge associated with the energy sector, including energy generation, alternative energy, renewable energy, and energy conservation
- Engage with community partners in the energy sector through co-op placements, field trips, and guest speakers
- Work collaboratively to solve real-world problems that may involve design and build projects
- Gain an appreciation for the environmental, economic, and societal impacts of energy generation, consumption, and conservation

# CREDITS

### Course Package

Each SHSM program offers students a bundle of 8 - 10 credits. These courses are regular Ontario secondary school courses that allow students to work towards their Ontario Secondary School Diploma, but have been bundled as the most relevant courses to prepare students for a future in the Energy sector.

Two credits in this bundle include Cooperative Education where students pursue a work placement in a field of interest.

**The bundle includes:**

- **4 "major" credits** in grade 11 and 12, such as Construction, Transportation, Manufacturing and Technological Design
- **Supporting credits:**
  - > 1 Grade 12 English credit
  - > 1 Grade 11 Math credit
  - > 1 Grade 11 or 12 Science credit
  - > 2 Cooperative Education credits to experience life in the Energy sector

### Achievements in the Program

- **Certifications and Awareness Training:** Students complete selected sector-recognized certifications related to the major
- **Experiential Learning Opportunities:**
  - > Have the opportunity to job-shadow industry professionals
  - > Complete 2 Cooperative Education credits and get work experience in the Energy sector
  - > See guest speakers, go on field trips to explore careers in Energy
- Gain a **Sector Partnered Experiences** (SPE) component that includes one of the following options: Innovation Creativity and Entrepreneurship (ICE) training; sector-delivered coding; or, sector-delivered mathematical literacy. The SPE will require a 6 hour activity, delivered with a sector partner and have an experiential and an assessment component
- **Reach Ahead Experiences:** Explore the field and postsecondary education opportunities in the Energy sector
- Completing the SHSM program prepares students for their pathway to **apprenticeship, college, university or work**