
Request for Proposal

Labour Market Forecasting/Economic Consultant

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1.0 Introduction

Petroleum Labour Market Information (PetroLMI), a division of Energy Safety Canada, is seeking the services of a **Labour Market Forecasting/Economic Consultant** to assist in the operations, maintenance and/or enhancement of its labour demand and supply forecasting models beginning March 2018 through to December 2020.

This RFP is designed to provide detailed information that will enable your firm to respond specifically to the consulting requirements for the project, including: scope, objectives, project activities and key responsibilities. Proposals will be accepted from single business entities or from a consortium of firms. However, if the successful bidder is a consortium of firms or consultants, the lead firm must be identified in the proposal and PetroLMI will enter into a contract with the lead firm/consultant only.

RFP responses/proposals are due by 11:59 p.m. MST on January 31, 2018.

2.0 About PetroLMI

The Petroleum Labour Market Information (PetroLMI) division of Energy Safety Canada (a merger of Enform and Oil Sands Safety Association) serves a unique role as a leading resource for labour market and occupational information and resources regarding Canada's oil and gas industry.

PetroLMI's mandate is to collaborate with industry, government, educators and training agencies to provide timely, relevant and credible labour market intelligence and insights, as well as occupation profiles and tools for effective workforce and career planning in the oil and gas industry.

PetroLMI generates the following labour market and occupational information and resources:

- **Labour Market Outlooks:** Using a proprietary labour market modelling system, these outlooks are produced annually and provide analysis and insight regarding longer-term employment requirements, hiring projections and labour supply for Canada's oil and gas industry.
- **Workforce Trends and Insights:** Using data collected from industry and other sources, these reports explore current or short-term workforce conditions and trends within the industry. These could include workforce demographics and potential supply pools, recruitment and retention challenges including in-demand occupations, labour market statistics, etc.
- **Career profiling:** With the objective of reducing barriers to employment, PetroLMI develops profiles of current and future occupations within the oil and gas industry that include working environments, education, skills and training requirements, as well as specialized tools to map career paths and measure transferability of skills and qualifications.

With the support of industry, PetroLMI has developed the [Careers in Oil + Gas](#) website to provide its resources and key industry information to those in workforce or labour market program planning, or, who are planning and pursuing careers in the oil and gas industry. Informed decision-making supports and advances the development of a sustainable, skilled and productive oil and gas workforce in Canada.

3.0 Project Background, Objectives and Scope

PetroLMI requires a labour market forecaster/economic consultant to:

- Maintain or update/enhance its labour market modelling system for the period 2018 to 2020 (this may require data purchase and/or collection). This includes maintaining or improving the models documentation and files on a yearly basis.
 - The models are currently housed in and operated using 4CastGear, a modelling tool/framework developed by The Centre for Spatial Economics. The successful bidder may choose to operate the model using a different forecasting tool, assuming transition costs fit within available model update/enhancement budgets.
 - Refer to the ***Labour Market Outlook 2017 to 2021 for Canada's Oil and Gas Industry report*** (March 2017) and ***Labour Demand Outlook to 2020 UPDATE for Oil Sands Construction, Maintenance and Operations report*** (December 2016) and Appendix for an overview of these models.
 - A copy of a more detailed model documentation could be provided be available to short-listed bidders upon signing a Non-Disclosure Agreement.
- Assist in gathering/developing, analysing and validating model inputs and assumptions
- Operate/run the model(s) and extrapolate for two report production cycles (2018-2019 and 2019-2020).
- OPTIONAL: Draft Labour Market Outlook reports
 - PetroLMI typically engages a research and analytical consultant to develop its Labour Market Outlook reports. Interested bidders may include report writing in this proposal provided they are able to demonstrate prior experience.

Scope of three-year project activities and timelines:

Within the first six months

- Conduct consultant onboarding activities. This includes reviewing PetroLMI's labour market modelling system documentation and files and may involve meetings with the LMI project team and current model operators. (March to April 2018)
- Conduct transition activities to operate model using new forecasting tool (if required). (May to July 2018)

For each outlook production year: 2018-2019 and 2019-2020

Note: total of 10 months from May to March, from project planning to report release

- Conduct project planning with LMI project team to determine project requirements and budgets for each year. (May to June)

- Review and assess proposed model enhancements. Conduct data collection, analysis and validation. (May to August). Upgrades could include but not limited to:
 - Updating baseline employment by industry sub-sector, by province and by occupation as well as any required demographic data from the 2016 Census and employer surveys and consultations
 - Updating sector and occupational definitions as per NOC 2016 and NAICS 2017, taking into consideration industry-approved terminologies
 - Expanding the list of core oil and gas occupations detailed in the model(s)
 - Adjusting provincial models
 - Adjusting industry scope, if required
 - Capturing the contingent workforce (where possible), and,
 - Incorporating oil and gas manufacturing and supply sub-sectors into the modelling system
- Update/enhance modelling system and assumptions and conduct tests. (September)
- Gather economic and demographic assumptions from The Centre for Spatial Economics to be used as inputs to the modelling system. (October/November)
- Receive and review industry activity data (i.e. employment drivers) from industry. This may involve phone or in-person meetings with data sources, including ARC Energy Research Institute for pricing and expenditure forecasts and Canadian Association of Petroleum Producers (CAPP) for crude oil production forecasts. (October/November/December)
 - It is possible that per report production cycle more than one scenario outlook will be required; there would be a maximum of three scenarios per production cycle generated.
 - CAPP's crude oil production forecasts are published every June.
- Review data and assumptions with PetroLMI project team and other appropriate reviewers. (November/December)
- Operate the model(s) and export resulting data to Excel spreadsheets, using templates/samples provided by PetroLMI and based on agreed-to project scope. (November/December)
- Review resulting data with the PetroLMI team. (November/December)
- Participate in consultations with industry stakeholders to validate the modelling and gather feedback on assumptions and resulting projections. (December/January)
- Make adjustments to the data and assumptions as necessary. (January)
- OPTIONAL: Development of labour market outlook reports by PetroLMI and consultants. (February/March)
 - The national outlook reports are typically released in March/April.
- Update labour market modelling system documentation and note any changes/improvements to the model(s) and methodologies. (February/March)

Other responsibilities of the consultant(s) include:

- In collaboration with the PetroLMI team, develop a work plan and schedule to ensure the timely delivery of the outputs and objectives of the project

- Maintain a detailed record of all stakeholder participation during the course of the project (including all research, e.g. interviews, focus groups, etc.) and provide regular reports to the PetroLMI team so that sector in-kind contributions can be tracked
- Attend technical and project status meetings with the PetroLMI team
- Provide required copies (print and electronic) of all drafts and final deliverables
- Submit (in electronic format) all items created during the project (e.g. contact databases, spreadsheet summaries, etc.). The specific format of the data will be defined by PetroLMI, in consultation with the consultant(s)
- In collaboration with the PetroLMI team, participate in project reviews to evaluate successes and areas for improvement.

The estimated total value of work among project(s), during the timeline outlined will be **approximately \$140,000 plus GST** for the three-year period, excluding data purchases and outlook report writing.

Following the awarding of the contract, the PetroLMI team will meet with the consultant’s project lead and team to confirm a detailed work plan for the project activities.

4.0 Consultant Selection Process

Consultant Selection Process	Timeline for Completion
RFP posted/issued	January 9, 2018
Questions from interested bidders submitted/received	January 12, 2018
Responses to submitted questions circulated and posted on PetroLMI’s blog site	January 15, 2018
RFP responses/proposals submitted/received	January 31, 2018
Consultants short-listed by selection committee	February 8, 2018
Short-listed consultants contacted for presentation/interview schedule	February 9, 2018
Presentations/interviews from short-listed consultants and final selection	February 19, 20 or 21, 2018
Notify selected consultant(s) and advise next steps	February 23, 2018

The Selection Committee will assess each RFP response against an agreed upon set of evaluation criteria. Firms selected to present to or be interviewed by the Selection Committee will be notified of the logistics by PetroLMI.

Participation in the presentations/interviews will be the sole financial responsibility of the consultant(s) and will not be reimbursed from the project budget.

5.0 RFP Requirements and Evaluation Criteria

Responses submitted to PetroLMI should not exceed 20 pages in length. The following elements are required in the response:

- A description of key elements that need to be considered in the enhancement, operation and maintenance of PetroLMI’s labour market modelling system and, where appropriate, the Labour Market Outlook report development.
- Demonstrated experience, knowledge and/or understanding of:
 - Macroeconomic modelling, specifically in the areas of labour market forecasting and workforce planning
 - Forecasting tools and techniques
 - Canada’s upstream and midstream oil and gas industry, specific human resources issues it faces and how this project can help address those issues
 - Other labour market modelling work conducted across Canada and internationally, especially for industries with similar occupations as the oil and gas industry
- A high level work plan and estimated budget, including a description of the approach and methodology that would be used to complete the project activities
- Identification of any potential risks that your team may foresee during the development of this project and possible actions to mitigate these risks
- Identification of measures that will be taken by your team to ensure the highest level of quality in the production of reports, documents, correspondence and communication with project participants and PetroLMI
- List of team members, work location, area of expertise, specific project roles and/or tasks
 - Identify one key contact name within the team for all correspondence with PetroLMI.

Each RFP response/proposal will be measured against the following criteria:

Criteria	Weighting
1. Consulting Firm’s Capacity to Carry Out Project During the Timelines Outlined	25%
2. Knowledge and Understanding of Canada’s Oil and Gas Industry	10%
3. Experience Undertaking Similar Projects	20%
4. Consultant Hourly Rate and High Level Work Plan and Budget Estimates*	25%
5. Overall Cohesiveness and Presentation of Response to RFP	20%
TOTAL	100%

*Please detail hourly rates if these vary for each key role (e.g., senior economist, junior economist, project lead, etc.). Consultant’s travel costs to attend meetings and to conduct research must be

included in the estimated budget. This fee includes the distribution of research tools (e.g., surveys) used in the model enhancement or research phase of the project. For example, if the consultant(s) chooses to conduct a mail survey, they are responsible both financially and logistically for its distribution.

RFP responses/proposals are due by 11:59 p.m. MST on January 31, 2018. Please e-mail an electronic PDF copy of your proposal including your company name and RFP Labour Market Forecasting/Economic Consultant in the subject line to:
anna.kottsova@energysafetycanada.com

6.0 Cancelling/Reissuing RFP

PetroLMI reserves the right to cancel, alter or reissue the RFP. The RFP is not a contract, or an offer to enter into a contract, but an RFP for the supply of service to PetroLMI/Energy Safety Canada. PetroLMI may reject any and all proposals without further questions or redress from any respondents. PetroLMI reserves the right to accept or reject proposals in whole, or in part, to discuss different or additional terms to those included in the RFP or in any proposal, or to amend or modify any term in this RFP.

7.0 Additional Information

Contracts may be either fixed fee for accepted completed deliverables or an hourly rate. The type of contract required will be determined by PetroLMI. The successful RFP bidder will be required to adhere to the following contractual requirements.

Note: This is a partial list only to provide some information to potential bidders regarding contracting expectations of PetroLMI and does not represent a contractual agreement in whole or in part.

ASSIGNMENT AND SUBCONTRACTING

- Proposals must be submitted under one lead Consultant if subcontractors are being included.
- Identification of the project lead: If the submission is from a consortium of firms or consultants, the submission must identify the lead firm and the project lead from that firm. It must also detail how the consortium will operate. In the case that the successful bidder is a consortium of firms or consultants, PetroLMI will enter into a contract with the lead firm/consultant only.
- Written request to, and permission from, PetroLMI are required for substitutions of key project team members.

INTELLECTUAL PROPERTY AND COPYRIGHTS

- Ownership of any work, information, records or materials developed or produced under the contract shall become the sole property of PetroLMI.

CANADIAN LABOUR AND MATERIALS

- The contractor shall use Canadian labour and materials in the performance of the work to the extent they are procurable.

Appendix

Overview of PetroLMI's Labour Marketing Modelling System

This document describes the PetroLMI modelling system that has been developed to produce labour demand and supply projections for Canada's upstream and midstream oil and gas industry. The intention has been to develop a labour market information (LMI) modelling system that can be updated on a regular basis and therefore produce up-to-date LMI to assist the industry and those influencing labour supply. It is anticipated that:

- Industry will have particular interest in understanding labour supply and potential labour supply sources. While many companies have internal workforce planning processes to understand their own employment requirements, quantifying labour supply sources is considerably more difficult.
- Delivering up-to-date, industry-specific LMI to labour supply sources including job seekers is also of great value to industry.
- PetroLMI, because it smooths out the cyclical and seasonal volatility of the industry's employment, is of most value to those that are developing policies and programs to address medium and long-term labour market requirements. This would include:
 - Federal and provincial government departments involved in developing policies related to labour supply solutions; and
 - Post-secondary education program planning

The Petroleum LMI modelling system is a compilation of a number of sub-models including:

1. Expansion demand for:
 - Exploration and production (E&P);
 - Oil and gas services
 - Oil sands; and
 - Pipelines.
2. Expansion demand for:
 - British Columbia;
 - Alberta;
 - Saskatchewan; and
 - Rest of Canada
3. Replacement demand for the oil and gas industry; which is
 - Conducted as part of the labour supply projections as retirements and deaths are a component of labour force change
 - For the purposes of this LMI retirements and deaths within the oil and gas industry are positioned as "hiring requirements due to age-related attrition" and not as labour supply change
4. Potential labour supply from
 - Like-industries including mining, construction, chemical manufacturing, wood manufacturing and paper manufacturing; and
 - All other industries in the Canadian economy
 - Sources of labour force change
 - Age-related attrition

- New entrants, and
- In-mobility

PetroLMI's LMI is developed to project labour demand, labour supply and conduct labour supply/demand analysis across the upstream and midstream sectors of the oil and gas industry.

- Exploration & production (E&P): included E&P activity with conventional oil and gas reserves and unconventional reserves such a coalbed methane and shale gas, but excluding oil sands
- Oil sands: includes extraction and upgrading of bitumen
- Oil and gas services: includes contracted exploration, extraction and production services to the conventional E&P and oil sands sectors such as well services, oilfield construction, production services, maintenance and turnaround, transportation services, drilling and completions, and geophysical services
- Pipeline transmission: include mainline transmission.

Note: The offshore sector of the oil and gas industry is embedded in the E&P and support services sectors

Labour market projections are produced for 48 National Occupational Classifications (NOCs) and are identified in the table below. An “other occupations” category represents the aggregate of the remaining occupations in the upstream and midstream sectors of the industry. The NOCs represent hundreds of individual jobs titles that are core to the industry and were chosen in consultation with industry. Employment is projected for the 48 NOCs as well as the “other occupations” in order to understand total employment within the industry, its key sectors and within the provinces.

Petroleum Industry Occupations and National Occupational Classifications (NOC)

Chemical engineering technologists and technicians (2211)	Millwrights (7311)
Chemical engineers (2134)	Mining engineers (2143)
Civil engineering technologists and technicians (2231)	Geological Engineering and Mining technologists (2212)
Civil engineers (2131)	Oil and gas drilling, servicing, and related labourers (8615)
Construction managers (0711)	Oil and gas well drillers, servicers, testers, and related workers (8232)
Crane operators (7371)	Oil and gas well drilling workers and service operators (8412)
Drafting technologists and technicians (2253)	Power engineers and power systems operators (steam-ticket required) (9241)
Drilling coordinators/production managers (0811)	Petroleum, gas, chemical process operator (No steam-ticket required) (9232)
Electrical/instrumentation engineers (2133)	Petroleum/reservoir engineers (2145)
Engineering managers (0211)	Production clerks (1523)
Environmental technicians (4161)	Professional occupations in advertising, marketing and public relations (1123)
Facility operation and maintenance managers (0714)	Project/cost control engineers (2141)

Geologists and geophysicists (2113)	Purchasing and inventory control workers (1524)
Heavy equipment operators (except crane) (7521)	Purchasing managers (0113)
Heavy-duty equipment mechanics (7312)	Quality assurance analysts (2261)
Industrial electricians (7242)	Shippers and receivers (1521)
Industrial engineering and manufacturing technologists and technicians (2233)	Steamfitters and pipefitters (7252)
Inspectors in public and environmental health and safety (2263)	Supervisors and contractors, heavy equipment operator crews (7302)
Instrumentation engineering technologists (2241)	Supervisors and contractors, oil and gas drilling and service (8222)
Instrumentation technicians (2243)	Supervisors, petroleum, gas and chemical processing and utilities (9212)
Insulators (7293)	Supervisors, supply chain, tracking and scheduling co-ordination occupations (1215)
Landman/purchasing agent (1225)	Truck drivers (7511)
Machinists and machining and tooling inspectors (7231)	Welders (7237)
Mechanical engineering technologists (2232)	Other occupations
Mechanical engineers (2132)	

In some instances, occupational groups may be combined during the analysis phase of the LMI work. For example, millwrights and machinists are combined due to the similarity of work each occupation is involved in and the qualification is interchangeable. Petroleum, chemical and mechanical engineers are combined during the analysis for the E&P sector as many of the engineering jobs draw from all three disciplines.

Compared to other Canadian industries, the oil and gas industry’s upstream and midstream workforce is relatively concentrated with more than 95 percent of it located in Western Canada. The estimates for employment and labour force by occupation in other provinces, therefore, are small and are not statistically reliable. As a result, PetroLMI’s provincial modelling system allows for the production of employment projections for British Columbia (BC), Alberta (AB), Saskatchewan (SK) and Rest of Canada (RoC).

Data Sources

The chart below identifies the data sources and methodology used to provide estimates for occupation employment for the industry. The labour demand model(s) project an occupation’s growth using its relationship to industry employment drivers. Drivers of employment for the different industry sectors are as follows:

	Sector			
	Oil and gas services	Conventional exploration and production (E&P)	Oil sands	Pipelines
Conventional E&P capital spending	●	●		
Conventional E&P operating spending	●	●		●
Oil sands capital spending	●		●	
Oil sands operating spending	●			●
Oil sands production			●	

Only one approach is used to model the labour force (supply) and its growth components in each industry sector.

Industry generated and commodity market information are the basis for the employment driver assumptions. *The Canadian Association of Petroleum Producers (CAPP)* is the information source for oil and gas production forecasts as well as past years' actual capital and operations expenditures. CAPP's annual *Crude Oil Forecast, Markets & Pipeline Expansion* is typically released every June. Its natural gas production forecast is updated periodically throughout the year. Exploration and production actual capital and operations expenditure information is typically available through CAPP in August/September of each year.

ARC Energy Research Institute develops price scenarios and conventional capital and operations expenditure forecasts, which are utilized by PetroLMI.

Data for the determinants of employment and labour force are obtained from *Statistics Canada*. The primary source of industry employment and labour force data is Census data. In addition, the data is calibrated with that published by Statistics Canada through the Labour Force Survey (LFS). This procedure allows ongoing monitoring of the performance of the labour market.

