

# Women in Alberta's Energy Transition

A review of barriers to participation and leadership

Genevieve Doiron, Emma Severson-Baker, and Laura Hughes

October 2021



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# Executive summary

Alberta's energy economy is transitioning, and a common goal of reaching net-zero carbon emissions by 2050 in the province is emerging. These changes offer the opportunity to design a new economy that works for everyone, and gender equity must be a priority in this transition. Not only are women vastly underrepresented in Alberta's current energy industry, but they are also underpaid. In fact, gender inequity in Alberta's energy sector is one of the leading contributors to Canada's overall wage gap.

In this report, we review the existing literature and diverse perspectives on the barriers to women's participation and leadership in Alberta's energy transition so they can be considered within the larger context of net-zero. The goal is to provide a foundation of understanding for Alberta's emerging energy sector, so that past experiences can be considered to help build a more equitable and inclusive future.

We identify and summarize five key barriers to gender equity in Alberta's existing and emerging energy sectors: lack of access to opportunity, lack of good jobs, inability to advance, the income gap, and industry culture. We find that barriers to women's participation in the energy industry are present along the entirety of the career pipeline, from stereotypes presented in childhood, to recruitment biases in education and training programs, to lack of childcare supports in jobs. A consistent trend in these barriers is the fact that they often stem, at least in part, from prevailing cultural and social norms associated with male-dominated areas such as STEM education programs and remote worksites in the energy industry. Further, these barriers may interact with one another simultaneously to discourage women from joining the energy industry or to disempower them in existing positions, ultimately leading to low retention and representation of women in Alberta's energy industry.

We highlight a key gap in knowledge that should be addressed by future research, which is the need for gender-specific, disaggregated data on representation and wages in Alberta. We find there are significant opportunities to improve our understanding of gender equity issues in Alberta's energy industry and to work proactively to prevent these inequities from being duplicated in the emerging renewables energy sector.

# 1. Introduction

## 1.1 Context

Alberta's economy is undergoing a profound change. While the province continues to navigate the global COVID-19 pandemic, it is also responding to global energy sector trends including fluctuating commodity prices, shifting consumer choices, and international action on climate. As Canada and the rest of the world work towards a net-zero economy by 2050, Alberta stands at the threshold of unprecedented economic and societal change. In the last two years alone \$2 billion has been invested into renewable projects and of the majority of Alberta's biggest oil and gas producers committed to net-zero carbon emissions by 2050. As Albertans invest in the province's emerging energy economy, there is an important opportunity to design the future in a way that builds an equitable workforce. In particular, it is critical that gender inequities in the current energy sector are not perpetuated.

There are many reasons to make gender equity a priority, including that the differential impacts of climate change on women demand that climate action and strategy require gender sensitivity.<sup>1</sup> According to the United Nations Development Programme (UNDP), the traditional energy sector is still one of the least gender-inclusive sectors to date.<sup>2</sup> The renewable energy sector has only a slightly higher rate of workforce participation by women than other areas of the energy industry.<sup>3</sup>

Underrepresentation of women starts early in the career pipeline. Women are underrepresented and under-retained in STEM (science, technology, engineering, and mathematics) education programs which are precursors to many careers in energy. Youth are underrepresented in natural resources employment, including the traditional energy sector, and this trend is worsened by the disproportionate underrepresentation

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<sup>1</sup> Margaret Alston, "Women and Adaptation," *WIREs Climate Change* 4 (2013). <https://wires.onlinelibrary.wiley.com/doi/abs/10.1002/wcc.232>

<sup>2</sup> Senay Habtezion, *UNDP Gender and Sustainable Energy Policy Brief* (2016), 5.

<sup>3</sup> Joy Clancy and Marielle Feenstra, *Women, Gender Equality and the Energy Transition in the EU* (Policy Department of Citizens Rights and Constitutional Affairs, European Parliament, 2019), 11. [https://www.europarl.europa.eu/RegData/etudes/STUD/2019/608867/IPOL\\_STU\(2019\)608867\\_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/STUD/2019/608867/IPOL_STU(2019)608867_EN.pdf)

Electricity Human Resources Canada, *Bridging the Gap: Increasing the Representation of Women in the Electricity Sector* (2014). <https://electricityhr.ca/wp-content/uploads/2017/04/BTG-Project-English-Report-Low-Res.pdf>

of young women.<sup>4</sup> Specifically, in 2020, while youth aged 15 to 24 comprised approximately 13.4% of employment across all industries in Alberta, they accounted for only 6.3% of natural resources employment, with only 1.8% being young women.<sup>5</sup>

The continued underrepresentation of women in both the traditional and renewable energy sectors<sup>6</sup> demonstrates the multitude of structural and cultural barriers facing women throughout their careers in Alberta’s energy industry. Although gender inequity is already evident in the emerging renewable energy economy, the rapid growth and change associated with the energy transition offer a unique opportunity to remedy inequities within Alberta’s energy industry.

In this review, we identify five barriers that prevent women from participating and leading in the traditional and emerging energy sectors:

1. Lack of access to opportunity
2. Lack of good jobs
3. Inability to advance
4. Income gap
5. Industry culture

Many of these barriers stem from the fact that women are, or were until recently, underrepresented in a large portion of traditional careers within the energy industry. Jobs in which women make up 25% or less of the workforce are known as “Non-Traditional Occupations.” Mining, for example, remains a non-traditional occupation, reporting in 2015 that women held only 17% of positions, and only 4% of trades and production positions.<sup>7</sup>

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<sup>4</sup> Bipasha Baruah and Sandra Biskupski Mujanovic, “Navigating sticky floors and glass ceilings: Barriers and opportunities for women’s employment in natural resources industries in Canada,” *Natural Resources Forum* 45, no. 1 (2021), 12.

[https://www.researchgate.net/publication/350490303\\_Navigating\\_sticky\\_floors\\_and\\_glass\\_ceilings\\_Barriers\\_and\\_opportunities\\_for\\_women’s\\_employment\\_in\\_natural\\_resources\\_industries\\_in\\_Canada](https://www.researchgate.net/publication/350490303_Navigating_sticky_floors_and_glass_ceilings_Barriers_and_opportunities_for_women’s_employment_in_natural_resources_industries_in_Canada)

<sup>5</sup> Statistics Canada, “Labour Force Characteristics by INDUSTRY, ANNUAL.” January 25, 2021. <https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1410002301&pickMembers%5B0%5D=1.10&pickMembers%5B1%5D=2.1&pickMembers%5B2%5D=4.3&pickMembers%5B3%5D=5.2&cubeTimeFrame.startYear=2016&cubeTimeFrame.endYear=2020&referencePeriods=20160101%2C20200101>

<sup>6</sup> International Renewable Energy Agency (IRENA), *Renewable Energy: A Gender Perspective* (2019). <https://www.irena.org/publications/2019/Jan/Renewable-Energy-A-Gender-Perspective>

<sup>7</sup> Mining Industry Human Resources Council, *Strengthening Mining’s Talent Alloy — Exploring Gender Inclusion* (2016), 5. [https://mihr.ca/wp-content/uploads/2020/03/MiHR\\_Gender\\_Report\\_EN\\_WEB.pdf](https://mihr.ca/wp-content/uploads/2020/03/MiHR_Gender_Report_EN_WEB.pdf)

It is not difficult to understand why these occupations were non-traditional for women. As recently as 1978, the Ontario Mining Act barred women from working underground at all in Canada. Often, even with the implementation of gender-focused policies and campaigns, industry culture and traditional societal expectations prevail and leave women disadvantaged. The deep-rooted nature of gender-specific attitudes in non-traditional occupations, such as gender biases and stereotypes, suggest that the barriers present in Alberta's traditional energy sector will continue into the emerging renewable energy sector if intentional, measurable action is not taken to promote gender equity.

Independent of the specific biases present in the energy industry, women may be discriminated against due to gender stereotypes and experience sexism and misogyny more broadly in the workplace. Within the energy industry these attitudes are not only echoed, but amplified, due to women's minority status in the workforce. It is important to note that on top of gender-specific barriers such as biases or stereotyping, women and non-binary individuals can also be encumbered by gender-intensified barriers.<sup>8</sup> These barriers are an example of intersectionality, where aspects of one's identity such as race, sexual orientation, and class interact with gender to act as further barriers to women's participation (Figure 1).<sup>9</sup> For example, race- and gender-based discrimination will be more acutely felt by those at the intersection of those identities (e.g., Indigenous women). As a result, Indigenous women often face "heightened scrutiny for performance, provocations directed to them by men, and getting overlooked for promotions."<sup>10</sup>

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<sup>8</sup> Peter Turnbull, *Promoting the employment of women in the transport sector – Obstacles and policy options* (International Labour Office, 2013), 12. [https://www.ilo.org/wcmsp5/groups/public/---ed\\_dialogue/---sector/documents/publication/wcms\\_234880.pdf](https://www.ilo.org/wcmsp5/groups/public/---ed_dialogue/---sector/documents/publication/wcms_234880.pdf)

<sup>9</sup> Canadian Research Institute for the Advancement of Women, *Feminist Intersectionality: A Primer* (2021). <https://www.criaw-icref.ca/wp-content/uploads/2021/04/Feminist-Intersectionality-Primer.pdf>

<sup>10</sup> Rosalyn Park, Bailey Metzger, and Linda Foreman, *Promoting Gender Diversity and Inclusion in the Oil, Gas and Mining Extractive Industries: A Women's Human Rights Report* (The Advocates for Human Rights, 2019), 25. [https://unece.org/fileadmin/DAM/energy/images/CMM/CMM\\_CE/AHR\\_gender\\_diversity\\_report\\_FINAL.pdf](https://unece.org/fileadmin/DAM/energy/images/CMM/CMM_CE/AHR_gender_diversity_report_FINAL.pdf)



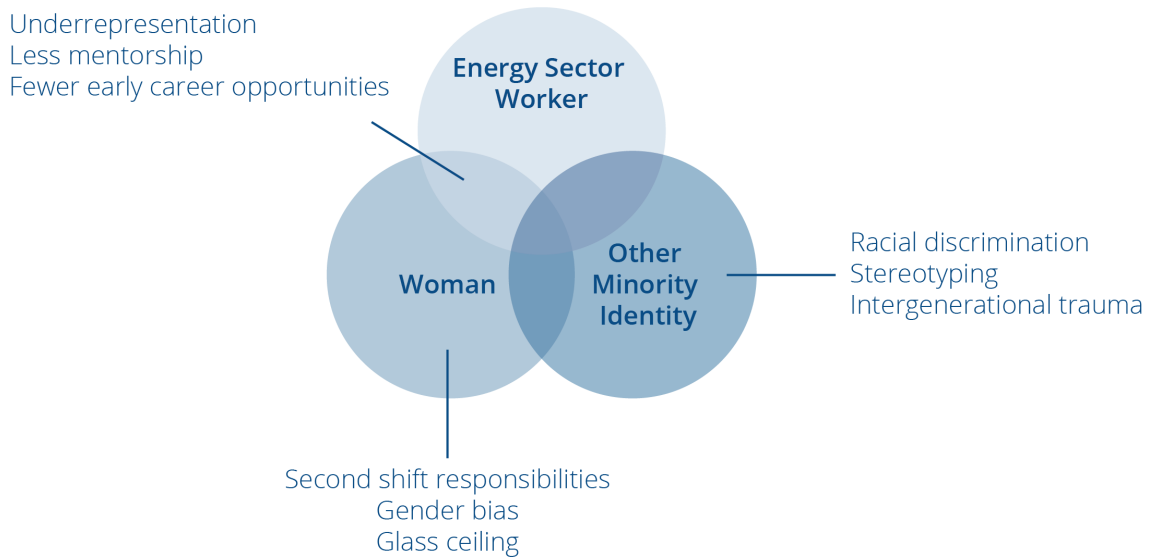


Figure 1. Intersectional identities result in amplified barriers.

Due to intersectionality, within the category of “women in the energy transition” there exists a diversity of experiences that reflect the wide range of identities and intersections at play. Accordingly, it is critical that when examining and addressing gender equity issues within Alberta’s energy industry, it is done through a lens of intersectionality to “avoid falling into the ‘double blind’ trap, where policies that include a gender dimension fail to address the needs of other diverse populations.”<sup>11</sup>

The impact of the COVID-19 pandemic, which began in March 2020, has exacerbated many of the challenges women already face in the workforce, including increased demand on women’s unpaid care and domestic labour. Such demands are likely related to the observed phenomenon of mothers leaving the workforce in unprecedented numbers. Racialized and immigrant women, as well as young women, Indigenous women and women paid low wages<sup>12</sup> have been particularly hard hit by employment losses. Alberta is faced with transitioning to a net-zero economy while also navigating and emerging from the devastating impacts of a global pandemic, and this is an opportunity to focus on equity.

<sup>11</sup> *Promoting Gender Diversity and Inclusion in the Oil, Gas and Mining Extractive Industries*, 25.

<sup>12</sup> Katherine Scott, *Women, Work and COVID-19* (Canadian Center for Policy Alternatives, 2021), 46. [https://www.policyalternatives.ca/sites/default/files/uploads/publications/National Office/2021/03/Women work and COVID.pdf](https://www.policyalternatives.ca/sites/default/files/uploads/publications/National%20Office/2021/03/Women%20work%20and%20COVID.pdf)

## 1.2 Research approach

Our research included a thorough review of peer-reviewed literature, media, recent industry reports, and international reports on gender equity in the energy sector. We considered the perspectives of a diversity of voices, including an external review by some of the Pembina Institute's project partners, who are recognized experts in gender equity. In this report we summarize the research and perspectives provided to help inform solutions to existing barriers and avoid carrying them forward into the emerging net-zero economy.

However, in many areas the data inadequately represents the realities of marginalized identities, including Indigenous and racialized women, non-binary and trans individuals, and disabled women. As well, jurisdiction-specific literature, especially pertaining to the emerging energy economy, was limited. To bridge these limitations, we have used international- or national-level statistics where Alberta regional data was absent. As Alberta represents a significant sample of Canada's energy sector, we expect national statistics are representative of the status of Alberta's energy industry.

## 2. Barrier One: Lack of access to opportunity

### 2.1 Barriers within STEM education paths limit equal participation

Women have low participation rates in STEM-based energy careers (i.e., those requiring a background in science, technology, engineering or math). This disparity can partly be traced back to a parallel trend at the level of higher education, where women are less likely than men to enroll in STEM programs at university or technical school. For example, in Calgary more than one-third of male post-secondary graduates (36.3%) studied in these fields, as opposed to only one in seven women graduates (15.1%).<sup>13</sup> Across Canada there is a similar pattern. In 2010, women accounted for only 36.4% of total enrolments in STEM-based post-secondary programs, a statistic that only increased 2.4% by 2018.<sup>14</sup> Women's enrolment levels in engineering programs drop even further to 18.9%. These rates contrast with non-STEM enrolment rates, where women represent the majority, accounting for 56.0% of the total.<sup>15</sup>

The low participation rate of women in STEM programs has been attributed to the influence of prevailing cultural and social norms on the education and career choices of young women. Cultural norms are typically slow to change, but there has been encouraging progress to increase women's participation in STEM.<sup>16,17</sup> Education remains a significant barrier to women's participation in the energy industry, as careers in energy are often introduced to prospective employees through participation in co-op

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<sup>13</sup> Katherine Scott, *Best and Worst Places to be a Women* (Canadian Center for Policy Alternatives, 2019), 93. [https://www.policyalternatives.ca/sites/default/files/uploads/publications/National Office/2019/03/Best and Worst Places to Be a Woman 2019.pdf](https://www.policyalternatives.ca/sites/default/files/uploads/publications/National%20Office/2019/03/Best%20and%20Worst%20Places%20to%20Be%20a%20Woman%202019.pdf)

<sup>14</sup> Statistics Canada, "Postsecondary Enrolments, by Detailed Field of Study and International Standard Classification of Education," November 25, 2020. <https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=3710018201&pickMembers%5B0%5D=1.1&pickMembers%5B1%5D=4.2&pickMembers%5B2%5D=5.2&pickMembers%5B3%5D=6.1&cubeTimeFrame.startYear=2010+%2F+2011&cubeTimeFrame.endYear=2018+%2F+2019&referencePeriods=20100101,20180101>

<sup>15</sup> "Postsecondary Enrolments, by Detailed Field of Study and International Standard Classification of Education."

<sup>16</sup> "Navigating sticky floors and glass ceilings," 8.

<sup>17</sup> "Postsecondary Enrolments, by Detailed Field of Study and International Standard Classification of Education."

programs, study programs, or internships during STEM degree programs. There are also differences in the public perception of careers in renewable energy versus careers in traditional energy that can impact women’s and girls’ decisions on what programs to apply for. Renewables are less associated with a traditionally masculine image, which can reduce the pressure of defying gender roles for women and girls applying to educational programs that lead into this sector.

## 2.2 Career information is presented less frequently to women

The impact of gender roles and stereotypes on career paths is indeed diminishing over time.<sup>18</sup> However, gender stereotypes continue to limit career opportunities marketed to women, as careers in STEM do not get pitched to young women as frequently as young men through formal channels (e.g., career counsellors, recruitment sessions, career fairs).<sup>19</sup> The result is that girls and women self-select out of STEM careers to pursue other pathways.

## 2.3 Women frequently lack access to job information and networks

Opportunities for jobs in traditional energy can be difficult to identify without access to existing informal professional networks made up of personal connections and relationships. Men still make up a significant percentage of these networks, and this imbalance impedes women’s ability to pursue jobs, particularly when first entering the field. There is little data specific to Canada on how the renewable energy economy compares to traditional energy in this regard, but global data indicates that there are similar barriers and a need for more formal systems to distribute employment information.<sup>20</sup> Due to the developing nature of the renewables sector there are many opportunities to change this pattern, as newer professional networks are more dynamic and slightly easier to enter (e.g., organizations such as Women in Renewable Energy (WiRE)).<sup>21</sup>

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<sup>18</sup> International Labour Office, *Gender equality at the heart of decent work* (2009), 86. [https://www.ilo.org/wcmsp5/groups/public/%40ed\\_norm/%40relconf/documents/meetingdocument/wcms\\_105119.pdf](https://www.ilo.org/wcmsp5/groups/public/%40ed_norm/%40relconf/documents/meetingdocument/wcms_105119.pdf)

<sup>19</sup> “Navigating sticky floors and glass ceilings,” 4.

<sup>20</sup> *Renewable Energy: A Gender Perspective*, 35.

<sup>21</sup> *Renewable Energy: A Gender Perspective*, 35.

## 2.4 Gender biases affect hiring choices

Gender biases are also an impediment in the hiring process itself, partially due to benevolent sexism, which has been noted as particularly prevalent in the energy industry.<sup>22</sup> Benevolent sexism is described as sexist beliefs and stereotypes that are presented in a positive way, praising women but reinforcing gender stereotypes in the process (e.g., assuming that women will be more gentle with machinery than men<sup>23</sup>).

In hiring, benevolent sexism can lead to recruiters steering women towards “safer” administration and non-technical jobs or excluding them entirely. This is an issue across sectors of the economy, particularly industries such as resource extraction, which are non-traditional occupations for women.<sup>24</sup>

## 2.5 Key takeaways

- Women have low enrolment rates in STEM education programs compared to men, and this difference is likely due to prevailing cultural and social norms.
- Low representation of women in STEM education decreases women’s participation in the energy industry, as energy careers are more frequently pitched to students in STEM compared to other programs.
- Informal, male-dominated career networks tend to exclude women and can prevent them from gaining access to career opportunities.
- Benevolent sexism can affect the entirety of any given career but is particularly notable when there is an opportunity for a woman to move up to a role with greater responsibility.
- The benevolent sexism effect can compound with the barriers to completing an education in STEM, as the “unsafe jobs” are more closely associated with technical positions that require STEM backgrounds, and later have better career advancement paths.
- Although there is less of a gendered image associated with the renewable energy sector, the barrier of gender bias is likely to continue due to renewable energy’s connection to STEM education paths for women.

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<sup>22</sup> Susan Fiske and Peter Glick, “The Ambivalent Sexism Inventory: Differentiating Hostile and Benevolent Sexism,” *Journal of Personality and Social Psychology*, 70, no. 3 (1996), 491.

<https://doi.apa.org/doi/10.1037/0022-3514.70.3.491>

<sup>23</sup> “Navigating sticky floors and glass ceilings,” 13.

<sup>24</sup> “Navigating sticky floors and glass ceilings,” 17.

# 3. Barrier Two: Lack of access to good jobs

## 3.1 What makes a job “good”?

Though women seek out and choose jobs with many of the same priorities as men, such as decent incomes, adequate benefits, availability, and the opportunity to build a career, they have other considerations that affect which positions are considered “good jobs” for them.<sup>25</sup> Job structure, in the form of expectations for hours, flexibility, location, time off, and other workplace policies, may have an unintentionally gendered impact on employees. The influence that gender can have on the impact of policy choices is so significant that the Gender-Based Analysis Plus (GBA+) analytical process and course was developed by the Government of Canada’s Women and Gender Equality department to better understand the intersectional and gendered impacts of policy.<sup>26</sup> This tool and other similar ones can reveal the gendered impact that workplace policies have on the accessibility and quality of jobs.

There is a long history of women’s unpaid labour enabling their spouses to work outside the home for long hours, or even travel to remote worksites. This unpaid labour includes work which maintains or reproduces society, known as reproductive labour. Examples include childcare, household labour, and caring for the sick and elderly.<sup>27</sup> Gender roles have become less restrictive in North America, allowing women to pursue careers, men to take more responsibility in caregiving, and the division of household labour to become more equal among partners. But there is still an often-unconscious expectation that women will do the majority of social reproductive labour regardless of whether they are also conventionally employed. This additional labour makes up what is

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<sup>25</sup> Diane Martz, Maureen Reed, Ingrid Brueckner and Suzanne Mills, *Hidden Actors, Muted Voices: The Employment of Rural Women in Saskatchewan Forestry and Agri-Food Industries* (Status of Women Canada, 2006). <https://publications.gc.ca/collections/Collection/SW21-139-2006E.pdf>

<sup>26</sup> Canada, Women and Gender Equality, “Gender-based Analysis Plus+,” April 14, 2021. <https://women-gender-equality.canada.ca/en/gender-based-analysis-plus.html>

<sup>27</sup> Helen Hester, “Care under capitalism: The crisis of “women’s work”, *IPPR Progressive Review*, 24, no. 4 (2018). <https://onlinelibrary.wiley.com/doi/full/10.1111/newe.12074>

called the “second shift”.<sup>28</sup> Unaccommodating schedules and locations can negatively impact women caring for children, and can even pressure them into sacrificing their careers. Positions requiring longer shifts, unusual amounts of travel, or odd hours that may be considered “good jobs” for men, may not be for some women because of these factors.

The jobs that Alberta’s energy industry provides are not necessarily created equal when examined through intersectional lenses. Jobs that require travel to remote worksites for multi-week shifts may conflict with familial expectations for many women, and for Indigenous women the impacts are compounded. Furthermore, Indigenous peoples’ worldviews, epistemologies, and cultures are intrinsically related to a relationship to land and community, thus jobs that require long periods away are not always viable.<sup>29</sup> In the traditional energy sector, many jobs also lack the flexibility needed to account for the “second shift”. For example, trades work such as oil rig and construction jobs often require remote work for extended periods. Such schedules are fundamentally incompatible with daily domestic responsibilities such as childcare.

These many considerations that affect what can be considered “good jobs” for women have led to a large gender segregation of careers within the traditional energy sector. We expand further on the specifics of how Alberta’s energy industry currently lacks an adequate number of “good jobs” for women below.

## 3.2 Lack of accessible childcare limits equal workplace participation

There is significant evidence that a lack of affordable, accessible childcare remains a central issue to women’s participation in the Alberta workforce, across all disciplines.<sup>30</sup> Though there is little energy industry-specific data, it is assumed that insufficient childcare presents a major barrier for Alberta women in energy as well.

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<sup>28</sup> Mary Blair-Loy, Arlie Hochschild, Allison Pugh, Joan Williams and Heidi Hartmann, “Stability and transformation in gender, work, and family: insights from the second shift for the next quarter century” *Community* 18, no. 4 (2015), 436.

[https://www.researchgate.net/publication/282907932\\_Stability\\_and\\_transformation\\_in\\_gender\\_work\\_and\\_family\\_insights\\_from\\_the\\_second\\_shift\\_for\\_the\\_next\\_quarter\\_century](https://www.researchgate.net/publication/282907932_Stability_and_transformation_in_gender_work_and_family_insights_from_the_second_shift_for_the_next_quarter_century)

<sup>29</sup> Chelsea Vowel, *Indigenous Writes: A Guide to First Nations, Métis, and Inuit Issues in Canada* (Portage & Main Press, 2017).

<sup>30</sup> Association of Early Childhood Educators of Alberta. “Why People Need Child Care,” 2020. <https://aecea.ca/why-people-need-child-care>

The Government of Alberta released a 2019 report on the province’s Early Learning and Childcare Centres (ELCC) pilot, which emphasized affordable, accessible, and quality childcare. The report found that women who enrolled their children in the centres were more likely to return to work full time, accept more responsibility at work, and report that the program positively impacted their careers.<sup>31</sup> The provincial-federal funding agreement for this pilot ended in March 2021.<sup>32</sup> The negative impact of the COVID-19 pandemic on Canada’s childcare system including closures, fee increases, and capacity limits,<sup>33</sup> has affected women’s ability to work in all sectors, likely including the energy industry.

### 3.3 Part-time employment provides flexibility, but can impede career advancement

Positions with gender-sensitive employment policies that take the above factors into consideration — with options such as flexible or part-time work — may make non-traditional occupations more viable for primary caregivers. Women in Alberta occupy more than 70% of part-time jobs.<sup>34</sup> However, part-time options are rarely considered at higher levels of seniority or leadership. Because women are much more likely to work in part-time positions due to “second shift” responsibilities, de-linking working hours and seniority may help to increase women’s representation in leadership positions.<sup>35</sup>

But there can be downsides to part-time positions, beyond the loss of some paid hours. The loss of other benefits, such as paid holidays and sick leave, insurance plans, and pension schemes that are only available to full-time employees mean that there are invisible costs to part-time employment.<sup>36</sup> Such benefits are especially critical for those

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<sup>31</sup> Malatest & Associates, *Evaluation of Early Learning and Child Care Centres* (Alberta Children’s Services, 2020). <https://open.alberta.ca/dataset/fab44a22-36e3-4515-b2f0-19cfb4ac6435/resource/1c37628f-9af6-42f2-bdaf-f88b7e87d1a0/download/cs-evaluation-of-early-learning-and-child-care-centres-annual-report-2018-19.pdf>

<sup>32</sup> Janet French, “Alberta Premier Demands Federal Child-Care Deal with No Strings Attached,” *CBC News*, August 6, 2021. <https://www.cbc.ca/news/canada/edmonton/alberta-kenney-federal-child-care-1.6133095>

<sup>33</sup> David Macdonald and Martha Friendly, *Sounding the Alarm: COVID-19’s impact on Canada’s precarious child care sector* (Canadian Center for Policy Alternatives, 2021). <https://www.policyalternatives.ca/sites/default/files/uploads/publications/National%20Office/2021/03/Sounding%20the%20alarm.pdf>

<sup>34</sup> Kathleen Lahey, *The Alberta Disadvantage: Gender, Taxation, and Income Inequality* (Parkland Institute, 2015), 1. <https://s3-us-west-2.amazonaws.com/parkland-research-pdfs/thealbertadisadvantage.pdf>

<sup>35</sup> “Navigating sticky floors and glass ceilings,” 12.

<sup>36</sup> *Women, Gender Equality and the Energy Transition in the EU*, 44.



with primary caregiver responsibilities. In the long run there are also impacts on career trajectory, such as social consequences like reduced status or questioned commitment and the resulting lack of offered opportunities.<sup>37</sup> Ensuring that benefits and advancement are available for part-time employees could have the effect of bolstering women’s ability to participate fully in the workforce.<sup>38</sup>

### 3.4 Gender discrimination impacts job security

A 2017 study explored the effects that economic downturn and layoffs had on women working as natural and applied scientists. The authors note that at various points over a two-year period, women in these positions were up to twice as likely as men to be unemployed.<sup>39</sup> Furthermore, gender-based job insecurity can easily be compounded with racial or ableist discrimination to result in much higher unemployment for specific demographics, such as Indigenous women.<sup>40</sup> The same barriers that prevent women’s participation in the energy industry also make them more vulnerable to layoffs, as working in under-valued, part-time, or entry level positions can combine with discrimination from employers to undermine their job security.

### 3.5 Key takeaways

- “Good jobs” differ between men and women; for women, “good jobs” typically entail flexibility in hours and location to accommodate “second shift” responsibilities such as domestic and childcare labour.
- Lack of affordable, accessible childcare is a major impediment to women’s participation in the Alberta workforce, regardless of sector.
- While women favour part-time positions for their flexibility, such arrangements often limit women’s ability to advance due to reduced status or questioned commitment to their work.

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<sup>37</sup> *Women, Gender Equality and the Energy Transition in the EU*, 44.

<sup>38</sup> C3E Initiative, *Status Report on Gender Equality in the Energy Sector* (2019), 14.  
<https://www.globalwomensnet.org/wp-content/uploads/2019/10/c3e-data-report-en-1.pdf>

<sup>39</sup> Rachael Pettigrew, “Disproportionally Unemployed: The Gendered Impact of the Economic Downturn on Geoscientists in Alberta,” presented at GeoConvention 2017, September 13-15, 2017, 1.  
[https://geoconvention.com/wp-content/uploads/abstracts/2017/163\\_GC2017\\_Disproportionally\\_Unemployed.pdf](https://geoconvention.com/wp-content/uploads/abstracts/2017/163_GC2017_Disproportionally_Unemployed.pdf)

<sup>40</sup> Amnesty International, *Out of Sight, Out of Mind: Gender, Indigenous Rights, and Energy Development in Northeast British Columbia Canada* (2016), 40.  
[https://www.amnesty.nl/content/uploads/2016/11/out\\_of\\_sight\\_out\\_of\\_mind\\_-\\_report\\_eng\\_web.pdf?x23973](https://www.amnesty.nl/content/uploads/2016/11/out_of_sight_out_of_mind_-_report_eng_web.pdf?x23973)

- Women tend to have lower job security and be vulnerable to layoffs during times of economic downturn because they tend to occupy positions that are under-valued, part-time, or entry level.

# 4. Barrier Three: Inability to advance

## 4.1 Women are underrepresented in leadership

Across Alberta, and Canada more broadly, women are underrepresented in decision-making roles. In 2017, women held 18.1% of corporate board positions across Canada, a trend reflected at lower levels of management as well.<sup>41</sup> The gender segregation of careers within Alberta’s energy industry, along with the overall underrepresentation of women, contribute to an exaggerated disparity in leadership. Although women are generally underrepresented at all levels of the energy industry, representation also diminishes with each level of seniority. Worldwide in the oil and gas sector, women comprise only 27% of positions which require a college education, only 25% of mid-level positions and only 17% of positions of leadership.<sup>42</sup> Despite advances in gender equity, “underlying cultural and social norms still shape the perceptions of men and women’s abilities, needs and prerogatives.”<sup>43</sup> This “under-representation and absence of female role models” is especially prevalent in energy-related fields.<sup>44</sup>

Intersectional barriers also impact representation. Of the companies that fall under the Canadian Business Corporation Act diversity disclosure requirement, only 5.5% of board positions are held by visible minorities, only 0.5% are held by Indigenous people, and only 0.4% by persons with disabilities.<sup>45</sup>

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<sup>41</sup> Andrew MacDougall, John Valley and Jennifer Jeffrey, *Diversity Disclosure Practices* (Osler, 2020), 6. <https://www.osler.com/osler/media/Osler/reports/corporate-governance/Diversity-and-Leadership-in-Corporate-Canada-2020.pdf>

<sup>42</sup> Katharina Rick, Ivan Marten and Ulrike Von Lonski, *Untapped Reserves: Promoting Gender Balance in Oil and Gas* (The Boston Consulting Groups, 2017), 8. <https://www.bcg.com/publications/2017/energy-environment-people-organization-untapped-reserves>

<sup>43</sup> *Diversity Disclosure Practices*, 6.

<sup>44</sup> *Renewable Energy: A Gender Perspective*, 19.

<sup>45</sup> *Diversity Disclosure Practices*, 44.

## 4.2 Feminized jobs provide less opportunity for advancement

Gender-specific and gender-intensified barriers often limit women’s participation in the energy industry to “support” positions such as administration, human resources, and finance. Recruitment and hiring imbalances are “largely an outcome of educational pathways and recruitment pipelines that remain male-dominated,” tracking women into positions with greatly different advancement opportunities.<sup>46</sup> Unlike male-dominated career paths, including in labour and technical roles, female-dominated career paths, such as finance and administration, often do not have extensive trajectories for advancement and promotion leading to senior executive positions. Indeed, careers such as operations, in which women are especially underrepresented, are often considered “stepping-stones” to service on boards.<sup>47</sup> These jobs and others that require a STEM background are also among the highest paid in the energy industry.<sup>48</sup>

## 4.3 Societal expectations place pressure on women

Much as societal and familial expectations and responsibilities can affect what positions can be considered “good jobs” for women, the same considerations can limit women’s ability to advance. Women are typically expected to be primary caregivers in the family unit, which can affect their choices and options related to careers in the energy sector. The need for flexibility, as well as the burden of working a “second shift,” may discourage women from seeking out promotions or lead to gaps in employment that can be perceived negatively when women are being considered for advancement.<sup>49</sup> The need for part-time work or gaps in time spent at work (such as parental leave) “can have negative consequences for women’s career development.”<sup>50</sup> It may cause them to be overlooked for promotions due to their perceived lack of commitment to the job. Indeed, in a study published in March 2021, women in Canada who had taken parental

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<sup>46</sup> *Renewable Energy: A Gender Perspective*, 19.

<sup>47</sup> “Navigating sticky floors and glass ceilings,” 2.

<sup>48</sup> *Renewable Energy: A Gender Perspective*, 28.

<sup>49</sup> *The Alberta Disadvantage*, 1.

<sup>50</sup> *Women, Gender Equality and the Energy Transition in the EU*, 44.

leave reported “to be taken less seriously by colleagues and superiors, and to feel that they were no longer competitive or competent in their positions.”<sup>51</sup>

Such societal and familial expectations of women can affect their careers regardless of whether women actually have such responsibilities. Although “intra-household gender norms and expectations are shifting significantly for younger women and men,”<sup>52</sup> it can be perceived by employers and coworkers that all women have these considerations, and due to benevolent sexism, conscious bias, or unconscious bias, women may be overlooked for executive positions or additional responsibilities. Traditional expectations of women to be “homemakers” and mothers may also discourage women from seeking out these positions to avoid public judgement or other negative reactions in their personal lives.<sup>53</sup>

Social expectations tend to be self-perpetuating because women are less likely to seek the types of positions where there are few women as role models. Without sufficient representation of women in executive positions, unconscious gender bias framing women as incompatible with such positions can prevail — an example of a “glass ceiling” for women in energy.<sup>54</sup> Such bias both prevents women from seeking out advancement and leads to an unconscious preference for men when hiring and promoting. However, unconscious bias “is challenging to both identify and prevent,”<sup>55</sup> thus, it is critical that organizations have targets and policies in place to ensure equal representation — not just of women, but all minority groups that currently face discrimination and barriers in the workplace.

## 4.4 Lack of access to informal networks inhibits career advancement

Social networks impact women’s access to employment (see section 2). This same barrier affects women’s ability to advance in the workplace. Both formal and informal mentorships can be useful tools to encourage retention and advancement within the energy industry, especially in order to bridge information gaps related to potential career trajectories. Informal networking within the energy industry is often critical to

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<sup>51</sup> “Navigating sticky floors and glass ceilings,” 14.

<sup>52</sup> “Navigating sticky floors and glass ceilings,” 19.

<sup>53</sup> “Navigating sticky floors and glass ceilings,” 19.

<sup>54</sup> *Renewable Energy: A Gender Perspective* 39.

<sup>55</sup> *Promoting Gender Diversity and Inclusion in the Oil, Gas and Mining Extractive Industries*, 28.

gaining the insight and connections necessary to advance, and due to the historical exclusion of women from energy “a significant amount of information about job opportunities and skill transferability continues to travel, whether intentionally or unintentionally, through male familial and professional networks.”<sup>56</sup>

Indeed, this barrier continues and extends as far as the executive level, as women in these positions are often less well-connected in professional networks than their male peers are<sup>57</sup> When representation is below a threshold, commonly observed at 15%, women can feel invisible in leadership,<sup>58</sup> limiting further advancement opportunities as well as their abilities to effect change. However, there is no current Alberta-specific research on these issues due to the limited metrics being used to measure representation, such as tracking companies with “one or more” women on a board.<sup>59</sup>

## 4.5 Key takeaways

- The representation of women diminishes with increasing seniority level in the energy industry, symptomatic of barriers to advancement. These include prevailing social and cultural norms, lack of role models, and fewer opportunities for advancement in the jobs that women tend to occupy (e.g., human resources, finance).
- Gaps in employment, part-time work, and other factors related to balancing domestic and childcare responsibilities with work can impede women’s ability to advance. Such biases may be held against a woman regardless of whether she actually has these responsibilities.
- Lack of access to social networking and mentorship in male-dominated environments can further inhibit women’s ability to advance.
- The lack of meaningful data on representation in Alberta and the lack of policies in place to rectify these inequalities means that change is slow in the industry.
- However, with intentional efforts made to set and meet targets for women’s participation and inclusion, the dynamic nature of the energy transition may

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<sup>56</sup> “Navigating sticky floors and glass ceilings,” 5.

<sup>57</sup> *Renewable Energy: A Gender Perspective*, 19.

<sup>58</sup> *Renewable Energy: A Gender Perspective*, 39.

<sup>59</sup> Canadian Securities Administrators, *Report on Sixth Staff Review of Disclosure Regarding Women on Boards and in Executive Officer Positions* (2021), 1. [https://www.albertasecurities.com/-/media/ASC-Documents-part-1/Regulatory-Instruments/2021/03/5950463\\_-\\_CSA-Notice-58-312-Rpt-on-sixth-Staff-WOB-Review.ashx?la=en&hash=230828E0EC34442FF70B9261AA75E622](https://www.albertasecurities.com/-/media/ASC-Documents-part-1/Regulatory-Instruments/2021/03/5950463_-_CSA-Notice-58-312-Rpt-on-sixth-Staff-WOB-Review.ashx?la=en&hash=230828E0EC34442FF70B9261AA75E622)

mean that the emerging renewables sector could “change in ways that are harder to effect in the older and more mature fossil fuel sector.”<sup>60</sup>

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<sup>60</sup> “Navigating sticky floors and glass ceilings,” 2.

## 5. Barrier Four: The income gap

Gendered segregation of positions, as well as the lack of equal promotion between men and women within the energy industry, contribute to a significant income gap within Alberta's resource extraction sector.<sup>61</sup> Accordingly, although there exists a significant gender income gap nationally, Alberta has the largest in the country. In Alberta, women make an average of 41% less than men.<sup>62</sup> The resource extraction industry, specifically the mining, oil and gas extraction and quarrying sectors, were among the largest single drivers of income inequality in Canada in both 1998 and 2018, contributing to 3.5% and 6.7% of the wage gap in those years respectively.<sup>63</sup> The increase in the industry's contribution to the national wage gap over this 20-year period is driven by other industries reducing their wage gap while the resource extraction industry has not made the same progress. Income inequality is significantly influenced by factors beyond gender as well, such as race, making an intersectional approach vital to attempts at reducing income inequality.<sup>64</sup>

### 5.1 Feminized jobs receive lower pay

There is a disparity between the types of jobs occupied by men and women in the energy industry, with women overrepresented in occupations such as administration, human resources, or finance.<sup>65</sup> These are often lower paid than technical positions, and there is research suggesting that these occupations are assigned lower value because they are associated with women.<sup>66</sup>

“Second shift” work expectations for women lead to an overrepresentation of women in part-time and reduced hour positions.<sup>67</sup> These discrepancies between working hours contribute to income inequality as even just a “few hours less paid work a week will

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<sup>61</sup> *The Alberta Disadvantage*, 11.

<sup>62</sup> Kathleen Lahey, *Equal Worth: Designing Effective Pay Equity Laws for Alberta* (Parkland Institute, 2016), 1. [https://www.parklandinstitute.ca/equal\\_worth](https://www.parklandinstitute.ca/equal_worth)

<sup>63</sup> Rachele Pelletier, Martha Patterson, and Melissa Moyer, *The Gender Wage Gap in Canada: 1998 to 2018* (2019). <https://www150.statcan.gc.ca/n1/pub/75-004-m/75-004-m2019004-eng.htm>

<sup>64</sup> *The Alberta Disadvantage*, 13.

<sup>65</sup> “Navigating sticky floors and glass ceilings,” 10.

<sup>66</sup> *Equal Worth*, 18.

<sup>67</sup> Melissa Moyser and Amanda Burlock, *Time use: Total work burden, unpaid work, and leisure* (2018), 6. <https://www150.statcan.gc.ca/n1/pub/89-503-x/2015001/article/54931-eng.pdf>



incrementally reduce women’s incomes.”<sup>68</sup> The trends seen in the traditional energy sector, such as gendered separation of positions, under-representation at higher levels of seniority, and fewer working hours, are echoed in the emerging renewables sector. Thus, the income gap is likely to reproduce itself if measures are not taken to adjust policies and workplace cultures to improve pay equity.

## 5.2 Within similar positions, women are still compensated less than men

Women’s incomes are generally lower than men’s in every Alberta industry.<sup>69</sup> Unconscious bias on the part of employers, as well as internalized bias held by women themselves, can lead to women needing to “outperform men (...) just to fit in and certainly to progress”<sup>70</sup> in non-traditional occupations such as those within the energy industry. As a result, women can be held to higher performance standards than men while still being undervalued or underestimated in their roles. Women may also be poorly positioned to negotiate due to a lack of information on pay scale or job opportunities.

## 5.3 Key takeaways

- The mining, oil and gas extraction, and quarrying sectors, are among the largest single drivers of income inequality in Canada and contribute to Alberta having the largest gender income gap in the country.
- Women tend to occupy positions in human resources, finance, and administration, which may be under-valued as they receive lower overall compensation compared to male-dominated career paths in the energy industry.
- Even within similar roles to men, women tend to be held to higher performance standards and are compensated less.
- Although many of the barriers contributing to the traditional energy sector’s income gap exist in the emerging renewables sector, it has the flexibility to implement these tools early on and avoid repeating the same mistakes.

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<sup>68</sup> *Equal Worth*, 9.

<sup>69</sup> Nicole Hill, Angele Alook and Ian Hussey, “How gender and race shape experiences of work in Alberta’s oil industry,” *Parkland Institute*, June 27, 2017.  
[https://www.parklandinstitute.ca/how\\_gender\\_and\\_race\\_shape\\_experiences\\_of\\_work\\_in\\_albertas\\_oil\\_industry](https://www.parklandinstitute.ca/how_gender_and_race_shape_experiences_of_work_in_albertas_oil_industry)

<sup>70</sup> *Renewable Energy: A Gender Perspective*, 37.

## 6. Barrier Five: Industry culture

### 6.1 Masculine workplace cultures may exclude women

There are well-documented differences in the workplace experiences of men and women in the traditional energy sector, as well as other natural resource industries, and the energy industry is known as one where progress has been unusually slow. In multiple reports in which women in the industry were asked to speak about the role of gender in their careers, workplace culture came to the fore.<sup>71</sup> Women described experiences with cultures of “masculinist” sexism and exclusive “frontier” mentalities in remote work sites. These attitudes have had a long history in Canada and North America and are strongly associated with rugged individualism and masculinity. The idealization of these attitudes can result in micro-aggressions and the exclusion of those who do not fit the image, such as people who are racialized and women.<sup>72</sup>

### 6.2 Women are vulnerable to harassment and violence

Women in energy are more vulnerable to harassment in the workplace than men, and often have experiences that discourage or prevent them from reporting it, particularly sexual harassment.<sup>73</sup> Most workplace violence experienced goes unreported, particularly immediately after it occurs.<sup>74</sup> Treating violence and harassment as an extreme symptom of a more subtle underlying problem within the energy industry is perhaps the most effective way to identify its root causes. The hostile work environments experienced by women in energy — created through a lack of meaningful inclusion, a lingering frontier

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<sup>71</sup> “Navigating sticky floors and glass ceilings,” 14.

*Renewable Energy: A Gender Perspective*, 17.

*Promoting Gender Diversity and Inclusion in the Oil, Gas and Mining Extractive Industries*, 36.

*Strengthening Mining’s Talent Alloy*, 2.

<sup>72</sup> “How gender and race shape experiences of work in Alberta’s oil industry.”

<sup>73</sup> Statistics Canada, “Harassment in Canadian workplaces,” December 17, 2018.

<https://www150.statcan.gc.ca/n1/pub/75-006-x/2018001/article/54982-eng.htm>

<sup>74</sup> Employment and Social Development Canada, *Harassment and sexual violence in the workplace: Public consultations* (2017). <https://www.canada.ca/en/employment-social-development/services/health-safety/reports/workplace-harassment-sexual-violence.html>

culture, and open or encouraged sexism — result in an industry that has great difficulty attracting or retaining women. Addressing all these barriers in an integrated fashion will be required to avoid perpetuating this pattern throughout the energy transition. Additionally, specific attention must be paid to maintaining an inclusive and supportive workplace culture, where incidences of discrimination and harassment have a better chance of being reported.

## 6.3 Frontier culture and remote work sites highlight underlying cultural issues

The locations where women are employed in the industry can also influence their workplace culture. There may be differing experiences, for example, between remote work camps or “frontier” locations and their urban partner locations. Remote locations, where the gender gap in the workforce is significantly larger than in office environments, tend to be reported as more hostile towards the women and racialized people whom the frontier image excludes.<sup>75</sup>

Mining work sites have been demonstrated to heighten hostile workplaces for women in energy, with some of the most overt examples of sexism and harassment reported, including a camera found in the women’s washroom at one location, and a man entering the women’s dorms to steal personal items.<sup>76</sup> Similar concerns have been raised about pipeline development proposals that involve work sites in remote areas. These concerns extend to surrounding communities, as the same culture that permits harassment onsite can be carried into the communities by workers. The negative impact on communities has been explored in multiple reports, with emergent themes of high wage gaps, high domestic violence, and high substance abuse.<sup>77</sup>

The *National Inquiry on Missing and Murdered Indigenous Women and Girls Final Report* found that rotational shift work in extractive industries can put additional pressure on

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<sup>75</sup> *Out of Sight, Out of Mind*, 42.

<sup>76</sup> Jamie Malbeuf, “‘Hey Gorgeous’: Meet 2 Women Sick of Sexism and Discrimination in Mining,” *CBC News*, August 15, 2017. <https://www.cbc.ca/news/canada/north/mining-industry-sexism-1.4247363>.

Jane Sponagle, “#MeTooMining Digs into Sexual Harassment, Assault in Mining Industry,” *CBC News*, March 14, 2018. <https://www.cbc.ca/news/canada/north/metoo-mining-yellowknife-sexual-harassment-geologist-1.4576029>.

<sup>77</sup> *Out of Sight, Out of Mind*, 43.

*Reclaiming Power and Place*, 585.

family dynamics and contribute to domestic violence towards Indigenous women.<sup>78</sup> Due to race- and gender-based prejudices against Indigenous women, there is also increased risk of violence when significant travel is required. In the aforementioned report, “women spoke of how not only the job sites and labour camps, but also travel to and from work sites and camps, can be dangerous for female employees (...) referring to sexual assaults that sometimes happen when female and male employees share insecure and informal accommodation.”<sup>79</sup>

## 6.4 Enacting cultural change is challenging

Applied to the energy transition, there are several constructive lessons to be learned from the energy industry’s experience addressing gender issues to date. Progress toward gender equity has been slow so far, and engagement on addressing the structural causes of gendered violence in the workplace in the traditional energy sector has been limited.<sup>80</sup> Moreover, when attempts are made to rectify women’s underrepresentation, the solution is often just to “add women and stir”, without addressing the driving forces that cause and perpetuate inequality in the workplace. For example, a company might react to violence and sexual assault against women by improving lighting on worksites rather than examining the culture at the root of the violence. Reactive policies, which may be a result of ignorance to the larger issue, especially if they are constructed internally, end up reinforcing these cultural phenomena rather than addressing them.<sup>81</sup>

Accordingly, one concern for renewables is that smaller companies seem to experience more internal issues due to weaker human resources departments and more personal biases affecting advancement and worksite culture.<sup>82</sup> Thus, policies aimed at changing the industry’s culture and preventing trends from re-emerging in the renewables sector will have an uphill battle ahead of them, particularly if they echo the shortcomings of those already in place.

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<sup>78</sup> National Inquiry into Missing and Murdered Indigenous Women and Girls, *Reclaiming Power and Place: The Final Report* (2019), 584. [https://www.mmiwg-ffada.ca/wp-content/uploads/2019/06/Final\\_Report\\_Vol\\_1a-1.pdf](https://www.mmiwg-ffada.ca/wp-content/uploads/2019/06/Final_Report_Vol_1a-1.pdf)

<sup>79</sup> *Reclaiming Power and Place*, 587.

<sup>80</sup> “Navigating sticky floors and glass ceilings,” 13.

<sup>81</sup> “Navigating sticky floors and glass ceilings,” 13.

<sup>82</sup> *Strengthening Mining’s Talent Alloy*, 30.

## 6.5 Key takeaways

- The traditionally masculine image of the “frontier” in Alberta, especially on remote work sites, culturally excludes women and can lead to gendered micro-aggressions and harassment.
- Women are more vulnerable to violence and harassment due to prevailing cultural attitudes; however, incidents are unlikely to be reported unless proactive measures are taken to establish an open and inclusive workplace culture.
- Cultures that permit harassment on worksites may extend into neighbouring communities, increasing rates of violence against women living in these areas, particularly Indigenous women.
- Policies that address the driving cultural factors behind violence and harassment are more effective than those that address the resulting symptoms.
- The emerging renewable energy sector shares a significant portion of its workforce with traditional energy (e.g., transitioning oil and gas workers), so there is a high likelihood of carryover in cultural attitudes.

## 7. Conclusion

Through our research, we have identified several trends that have actionable solutions, including the effects of gendered social pressures, lingering stereotypes, and low women's participation in STEM education tracks. Many of the barriers women face in the energy industry stem from cultural attitudes associated with a male-dominated workforce, as well as lingering structural issues from an industry that was built to support full-time male workers with stay-at-home female partners. For example, both the income gap and the lack of good jobs for women are associated at least partially with these influences. As society has shifted, so too must industry standards.

This report is as comprehensive as possible, but due to insufficient data on the energy industry experiences of other gender identities beyond men and women, those with disabilities, and racialized minorities, there are most certainly groups that have not been discussed in this report. Looking at other industries, the conclusion can be drawn that these intersectional experiences come with their own unique challenges and meet additional biases in the workforce. However, there remains a need for more disaggregated data in the emerging renewables energy sector that better represents the experiences of diverse women and gender-diverse workers.

Ensuring that the marketing and recruiting for new energy jobs and STEM programs is gender equitable and intersectional should reduce the barriers that women encounter in hiring and education, allowing more women to participate in the field and lead. Actively recruiting women into STEM through programs designed to bolster the workforce for the energy industry would likely be the gold standard to increase participation and encourage retention, based on similar initiatives elsewhere in the world.<sup>83</sup>

The challenges that Alberta faces are unique to areas with a well-developed and entrenched energy sector sharing space and workforce personnel with the newer renewables sector. Shared culture between the traditional and the emerging sector will be significant. Preventing old attitudes from carrying over in the energy transition will be challenging due to the overlap of workers and professionals in Alberta who are

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<sup>83</sup> Bipasha Baruah, "Renewable inequity? Women's employment in clean energy in industrialized emerging and developing economies," *Natural Resources Forum* 41, no.1 (2016), 9.  
[https://www.researchgate.net/publication/309279663\\_Renewable\\_inequity\\_Women's\\_employment\\_in\\_clean\\_energy\\_in\\_industrialized\\_emerging\\_and\\_developing\\_economies](https://www.researchgate.net/publication/309279663_Renewable_inequity_Women's_employment_in_clean_energy_in_industrialized_emerging_and_developing_economies)

moving into renewables from traditional energy. It will take deliberate action from leadership to establish equitable and welcoming workplaces.

Although many of the barriers contributing to the traditional energy sector's income gap exist in the emerging renewables sector, it has the flexibility to implement this knowledge early on to avoid repeating the same mistakes. There is a need for an equitable net-zero economy going forward, and gender equity is critical to ensuring that Alberta reaches this goal. In order to achieve this future, addressing the barriers outlined in this report is a critical process.