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2024 National Membership Information

National Membership Report - 2024

Data for 2023

1. Summary

Engineers Canada's annual National Membership Report collects information from the provincial and territorial engineering regulators about their membership in order to paint a picture of the engineering profession in Canada. The 2024 report captures data from January 1, 2023, to December 31, 2023. Engineering members are categorized based on the definition of practice in each jurisdiction. Please find here all data tables associated with this report.

Overall, there was a slight increase in licensing and membership in 2023. These increases may be caused by the recovery from the COVID-19 pandemic, but further research is required to comprehensively understand the cause. Data presented in this report and future reports will allow us to better understand how global events impact the career trajectories of engineers in Canada.

Sex identifiers have historically been limited to "male" and "female" in the survey of national membership, and in the surveys by many of our provincial and territorial regulators of their membership. We use "female-identifying" to describe participants who selected female, and "male-identifying" to describe participants who selected male, to be as literal as possible, to limit the assumptions between sex and gender identifiers, and to acknowledge the gender diversity that exists within these sex identities.

Acknowledgements

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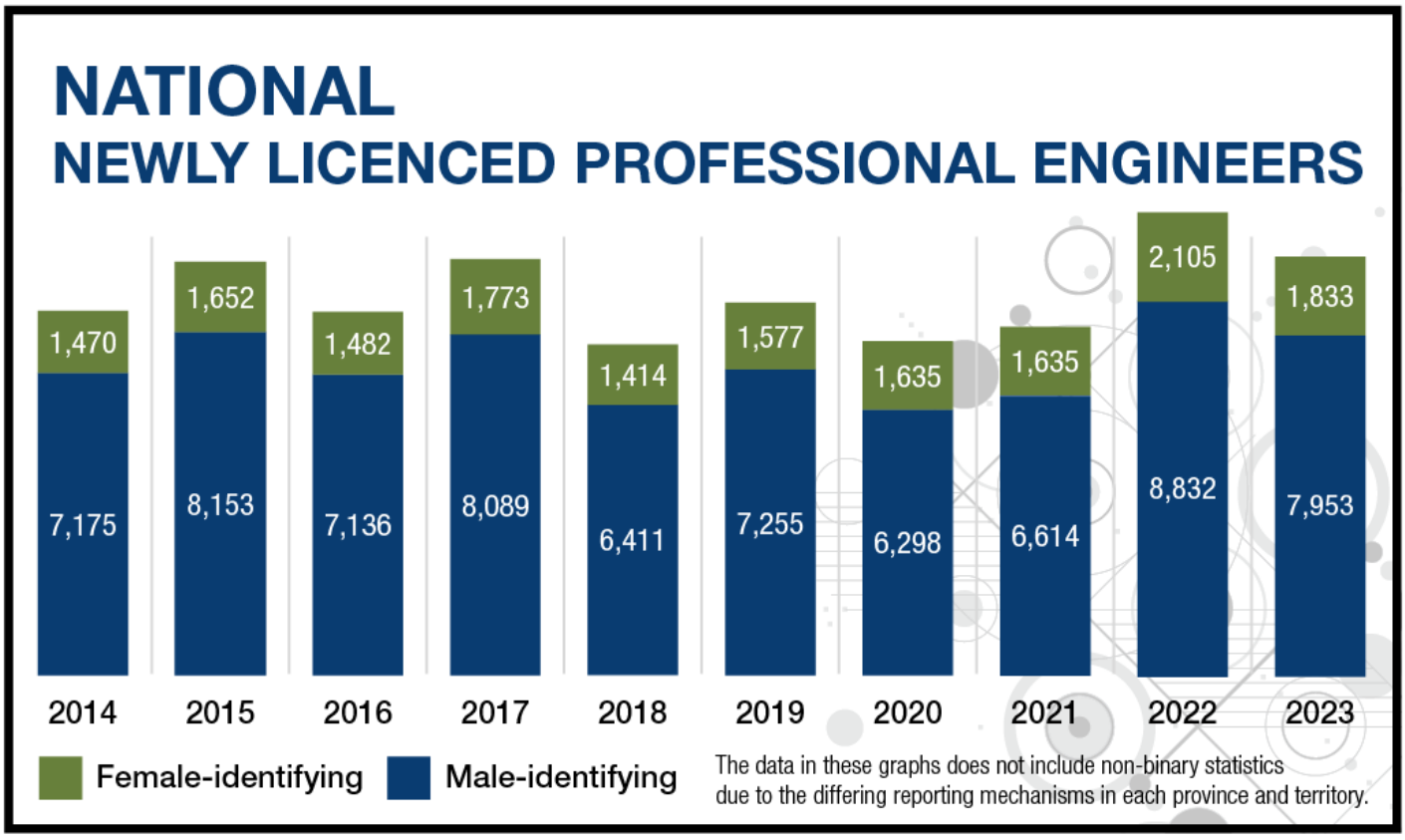
2. Growth in the engineering profession

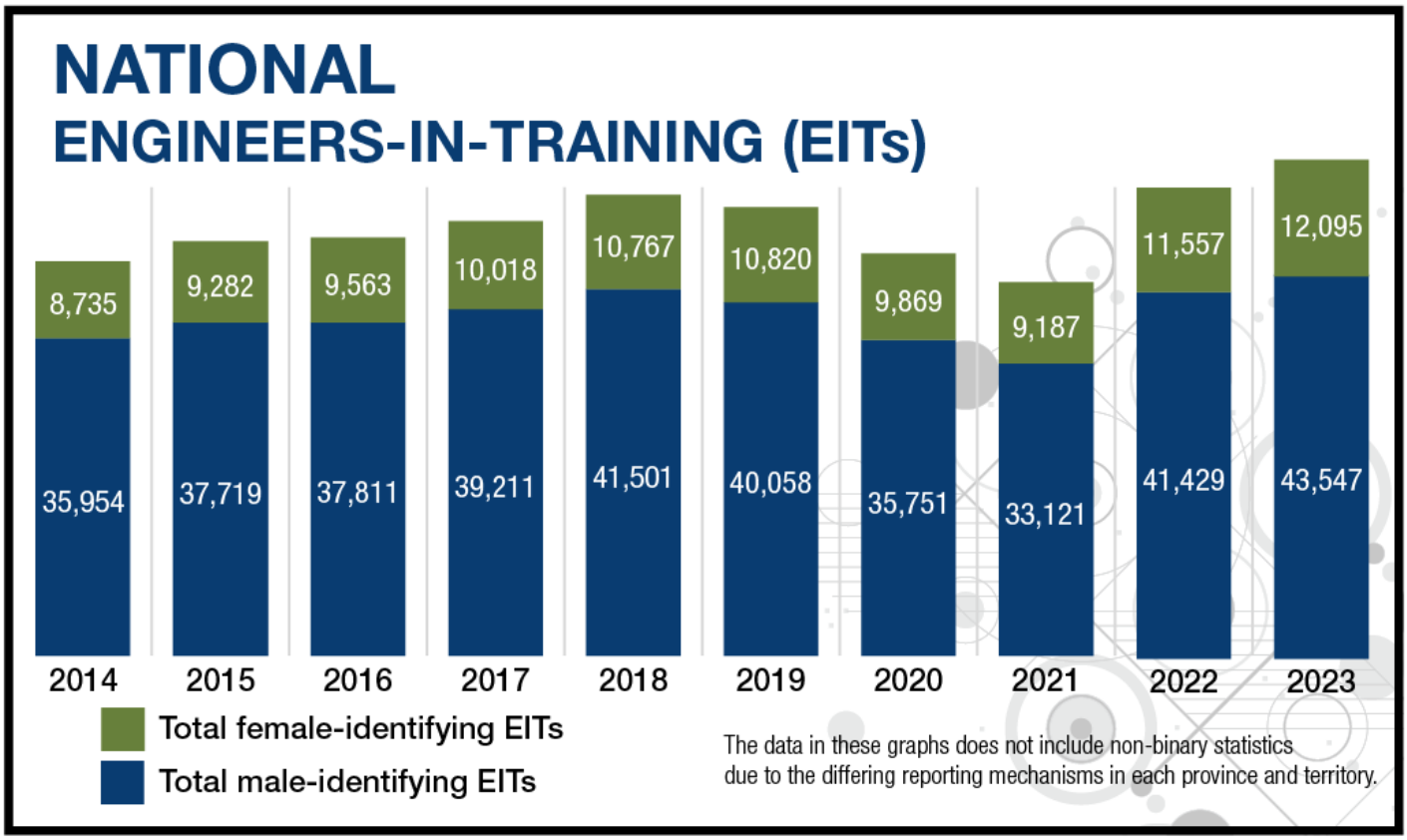
Membership in the provincial and territorial regulators increased slightly from 2022 to 2023. There were 323,360 members[1] as of December 31, 2023, across the 12 engineering regulators comprising the national total membership (see Table 1). This is an increase of 4,337 members[2]. In 2023, the largest growth in numbers was seen in Quebec (1,991 more members), and the greatest decline was seen in New Brunswick (149 fewer members).

3. Newly licensed engineers



To understand the future of the profession, we track the number of newly licensed engineers[3] each year. There were 9,790 newly licensed engineers in 2023, with the largest number (4,397 engineers) obtaining their licence through Professional Engineers Ontario (PEO) (see Table 2). For the nine-year trend in newly licensed engineers (2014 to 2023) see Table 3. Further analysis of the pathway to licensure is captured in the section, 'Sex representation in engineering.'

4. Engineers-in-training



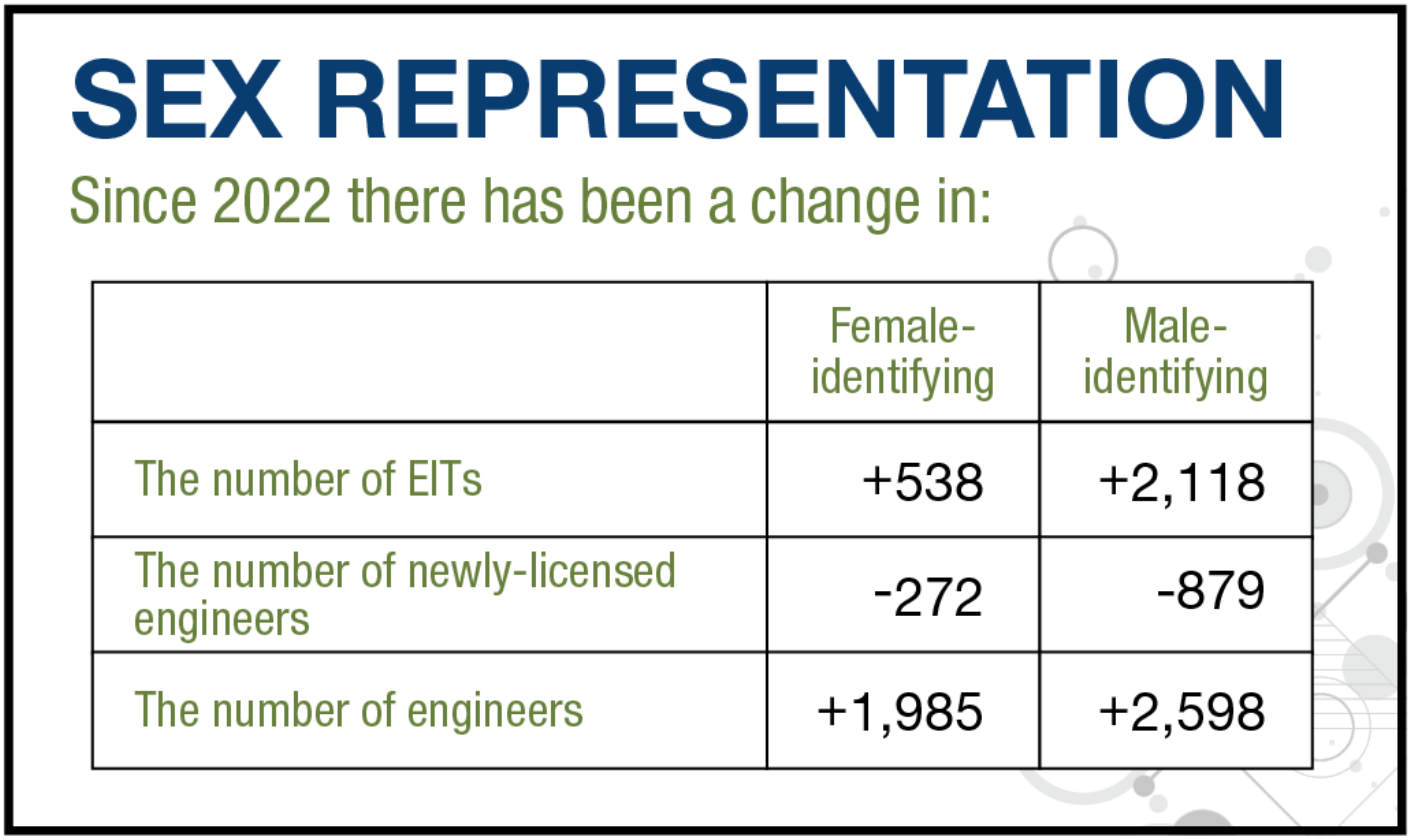
The number of engineers-in-training (EITs) increased between 2022 and 2023, by 2,663 members. While the number of EITs increased for all gender identities, the proportion of female-identifying EITs remains roughly the same at 21.7 per cent. See

Table 4 for the national EIT data from 2014 to 2023 (see Table 4).

5. Sex representation in engineering

There are 49,926 female-identifying engineering members, representing 15.4 per cent of total national membership in 2023 (an increase from 15 percent in 2020)[4]. This is an increase of 1,986 members who are female-identifying between 2022 and 2023. British Columbia (14.8 to 15.8 per cent) achieved the largest increase.

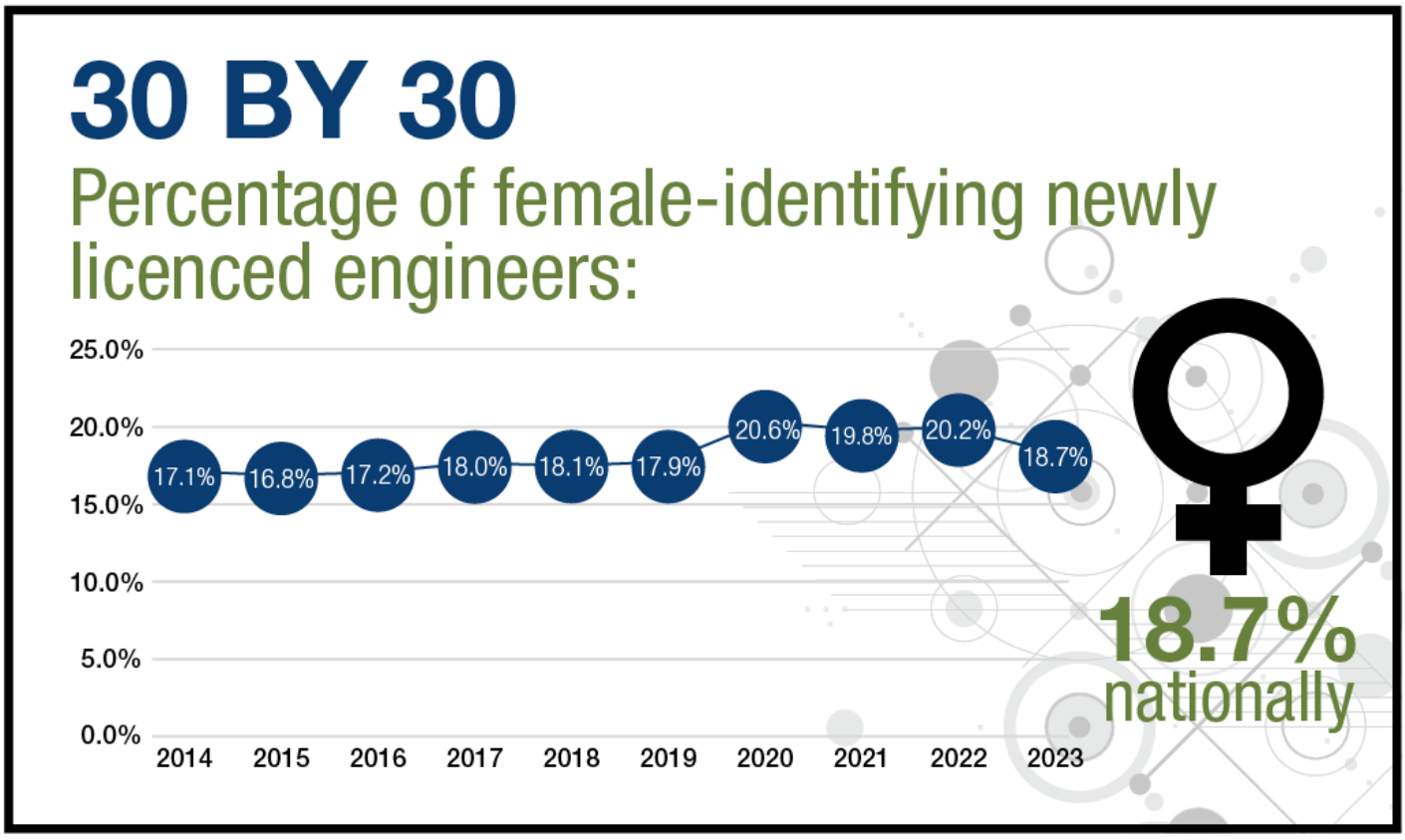
Engineers Canada and the regulators have been tracking the number of newly licensed female-identifying engineers since 2014, as part of the 30 by 30 initiative. In 2015, Engineers Canada launched the 30 by 30 initiative with support from the provincial and territorial regulators. 30 by 30 is a commitment to increasing the proportion of newly licensed engineers who are women to 30 per cent by 2030.



This is an important metric for tracking the impact of programs that support gender equity in engineering, since it marks a career milestone for women in their early careers, post-graduation from an accredited program, or for internationally trained engineers entering the Canadian job market.

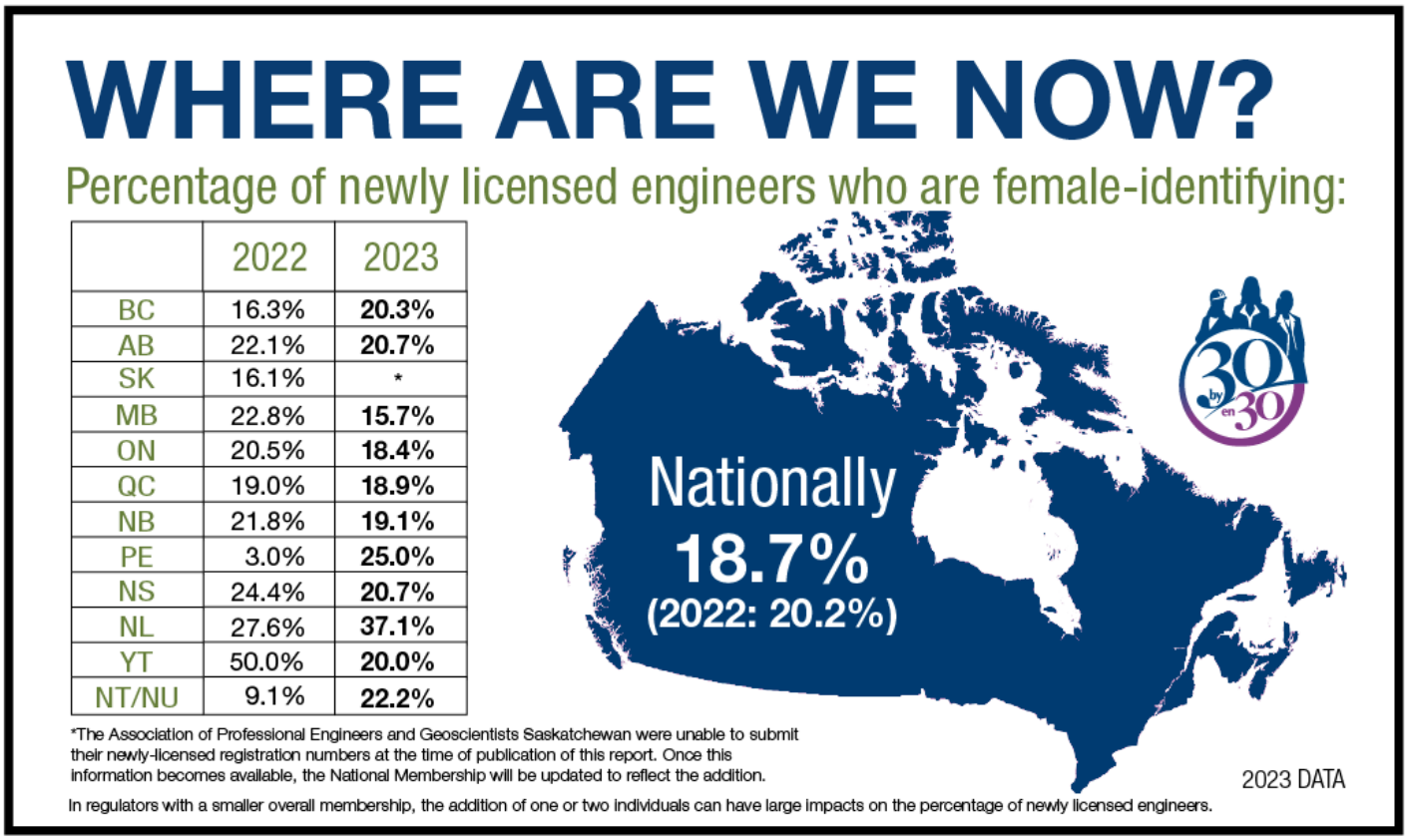
Female-identifying engineers accounted for 18.7 per cent of newly licensed engineers in Canada in 2023 (see Table 2). The total number of female-identifying individuals obtaining their license in 2023 slightly increased as the previous year at 1,833 members.

The largest increases, by region, of newly licensed female-identifying engineers between 2022 and 2023, occurred in Nova Scotia (66 to 132). Nationally, newly licensed engineers decreased overall from 10,979 in 2022 to 9,790 in 2023 (See Table 3).



Although the number of female-identifying EITs increased in 2023, the overall proportion remained the same at 21.6 per cent in 2023. See Table 4 for the full breakdown of male- and female-identifying EITs.

Engineering student membership also saw an increase in female-identifying members. The representation of engineering student members who identify as female increased from 24.3 per cent to 25 per cent between 2022 and 2023.



	2022	2023
BC	16.3%	**20.3%**
AB	22.1%	**20.7%**
SK	16.1%	*
MB	22.8%	**15.7%**
ON	20.5%	**18.4%**
QC	19.0%	**18.9%**
NB	21.8%	**19.1%**
PE	3.0%	**25.0%**
NS	24.4%	**20.7%**
NL	27.6%	**37.1%**
YT	50.0%	**20.0%**
NT/NU	9.1%	**22.2%**

*The Association of Professional Engineers and Geoscientists Saskatchewan were unable to submit their newly-licensed registration numbers at the time of publication of this report. Once this information becomes available, the National Membership will be updated to reflect the addition.

In regulators with a smaller overall membership, the addition of one or two individuals can have large impacts on the percentage of newly licensed engineers.

6. From engineering student to professional engineer

Gathering data on the number of engineering students helps us understand how the engineering profession might grow in the

future.

According to Engineers Canada's Enrolment and Degrees Awarded Report 2015-2022,[5] there were 17,151 graduates from accredited post-secondary engineering programs in 2022. Assuming it takes a minimum of four years for a graduate from an accredited engineering program to obtain their professional licence, we can estimate that those 2019 graduates (Cohort A) would be obtaining their engineering licence in 2023 and would be captured in the number of newly licensed engineers in this year's membership data. Using these figures, we can calculate an estimation of the national conversion from graduation to engineering licensure.

In 2023, CEAB graduates accounted for 6,461 or 66 per cent, of the total newly licensed engineers in Canada, which is a decrease from 72 per cent in 2022. Based on the number of newly licensed CEAB graduates in 2023, it is estimated that 37.1 per cent of Cohort A (17,406 graduates) proceeded along the path to licensure. CEAB graduates account for a large proportion of newly licensed engineers, but there are several routes to licensure, such as being internationally trained. Internationally trained P.Eng.'s made up 30 per cent of newly licensed engineers in 2023.

In 2022, CEAB graduates accounted for 6,589, or 72 per cent, of the total newly licensed engineers in Canada. In 2018 there were 16,497 CEAB graduates (Cohort B). Using the same analysis as above, we can estimate that 39.9 per cent of Cohort B obtained their licence in 2022.

Although this is an estimation, it is an attempt at measuring the successful continuation of engineering students along the pathway to licensure. The change could be indicative of the recovery of the career progression speed post pandemic.

The analysis of graduation to licensure is particularly important in understanding the trend for 30 by 30 and how it relates to the increasing trend of female undergraduate enrolment and graduation. CEAB graduates make up the largest pool of potential engineers, including the largest number of newly licensed engineers who are female-identifying. Breaking down the numbers of Cohort A we see that 3,486 engineering graduates were female-identifying in 2019. In 2023, 1,271 CEAB graduates who are female-identifying were newly licensed by the regulators (see Table 2). Using the four-year graduate-to-licensure estimation, it is found that 36.4 per cent of the female-identifying Cohort A CEAB graduates obtained their license in 2023. The graduate-to-licensure conversion for male-identifying Cohort A CEAB graduates was 37.2 per cent.

To find out more about the 30 by 30 initiative and the 30 by 30 Champions in your province, visit the 30 by 30 webpage.

Endnotes

[1] The category, Members, includes Practising P.Eng.'s (exclusive), Temporary License Holders, License to Practise Holders, Restricted License Holders, Non-Practising P.Eng.'s, Life Members and Engineers-in-Training. It does not include students.

[2] Engineers Canada, 2023. "2023 National Membership Information." Engineers Canada, Ottawa, Canada. Available: https://engineerscanada.ca/reports/national-membership-report/2023-national-membership-information

[3] The category, Newly Licensed, includes individuals licensed as Professional Engineers for the first time that are Canadian Engineering Accreditation Board trained, Internationally trained, or have obtained their license by some other route. It does not include interprovincial mobility applicants.

[4] Sex and gender definition: Sex identifiers have historically been limited to 'male' and 'female' in the survey of national membership. We use "female-identifying" to describe participants who selected female, and "male-identifying" to describe participants who selected male, be as literal as possible, to limit the assumptions between sex and gender identifiers, and to acknowledge the gender diversity that exists within these sex identities.

[5] Engineers Canada, 2022. "Canadian engineers for tomorrow," Engineers Canada, Ottawa, Canada. Available: https://engineerscanada.ca/reports/enrolment-and-degrees-awarded-report