



A Workforce Strategy for Alberta's Building Sector: Building Capacity to Attract, Develop and Retain Energy Efficiency Talent

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Introduction

This strategy document is designed to guide labour demand and supply stakeholders in addressing current and near-term energy efficiency talent needs and gaps in Alberta's building sector.

Energy-efficient buildings incorporate design elements, materials, technologies, and construction techniques that result in lower energy use intensities and support the achievement of Net Zero Energy objectives. The scope of this strategy includes Alberta's talent needs and gaps for new or existing commercial or institutional buildings, including multi-unit residential buildings (MURBS)¹ across the full building lifecycle:

- Project Development
- Planning & Design
- Construction & Manufacturing
- Commissioning & Inspection
- Building Operations & Maintenance
- Decommissioning, Deconstruction or Renovation

Two stakeholder sessions were held in February and June of 2022 and provided input into the strategies and solutions highlighted in this document. The sessions were attended by representatives from companies, industry associations, educators, governments and ECO Canada.

The strategy is a "living document," and shifting business and market conditions can be expected to influence the importance of addressing talent issues and the priority of specific solutions. Sector representatives will continue to be consulted to monitor strategy progress and determine any necessary adjustments. This will ensure its responsiveness to changes in the environment and the sector's needs.



¹ MURBs include condominium and apartment buildings of four stories or more.

Canada's Energy Efficient Building Sector and the Alberta Context

High performing buildings are expected to significantly contribute to a low carbon economy². Unfortunately, funding and investment in energy efficiency are lagging in Alberta compared to other provinces. According to Efficiency Canada's 2021 *Provincial Energy Efficiency Scorecard*, Alberta rates 7th compared to other provinces from evaluating the strengths and opportunities for improvement of its mix of energy efficiency performance and policies.³

Stakeholder consultations confirmed that government regulations, programming and processes are not keeping pace with other provinces and are insufficient to support competitive business models. An adequate return on investment and access to capital limit investment in more costly building systems and materials⁴. These challenges are even more pronounced when it comes to deep retrofits, which are vital if carbon reduction goals are to be met. Aligning policies and programs and offering incentives can help spur demand for energy efficient buildings, services and skills development. In addition, the end user must embrace energy efficiency benefits to achieve the market pull needed by the sector.

Alberta is re-emerging as a leader in Canada's economic growth. Labour and skill shortages have also resurfaced and could impede the province's renewed growth and prosperity. Today's labour market sharply contrasts with the preceding period from 2014, when economic factors and the pandemic resulted in significant job losses and higher unemployment rates. Heightened labour costs, competition from other sectors and provinces, an aging workforce, and in-demand skills are all challenges faced by Alberta employers.

The high-performance building sector is among the sectors experiencing these constraints. Our 2021 labour market study⁵ focusing on Canada's building sector revealed that:



The sector hires for various occupations and skills to design, construct, manage and retrofit energy-efficient commercial and institutional buildings.



The sector's workforce is not fully prepared to design, construct, retrofit and operate energy-efficient buildings.

- While the fundamental roles and skills to complete high-performing buildings are essentially the same as those in the construction industry, different expectations, process changes and culture shifts are required.
- Technological changes and more integrated work processes across the building life cycle are also driving the need for new skills and occupations.



Grassroots approaches will more effectively address regional complexity and the importance of community-level engagement.

² Institute for Sustainable Finance. (September 2020). The Capital Mobilization Plan for a Canadian Low Carbon Economy.

³ Efficiency Canada. (2021). *The 2021 Provincial Energy Efficiency Scorecard*.

⁴ ECO Canada. (February 2021). *Assessment of Occupational and Skills Needs and Gaps for the Energy Efficient Buildings Workforce*.

⁵ ECO Canada. (February 2021). *Assessment of Occupational and Skills Needs and Gaps for the Energy Efficient Buildings Workforce*.

Regardless of the pace of change, net zero energy and carbon reduction goals, policies and plans, innovation and technological change will continue to shape occupation and skill requirements. Many building sector companies are smaller, with comparatively tight profit margins and few staffing resources, making it more challenging to invest resources into attraction, retention and workforce development activities.

Building sector employers were surveyed through late Spring 2022 to understand their talent issues, staffing plans and practices. All told, 43 employers of varying sizes and sub-sectors responded to the survey, which yielded the following insights:

Approximately 85% of employers indicated the intention to increase or maintain energy efficiency staffing levels over the next 6 to 12 months.

Challenges finding qualified candidates for certain energy efficiency occupations were reported and expected to continue including:

- Energy managers, modellers, specialists, and advisors
- Design and engineering professionals
- Construction management and onsite supervisors
- Construction and related trade workers
- Quality control and assurance specialists
- Information technology (IT) specialists
- Regulatory specialists and officers

Skills and training gaps were reported for roles requiring energy efficiency expertise, such as energy management, auditing and modelling, to more traditional occupations, such as project and construction managers and skilled trades.

Communication, creative thinking, and change management were among the skills necessary to the more integrated, collaborative and multidisciplinary approach to work across the high-performance building lifecycle.

Employers' top HR challenges are presented below.



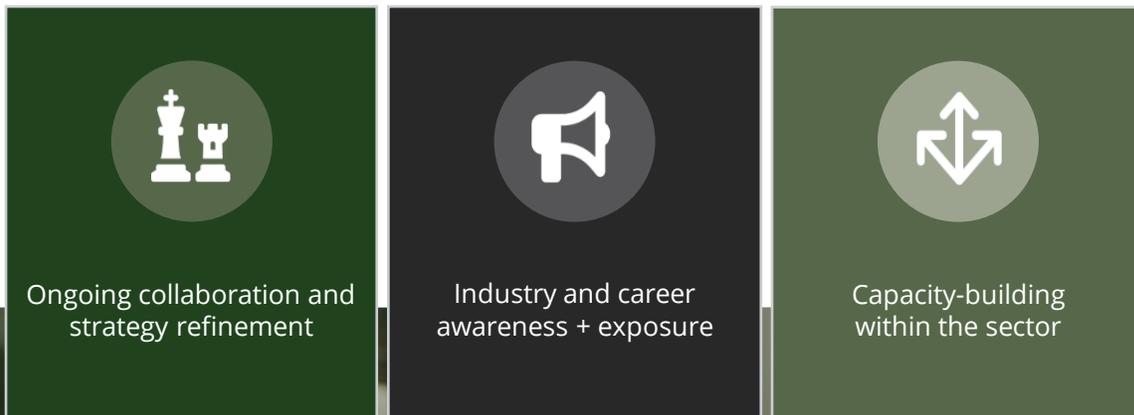
Talent Strategy – Energy Efficient Building Sector

As recommended in the national study, a grassroots approach was recommended for Alberta to effectively address the complex needs and talent issues of the province's building sector. Building sector employers, including public and private organizations and associations, are now working collaboratively with the government to help break down silos, create a shared understanding of actions needed and access resources to progress plans.

2022 marks the beginning of multi-stakeholder efforts to address sector talent issues, and this strategy is a product of these discussions. The talent strategy provides industry associations and individual employers with a framework for industry-led solutions aimed at building the labour force needed to support long-term growth. It is also a starting point for continued engagement intended to implement solutions and refine the strategy as progress is achieved and priorities change.

Talent Solutions Framework

The strategy is made up of eight concrete talent solutions grouped into three themes that will address the workforce challenges identified by employers:



KEY THEMES	CONCRETE TALENT SOLUTIONS
Ongoing collaboration and strategy refinement	1. Increase collaboration between industry and policy makers to address workforce needs
	2. Establish industry and educator forum to proactively guide training and skills needed for program development or enhancement
	3. Refine Alberta's energy efficient buildings talent strategy through regular forums with leading and contributing organizations
Industry & career awareness + exposure	4. Promote energy efficiency careers and highlight in-demand jobs
	5. Develop experiential or work-integrated learning opportunities for job seekers and students, including bridge-to-work programs to address employment barriers (e.g., co-op and internships)
	6. Develop programs and resources to attract and transition displaced workers from declining sectors (e.g., occupational and skills transferability fact sheets)
	7. Develop end-to-end supports to attract and integrate new entrants from equity-deserving groups
Capacity-building within the sector	8. HR toolkit for employers (e.g., Best practices in and resources for talent attraction, retention and development, wage and training subsidies and other financial supports)

Each of the eight solutions has been evaluated against criteria to assess whether they are important and impactful, of an urgent nature or offer "low-hanging fruit." The strategic framework includes a description of each solution, its rating against the criteria, implementation opportunities and barriers and suggested leaders (in **bold** font) and contributing organizations.

Solution #1:

Increase collaboration between industry and policy makers to address workforce needs

Description or Details	Criteria Rating			Opportunities and Barriers for Implementation	Leading and Contributing Organizations
	IMPORTANT AND IMPACTFUL	URGENT	LOW HANGING FRUIT		
<p>Create a standing, cross-disciplinary committee to identify workforce priorities and champion actions</p> <ul style="list-style-type: none"> • Increase collaboration to ensure needs are addressed: employers, associations, policy makers • Identify government programming enhancements for talent development • Share findings with stakeholders and build a stronger, unified industry voice • Host regular engagement and progress update meetings • Develop online collaboration forum • Provide informational briefings and presentations on sector and skill requirements for government officials, elected officials, and media 	✓	✓	✓	<ul style="list-style-type: none"> • ESSA provides collaboration opportunities for environmental services • Workforce 2030 (CAGBC) model for collaboration and coordination • ZEBx industry hub model <p>Labour market information (LMI) to shape and guide action(s):</p> <ul style="list-style-type: none"> • Information about energy efficient equipment required/available and impact to training and skills development • Survey employers and employees for current information on talent barriers and opportunities <ul style="list-style-type: none"> – Talent issues impeding technology adoption – Motivation of employees to work in energy efficient building sector 	<ul style="list-style-type: none"> • ECO Canada • Industry Associations • Professional Associations <p><i>List (under-development):</i></p> <ul style="list-style-type: none"> • ESSA • AEEA • SSRIA • CanREA • Municipalities • Associations BOMA • HRAI • Assoc of Energy Engineers • AEEA • ACA • BILD AB • Building Commissioning • MCA • Others?

Solution #2:

Establish industry and educator forum to proactively guide training and skills needed for program development

Description or Details	Criteria Rating			Opportunities and Barriers for Implementation	Leading and Contributing Organizations
	IMPORTANT AND IMPACTFUL	URGENT	LOW HANGING FRUIT		
<p>Create a standing committee comprised of industry, educators and training organizations to address gaps in current programs and prioritize solutions and increase collaboration</p> <ul style="list-style-type: none"> • Address emerging and critical skill requirements <ul style="list-style-type: none"> – Specific technical and soft skill requirements – Incorporate energy efficiency education into core programs – Upskilling needs for existing workers and core disciplines (e.g., micro credentials) – Integrate digital literacy into programs (e.g., trades) – Share other needs and findings with stakeholders and build a stronger, unified industry voice – Host regular engagement and progress update meetings; develop online collaboration forum • Establish political and program advocacy strategy <ul style="list-style-type: none"> – Develop relationships with key government and elected officials – Deliver government briefings on sector and skill requirements (e.g., Advanced Education) – Share needs and recommendations with Advanced Education representatives and PSE's (e.g., streamline funding processes for new programs) • Ensure training/program enhancements are included in awareness and attraction campaigns 	✓		✓	<ul style="list-style-type: none"> • Engage building owners and operators (gatekeepers, diverse positions on greening) • Workforce 2030 (CAGBC) model for collaboration and coordination • ZEBx industry hub model <p>LMI to shape and guide action(s):</p> <ul style="list-style-type: none"> • Investigate alternate delivery mechanisms including online and blended training • Pulse check of talent needs and gaps (i.e., sectors, occupations and skills) 	<ul style="list-style-type: none"> • Colleges and Institutes of Canada (CICan) • Council of Post-secondary Presidents of Alberta (COPPOA) • Polytechnics Canada, SAIT, NAIT • CIET • Employers and Industry Associations (e.g., SSRIA) • Professional Associations • Unions

Solution #3:

Refine Alberta’s energy efficient buildings talent strategy through regular forums with leading and contributing organizations

Description or Details	Criteria Rating			Opportunities and Barriers for Implementation	Leading and Contributing Organizations
	IMPORTANT AND IMPACTFUL	URGENT	LOW HANGING FRUIT		
<p>Following publication of sector workforce strategy, host regular strategy meetings with stakeholders to:</p> <ul style="list-style-type: none"> Report on progress of priority action items <ul style="list-style-type: none"> Updates from standing committees and lead organizations Identify upgrades to energy efficient buildings talent strategy based on shifts to labour market conditions and talent needs <p><i>*Strategy document to be published in August 2022; First forum to be held in August/September 2022</i></p>	✓		✓	<ul style="list-style-type: none"> Identify champions from associations and employers Invite relevant government and political officials Workforce 2030 (CAGBC) model for collaboration and coordination ZEBx industry hub model 	<ul style="list-style-type: none"> ECO Canada (temporary) Industry Associations Key Employers Unions Governments Education and Training Institutions Professional Associations Others?

Solution #4:

Promote energy efficiency careers and highlight in-demand jobs

Description or Details	Criteria Rating			Opportunities and Barriers for Implementation	Leading and Contributing Organizations
	IMPORTANT AND IMPACTFUL	URGENT	LOW HANGING FRUIT		
<p>Communicate the jobs, careers and training available in the sector</p> <ul style="list-style-type: none"> • Career pathway/entry point information through all career levels • Wage information for job-seekers <p>Establish a narrative that reinforces job-seeker values and goals</p> <ul style="list-style-type: none"> • Changing sector culture • Contribution to environmental protection and climate change • Technology advancement in building lifecycle • Career progression opportunities and advantages of careers in sector • Importance of trades <p>*Upcoming events c/o ECO Canada:</p> <ul style="list-style-type: none"> • Alberta Virtual Job Fair (July) • Student info sessions –SAIT, UCalgary, Keyano College, Lakeland College, Red Deer Polytechnic, etc. (September to December) • ECO-hosted info sessions (October to November) 	✓	✓	✓	<ul style="list-style-type: none"> • Targeted and sustained investment in advertising, marketing and on-the-ground talent pipelines • Leverage DiscoverEE Hub <p>LMI to shape and guide action(s):</p> <ul style="list-style-type: none"> • Gather information to understand reasons people are attracted to enter and stay in sector to inform career awareness products 	<ul style="list-style-type: none"> • ECO Canada • Efficiency Canada • Industry champions

Solution #5:

Develop experiential learning opportunities for job seekers and students, including bridge-to-work programs to address employment barriers (e.g., co-op and internships)

Description or Details	Criteria Rating			Opportunities and Barriers for Implementation	Leading and Contributing Organizations
	IMPORTANT AND IMPACTFUL	URGENT	LOW HANGING FRUIT		
<p>Develop programs to provide work-integrated learning (WIL) opportunities to attract new entrants (job seekers and students) and provide them with work experience</p> <ul style="list-style-type: none"> Identify target groups that provide the greatest benefits including youth, diverse workers and skilled workers from other sectors Work with PSE's to align or integrate WIL with academic or training programs Include: co-op's, self-directed co-op's, internships, field placements, bridge-to-work, skills transferability from other sectors Identify and promote industry placement opportunities Provide guidance for employers on roles and expectations of WIL participation and planning Monitor available government programs and financial supports <p>Provide administrative support to employers to promote participation and accelerate program or funding applications</p>	✓	✓	✓	<ul style="list-style-type: none"> Federal and provincial employment programs Alberta 2030: Building Skills for Jobs – Work-integrated learning voucher pilot program Advanced Education program providing paid WIL experiences (until 2023) ECO Immigrant Bridging Program Partner with providers of existing experiential learning programs WIL timelines need to consider company and industry cycles 	<ul style="list-style-type: none"> ECO Canada in partnership with CEWIL (Co-operative Education and Work-Integrated Learning Canada) Industry Associations Employers PSE's Labour Supply Organizations

Solution #6:

Develop programs and resources to attract and transition displaced workers from declining sectors (e.g., occupational and skills transferability fact sheets)

Description or Details	Criteria Rating			Opportunities and Barriers for Implementation	Leading and Contributing Organizations
	IMPORTANT AND IMPACTFUL	URGENT	LOW HANGING FRUIT		
<p>Develop and promote resources to facilitate understanding of worker transferability into the energy efficient building sector workforce, including:</p> <ul style="list-style-type: none"> • Transferability fact sheets (i.e., career entry points and pathways; job titles, employment opportunities, earnings, transferable skills, gaps to address, training, similarities and differences in the nature of work, and other transferability factors) • Employment outlook for occupations in sector • Successful transition stories <p>Share information with:</p> <ul style="list-style-type: none"> • Career and employment practitioners who support displaced workers and career transitioners • Employers • Ensure inclusion in awareness and attraction campaigns 	✓		✓	<ul style="list-style-type: none"> • ECO Canada Worker Transition Resources • Federal and provincial employment programs <p>LMI to shape and guide action(s):</p> <ul style="list-style-type: none"> • Determine sectors and occupations with excess supply and transferable skills that provide the greatest benefit to the energy efficient building sector 	<ul style="list-style-type: none"> • ECO Canada • Industry Associations • Industry Companies

Solution #7:

Develop end-to-end supports to attract and integrate new entrants from equity-deserving groups

Description or Details	Criteria Rating			Opportunities and Barriers for Implementation	Leading and Contributing Organizations
	IMPORTANT AND IMPACTFUL	URGENT	LOW HANGING FRUIT		
<p>Prioritize supports to remove barriers to entry and integration of equity-deserving groups into the sector</p> <p>Develop programs to address attraction and integration barriers and increase employer awareness of barriers and accommodations</p> <ul style="list-style-type: none"> • Workplace culture barriers/valuing diversity • Mentoring • Networks for workers to access employment, career services, and financial supports • Information on careers, entry points and training requirements 	✓		✓	<ul style="list-style-type: none"> • Federal and provincial employment programs (e.g., youth employment programs) • Various career and employment service providers, including those customized for equity-deserving groups • ECO Women as emerging leaders in engineering and environmental consulting initiative • Indigenous-led training (BEAHR) • ECO Immigrant bridging program 	<p>Lead?</p> <p>Organizations representing equity-deserving groups, including:</p> <ul style="list-style-type: none"> • Immigrant-serving agencies (e.g., Directions for Immigrants) • YMCA • Career Assistance Network • Women in Energy • Women in Renewable Energy (WiRe) • Indigenous Works • Aboriginal Futures Career & Training Centre • EmployAbilities • Canadian Association for Supported Employment (CASE) • Others?

Solution #8:

HR toolkit for employers

Description or Details	Criteria Rating			Opportunities and Barriers for Implementation	Leading and Contributing Organizations
	IMPORTANT AND IMPACTFUL	URGENT	LOW HANGING FRUIT		
<p>Develop and disseminate a talent management toolkit for small and medium size sector employers to include:</p> <ul style="list-style-type: none"> • Information and access to talent attraction, retention and development <ul style="list-style-type: none"> – Employment programs and resources, including organizations to administer application processes – HR and financial supports for employers – Supports for existing workers • Provide lists of experiential learning opportunities to increase employer involvement and ease of access for new entrants • Ways to promote value-proposition of working in sector beyond wages (Youth as a primary audience) 	✓	✓	✓	<ul style="list-style-type: none"> • ECO Capacity-building for Energy Efficiency Talent in Alberta's Building Sector initiative (includes HR toolkit and employer workshop) • Leverage existing and proven practices to accelerate results • Employer capacity constraints 	<ul style="list-style-type: none"> • ECO Canada • Industry champions
<ul style="list-style-type: none"> • Ways to build a more inclusive environment and address barriers (culture, amenities, work environment) • Strategies and resources to hire for and develop "soft" skills • Other best practices and tips (e.g., knowledge retention and succession planning) 	✓		✓		

Moving Forward

Two solutions included in the strategy are already progressing! These are the development of an HR toolkit and the promotion of energy efficient careers and in-demand jobs.

The HR toolkit is designed to help employers, especially small and medium-sized employers, build their capacity for talent attraction and development.

Career promotion programs designed to attract new entrants including youth, diversity groups and skilled workers from other sectors, include career fairs, job fairs and information sessions and events. These are opportunities to provide career pathway and entry point information to audiences of potential jobseekers. The advantages of working in the sector, such as contributing to climate change and involvement in developing technologies, will also be highlighted.

As more of the recommended solutions take shape, we can help narrow the talent gaps and address the HR issues and challenges faced by Alberta's building sector.

<i>Mapping Solutions to Issues</i>		KEY HR ISSUES									
		LABOUR SHORTAGES	SKILLS SHORTAGES	WORKER TURNOVER AND PRODUCTIVITY DECLINES	MANAGING LABOUR COSTS VS WORKER EXPECTATIONS	EDUCATION AND TRAINING GAPS	COMPETITION FROM OTHER SECTORS	BUILD A MULTI-DISCIPLINARY TEAM	RETIREMENTS AND LOSS OF KNOWLEDGE	REGIONAL DIFFERENCES IN TALENT AVAILABILITY	WORKFORCE DIVERSITY
SOLUTIONS/ACTION ITEMS	Ongoing collaboration										
	1. Increase collaboration between industry and policy makers	✓	✓	✓	✓	✓			✓	✓	✓
	2. Establish industry and educator forum	✓	✓		✓	✓		✓	✓	✓	
	3. Refine talent strategy through regular forums	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Industry & career awareness										
	4. Promote energy efficiency careers	✓	✓		✓		✓	✓	✓	✓	✓
	5. Develop experiential or work-integrated learning opportunities	✓	✓		✓		✓	✓			✓
	6. Attract and transition displaced workers from declining sectors	✓	✓	✓	✓			✓	✓		
	7. Attract and integrate new entrants from equity-deserving groups	✓	✓	✓	✓		✓	✓	✓		✓
	Sector capacity-building										
8. HR toolkit for employers	✓	✓	✓	✓		✓	✓	✓		✓	



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