

# Sustainability in Energy Micro-Credential Syllabus



# Growing the skills to support a sustainable energy industry



## Program overview

The *Sustainability in Energy Micro-Credential* is a professional development program created for people who work in Canadian energy. The purpose is to enhance their skill sets to address critical challenges facing the energy industry, including climate change, environmental and socio-economic sustainability, energy security, and indigenous reconciliation.

## Who should apply

- Early to mid-career energy professionals
- Engineers, geoscientists and other technical professionals
- Operations and maintenance specialists
- Data science and analysts
- Administrative/corporate services employees in areas such as finance, accounting, information technology (IT), human resources and supply chain
- Business development and sales professionals

## Cost

The program is free to participants and employers and fully funded by the Government of Canada's Sectoral Workforce Solutions Program.

## Apply today

There is limited space in the program.  
Apply today at [energysustainability.ca](https://energysustainability.ca)

# Why your organization should participate



Encourage your employees to join the program and ensure your organization has the skills for the future.

## Value for Employers

### Attracting Talent

The ability to attract talented professionals is an essential part of the lifeblood of any company, especially companies in the rapidly evolving energy sector. An effective personnel strategy incorporating relevant training programs will set your company apart when attracting key talent into your workforce. Access to the latest in Sustainability and ESG training is increasingly becoming a critical factor for recent graduates who tend to seek employers whose values align with theirs.

### Equipping Your Team for the Future

Evolving topics like Sustainability and ESG are changing the nature of the energy industry. Upskilling is a great way to empower the talented professionals within your organization and provide them with diverse learning opportunities as part of their personal development.

### Workforce Retention

Keep your workforce engaged by providing information on how their roles and responsibilities will evolve to meet the industry's commitment to a sustainable future.

## How to Apply?

There is limited space in the program.

Contact Jennifer Welsh at [learning@energysustainability.ca](mailto:learning@energysustainability.ca) to get your group of learners enrolled.

# Micro-credential curriculum

The curriculum will address the key sustainability and ESG knowledge challenges faced by learners. The curriculum was based on extensive industry and stakeholder input.

## Curriculum (4 focus areas / 12 courses)

### I. Sustainability and ESG in the Energy Industry

1. ESG & Sustainability in Energy
2. Measuring ESG Performance
3. ESG Reporting Fundamentals
4. Regulatory Trends and Environmental Legislation in Canada

### II. Environment

1. Climate Change Risks & Opportunities
2. Emissions Sources & Measurement
3. Emissions Reduction & Transformational Technologies
4. Water Management
5. Land & Air Quality Management

### III. Governance

1. Governance Practices

### IV. Social

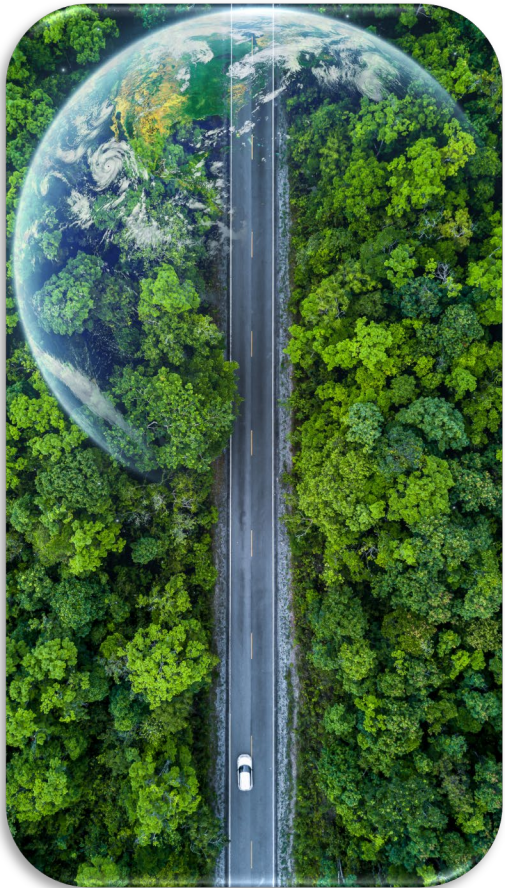
1. Social Practices
2. Indigenous Rights Holders in Canada

Total time commitment for the learner:

- Approximately 50 hours

Format:

- 12 self-paced eLearning modules
- 4 live webinars with industry leaders and sustainability experts





# Curriculum details (pg. 1/4)

Topic	Course	Learning Objectives
I. Sustainability and ESG in the Energy Industry	1. ESG & Sustainability in Energy	<ul style="list-style-type: none"> <li>Examine energy system challenges and opportunities that arise viewed through the lens of the energy trilemma (environmental/affordable/secure).</li> <li>Explore the role of energy professionals in a rapidly evolving industry, and apply this to the concepts of climate change, sustainable development and Environmental/Social/Governance (ESG) impacts.</li> <li>Identify shifting trends in terms of measuring sustainability through ESG performance (i.e., financial and risk management metrics).</li> </ul>
	2. Measuring ESG Performance	<ul style="list-style-type: none"> <li>Relate comprehensive ESG measurements to improved ESG performance, increased investor confidence, and reduced regulatory risk.</li> <li>Understand the process of ESG materiality assessment and ESG factor selection (stakeholder engagement, regulatory requirements, standardized frameworks, etc.).</li> <li>Identify key ESG indicators for the Canadian Energy Industry, including Scope 1, 2 CO<sub>2</sub>e emissions, water management, land management, and recognition of Indigenous rights.</li> </ul>
	3. ESG Reporting Fundamentals	<ul style="list-style-type: none"> <li>Identify key components of building a comprehensive ESG narrative, including accuracy, comparability, and credibility.</li> <li>Evaluate robust ESG reporting communication modes (e.g., quantitative, qualitative, etc.) and apply these to fit-for-purpose communication media (e.g., internal communication, website, dashboards, reports, etc.).</li> <li>Compare and understand frames of reference for common ESG standards (UNSDG, GRI, SASB, CDP, TCFD).</li> </ul>
	4. Regulatory Trends and Environmental Legislation in Canada	<ul style="list-style-type: none"> <li>Identify key regulatory issues, including the evolving regulations on GHG emissions, asset retirement obligations, and fresh water use and management.</li> <li>Examine the Canadian dichotomy of aligned/differing/conflicting provincial and federal regulations as it relates to current regulations.</li> <li>Explore varying regulatory approaches, categorized through 'carrot' and 'stick' models.</li> </ul>

# Curriculum details (pg. 2/4)

Topic	Course	Learning Objectives
II. Environment	1. Climate Change Risks & Opportunities	<ul style="list-style-type: none"> <li>Apply the energy trilemma (environmental/affordable/secure) to assessing climate change risks and opportunities.</li> <li>Evaluate climate change risks for the energy industry, including catastrophic incidents, severe weather, climate activism, and geopolitical unpredictability.</li> <li>Discuss climate change opportunities such as built-environment resilience, carbon reduction partnerships, carbon capture and storage, and liquid natural gas as a worldwide transition fuel.</li> </ul>
	2. Emissions Sources & Measurement	<ul style="list-style-type: none"> <li>Differentiate between direct and indirect GHG emissions (Scope 1, 2, 3 emissions).</li> <li>Identify the common standards for measuring GHG emissions.</li> <li>Examine GHG emissions profiles that are sector specific and recognize correlation between sector performance and Scope 1, 2, 3 emissions profiles.</li> </ul>
	3. Emissions Reduction & Transformational Technologies	<ul style="list-style-type: none"> <li>Explore emissions reductions approaches in the categories of increased efficiencies, emissions reduction technologies, and environmental services.</li> <li>Identify emissions reduction 'low hanging fruit' technologies, including addressing fugitive emissions, process optimization, and fuel switching.</li> <li>Explore potential hydrocarbon demand in new markets and products and energy system shifts incorporating renewables, electrification, and efficiency improvements.</li> <li>Identify potentially transformational emerging technologies, including carbon sequestration (CCUS), and renewable natural gas and hydrogen as fuel sources.</li> </ul>

# Curriculum details (pg. 3/4)

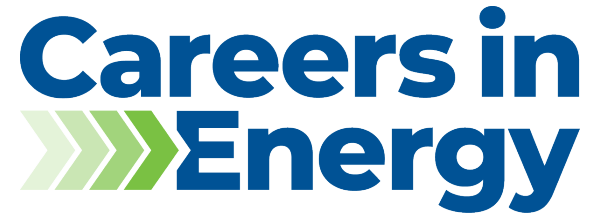
Topic	Course	Learning Objectives
II. Environment (cont'd)	4. Water Management	<ul style="list-style-type: none"><li>• Identify best practice water management metrics, including volume of fresh water consumed, intensity of freshwater usage, volume of produced water, and flowback volume of produced water.</li><li>• Explore key approaches to managing produced water, combining recycling, technological reclamation, and biological reclamation. Identify technologies reducing freshwater intensity, including steam replacement, utilizing saline sources, and alternate cooling processes.</li><li>• Examine differences in water management for oil sands mining, in situ oil sands operations, hydraulic fracturing, and conventional drilling.</li><li>• Recognize circular economy potential, particularly in critical mineral recovery, and electricity generation through geothermal technology.</li></ul>
	5. Land and Air Quality Management	<ul style="list-style-type: none"><li>• Examine key land and air quality management concerns for the energy sector, including land disturbance, tracking biodiversity, hydrocarbon spill prevention, and asset retirement.</li><li>• Identify best practice land and air quality management metrics, including area of land disturbance, biodiversity indicator species health, and volumes of hydrocarbon spills and recoveries.</li><li>• Identify best practice land and air quality management approaches, including project life cycle and cumulative effects land use planning, and planned management of retired assets.</li></ul>

# Curriculum details (pg. 4/4)

Topic	Course	Learning Objectives
III. Governance	1. Governance Practices	<ul style="list-style-type: none"><li>• Examine best practice ESG governance practices which incorporate ESG oversight throughout the entire organization.</li><li>• Identify and apply common risk categories, including compliance risk, legal risk, strategic risk, operational risk, security risk, and financial risk.</li><li>• Draw connections between ESG governance and tools to evaluate ESG performance.</li></ul>
IV. Social	2. Social Practices	<ul style="list-style-type: none"><li>• Relate diversity, equity and inclusion (DEI) to building organizational resilience and innovation. Examine the accompanying disadvantages of potential organizational discord and social complexity.</li><li>• Identify key factors that have advanced safety culture of the Canadian Energy Industry, including emergency management, and workplace health and safety systems.</li><li>• Explore the potential for unintended consequences (e.g., human rights violations, historical resource impacts) arising from the large scale and interconnected nature of energy.</li></ul>
	3. Indigenous Rights Holders in Canada	<ul style="list-style-type: none"><li>• Examine the historical context of interactions between the Canadian Energy Industry and Indigenous peoples. Recognize potential areas of trust/mistrust among the interacting parties.</li><li>• Explore the UN Declaration on the Rights of Indigenous Peoples (UNDRIP) and frameworks for Indigenous consultation based on principles of Free, Prior and Informed Consent (FPIC).</li><li>• Examine contrasting approaches to Indigenous engagement (e.g., legal approach, regulatory approach, relationship approach), and understand the evolving nature of Indigenous consultation.</li><li>• Explore how the lack of standardized ESG metrics for Indigenous engagement reveals an opportunity for global leadership.</li></ul>



# Partnership and support



geoLOGIC systems ltd. has partnered with Careers in Energy (formerly PetroLMI), a division of Energy Safety Canada, to build and deliver this training program.

This program is funded by the Government of Canada's Sectoral Workforce Solutions Program.



 Sustainability in Energy  
Micro-Credential

<https://energysustainability.ca>

[info@energysustainability.ca](mailto:info@energysustainability.ca)

403-209-3505

