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

Building materials and on-site construction sectors

Annex I: Country fiche - Italy

ECORYS

Answering tomorrow's challenges today

Country Fiche
Italy

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

Building materials and on-site construction sectors

1. At a glance[1]

Strengths and Opportunities

• Opportunities in construction sector:
  ○ The Italian construction sector is projected to require 245,000-280,000 additional workers by 2028, with a particularly high demand for engineers, technicians, and specialised construction workers involved in building, maintenance, and finishing works. Around 1,1 million workers will need upskilling or reskilling, especially in green and digital competences. Emerging roles include solar and heating installers, energy certifiers, green building assessors, BIM designers, and facility managers.
  ○ National training networks like Formedil and ANCE, and initiatives such as ARISE and RESSKILL, are promoting the professionalisation and recognition of these new profiles, as well as training schemes to support lifelong learning. Collective agreements negotiated by FILLEA CGIL, FILCA CISL, and FENEAL UIL ensure broad coverage and protection.
  ○ The shift toward industrialised and digitalised construction processes (e.g. prefabrication BIM integration) is expected to improve working conditions, safety, and ergonomics, especially benefiting women and older workers.
• Opportunities in the building materials sector:
  ○ The Italian steel sector, traditionally centred on large integrated plants such as Acciaierie d'Italia (ex-Ilva) in Taranto and major northern producers, is gradually shifting toward low-emission production models. National industrial decarbonisation plans, supported by EU funding instruments (JTF, IPCEI Hydrogen, Innovation Fund), are set to drive demand for new competencies in hydrogen-based direct reduced iron, electric arc furnace operations, and digital process optimisation. If effectively implemented, this transition could promote regional economic diversification (particularly in Southern Italy) and foster the creation of high-quality industrial jobs in emerging green steel, energy, and recycling value chains.

Weaknesses and Threats
• Challenges in construction sector: ○ Construction remains highly fragmented, dominated by small and micro-enterprises (99.3%) with limited access to structured training.

[1] The core construction sector is assessed in detail in all ten countries, while the depth of analysis varies in the building material industries, with the one or two biggest industries (measured by volume of material output produced in tons) analysed per country. For Italy, the Netherlands, Czechia, Denmark and Ireland, the analysis focuses on either steel or cement, depending on which material has the highest output. Germany, France, the United Kingdom, Poland, and Spain are subject to a deeper analysis, including steel or cement and an additional industry (either timber or glass) selected based on its importance in material output.

- Despite extensive collective bargaining frameworks, informal employment and subcontracting are still widespread, leaving many migrant and temporary workers unprotected.
- The ageing workforce further constrains large-scale reskilling efforts, while regional disparities risk widening gaps in access to emerging green jobs.

- Challenges in the building materials sector:
  - In the steel sector, high geographic and industrial concentration creates acute social risks. In the case of Taranto, up to 7,000 jobs could be at risk, affecting a region already economically dependent on heavy industry. The workforce is predominantly male and ageing.
  - Delays in national decarbonisation planning and uncertainty around ownership structures weaken workers' job security and social dialogue, threatening the possibility of a just and inclusive transition.

Key organisations

- Trade unions (FILLEA-CGIL, FILCA-CISL, and FENEAL-UIL for constructions; FIOM-CGIL, FIM-CISL, UILM-UIL for steel/metalworkers) play a central role in collective bargaining, health and safety oversight, and skills. Through sectoral agreements and social dialogue, they advocate for integrating green skills into vocational training, ensuring fair working conditions during the decarbonisation process, and supporting job security for workers affected by industrial transformation (e.g., in Taranto's steel sector).
- Formedil is the national training body for construction jointly managed by employers and unions. It coordinates a network of regional training centres offering upskilling in digitalisation, energy efficiency, and new green construction methods.
- ANCE (Associazione Nazionale Costruttori Edili) represents building contractors and construction companies, participating in policy dialogues on green transition and innovation.

Key initiatives and partnerships

- A range of partnerships and initiatives are emerging between academia, training institutions, and industry actors in Italy to support a worker-centred just transition in the construction sector. Notable examples include:
  - The RES2 and RESSKILL projects strengthen digital and green skills recognition and promote upskilling in renewable energy and energy-efficient building solutions.
  - The KnowHowHP and SKEMA projects focus on preparing installers and technical professionals for next-generation systems such as heat pumps, building automation, and smart energy management, addressing key skills gaps in green construction.
  - The ARISE project further supports this transition by advancing digital competencies through Building Information Modelling (BIM) training across Europe.
  - The Construction Professional Identity Card (CIPE) improves transparency and traceability by certifying workers' qualifications and employment history, reinforcing fair labour practices and quality assurance throughout the Italian construction value chain.

Hotspots of a Transition in the Construction Sector

Italy

Legend

On-site construction:

Expected job creation

Building materials:

Steel

Closure and/or repurposing with redundancy plans

Not covered in the analysis: cement, glass and timber (see footnote 1).

2. The broad construction sector

The construction sector today

Economic indicators (2023)	Employment (2023)	Workforce characteristics

Construction (NACE F):
• Number of enterprises: 521,371
• Average employment size: 3.1
• Value added (million € per year): 83,722 (4.2% of GDP)
• Net turnover (million € per year): 317,405
 	
Architectural and engineering activities; technical testing and analysis (NACE M71):
• Number of enterprises: 246,422
• Value added (million € per year): 18,802 (0.9% of GDP)
• Net turnover (million € per year): 32,081
	• Total employment in the construction sector: 1,623,703
	• The Italian construction and infrastructure sector is highly fragmented and characterized by a predominant presence of micro and small enterprises, which constitute 99.3% of the industry. Approximately 97% of these firms operate within the building construction and civil engineering subsectors.
	• A limited number of large general contractors dominate major national infrastructure and industrial projects.
		• Age:
		  ○ Relatively ageing, with nearly four in ten workers aged 50 or older.
		  ○ Younger workers aged 15–34 represent only 20% of the total (~321 thousand).
		• Gender:
		  ○ 92% of workers are men (~1.48 million).
		  ○ Women account for only 8% (~130 thousand).
		• Education levels:
		  ○ Generally lower levels of formal education, with nearly half of the total workforce having less than primary or only lower secondary education (EQF levels 0-2).
		  ○ Only a small share holds a university degree or higher (EQF levels 5-8).
		  ○ Around 10% have unreported or unknown qualifications, possibly linked to informal employment or unrecognised credentials.
		• Nationality:
		  ○ Foreign workers make up roughly 17% of the total (~272 thousand), and are almost exclusively male, highlighting the sector's reliance on migrant labour.

The legislative framework for decarbonisation and its impacts on workers

Decarbonisation policies and emission timelines and targets

- Integrated National and Climate Plan (2024) (NECP): it contributes to the EU-wide target of reducing greenhouse gas emissions by at least 40% compared to 1990 levels by 2030, and sets out specific national targets.
- National Recovery and Resilience Plan (2021): it allocates EUR 15.36 billion to the energy renovation of buildings and the modernisation of public infrastructure. It also introduces reforms to streamline administrative procedures for renovations and strengthens tax incentives for private-sector energy efficiency investments. Additionally, it contains measures and inclusion criteria for public tenders, which require and reward the presence of balanced gender quotas and the participation of young and diverse teams in renovation and redevelopment projects.

Tax deduction schemes in place to stimulate energy-efficient renovations in the building sector:

- Superbonus 110% (or SuperEcobonus): Introduced in April 2020, it granted households a tax credit equal to 110% of expenditures on energy-efficiency and seismic renovation. The scheme had extraordinary results, with EUR 7.5 billion in works and over 46,000 construction sites launched by September 2021, revitalising the sector after the COVID-19 lockdowns. The Superbonus extended until end-2023, with deductions reduced to 70% for works carried out in 2024 and to 65% in 2025. However, this scheme drove construction prices up, with medium term effects still to be explored.
- Ecobonus: Established in 2007 and subsequently renewed, the Ecobonus originally offered up to 65% deductions for energy-efficiency interventions on residential buildings. The 2025 Budget Law has significantly revised the scheme, introducing a gradual reduction in deduction rates: 50% for main residences in 2025, 36% in 2026–2027, and 30% for other property types. Importantly, interventions involving the replacement of heating systems with fossil-fuel boilers are excluded from eligibility from 2025 onward.

2030 targets:

- Achieving 131 GW of renewable capacity at national level (39,4% of the total national energy demand). (NECP)
- Covering 28% of total energy consumption and 55% of electricity consumption with renewable sources. (NECP)
- Delivering 73.4 Mtoe of cumulative energy savings in the building sector through energy efficiency measures (residential and tertiary buildings) over 2021-2030, including a 43% reduction in primary energy demand. (NECP)
- 2% annual renovation rate for the residential and tertiary sector. (NECP)

  2050 targets: 2.6% annual renovation rate for the residential and tertiary sector. (NECP)

Impacts on the construction industry

• **(Expected) impacts on the construction sector and investments:**
  ○ Increased investments toward renovation and green building: 2021 data from the national SIAPE platform indicate that around 53% of Italy's 12.4 million residential buildings (about 6.6 million properties) require energy-efficiency upgrades by 2030, implying an average renovation rate of 1.3 million buildings per year from 2025 onward. Industry estimates suggest that a team specialized in energy requalification interventions for residential buildings can complete, on average, 3 renovations per year. This implies the need for more than 430,000 specialized teams. Each team would include designers, structural/building professionals, window installation specialists, heating and thermal systems experts, and electrical/photovoltaic system technicians. These estimates highlight the significant demand for skilled professionals and targeted training in the sector, particularly in areas related to energy savings and energy efficiency.
  ○ Increased demand for low-carbon materials and supply-chain adaptation: the decarbonisation imperative drives demand for greener construction materials (e.g., low-carbon steel, recycled content, energy-efficient systems).
• **(Expected) impacts on employment, skills and activity of on-site construction workers:**
  ○ Workforce composition: Italy's construction sector is expected to require between 245,000 and 280,000 workers by 2028. The highest demand is for engineers, engineering technicians and specialised construction involved in building construction, maintenance, and finishing.
  ○ Skills requirements: Around 1.1 million construction workers will need upskilling or reskilling, particularly in green and digital skills, due to generally low baseline education levels. Key roles include workers for building structures, window and heating installers, electrical/solar installers, designers, energy certifiers, green building assessors, facility managers, and experts in Internet of Things and Artificial Intelligence.

Towards a Just Transition for Construction Workers

Just transition vision in construction

• **Collective Agreements:** The sector is regulated by national collective agreements (*Contratti Collettivi Nazionali di Lavoro* in Italian), which set minimum standards for wages and working conditions. For the construction sector, there are different agreements depending on the type of company:
  ○ Collective Agreement for Industrial and Cooperative Companies (2025): Signed by ANCE, the National Cooperative Associations and the national construction trade unions (Fillea, Filca, Feneal). Valid until June 2028, it introduces several updates, including wage increases and new rules on travel allowances.
  ○ Collective Agreement for Craft Enterprises (Artisanal Companies) (2025): Also renewed until June 2028. The national training body Formedil will define a new National Training Catalogue with a focus on green building, sustainability, and innovative construction techniques. It also introduces the Construction Professional Identity Card (*Carta d'Identitá Professionale Edile - CIPE*), which records all training certificates and medical surveillance deadlines.

- Collective Agreement for Small and Medium-Sized Enterprises (2025): Renewed until June 2028 by sectoral unions and the employers' association Confapi Aniem. Key updates concern travel rules, unified reporting, performance incentives, pension schemes, and health surveillance.

- **Country-level policies for just transition**: no specific policies targeting the just transition and its impacts on workers in the construction sector. Strong collective bargaining agreements could play an important role by integrating just transition principles and ensuring workers' rights to, and access to, training across the construction value chain, enabling them to adapt to industrial decarbonisation. While no such example yet exists for construction workers, a recent Italian collective agreement for employees in the chemicals, pharmaceutical and energy sectors sets a useful precedent, by highlighting the need for a balanced transition that safeguards workers' rights and promotes their active participation in company decision-making.

- **Just transition considerations in relevant policy debates**: in development. Discussions are emerging in some regions (e.g., Emilia Romagna) and within trade unions (e.g., "Five actions for a just transition" manifesto developed by Fillea-Cgil), focus primarily on green buildings, affordable housing, and energy efficiency, with broader just transition principles still in the early stages of integration into sectoral policies.

Labour implications of the decarbonisation agenda

- **Labour rights challenges:**
  - Ineffective educational-training chain: lack of continued training for continuous professional development result in persistent skills mismatches.
  - Payment delays: late payments or unpaid invoices from clients, and due to subcontracting, directly affect firms' cash flow and limit their ability to hire new staff.
  - Deep-rooted structural problems: The sector continues to face widespread issues, including safety violations, inadequate hygiene standards, unregulated material disposal, and insufficient verification of worker skills.
  - The construction industry's career ladder remains highly exclusionary, restricting advancement opportunities for women and minorities.
  - Extreme weather events are posing growing challenges to construction sites: in Italy, increasingly frequent heatwaves are exposing construction workers to significant health and safety risks due to prolonged high temperatures. As a result, several regions have introduced restrictions on outdoor work during the hottest hours of the day, typically between 12:30 and 16:00 in the summer months.

- **Geographical distribution of the implications**:
  - Regional distribution: The largest share of construction workers is concentrated in Northern Italy, followed by the South and Islands, and then the Centre. Lombardy hosts the highest number of workers, with Lazio, Campania, and Veneto ranking next.

Benefits for workers brought by the green transition in the construction sector	Disadvantages for workers brought by the green transition in the construction sector
• Creation of new roles such as energy certifiers and green building performance assessors.	• Retrofitting aging public infrastructure and increasing its resilience against extreme weather events requires significant investment, planning,

• Improved working conditions through industrialisation (e.g. factory-based prefabrication), digitalisation and the green transition. • Increased investment in lifelong learning and upskilling programs to ensure workers adapt to new technologies, sustainable practices, and evolving sector needs.	and skilled labour that may not be readily available. • Upgrading the most inefficient buildings involves deep, costly interventions, alongside legal enforcement and incentive mechanisms. • Current public procurement rules prioritize cost-effectiveness and technical performance, often favouring the lowest-bid approach. This tends to reward actors who minimize costs rather than those delivering broader territorial or social benefits. • Strict price-driven procurement procedures can reinforce structural problems related to labour rights, including poor working conditions, social dumping, and exclusionary or discriminatory practices. These dynamics may also create perceptions or risks of corruption in contract award processes, undermining trust and reducing the overall quality and impact of investments.
Ways to reinforce these	**Ways to reduce these**
• Establish regional and local unified technical offices to coordinate qualifications, manage urban data, and support territorial co-planning of decarbonisation strategies. • Create permanent cooperative forums to align educational curricula with evolving industry needs and revise professional standards to formalize emerging skills.	• Introduce targeted incentives to support retrofitting and deep renovation of buildings. • Shift from a “lowest-cost” approach to a “maximum-impact” paradigm, assessing projects based on their strategic, social, and long-term benefits. Strict price-driven procedures often limit innovation, discourage quality-based offers, and reduce the ability of authorities to engage with local stakeholders to understand needs and co-design solutions. This shift can be implemented through tools such as competitive dialogue, allowing customized and innovative solutions co-developed with local communities and economic operators. • Strengthen audits, controls, and transparency measures across the procurement cycle. This includes clearer monitoring of labour standards, enhanced oversight of award criteria and subcontracting chains, and systematic publication of decisions and justifications. Introducing procedures that prioritise qualitative aspects (such as competitive dialogue) can further support fairer, more accountable, and higher-impact procurement outcomes.

Workers groups most affected

- **Professional groups in the core construction business and supply-chain who have the highest environmental footprint and how these are affected:**
  - **Steel workers:** workers may be affected by the shift to low-carbon steel production. While reskilling needs are limited given the similar technical foundations, continuous training on new production technologies and safety standards related to hydrogen and green processes will be needed.
  - **Cement workers:** the transition toward alternative binders, clinker substitution, and carbon capture technologies will change production methods, requiring upskilling in process monitoring, digitalization, and low-carbon material handling. However, such upskilling can take place in house in cement companies and is easier to conduct than training to workers in construction sites.
  - **Low-skilled workforce:** workers may face the highest risk of displacement due to prefabrication, automation, digitalisation, and the growing demand for green and digital competences. Upskilling programs in eco-construction methods, efficient material use, and occupational safety in new working environments will be essential.
- **Groups where most training is needed and what kind of training:**
  - **Renewable energy system installers:** will require skills in the installation, configuration, and maintenance of renewable energy systems, with a focus on performance optimization; continuous updating on national and EU regulations, safety standards, and incentive schemes; ability to assess energy efficiency and propose improvement interventions
  - **Heating and thermal system installers:** will need a comprehensive understanding of energy efficiency standards (e.g., NZEB), renewable system integration (heat pumps, condensing boilers, solar thermal), and decarbonisation incentives, as well as being capable of identifying energy-saving opportunities and advising clients on performance improvements.
  - **Window fitters:** will need to gain knowledge of eco-friendly and certified materials, environmental standards, and green product certification requirements. They should be able to install high-performance, energy-efficient windows and adopt low-waste production processes.
  - **Architects, planners, landscapers, especially in land recovery and conservation**: will need to strengthen their proficiency in sustainable design, land recovery, and conservation. They should learn to select low-impact materials, use simulation tools for energy performance analysis, and apply green certification schemes (LEED, BREEAM, NZEB).
- **Gaps in skills development:**
  - **Fragmented training pathways:** while pre-employment curricula are relatively well-developed, there is a lack of continuous and harmonised lifelong training opportunities. Workers need ongoing access to updated programmes, including legal and regulatory aspects, to remain aligned with evolving standards. Regionally tailored and inclusive training pathways for women, refugees, and youth are also essential.
  - **Green and digital skill integration:** most roles now require at least a basic aptitude for energy efficiency and environmental sustainability, alongside specific competences in managing green materials, technologies, and digital tools for monitoring and maintenance.

- **Hotspots of need:**
  - Establishing a National Observatory of Skills in Construction could integrate data from multiple sources (ISTAT, training providers, job portals, employer surveys) to map emerging skill trends, mismatches, and regional needs across digital and green domains.
  - Monitoring and policy alignment tools: an Interactive Dashboard and Reporting System could make such data accessible in real time to policymakers, trade associations, and training institutions. This would support evidence-based decision-making by identifying regional hotspots of need, professional profiles with the largest skills gaps, and areas where targeted funding would generate the greatest impact.

Workers positively affected	Workers negatively affected
• Renewable energy system installers • Insulation specialists and window fitters • Energy performance advisors • Civil engineers • Architects, planners, landscapers	• Low-skilled workforce (e.g., general construction labourers, painters and basic finishing workers, installation helpers, non-specialised waste handling workers, masons' assistants) • Migrant workers (often facing challenges such as low job security, undeclared or informal work, below-standard wages, language barriers)

Existing protection mechanisms

- **Existing mechanisms to protect or reinforce labour rights/conditions during the transition:**
  - FORMEDIL: the national training body for the construction sector that defines national training catalogues and courses aimed at emerging professional profiles, integrating advanced digital technologies into the sector.
  - *Casse edili territoriali* (Territorial construction funds) bilateral entities established through national and territorial collective agreements between employers' associations and trade unions. Operating at the provincial or regional level, they manage welfare benefits and financial assistance for workers, ensure uniform economic treatment across the sector, and monitor compliance with labour and social security obligations.
  - *Carta di Identità Professionale Edile* (Construction Professional Identity Card)
  - Legislation protects workers from all sectors from working during heatwaves, setting the limit at 35 degrees Celsius felt in the body. Compensation for the work not done is paid by a national fund.
  - The collective agreements focus on intergenerational knowledge transfer, ensuring that experienced workers pass their expertise on to younger colleagues.
- **Existence of gender-/age group-/workers group-specific measures**: n/a
- **The role of trade unions/construction businesses in professional development (and implementation costs):** Trade unions representing construction workers (FILLEA-CGIL, FILCA-CISL, and FENEAL-UIL) protect workers' rights across the construction, wood, cement, and related industries. They are also part of the FORMEDIL, the national training body for the construction sector.

Specific measure #1	Specific measure #2
• *Carta di Identità Professionale Edile* (CIPE - Construction Professional Identity Card) • Currently under development, the CIPE will enable workers to certify their skills and qualifications through recorded training and work history. Linked to each worker's tax code, it will provide a unique identification code to verify employment status and hours worked, ensuring accurate issuance of the certificate of compliance and strengthening transparency and traceability across the construction sector.	Regional approaches: • The use of modular micro-credentials, already piloted in regions such as Friuli Venezia Giulia, is emerging as a flexible, work-integrated training approach, particularly effective in a sector where traditional classroom-based learning is often impractical. • In Campania and Sicily, innovation laboratories have been established, bringing together companies, institutions, and training centres to test new organisational models and technological solutions for construction sites.

3. The construction material supply chain

In focus: Decarbonising building material – steel		

• **Acciaierie d'Italia** (ex-Ilva):
  ○ Production: ~3.6-4 Mt/year (2025)
  ○ Turnover: ~€8 bn (2023)
• **Marcegaglia Holding**:
  ○ Production: ~6.5 Mt/year (2025)
  ○ Turnover: ~€7.5 bn (2023)
• **Gruppo Arvedi**:
  ○ Production: ~5 Mt/year (2024)
  ○ Turnover: ~€7.7 bn (2022)
	• **Acciaierie d'Italia**:
	  ○ Workforce ~8000 employees (2022)
	• **Marcegaglia Holding**:
	  ○ Workforce ~7800 employees (2023)
	• **Gruppo Arvedi**:
	  ○ Workforce ~6400 employees (2024)
	• Relevance of enterprise in construction supply-chain (how much of the material is used in construction):
	  ○ In Italy, steel is primarily used in the construction sector (36.5%), with Italy being the second largest consumer of steel in Europe.
	  ○ Acciaierie d'Italia, operating the Taranto plant, is the country's only primary steel producer, while Italy remains Europe's largest producer of recycled (secondary) steel.
	• Italy's steel sector is relatively concentrated: although there are many SMEs, production is dominated by a few major companies that account for most of the country's steel output, making Italy the EU's second-largest producer after Germany.
		• Workforce characteristics for the Italian steel and broader manufacturing sector (detailed data for steel alone are not directly available)
		  ○ Gender: Predominantly blue-collar, mostly male, and typically employed on permanent contracts. Women are mainly employed in white-collar roles.
		  ○ Age: The majority of workers are aged 30-49, with a notable share in the 50-54 range.

- **Title and main features of key decarbonisation policies:**
    - **Integrated National Climate Plan (2024) (NECP):** it contributes to the EU-wide target of reducing greenhouse gas emissions by at least 40% compared to 1990 levels by 2030, and sets out specific national targets. However, it lacks specific pathways for the decarbonisation of the steel sector.
    - In 2025, the Gestore dei Servizi Energetici (GSE) published the **first national guidelines for the decarbonisation of hard-to-abate sectors**, focusing on the steel and glass industries. These documents outline strategies and instruments to reduce emissions in highly energy-intensive industrial processes.
    - **The Criteri Ambientali Minimi (CAM - Minimum Environmental Criteria)** establish environmental requirements for public procurement to promote the selection of the most sustainable products and services. In the construction sector, CAMs include specific provisions for steel, defining minimum recycled content requirements for structural and other uses. Additional bonus points are granted to companies sourcing steel products manufactured entirely within EU ETS-compliant facilities.
    - **Marcegaglia Holding:** the European Investment Bank has approved €100 million in financing for Marcegaglia, supporting the company's €170 million investment plan to improve energy efficiency, decarbonise production processes, and expand automation throughout its operations.
- **Existence of collective bargaining agreements:** Collective Agreement for Metalworking Industry Employees and Plant Installation Workers (2024): Valid until May 2027, signed by the employers' and workers' representatives: CONFLAVORO, CONFSAL, and FESICA.

- **(Expected) impacts on the supply chain:** Decarbonisation of primary steel production will have significant implications for both Italy's supply security and the competitiveness of domestic producers. Given the large volume of national steel consumption, Italy remains heavily dependent on imports, particularly of flat products. In 2023, Italy was the world's fourth-largest steel importer but only the sixth-largest exporter. This reliance on foreign supply also exposes domestic producers to price volatility in steel scrap, impacting production costs and competitiveness.
- (**Expected) impacts on employment, skills and activity levels of workers in the materials industry**: Transitioning to green steel would require only limited reskilling of the current workforce. However, production will be economically viable only if supportive policies are implemented to facilitate the adoption of low-emission technologies and adjust market conditions and pricing mechanisms, allowing a competitive and self-sustaining green steel market over the long term.

- **Country-level policies for just transition in the building material sector:** One of the two regions supported by the Just Transition Fund in Italy is the Province of Taranto, addressing the social and economic impacts of the Acciaierie d'Italia steel plant on the territory. Its measures include reskilling and upskilling programmes for workers at risk or affected by the transition, training for economic diversification, enhanced employment support services, and entrepreneurial development, including business creation and productive investments.

- **Changes/trends in terms of labour rights and existing challenges:**
    - **Strong trade union movement:** Italy's steel sector is supported by a strong trade union network (FIOM-CGIL, FIM-CISL, and UILM-UIL) that plays a central role in the decarbonisation debate. These unions actively negotiate workers' rights, employment protection, and social safeguards during the transition to green steel. They also advocate for

retraining programs and safe working conditions amid plant modernization and technological upgrades.

- **Transferable skills:** skills developed in steel production can often transfer to low-carbon equivalents. Retraining requirements are generally moderate, focusing on the adoption of new technologies, energy-efficiency standards, and digital tools.
- **Working conditions:** cleaner technologies in green steel production and recycling reduce emissions and improve local air quality, positively impacting worker health over time. Equally, timber construction and other low-emission building activities generally offer even safer, quieter, and healthier working environments, with less exposure to dust, noise, and high-temperature processes.

- **Geographical distribution of the implications:**
  - Northern Italy (mainly Lombardy and Veneto): most of the Italian steel production occurs here, largely through electric-arc furnace (EAF) recycling of steel scrap. These plants require mostly retrofits rather than full restructuring. Modernization (such as integrating renewable energy, improving energy efficiency, and adopting hydrogen-ready processes) should preserve jobs and may even create new roles in plant maintenance, energy management, or hydrogen handling.
  - Southern Italy (Taranto, Apulia): Taranto hosts Italy's only primary steel mill (Acciaierie d'Italia), historically a "strategic" asset. Unlike Northern EAF mills, it requires deep restructuring to transition from blast furnaces to low-carbon steel production. Any closure or delays in its green transition would have severe economic and social impacts on southern Italy, with thousands of jobs at risk.

Key hotspot for transformation #1

The Acciaierie d'Italia (ex-Ilva) steel plant in Taranto is a key example of the social and economic risks that arise when a single industry dominates a local economy. Recent plans aim to fully decarbonise the plant and move away from the region's "steel monoculture," but the transition could endanger over 7,000 jobs if major investments (e.g., a DRI hub) are not secured on site.

- **Benefits for workers:**
  - **Upskilling opportunities:** new training programmes for low-carbon technologies (hydrogen, electric arc furnaces, energy management), digitalisation and process optimisation.
  - Creation of **new roles,** such as jobs in hydrogen handling, plant electrification, emissions monitoring, circular economy activities (scrap management, recycling), and green procurement appear alongside traditional roles.

- **Disadvantages for workers:**
  - **Job losses and uneven local distribution:** some production lines and tasks become redundant as processes change (especially in blast-furnace-based operations), hitting entire plants or roles. The impact tends to be concentrated in specific sites and regions, which tend to be heavily dependent on a single large steel plant (supply-chain firms, local services, construction, retail).
  - **Age factor:** older workers may face greater difficulty retraining or moving to new roles, raising the risk of early retirement or long-term unemployment.

- **Existing mechanisms to protect or reinforce labour rights/conditions:**
    - **Collective Agreement for Metalworking Industry Employees and Plant Installation Workers:** provides standardised protections for steel workers, covering wages, working hours, health and safety, and social benefits during restructuring or technological upgrades.
    - **Just Transition Fund:** targets the Taranto province (where the Acciaierie d'Italia steel plant is located), supporting reskilling, workforce diversification, and social safeguards for workers affected by the transition to low-carbon steel.
- **The role of trade unions/construction businesses**: Trade unions (FIOM-CGIL, FIM-CISL, UILM-UIL) and industry players collaborate to define training programs and retraining pathways.