ENERGY TRANSITION: ADDRESSING THE GREEN SKILL GAP

The green energy transition is set to trigger structural changes in the labour market. As the world shifts away from fossil fuels, many jobs will become obsolete, leaving experienced workers from legacy industries behind. In parallel, the lack of trained professionals needed for the green transition poses a risk that the surging demand for clean technologies will not be met. This **"green skill gap"** is expected to widen in the future and could severely impede global efforts towards a carbon-neutral economy.

Thesis: In order to keep up with the pace of the energy transition, millions of workers will need to be trained and deployed globally. At AENU, we are particularly excited about startups that support these global efforts by focusing on (1) training (ie., tech-enabled upskilling and reskilling programmes) and (2) deploying talent efficiently (ie., AI-backed talent-to-job matching platform, smart geographical dispatchment, and back-office tools).

The Impact Problem

- Globally, 2.5 million jobs are expected to be lost by 2030 as a result of fossil fuel plants closing down. Entire regions are exposed to an acute risk of mass unemployment.
- In parallel, there is a significant labour shortage in green jobs, particularly for solar and wind applications. As demand continue to surge for these technologies, the green skill gap could reach up to 7 million people by 2030 on a global scale.
- These dynamics could severely slow down the pace of the energy transition, and exacerbate social inequalities and tensions on the labour market.
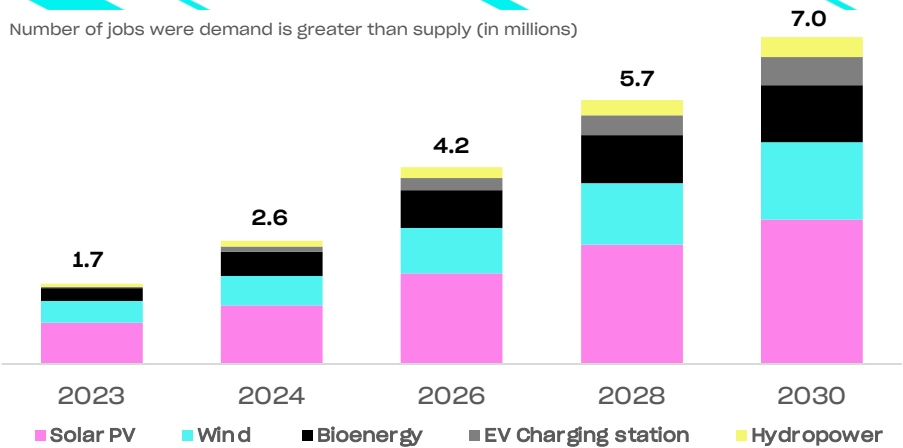
Business Opportunity

- The potential to disrupt the talent market is big. Looking at solar in particular, more than 3 million solar workers will be needed globally by 2030 to reach the most ambitious scenario for renewable energy. This translates into significant opportunities for the upskilling market for solar, expected to grow at 12% rate until 2030.

- In the EU, more than +130 million additional heat pumps, rooftop PV installations and house insulations will be installed by 2030.

Green skills gap

Number of jobs were demand is greater than supply (in millions)

Solar is the biggest contributor of the **7-million-person** skills gap expected for 2030, followed by wind and bioenergy.

Year	2023	2024	2026	2028	2030
Total	1.7	2.6	4.2	5.7	7.0

Legend: ■ Solar PV ■ Wind ■ Bioenergy ■ EV Charging station ■ Hydropower

Source: BCG Climate Migration Model. Note: Capacity for each category taken as APS (Announced Pledges Scenario)

Challenges & Limitations

- 10% of jobs in clean energy industries can be filled by easily transferable roles from the fossil fuel industry while 90% of them require **specific training**.
- Traditional training programmes are long, inflexible and unattractive
- Talent marketplace usually suffers from low integration rate

Technology plays

- 🌐 Platform for international hiring
- 🎓 Digital learning academy
- 👷 Installers with in-house training programs
- 🥽 VR- and AR-enabled training solutions
- 🧠 AI-enabled labor marketplace
- ⚒️ Operating system / Back-office tools

Solutions

- **Source & match** new talents with employers and improve the application and recruiting processes.
- **Up-skill** – or enhance the skills of energy workers by creating state-certified training programs and using innovative tools.
- **Re-skill** – or train unskilled workers (i.e., young talents, migrant workers, etc.) through specific training bootcamps and apprenticeships.
- **Deploy** talent via franchise model (or "Hire-Train-Deploy" model).

Tailwinds and Trends

Grants and funds are being created to pick up the pace and enforce upskilling agendas at the global, EU and country level:

- The **World Bank** Just Transition for All support countries where coal mines and power plants are closing wherever they are in transition process.
- At the **EU level**, grants and funds are accessible through national authorities such as the React-EU fund (€47.5 billion), the Just Transition Fund (€19.32 billion)
- In the **US**, since September 2023, the Energy Auditor Training program (EAT) disposes of $40 million to train the clean energy workforce.

Startups to Watch