

FROM VISION TO ACTION: CLIMATE-DRIVEN DEVELOPMENTS INFLUENCING FUTURE OCCUPATIONAL SAFETY AND HEALTH AND THEIR IMPLICATIONS FOR STAKEHOLDERS

Background and context

This policy brief¹ is one of a series that focuses on OSH challenges and opportunities related to climate change and crises. Through the development, exploration and analysis of future scenarios, this study aimed to explore the **potential indirect impacts of climate change on OSH and the nature of work in Europe over the next 10 to 25 years**. This policy brief, the third of three, describes **a shared vision for 2050**, offering an overview of the ideal elements of a safe, healthy and sustainable working environment in Europe by mid-century, along with key tensions and trade-offs that may affect Europe's transition towards a just and resilient future. It also examines the implications for stakeholder groups, outlining steps from current challenges to increased resilience.

This vision, the associated trade-offs and the stakeholder implications are based on the scenarios set out in the second policy brief in this series. The vision was initially synthesised by the research team, who identified desirable elements across the scenarios. This preliminary vision was then presented to stakeholders in a workshop, during which its key components, enablers and barriers were discussed and refined. Finally, the implications for stakeholders were elaborated based on a thematic analysis of participants' contributions during the workshop, focusing on steps that stakeholders could take to realise the vision for 2050.

The final report for the study contains more information on the topics discussed in this brief and on the methods used to reach the conclusions set out below.

Vision for 2050: what does success look like?

The ideal Europe in 2050 sees a world of work that is climate-resilient, inclusive and safe for all. This future is built on alignment between OSH and climate strategies, where workers' health, safety and well-being are central to green innovation and economic transformation.

This vision for 2050 imagines a Europe where work is not only climate-resilient but also safe, inclusive and empowering for all. In this future, OSH is fully integrated into climate action, technological innovation and economic planning. Green technologies are designed with worker safety in mind from the outset, and regulations are adaptive, pragmatic and inclusive – able to respond to emerging risks and to protect workers in all forms of employment. Vulnerable groups, including migrants, gig workers and those in small enterprises, are actively supported, ensuring that no-one is left behind in the transition. Real-time monitoring and participatory governance help identify new hazards early, while human-centred technologies enhance safety and well-being rather than compromising them. This vision

¹ The European Agency for Safety and Health at Work (EU-OSHA), based in Bilbao, Spain, plays a pivotal role in making working life across the European Union (EU) safer, healthier and more productive. One key aspect of its work is anticipating future changes in the world of work by undertaking foresight studies that inform policymakers, researchers and workplace stakeholders about emerging OSH risks and help set research and action priorities. Previous foresight cycles have explored OSH risks associated with the circular economy (European Agency for Safety and Health at Work, 2021), digitalisation (European Agency for Safety and Health at Work, 2018) and green jobs economy (European Agency for Safety and Health at Work, 2013) and generating macro and micro scenarios to guide targeted interventions. The reports on the fourth foresight cycle are delivered by RAND Europe in partnership with the Insight Foresight Institute (IFI) and the support of the Austrian Institute of Technology (AIT) as part of the Foresight-on-Demand consortium.

is not a fixed end point, but a guiding framework – one that places people at the heart of Europe's green transformation and recognises that a healthy, protected workforce is key to building a sustainable and just future.

The key elements of the vision are summarised in the figure below:

Just transition

Coordinated action between OSH and climate strategies

Safety by design in green technologies and practices

Ongoing monitoring and evaluation to track emerging risks

Adaptive, pragmatic and inclusive regulation

Focus on affected groups

Human-centred innovation and sustainable technology

Achieving this vision, however, will not be without its challenges. The path forward is shaped by a series of tensions and trade-offs that must be carefully managed. For example, short-term crises – such as economic crises, pandemics and political instability – may divert attention and resources away from long-term OSH and climate goals, forcing difficult decisions about which emergencies to address first. Financial pressures pose another challenge, as businesses may struggle to balance profitability with the need to invest in worker safety and green infrastructure. At the same time, meaningful change, both in OSH and sustainability efforts, depends on widespread behavioural shifts among employers, workers and citizens, which may face resistance or fatigue, especially when the long-term gains seem unclear.

From an international perspective, while Europe can lead by example in integrating climate action and OSH through its policies and practices, its efforts alone are not enough to address global issues. The majority of greenhouse gas emissions originate outside Europe, and international supply chains sometimes operate under less stringent labour standards. There are also challenges with innovation and technology, which can introduce new risks if technologies are deployed faster than safety frameworks can adapt. Finally, the legitimacy of climate and OSH policies depends on transparency and public engagement, without which trust may erode and progress stall.

These tensions highlight the need for coordinated and forward-looking action across all sectors and stakeholder groups.

Implications for stakeholders

Governments and policymakers, including national governments, health and safety inspectors, EU institutions, and supranational bodies responsible for shaping and enforcing the regulatory environment, hold significant power to shape a safe and climate-resilient future of work. For example, they could guarantee a more coordinated approach by aligning OSH and climate policies across departments and levels of governance, and invest strategically in research to identify emerging risks. Governments are also in a position to develop flexible and adaptive regulations, while also considering vulnerable workers and regions, especially those disproportionately affected by climate change. Transparent policymaking and meaningful public engagement remain key to maintaining democratic legitimacy and building trust in the transition process.

Employers and employers' representatives are key drivers of change on the ground. Similar to governments, embedding OSH considerations into their sustainability and climate strategies will ensure that worker safety is not compromised in the pursuit of environmental goals. As new green technologies and materials are introduced, it is important that employers monitor and manage associated risks. Providing inclusive communication and tailored support will help ensure that diverse worker groups are equally protected. Finally, investment in OSH management, training, safety infrastructure and monitoring will play a key role in helping workplaces adapt to evolving conditions and maintain resilience.

Workers and workers' representatives themselves are essential active contributors to safer, greener futures. Their engagement in shaping workplace policies and climate adaptation strategies is crucial. Workers could raise awareness of OSH risks within their communities, report emerging hazards, and participate in early-warning systems. Professional (OSH) empowerment, access to training and upskilling opportunities supports them to remain safe, informed and resilient as the nature of work evolves

Intermediary bodies – including social partners' and their dialogue, civil society organisations, professional associations play a vital role in bridging gaps between policy and practice. They could work with other stakeholders to develop sector-specific roadmaps for safe and equitable green transitions, advocate for inclusive protections, and facilitate dialogue with other stakeholder groups. By sharing practical guidance and supporting early-warning systems, these bodies may help ensure that OSH remains a priority in times of rapid change and uncertainty.

Finally, **researchers and innovators** are essential to advancing knowledge and developing solutions that support both OSH and climate agendas. Interdisciplinary research could uncover new risks and opportunities, while the development of ethical and sustainable technologies could enhance both the safety and well-being of workers. Translating research findings into accessible tools, guidance and policy inputs could help ensure that innovation is grounded in real-world needs.

Conclusions

What emerged clearly from this study is that climate change is not only an environmental challenge – it is a profound social and economic disruptor. It will reshape labour markets, transform industries and introduce new vulnerabilities for workers. At the same time, OSH will be a critical enabler of resilience: the green transition will be much more likely to succeed with safe, healthy and supported workers.

Ensuring that Europe's future of work is both climate-resilient and safe will require sustained commitment, strategic foresight and inclusive collaboration. The indirect impacts of climate change on OSH are complex and far-reaching, demanding proactive governance, ethical innovation, and action across all stakeholder groups.

References

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