

Towards a just transition for workers in the built environment in Europe

Building materials and on-site
construction sectors

INSIGHTS ON HOW WE CAN PREPARE



We don't have the workforce to deliver on our climate ambitions

A wave of decarbonisation is coming to Europe's construction industry.

The Energy Performance of Buildings Directive mandates whole-life carbon reporting and zero-emission building standards, meaning that change will be felt across the entire industry: from on-site delivery through to the supply chains, with national plans due in 2026.

This represents a massive opportunity, particularly as Europe aims to renovate 35 million buildings by 2030.

Ecorys has undertaken unprecedented research into the readiness of Europe's on-site construction sector and material supply chains, covering Czechia, Denmark, France, Germany, Ireland, Italy, Poland, Spain, the Netherlands, and the UK.



A background image showing several construction workers in high-visibility vests and hard hats working on a construction site. They are positioned around a large, circular concrete structure, possibly a foundation or a large pipe. The workers are wearing orange and yellow safety gear. The scene is slightly blurred, emphasizing the overall activity of the construction site.

Challenges facing the construction sector

- 1 Risk to decarbonisation ambitions.** We simply do not have the workforce required to fulfil the massive pipeline of decarbonisation projects. **4.1 million workers are needed by 2035 just to replace a retiring workforce**, Europe risks completely missing its climate targets if it cannot attract and reskill new talent.
- 2 Risk of political and social backlash.** The impacts of the transition are highly uneven across the supply chain. While sustainable sectors may grow, traditional carbon-intensive industries like steel and cement face **projected job losses of up to 20%** due to decarbonisation policies and automation. Failing to proactively manage these shifts risks triggering severe **social and political backlash against climate initiatives**.
- 3 Risk of worsening job quality.** **Without deliberate and targeted intervention, the green transition could actually worsen overall job quality**, trapping workers in fragmented subcontracting chains and exposing them to new occupational safety and health hazards, such as asbestos exposure during deep building retrofits. The construction sector is also characterised by a lack of diversity, with women remaining underrepresented across the sector.

Right now, we don't have the workforce to deliver on our climate ambitions

Just transition

The construction sector and supply chains employs **19.4 million** people in the EU.

Europe has a target to renovate **35 million buildings** by 2030

More than **9 million workers** will have been retraining with green and digital skills

Now

2030

2035

We are not attracting the next generation with enough good jobs.

4.1 million workers will be required to replace those leaving the workforce.

Missing targets

This is an opportunity for Europe's construction industry

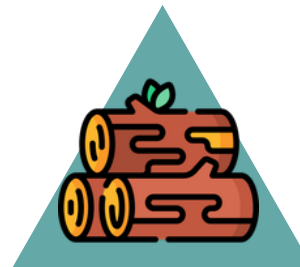
Our ability to grasp this opportunity at scale will be determined by our actions. To do so, we need to **understand**:



Comparative
geographic
advantages



Who the next
generation of
workers will be



Materials on-site
and throughout
the supply chain



Training options
and future-
proofing



Health risks to
workers on-site
and through the
supply chain

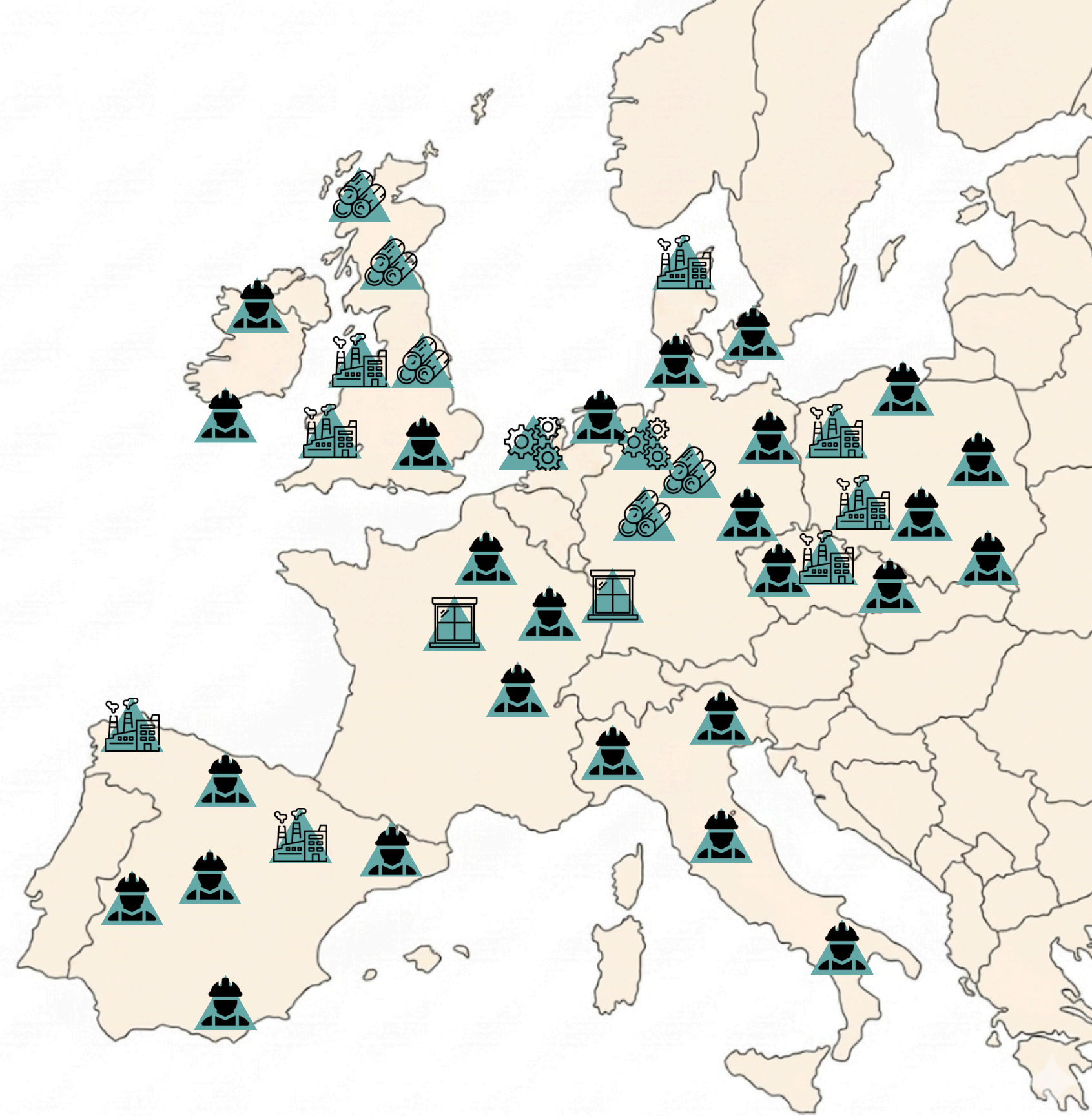
Where are the next generation?

Optimistic forecasts suggest the renovation wave and green transition will increase employment in construction by 3-4% by 2030, provided the right energy efficiency investments are made.

This equates to 312,000 additional jobs, mainly in renovation-related roles.

Jobs will be concentrated in cities, meaning rural regions and towns will miss out without targeted investment into renovation. For instance, Italy's growth is focused in the north, while in the Netherlands it is concentrated around the Randstad.

Industrial regions with strong hubs, renewable energy projects, carbon capture and storage, and industrial symbiosis, such as those in Czechia, France, Germany, Poland, Spain, are better positioned for the low-carbon transition than standalone factories.



Expected job creation



Cement modernisation of production site and reskilling of workers



Steel modernisation of production site and reskilling of workers



Timber decarbonisation of production site and reskilling of workers



Glass decarbonisation of production site and reskilling of workers

On-site opportunities: the training renaissance

As renovations rise, workers will need basic climate literacy training. This is an opportunity to get ahead and future-proof the workforce.



3-4.5m workers need energy efficiency training



9m need basic climate and circular economy skills



Bricklayers, carpenters, electricians, plasterers, plumbers supervisors will need green and digital skills.



Occupational health and safety training is needed as new risks emerge like asbestos removal

Off-site opportunities: new materials, new opportunities

Job creation varies amongst building materials, and workforce shifts have to be treated with care.

▶ In the Netherlands, women hold only 10% of construction jobs, and just 0.25% of onsite workers are female.

Green jobs in building material production can offer more opportunities for women.

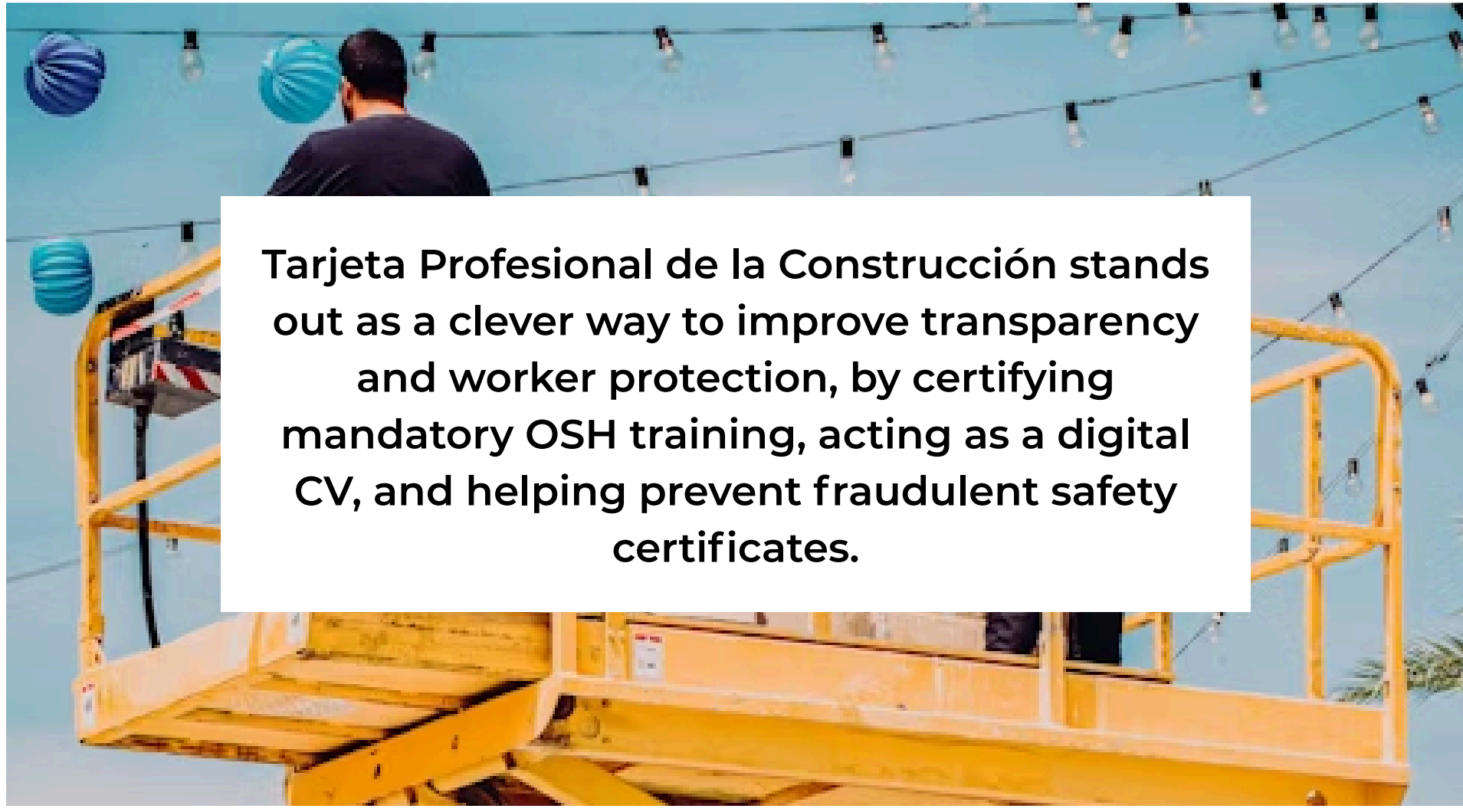
Workers from the cement and steel industry could switch to work in off-site construction, with little reskilling needed.

The timber industry is set to grow significantly.


▶ In the German timber sector, women occupy 35% of roles, while in the UK it's 44%.

People are already working these jobs

On-site construction lacks diversity, particularly regarding the representation of women. By contrast, material production is offering more opportunities for women in off-site factories, where conditions are more controlled.



Tarjeta Profesional de la Construcción stands out as a clever way to improve transparency and worker protection, by certifying mandatory OSH training, acting as a digital CV, and helping prevent fraudulent safety certificates.



Projects like TándEM demonstrate how retrofitting roles can be harnessed to integrate migrant workers and unemployed youth into the formal economy, positioning construction as a tool for social cohesion rather than just a driver of GDP.

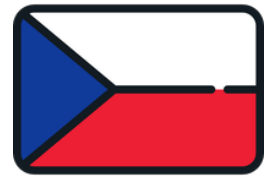
Collective bargaining is producing wins

Collective bargaining takes place at different levels. But long subcontracting chains and high self-employment create significant fragmentation, ambiguity, and barriers to protection.

National sectoral agreements cover entire industries, e.g., DE, DK, ES

Hybrid sectoral agreements set company-level discussions, e.g., France

Decentralised company-level negotiations, e.g., UK and CEE



Sector agreements mandate induction, on-the-job training, apprenticeships, and continuous qualification upgrades.



Sector and company-level agreements feature dedicated training and transition clauses for automation and green shifts.



Plant-level bargaining (e.g., glass sector) secures enhanced OSH guarantees alongside retraining funds for tech upgrades.



National bargaining focuses on adaptation; IG Metall advocates for steel/ timber transitions, supported by a flexi-dual apprenticeships.



Industry partnerships target skills gaps (CCS and alternative fuels), utilising decentralised company agreements to meet decarbonisation milestones.

Who is leading in policy innovation?



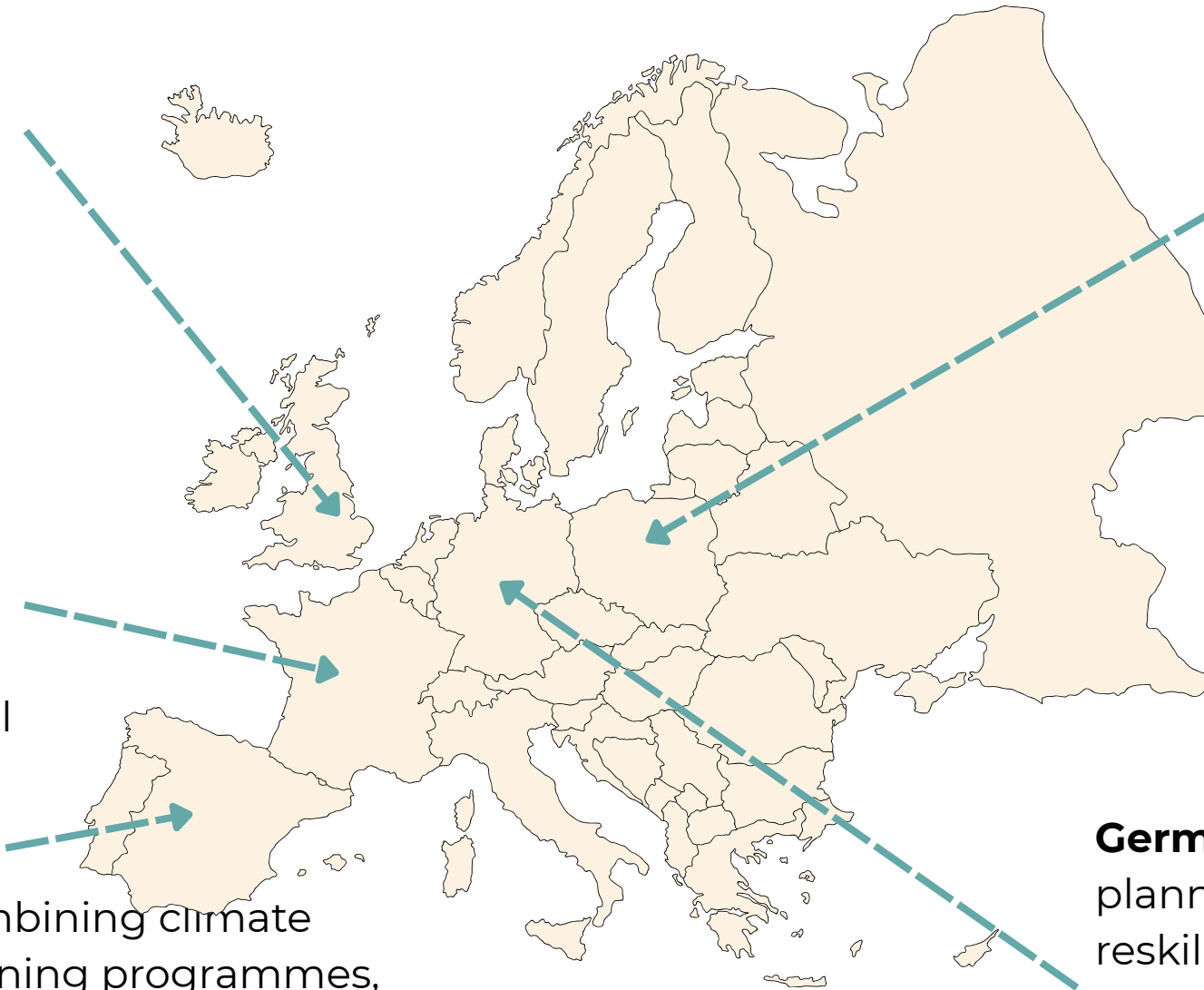
The UK has advanced sector-wide training and retrofit skills initiatives, although policy remains fragmented. Retrofit initiatives include the Warm Homes Plan.



France has focused on linking public procurement, labour standards and low-carbon construction, while also strengthening oversight of subcontracting and posted workers. Retrofit initiatives include the National Low-Carbon Strategy (SNBC-2).



Spain is the clearest policy leader, combining climate targets with worker protections, retraining programmes, subcontracting limits and social dialogue mechanisms. Retrofit initiatives include the TándEM Project



Poland and Italy are making progress through EU-funded transition and renovation programmes, but national worker-focused frameworks are less developed and more uneven across regions. Retrofit initiatives include the TERMO Programme (BGK).

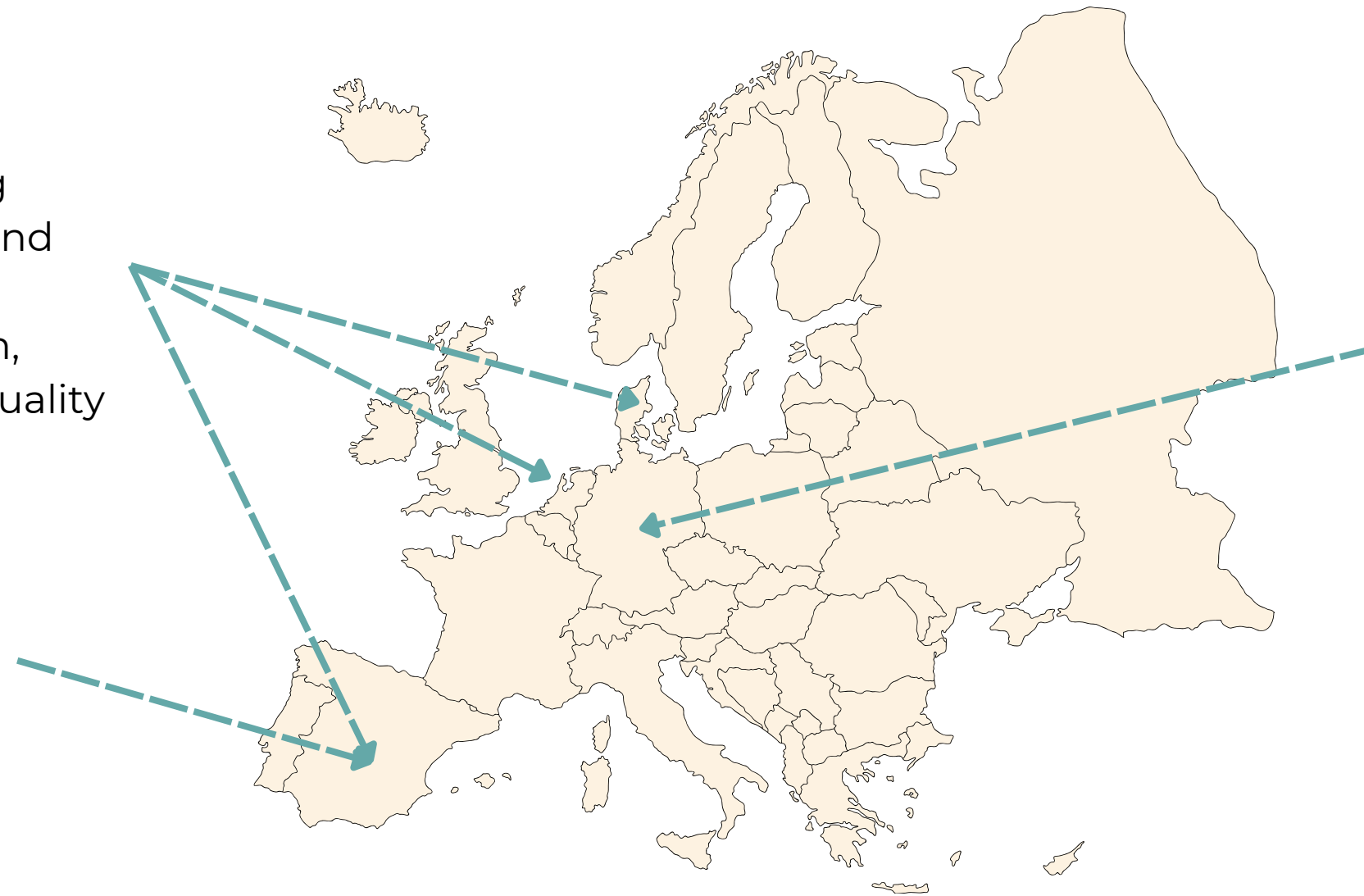


Germany has developed strong industrial transition planning, particularly around green steel, workforce reskilling and collaboration between employers and unions. Retrofit initiatives include the Timber Construction Initiative (Holzbauinitiative) and the Work 4.0 Dialogue (Arbeit 4.0).

Green and labour movements are delivering together

In **Spain, Denmark and the Netherlands**, broad coalitions between trade unions, housing groups, environmental NGOs and industry are linking building renovation with social inclusion, lower energy bills and better-quality jobs.

Spain's Alianza por la Rehabilitación combines climate goals with housing affordability and workforce development.



In **Germany**, cooperation between unions and environmental advocates has delivered concrete workplace protections: BfI and IG BAU recently secured new heat stress and climate-related safeguards for construction workers through a landmark collective agreement on weather and climate-related working conditions.



NEARLY 4.1 MILLION NEW WORKERS NEEDED BY 2035.

35-45% OF THE RENOVATION WORKFORCE WILL NEED UPSKILLING. OVER 9 MILLION WORKERS NEED TRAINING IN GREEN SKILLS.

A GENERATIONAL OPPORTUNITY FOR EUROPE ON-AND-OFF-SITE. WE CAN MAKE THIS A SUCCESS BY:

- **Informing legislative frameworks** like the Quality Jobs Act and the Construction Services Act.
- Integrating **labour standards, subcontracting ceilings, and mandatory worker protection mechanisms** directly into National Building Renovation Plans (NBRPs).

JOIN US

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**A GENERATIONAL OPPORTUNITY FOR EUROPE ON-AND-OFF-SITE. WE CAN MAKE THIS A
SUCCESS BY:**

- **Amplifying these research findings and join the coordinated efforts** for a pan-European training and working renaissance.
- **Building powerful alliances across sectors** linking environmental goals with improved working conditions, social inclusion, and fair wages.

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A GENERATIONAL OPPORTUNITY FOR EUROPE ON-AND-OFF-SITE. WE CAN MAKE THIS A SUCCESS BY:

- **Shifting the corporate mindset** from treating worker training as a short-term cost to treating it as a **critical capital investment**.
- **Learn from locational innovations in retraining, diversification and upskilling** – including on how to unlock government support to finance it, and how to ask for policy consistency and clarity to ensure workforce transition is planned effectively.
- **Improve on-site working conditions to attract workers, including youth and women. Join forces with sector unions to lobby governments for expanded training resources.**

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A GENERATIONAL OPPORTUNITY FOR EUROPE ON-AND-OFF-SITE. WE CAN MAKE THIS A SUCCESS BY:

- **Catalysing and funding innovation in green vocational training and quality of work pathways.**
- **Providing strategic funding** to incubate, scale, and resource **structural alliances between climate NGOs and trade unions.**

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Financiers and investors

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**A GENERATIONAL OPPORTUNITY FOR EUROPE ON-AND-OFF-SITE. WE CAN MAKE THIS A
SUCCESS BY:**

- **Investing in suppliers with Just Transition plans**, addressing training needs and improving working conditions.

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clara.dassonville@ecorys.com