International Energy Agency

IEA Gender and Energy data

What we know and don't know about facts and figures on women entrepreneurs in the clean energy sector

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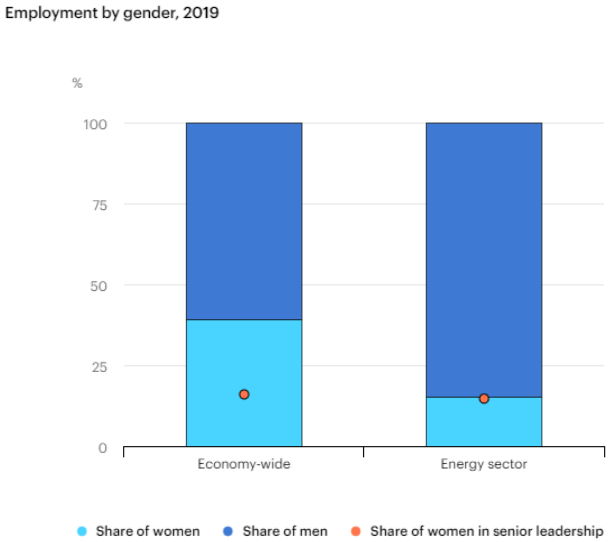
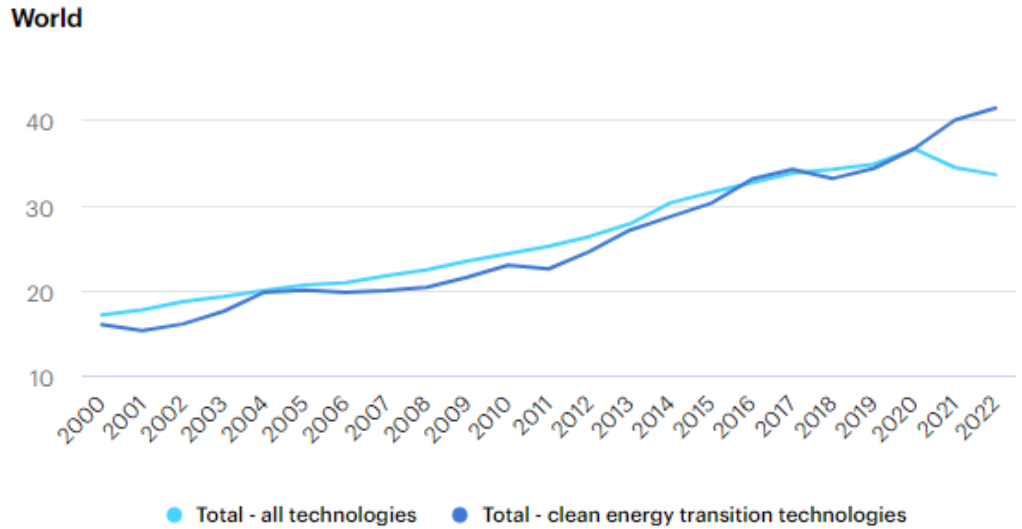
Gender Gap in the energy sector

- Women make up to 39 % of the global work force but the gender gap in energy is twice as big related to other sectors (IEA data)
- The gender gap exists within the STEM field (Linkedin data): women make just 29.2% of all STEM workers (Global Gender Gap Report, World bank 2023)
- IEA's commitment is to collect knowledge and data related to gender, to develop policy recommendations to assist governments in their ambitions to improve gender-diversity in the energy sector
- Detailed data on the Gender Gap within the Energy sector will support the development of well-informed policy strategies and programs, as well as evidence-based decision-making processes
- Gender and Energy Data Explorer covers the topics: Employment, Senior Management, Entrepreneurship and Innovation



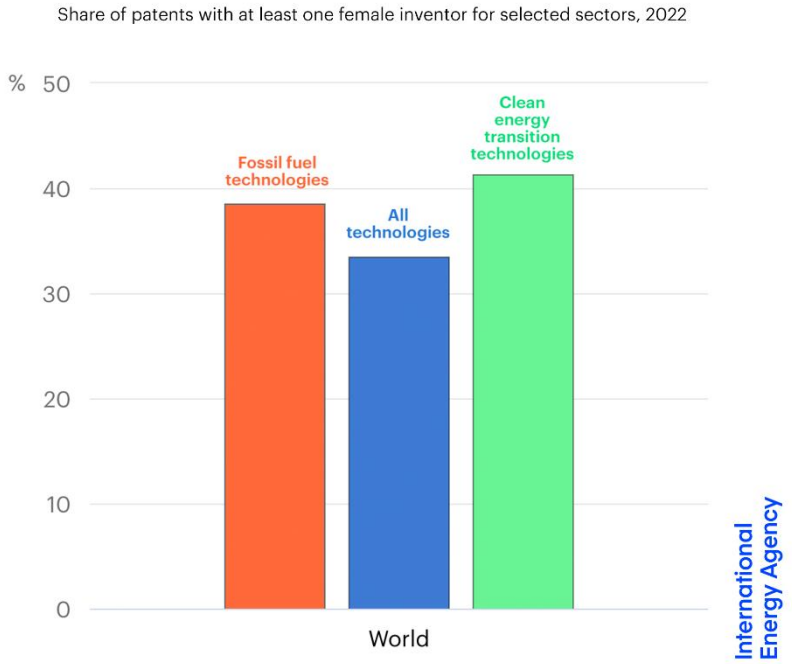
Gender gap in Innovation

- Innovation is a key driver to reduce costs and increase competitiveness of clean energy technologies and diversity fosters innovation (McKinsey & Company 2015, Belghiti-Mahut et al. 2016)
- The share of clean energy technologies patents featuring at least one female inventor has nearly doubled in 12 years, rising from 23% in 2010 to 41% in 2022
- The share of all technologies with at least one female inventor shows a drop in 2022



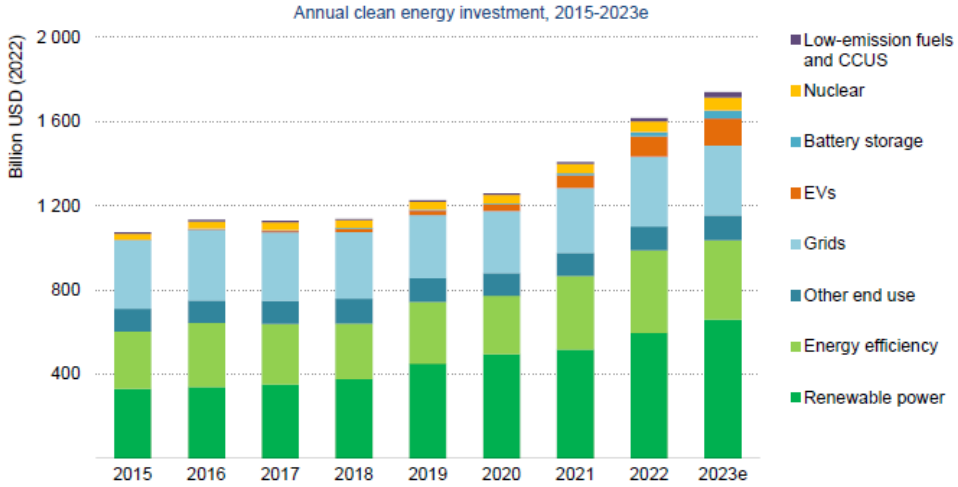
Gender gap in Innovation

- The share of patents with at least one female inventor for fossil fuel technologies stands at 39%, while for all technologies, the share is at 33% in 2022.
- In 2022, there were higher shares of women inventors who participated in clean energy technologies than for fossil fuels



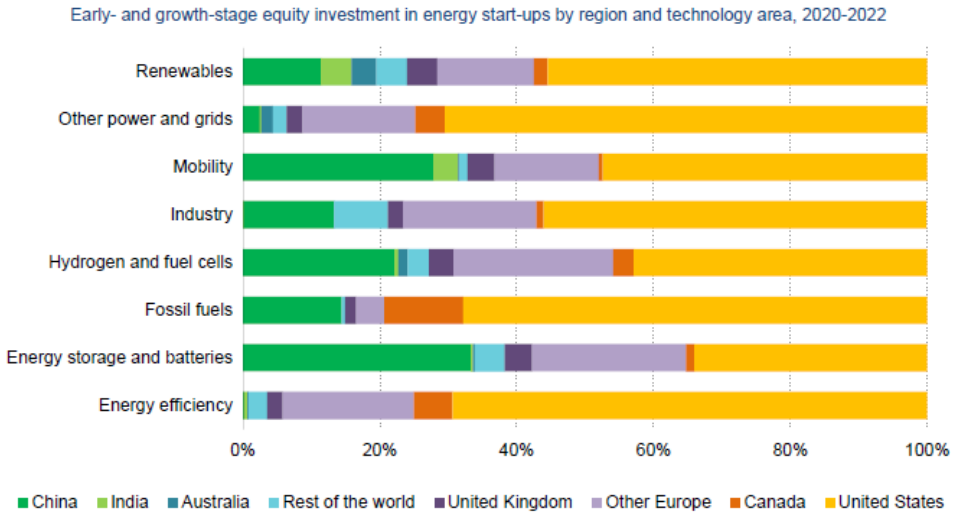
Investment in Clean Energy

- The recovery from the Covid-19 pandemic crisis and the response to the global energy crisis have provided a significant boost to clean energy investment
- Around USD 2.8 trillion was invested in energy in 2023, more than USD 1.7 trillion is going to clean energy, including renewable power, nuclear, grids (World Energy Investement, IEA, 2023)
- Renewables, led by solar, and EVs are leading the expected increase in clean energy investment in 2023



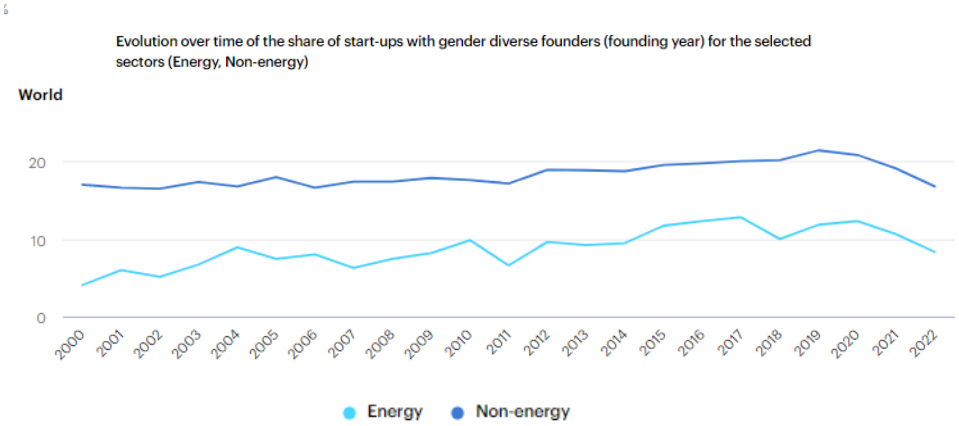
VC funding of energy technology companies

- Early-stage equity funding for energy start-ups is booming, led by clean mobility and renewables
- Most VC funding for energy technologies was directed to US-based start-ups, with Europe having a strong presence in hydrogen and China active in mobility and batteries (World Energy Investement, IEA, 2023)



Gender gap in Entrepreneurship

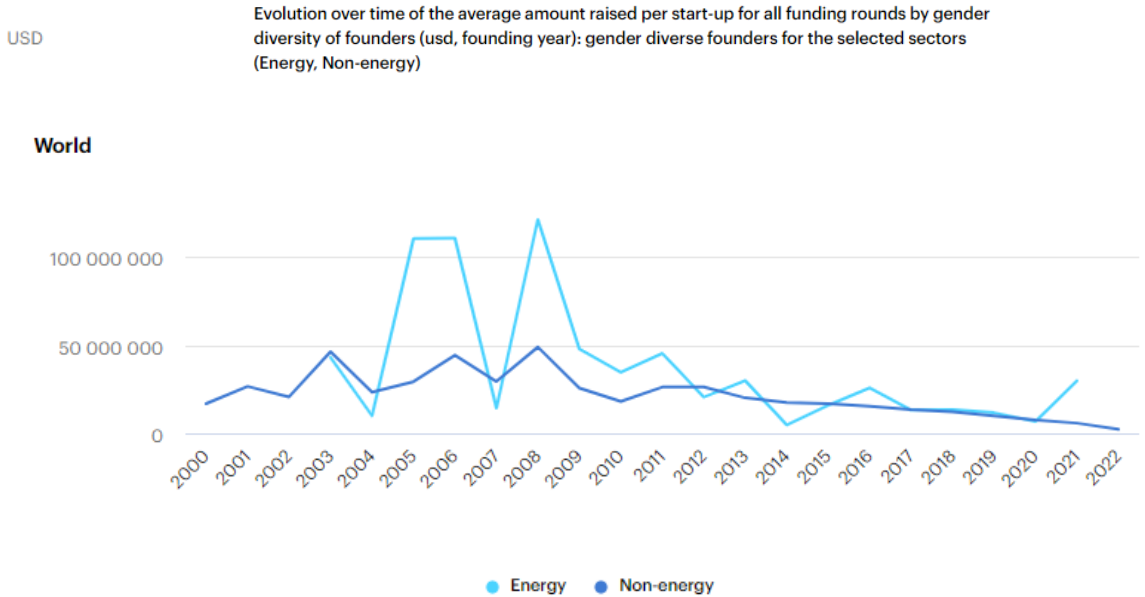
- Gender diversity in entrepreneurship can contribute significantly to economic growth, income equality, and social inclusion (Cardella et al. 2020, OECD 2021)
- Narrowing down the gender gap in entrepreneurship could increase global GDP by as much as 2%, or USD 1.5 trillion (BCG 2014)



The share of start-ups with gender diverse founders (with at least one female founder) is dropping for 2022 to 8 % while in 2017 was at 13 %

Gender gap in Entrepreneurship

- The average amount of money raised for energy start-ups with gender-diverse founders: stable trend over time and ranges from 10 M to 50 M from 2000 to 2021

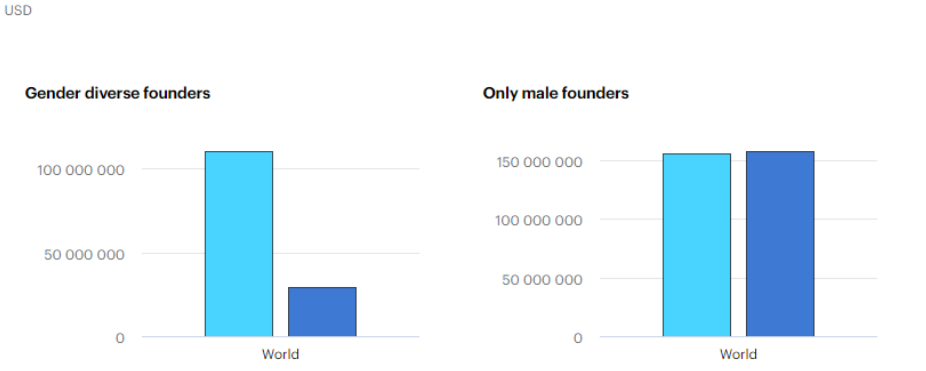


Gender gap in Entrepreneurship

- The average amount of money raised for energy start-ups with gender-diverse founders: Showed three positive peaks in 2005, 2006, 2008 where money raised for gender diverse founders for energy start ups reached 130 M

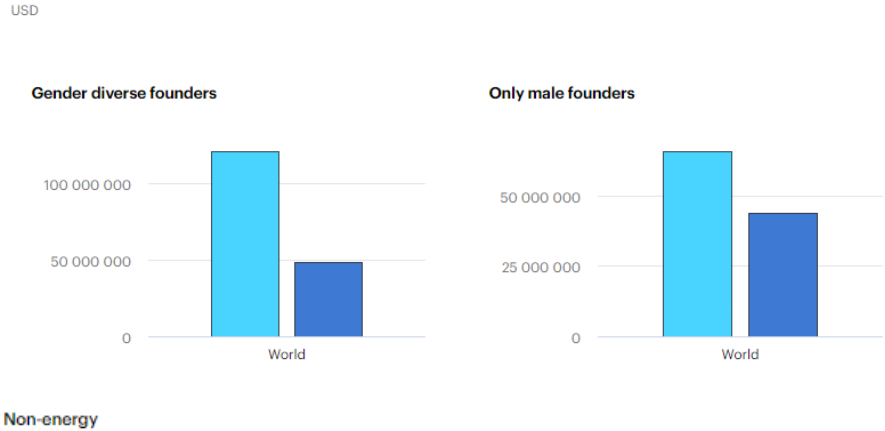
Average amount raised per start-up for all funding rounds by gender diversity of founders (USD, founding year) for the selected sectors (Energy, Non-energy) and categories, 2005

Year 2005



Average amount raised per start-up for all funding rounds by gender diversity of founders (USD, founding year) for the selected sectors (Energy, Non-energy) and categories, 2008

Year 2008



Conclusions

- There is long way to go to reach gender equality in energy employment, enthrepreneurship, innovation and senior management
- Patent data show a positive improvement over the years: women are more and more involved in patents related to clean-energy meaning that there is an active role of women in clean energy innovation
- The average amount of money raised for energy start-ups with gender-diverse founders: stable trend over time and ranges from 10 M to 50 M from 2000 to 2021 and is similar with the non-energy sector
- With more than USD 1.7 trillion going to clean energy in 2023 and more and more women involved in clean-energy innovation let’s hope there is a positive trend on the share of start-ups with gender diverse founders

Thank you