



***Labour a Key Influencers of a Project's Financial Success:
BC Mining Perspective***

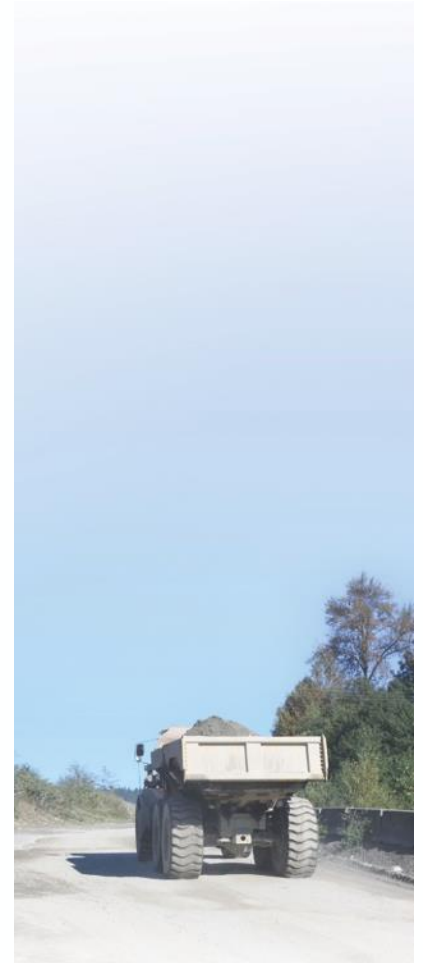
JULY 24, 2017

PRESENTED BY: JILL TSOLINAS, EXECUTIVE DIRECTOR

CENTRE OF TRAINING EXCELLENCE IN MINING

Today's Presentation

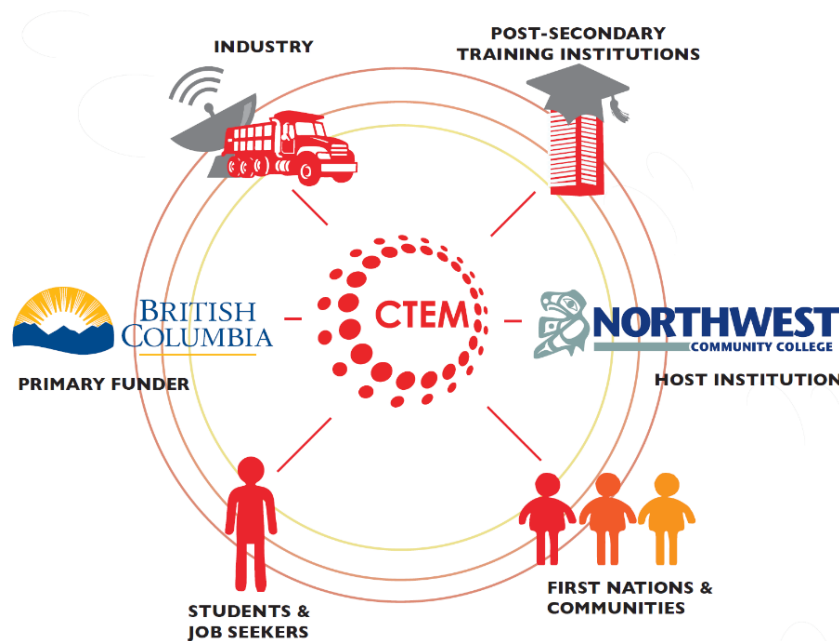
- CTEM Overview
- BC Mining Labour Market Information
- Questions and Discussion



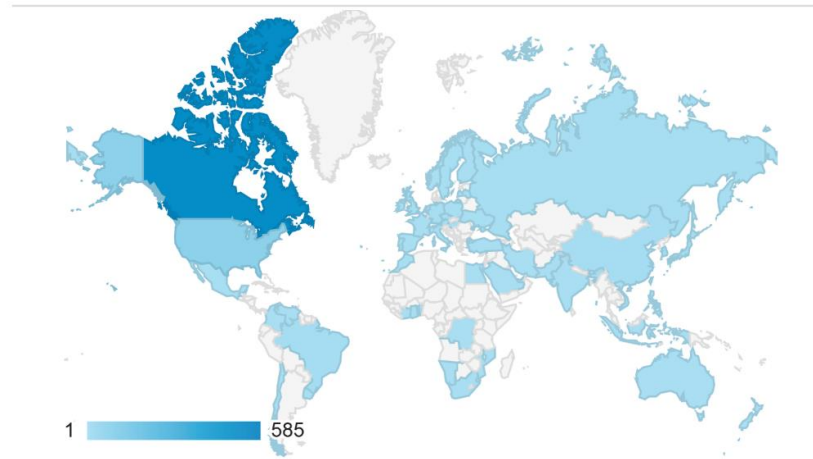
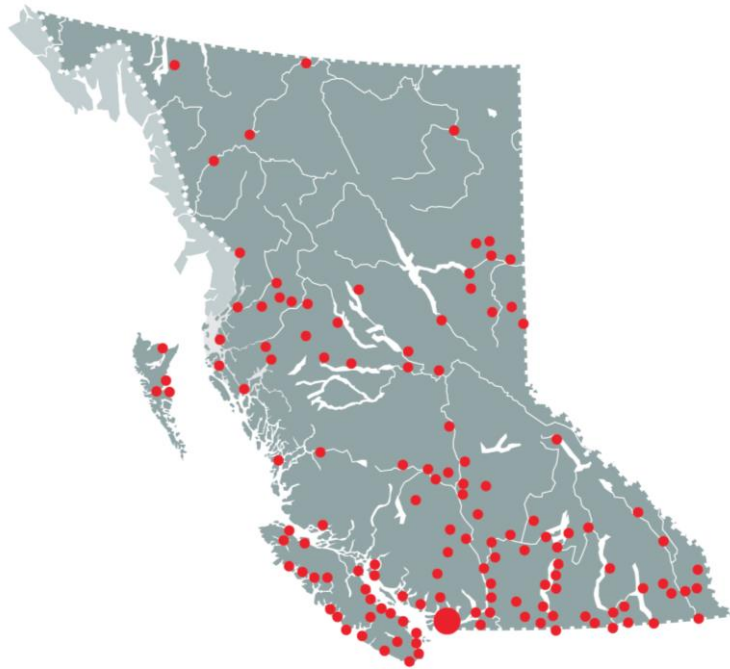
CTEM

VISION

A province-wide virtual hub that facilitates collaborative, innovative training opportunities for the British Columbia mining industry, job seekers and communities.



CTEM's Influence – Provincial and Global



Significance of Skills Shortage Impact on Projects

Top 10 risks 2013	Over six years 2008
01 Capital dilemmas – capital allocation and access (new in 2009)	01 Skills shortage
02 Margin protection and productivity improvement (was cost inflation)	02 Industry consolidation (not a threat in 2013)
03 Resource nationalism	03 Infrastructure access
04 Social license to operate	04 Maintaining a social license to operate
05 Skills shortage	05 Climate change concerns (under the radar in 2013)
06 Price and currency volatility (new in 2010)	06 Rising costs (margin improvement)
07 Capital project execution (new in 2011)	07 Pipeline shrinkage (under the radar in 2013)
08 Sharing the benefits (new in 2012)	08 Resource nationalism
09 Infrastructure access	09 Access to secure energy (under the radar in 2013)
10 Threat of substitutes (new in 2013)	10 Increased regulation (under the radar in 2013)

Remained in the top 10 over six years

Source: EY, 'Business Risks Facing Mining & Metals 2013 – 2014, 2014.

Preparing for the Future:

Mining Labour Market Outlook for British Columbia



Key Recognition



*Funding provided through the Canada-British Columbia
Labour Market Development Agreement.*



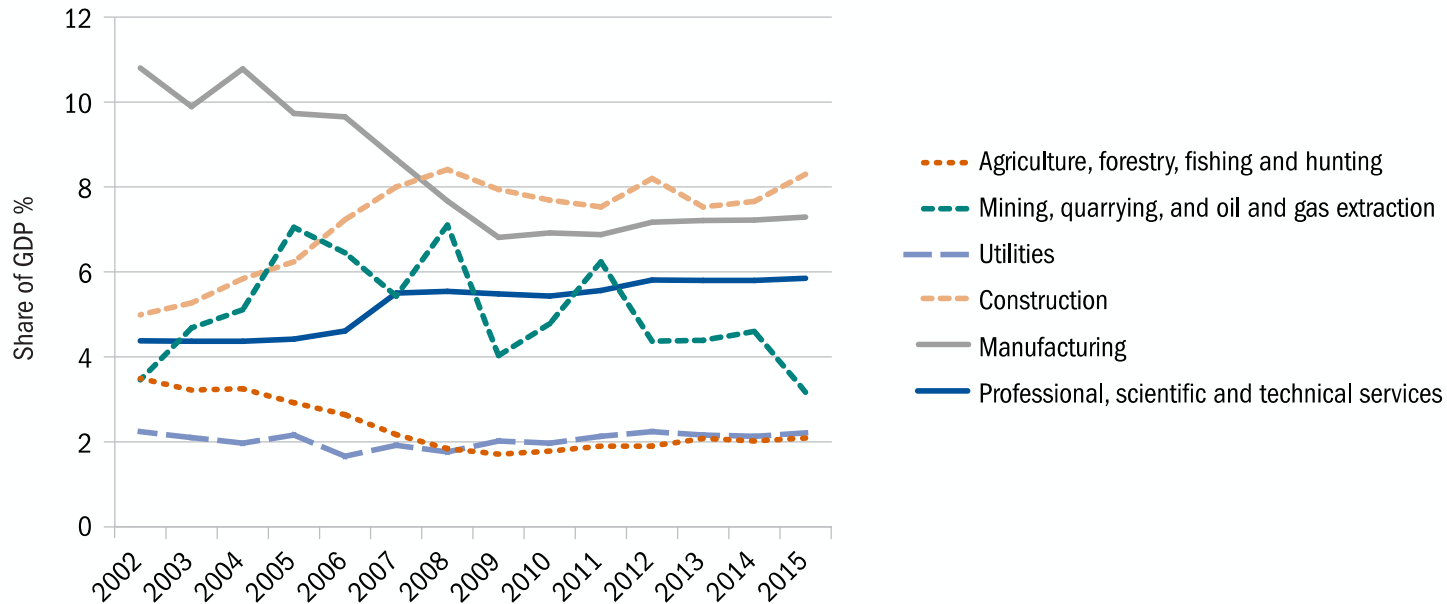
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Mining is an important sector in BC



Mining is one of the major contributors to BC's economy

Industry share of GDP in BC (2002–2015)



Source: Statistics Canada. Table 379-0028 — Gross domestic product (GDP) at basic prices, by North American Industry Classification System (NAICS), provinces and territories, annual (percentage share), CANSIM (database), (2016)

Mining Generating Jobs & Boosting Economies

- 3-15% of employment in a country is mining (direct, indirect and induced)
- 2-20% of Economic Contribution
 - Fluctuate between countries and over time
 - BC's 8.7 Billion of gross mining revenue (2016)



Source: International Council on Mining and Metals (ICMM), 'Role of Mining in National Economies', Third Edition.; PriceWaterhouse Coopers, 'The Mining Industry in British Columbia 2016', 2017.

Significance of Skills Shortage

Mining employers need a continuous flow of individuals through the “talent pipeline” to ensure they have a sufficient pool of qualified workers to meet future hiring requirements and support competitiveness and growth in the mining industry in British Columbia.



Source 'Preparing for the Future: Mining Labour Market Outlook for British Columbia 2016 - 2026

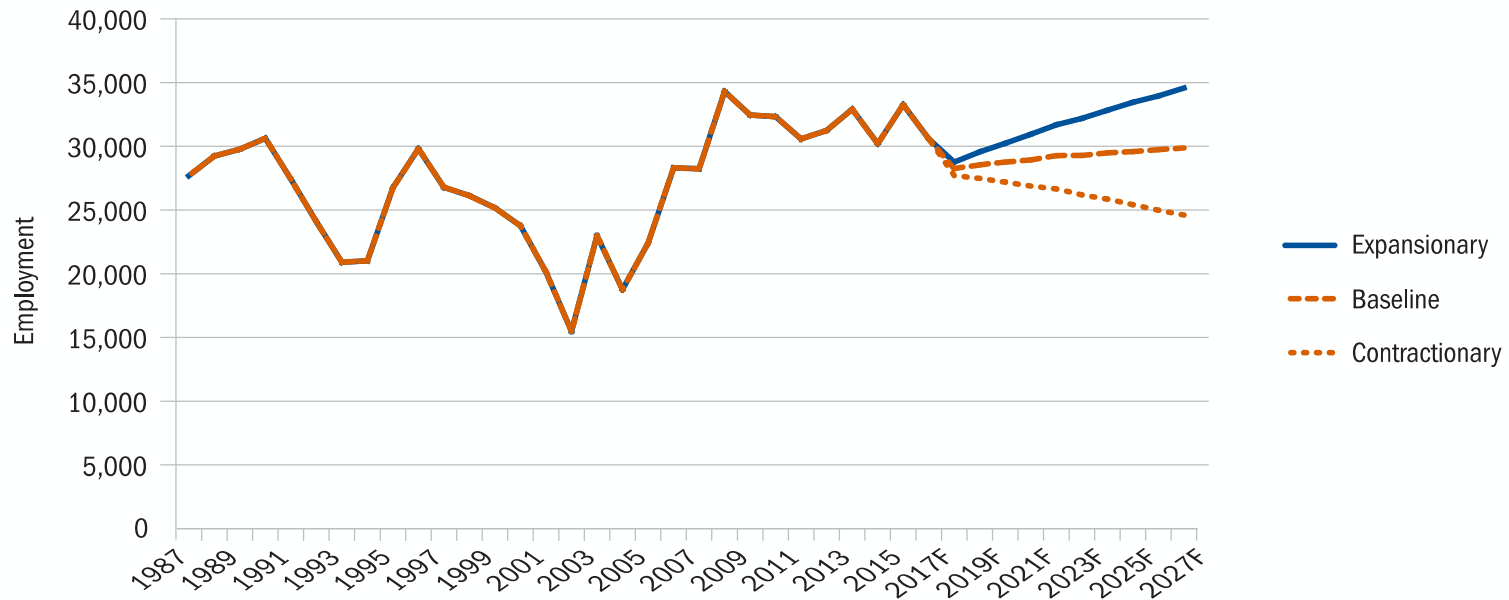
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A look at the future



If the mining industry expands, there will be a need to hire up to 20,000 workers over the next 10 years

Forecast of mining employment in BC by scenario (1987–2026)



Source: Mining Industry Human Resources Council, (2016)

Hiring requirements persist in all economic scenarios

BC cumulative hiring requirements forecast by scenario (2017–2026)

	Net Change in Employment	Replacement Requirements		Cumulative Hiring Requirements
		Retirement	Non-Retirement	
Contractionary	-5,985	6,670	6,295	6,975
Baseline	-730	7,415	7,015	13,705
Expansionary	3,980	8,105	7,690	19,770

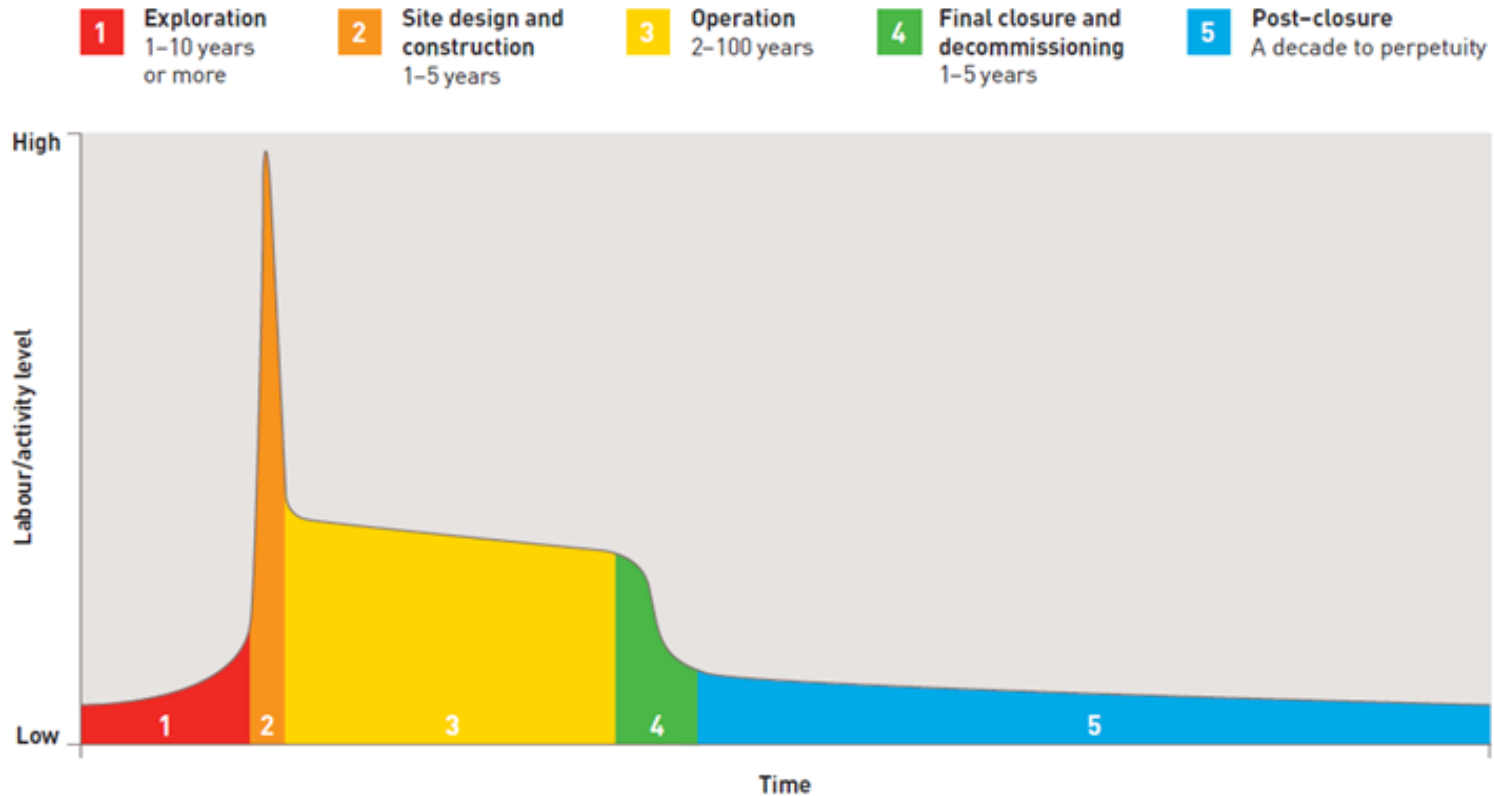
Source: Mining Industry Human Resources Council, (2016)

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Impact on Financing (CAPEX and OPEX)



Labour needs over a project cycle

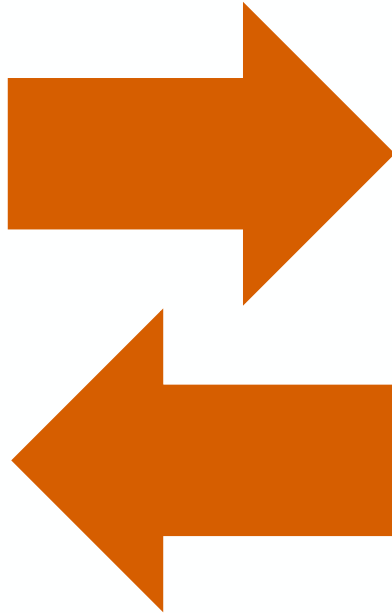


Source: International Council on Mining and Metals (ICMM), 'Mining's Contribution to Sustainable Development – An Overview', 2012.

Struggle to be Ready (a.k.a. the RISKS)

Individual

- Timing
- Job alignment / availability
- Cost of training
- Transferability
- Personal/Family
- Bridge to Employment



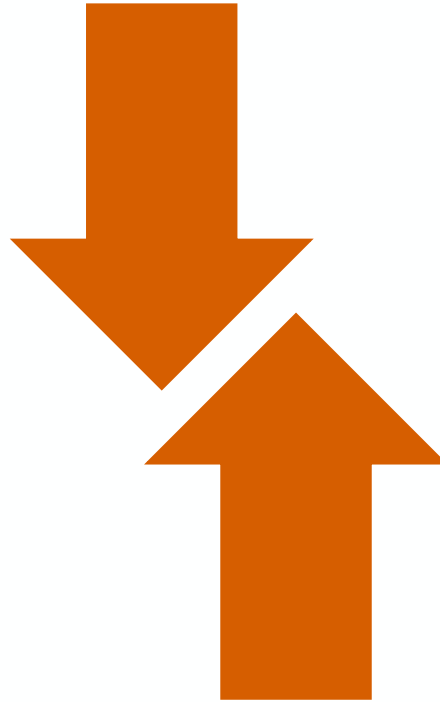
Company

- Delays in starting
- High capex cost
- Cost of training
- Retention
- Social Benefits
- Bridge to Employment

Consequences

Individual

- Timing
- Job alignment
- Cost of training
- Transferability
- Personal/Family



Company

- Delays in starting
- High capex cost
- Cost of training
- Retention
- Social Benefits

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The Disconnect



Skills Miss-Match

- Alignment of Training Opportunities
- Skill Transferability
 - Mining Life Cycle
 - Projects & Sectors
- Skills Upgrading



Job Postings



Source: BC HR Mining Task Force, 'BC Skilled Immigrant Report – Phase 1 and Phase 2', 2015.

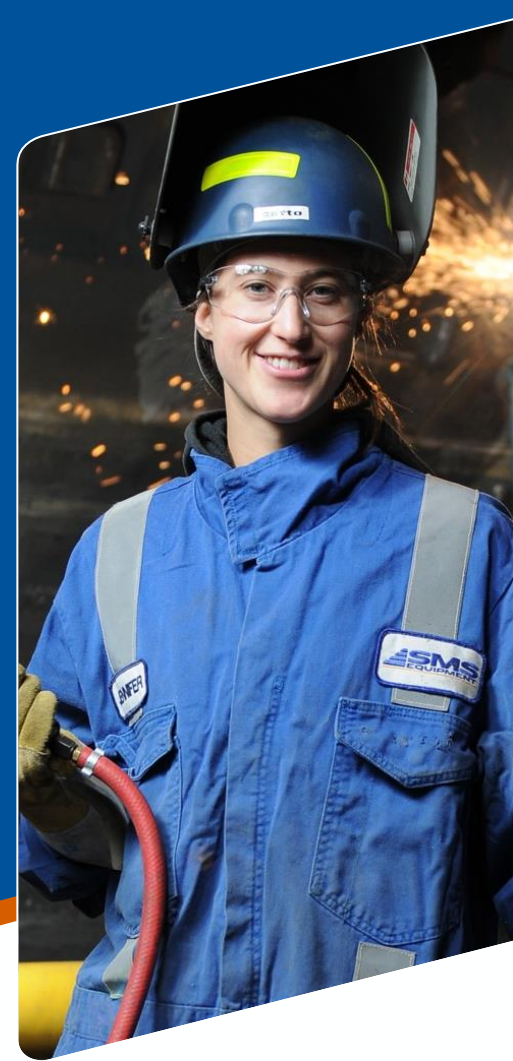
Significance of Skills Shortage

“The focus on ‘Canadian experience’ combined with other biases employers may harbour not only costs employers their competitive edge, but it can cost them the opportunity to be innovators in their field.”

*Source: Fiona Macfarlane, IEC-BC Board Member
quote from IECBC 2016 Employer Forum Final Report,
March 2016.*

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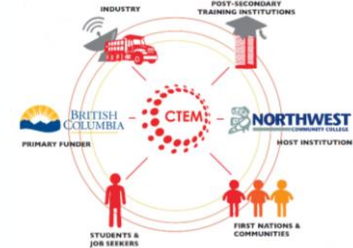
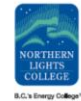
Recommendations in the report



Collaboration is an Answer



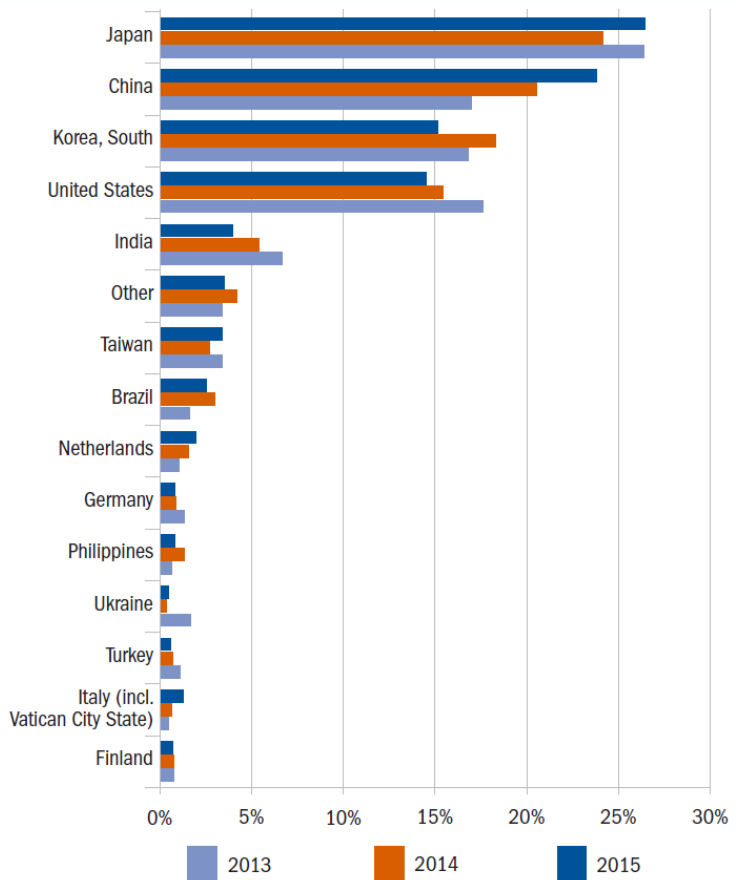
Lax Kw'alaams First Nation



Key sources of labour supply

1. Strengthen collaborative partnerships between employers and government to support labour market information collection and strategies for attraction, retention and transition of mining workers through mine life cycles.
2. Build upon findings to develop strategies to address critical job vacancies and support a sustainable workforce.

Destination of domestic mining exports from BC



Factors for Leaving

50-50 Split

