

# Challenges and Opportunities for Professional Licensure in the PNWER Region

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“As Governor, I join with you in creating a climate for new economic opportunities. Partnerships with neighboring states and within our region play an important role in creating these opportunities.”

*Steve Bullock  
Governor- Montana  
July 2015*

# Opportunities

International Trade  
Filling Regional Needs



# TRANS-PACIFIC PARTNERSHIP

UNLOCKING OPPORTUNITY THROUGHOUT THE ASIA PACIFIC

- Think of it as NAFTA on steroids – 12 Countries
  - Huge market 800 M people representing 40% of Global GDP
- TPP to provide new and meaningful market access for PNWER goods and services exports
- Sets high-standard rules for trade, and address vital 21st-century issues within the global economy.

# High-standard Rules for Trade

- TPP will enforce fundamental labor rights, conditions of work
- TPP will promote strong environmental protection
- Mechanisms to concerns and for the public to raise concerns

# Service Exports

- Engineering services is a huge market:
  - Global spending \$850 Billion annually
  - By 2020, expected to increase to over \$1 Trillion
- Engineering is the #1 professional service in trade deals
- Off-shoring is
  - Estimated to be ~15%
  - Growing to 25-30% by 2020

# Access to Talent

- Need for engineering talent growing quicker than the GDP
- Chronic over supply of engineers grads, chronic under supply of mid career practising engineers
- Filling the talent gaps at home



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This 200 page report will help employers, governments, academic institutions and engineering regulators plan for the future requirements of the Canadian engineering labour market. Engineers and students will then have the information they need to determine how they will fit into that market,.

This report demonstrates the continued importance of engineers to the Canadian economy and a bright future for engineering in Canada.

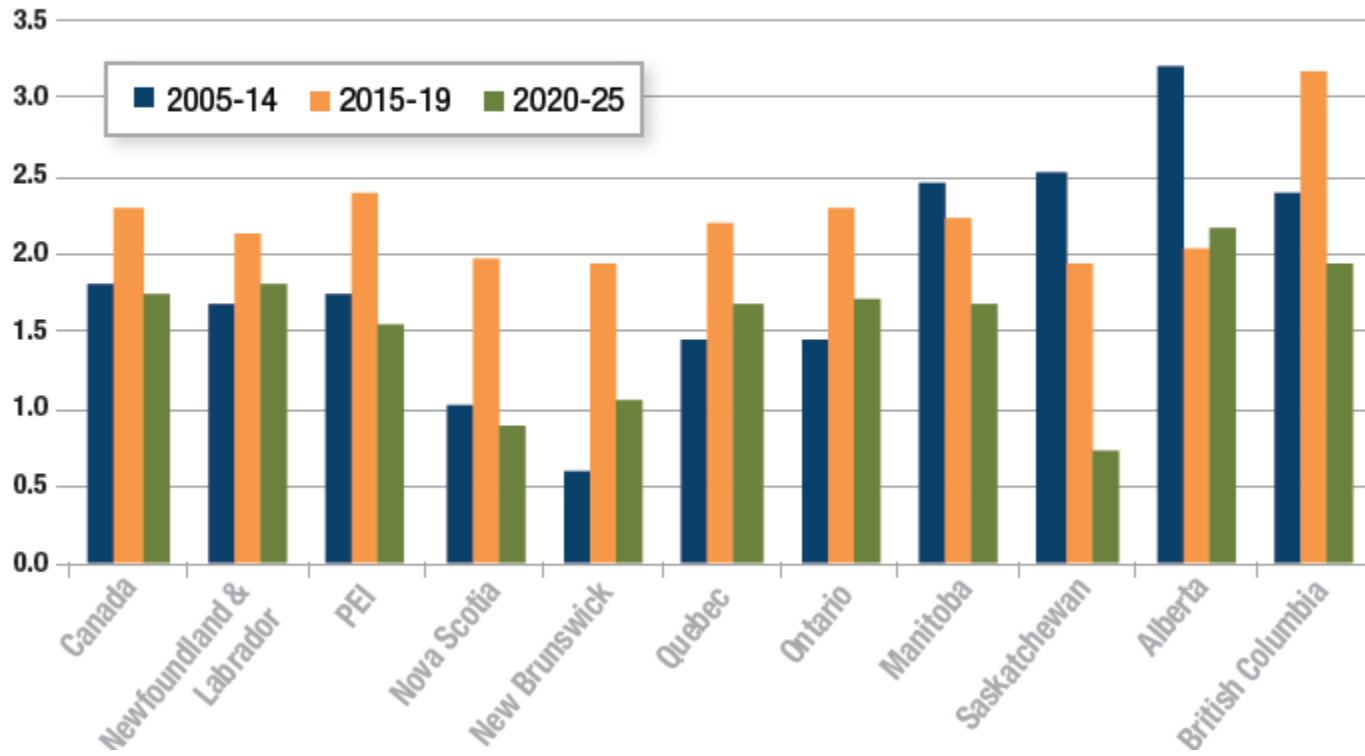


# Economic Outlook Summary

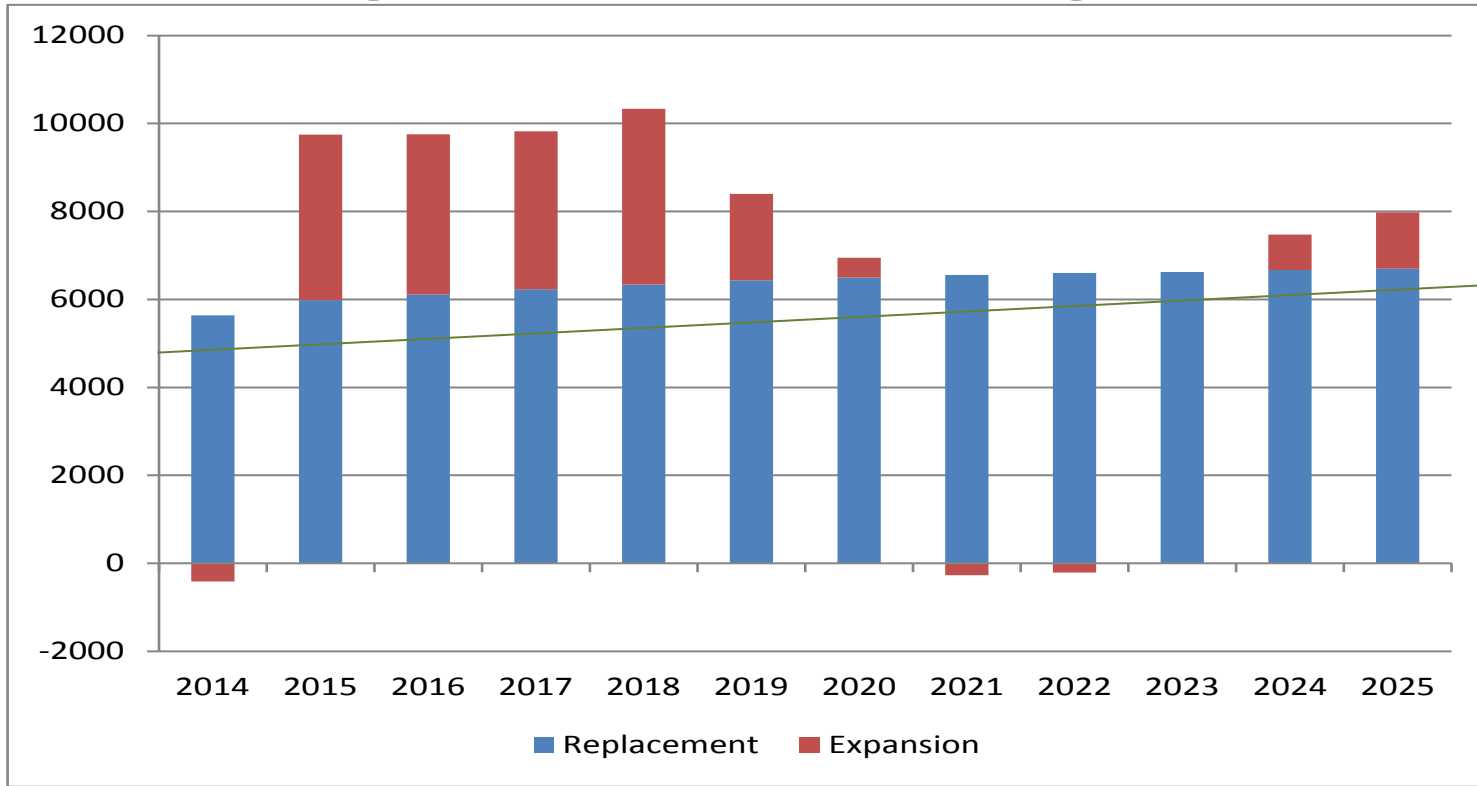
- GDP and employment growth strengthen in the medium term and slow in the long term
  - Increased export growth in the medium term associated with stronger US growth
  - Continued relatively strong investment growth in the medium term driven by major projects and the export recovery
  - Potential growth slows in the long term in line with weaker labour force growth caused by an aging population and slower growth in major trading partner economies
- Labour markets tighten over the period leading to wage pressures that cause businesses to increase labour productivity
- Inflation remains low, interest rates rise back to more normal levels, and the Canada-U.S. exchange rate averages near \$US 0.85

# Figure 2.4

GDP Growth (Annual Average, %)



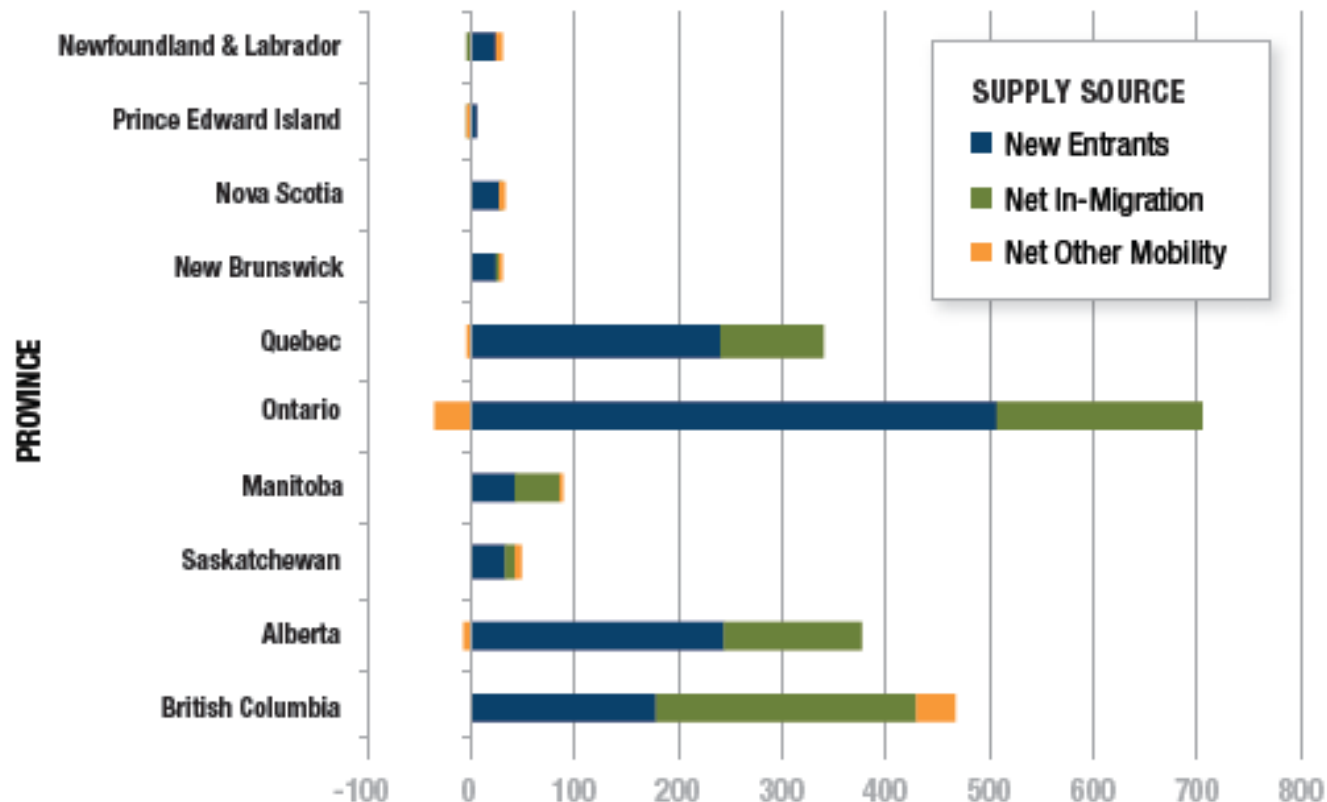
# Engineer Job Openings Canada



Domestic  
Supply

# Figure 3.2

Sources of Supply for Civil Engineers, Annual Average (2015-2025)



# Challenges for Professional Licensure

Engineering



# Quick Facts

- Registration requirements are focused on the new graduate – education, exams, experience
- Comity – has focused equivalence of the requirements for the new graduate
- The half life of an engineering education is about 5 years
- About 3 public complaints per 1000 person-years worked
- About 10% of complaints result in sanctions
  - Only 10% are related to competence (or 3/10,000 person-years worked)

# Introduction

- Canada and the US produce great engineers that meet world class standards
- Regulators are obligated to ensure all registrants meet common input standards
- The multiple jurisdictions with the US and Canada creates significant challenges for inter-jurisdiction mobility and even great challenges for international mobility
- Mobility for mid-career engineers is not working

# It all starts with the Enabling Legislation

The Toolkit for Regulating the  
Engineering Profession in the 21<sup>st</sup> Century





# Enabling legislation sets out mandates for engineering regulatory bodies

Objects for the 21<sup>st</sup> Century need to be broad and empowering of the regulator to regulate in the **public interest**. They must:

1. Be inclusive of all direct and indirect activities of the regulator.
2. Accommodate future public policy initiatives which have an impact on professional regulation.
3. Provide the authority for the regulator to exercise its powers and functions, perform its duties, and effectively enforce the enabling legislation.

# Objects of the Engineering Regulatory Bodies

4. Focused on protecting and advancing the **public interest** where engineering affects the safeguarding of life, health, property, economic interests, the public welfare or the environment.

# Public Interest

The **Public Interest** is inclusive of all people and refers to the safeguarding of life, health, property, economic interests, the public welfare and the environment and balancing with social interests that change as society's values and preferences evolve over time.

# The objects must cover:

- Regulating the practice of engineering and governing **registrants** in the **public interest**.
- Establishing, maintaining, and promoting standards of qualifications for entry into the profession as required to protect and serve the **public interest** consistent with national standards.
- Establishing, maintaining and enforcing standards of knowledge, skill, competence and ethics of registrants as required to protect and serve the **public interest** consistent with national standards, and as required to support registrants in their obligations to meet those standards.

# The objects must cover:

- Advancing, serving and protecting the **public interest** in respect of matters within the practice of engineering and **the profession**.
  - Advocating as necessary to protect the **public interest**.
  - Facilitating labour mobility of **registrants**, qualified individuals and firms.
  - Promoting the role of the regulator.
  - Enhancing the reputation of **the profession**, promoting the interests of **the profession**, and increasing public awareness of how the work of **the profession** benefits society.
  - Enhancing accessibility to the services of **the profession**.

# Jurisdictional Registration is Essential

Permits the regulator to carry out its mandate:

- Public assurance that registrants meets competence to practice professional engineering
- Sets the standards for professional integrity
- Provides a means to deal with incompetence and professional misconduct

# Labour Mobility

Serving the Public Interest



# Mobility - Not New

## United States

- 1907 Wyoming passes the first engineering registration law.
- Regulators established NCEES in 1920 for the express purpose of advancing inter-state mobility
- 1932 ABET established & NCEES first version of model law
- Today most state boards provide for licensure by comity
- 23 state boards already accept, a person holding a certificate of registration to engage in the practice of engineering issued by a foreign country that does not conflict with and is not lower than the state's requirements may apply for registration



# Mobility - Not New

## Canada

- 1920 New Brunswick + 3 other provinces
- 1936 Engineers Canada established
- 1965 National Accreditation established
- 1980 ABET Mutual Recognition Agreement
- 1990's inter association mobility agreement ~ 98%
- 2008 Agreement on Internal Trade 100% mobility of licensed professionals
- Extensive push 2005-10 for **PE = P.Eng.**
- 5 recognition agreements

# Mobility - Not New

## International

- Recognition of education qualifications for professional engineers
  - Washington Accord (1989), US & Canada 2 of the 6 founders
- Registers - competence standards for and mutual recognition of experienced engineering professionals
  - International Professional Engineers Agreement (1997)
  - APEC Engineer Agreement (2000)

# Mobility Models

and their Challenges



# Challenges with Existing Systems

## Comity

- registration by regulators is based on narrow inputs
- works where there are close matches
- as long as the requirements for their original license are not lesser
- extensive due diligence documentation to show matches
- multiple fees involved
- takes 2-6 weeks

# Challenges with Existing Systems

## International Registers

- Requires additional and ongoing assessments
  - reached an overall academic level of which is substantially equivalent to the Washington Accord
  - assessed within their own economy as eligible for independent practice
  - gained a minimum of seven years practical experience since graduation
  - spent at least 2 years in responsible charge of significant engineering work
  - maintained their continuing professional development at a satisfactory level.
- Requires additional fees (vary per jurisdiction)
- Requires review of regulator registration practices
- Not widely recognized
- Few engineers register (about 0.5%)

# Challenges with Existing Systems

## Mutual Recognition Agreements

- Requires acceptance of all jurisdictions with the country
- Always has “not withstanding clauses”
- Little ability for recourse or appeal

# What Works?

Simple is Best



# Where Regulators Trust Regulators

- Trust the whole system that the engineer is acting in the public interest
- Looking for exceptions requires 100% assessment
  - Adds cost
  - Adds time
  - No evidence of improvement



# Where is it working?

Admissions pathways to IPENZ “competence based membership classes”

- Engineers from overseas seeking competence-based membership of IPENZ can benefit if they have previously been assessed for membership/ registration/licensure in a jurisdiction that is a signatory to one of the international engineering agreements to which IPENZ is also a signatory.
- Admission to IPENZ membership at the equivalent level is granted **without any further assessment or assessment fee**.
- Applicants are only required to complete and submit a Competence Assessment for Admission. No other supporting documentation or fees are required, although referees named on the application form may be contacted.

Canada	Professional Engineer licensed by a provincial or territorial association that is a Constituent Member of Engineers Canada	PEng (Canada)
	International Professional Engineer registered through Engineers Canada	IntPE (Canada)
	APEC Engineer registered through Engineers Canada	APEC Engineer (Canada)

USA	(Normally) Professional Engineer registered through a State or Territorial Licensing Board – Because of variations across States/Territories, evidence of the registration process applied by the particular State or Territorial Board will be required)	PEng (USA)
	International Professional Engineer registered through the United States Council of International Engineering Practice	IntPE (USA)
	APEC Engineer registered through the United States Council of International Engineering Practice	APEC Engineer (USA)

# What works?

## Legislative Approach in the Public Interest

- eliminate or reduce measures established by regulatory authorities that restrict or impair the ability of an engineer who is licensed by a qualified regulatory authority to register (Risk Management)
- Require regulators to support the Government in fulfilling its policy imperatives and Trade Agreements obligations

# New World . . . New Features

- If it is easier to get in . . . then it needs to be easier for the regulator to temporarily suspend a licence
- Mobility / recognition of sanctions
- Mobility of professional development, if a registrant hold a licence in his/her home jurisdiction that should be all that is required

# Getting Started

## Ask regulators

- What must do to a mid-career licensed engineer do to become registered in our jurisdiction?
- Do you believe your fellow regulators are equally concerned that the engineer must practice with competence and integrity to serve the public interest?
- What tools do you need to better serve the public interest and more effectively regulate engineering in the 21<sup>st</sup> century?

# Why?

- Regulators care deeply about competence and integrity
- Failures are 10 times more likely to be ethical or moral failures than competencies issues . . . Yet our rules continue to focus on competencies
- Regulators can more easily deal with professional conduct issues if the individual is registered
- Streamlined registration for mid-career professionals provides regulators more time to regulate the practice

# Partnerships within the PNWER region can play an important role in creating these opportunities

- PNWER has the opportunity for show national leadership for professional services in TPP



# Thank you

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