

Mind the Gender Gap: Energy Employment Trends in Aotearoa New Zealand

Julie MacArthur (Politics and International Relations) and Cathrine Dyer (Development Studies), University of Auckland

Introduction

Scant attention is paid to the gendered nature of energy sector employment internationally, but this analytical gap is particularly pronounced in New Zealand. Energy systems globally are in the midst of significant restructuring, from pressures to decarbonize, decentralise, diversify and decolonise. Women make up 48% of the paid workforce globally but just 22% in oil and gas and 32% in renewables ([IRENA 2019](#)). This imbalance is significant in terms of pay disparities between men and women in the economy, especially given that average salaries in energy industry jobs are relatively high at \$98,000 NZD for 2018. The gender imbalance in the industry is also significant because diversity (or lack of it) affects environmental decision-making essential for energy transitions progress. For example, there is a positive association between [women's leadership and consideration of social and environmental issues](#). Diversity, of course, is not all about women and gendered employment patterns, but statistics at the industry level on gender non-binary people are not available at this time.

Data

The available public data on energy industries in New Zealand often combines electricity water and waste utilities, obscuring large differences in specific areas of energy employment. We obtained the sub-industry data from Statistics New Zealand for men and women over time based on total employment, job tenure, and new hires. This data was broken down by distinct activities in electricity supply (generation, transmission, distribution and on-selling/market operation) and also mining and petroleum sectors (coal mining, oil & gas extraction, exploration & mining support services, petroleum & coal product manufacturing and fuel retailing).

Electricity

Our research has found that the electricity workforce in Aotearoa New Zealand is an area of long-term employment growth but is male-dominated, with nearly twice as many men as women in the sector (fig 1). Women are much more likely to work part time and also stay less than two years in their electricity sector jobs, and men much more likely to stay eight years or more. These patterns have remained steady over the past decade. These patterns translate to large differences in earnings. In 2018 men in electricity generation and retailing made 74 and 73 per cent more than their female counterparts respectively with these gaps increasing almost 10 per cent since 2010. The pay gap in distribution is lower at 37 per cent and has been declining since 2000.

Fossil Fuels

Employment is declining in fossil fuel related industries--coal mining, oil & gas extraction, exploration & mining support services, petroleum & coal product manufacturing and fuel retailing-- with fuel retailing making up the lion's share of the decline. Fossil fuel industry employment also continues to be male dominated, though the gap overall has closed in more recent years. Job tenure patterns in fossil fuels jobs

Key Research Questions:

An opportunity exists at this crucial juncture for COVID recovery spending and for climate action to look closely at the data on New Zealand's energy sector:

- Where are the women in New Zealand?
- What is happening with their employment over time?
- How does this employment differ between subsectors?



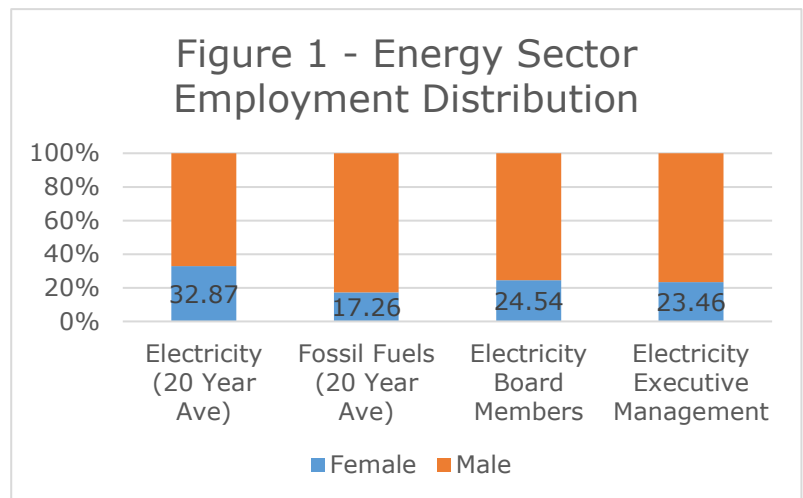
are similar to those in electricity. The 2018 salary gaps in fossil fuels were higher than electricity, highest in oil and gas extraction at 86 per cent and lowest in fuel retailing at 25 per cent.

Women in energy leadership

The role of women in positions of leadership is also an important indicator of gender diversity in the sector. In the past decade in New Zealand 3 of 6 of New Zealand's energy ministers have been women. At the corporate board level in the electricity sector women are represented about the same percentage as they are in the NZ top 100 survey - 25%. However, of 62 electricity sector companies with published board memberships, 10 had no women. All of these were distribution companies. 19 of the 62 companies did not publish board or executive memberships online or in their annual reports.

Discussion

Consistent with international data, employment and leadership in New Zealand's energy industries is significantly gendered. Women in both electricity and fossil fuels industries are underrepresented and, importantly, the share of women being hired for new roles has remained largely unchanged in more than two decades. This is significant because during this time gender equity and the gender pay gap more broadly have been recognized as significant areas for policy attention. Clearly energy industries remain challenging for women. Gender equity strategies have so far failed to shift this sector.



Sub-sector specific differences have emerged from the data that provide insights for future research and for policymakers. These include the large differences in job tenure between men and women in some subsectors (power generation, petroleum & coal manufacturing, exploration and mining support), and far less in others (electricity retailing and on-selling, fuel retailing). In order to plug job tenure gaps we need to find out much more about why women are leaving their jobs so much earlier than men. [International evidence suggests](#) that these differences are due to a range of factors which include hostile work cultures, lack of family-supportive leave and re-entry policies, workplace harassment and discrimination, lack of representation in STEM training, as well as lack of representation and role-models in leadership positions.

Summary

The data presented here illustrates that New Zealand's energy industries are gender segregated, and that subsectors where gaps are largest are also where change has been most resistant. There are clear areas for change needed in local electricity distribution companies in particular, which will be essential as we move towards an electrified future with more distributed generation. Job losses in the past two decades have fallen predominantly on men in fossil fuel industries and in fuel retailing where Māori employees are most represented. Securing a just transition requires reskilling and new employment for these workers in addition to addressing the gender gaps highlighted in this brief.

Reducing gender segregation in historically masculinized workplaces is another way to ensure that future stimulus packages don't reinforce existing inequities. So far, COVID has [impacted women's employment more than men's](#) with risks that stimulus spending over the next 12-18 months magnifies this effect. We need our energy policy to have an informed gender lens if we are going to navigate the intersecting climate and COVID crises facing citizens in Aotearoa New Zealand and across the globe.

Key Policy Implications:

- Address gender equity and the gender pay gap through mandatory gender reporting and gender auditing exercises directed at a national level
- Increase transparency of leadership data
- Investigate why New Zealand women are leaving their energy sector jobs earlier than men in order to plug job tenure gaps
- Address hostile work cultures through anti-discrimination and family-supportive leave policies
- Incorporate reskilling to respond to job losses in the fossil fuel industries

To find out more about this research, please contact: j.macarthur@auckland.ac.nz

Adapted with assistance from Suzanne Woodward, PPI