

Foresight Study on the Circular Economy and its effects on Occupational Safety and Health: Phase 2 – Micro-scenarios

Summary

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Abstract

This report presents the results of phase 2 of the European Agency for Safety and Health at Work's (EU-OSHA's) foresight study on the circular economy (CE) and its effects on occupational safety and health (OSH) up to 2040. Phase 2 centres on the dissemination and tailoring of the phase 1 macro-scenarios via stakeholder dialogue and workshops to create four sets of micro-scenarios. By zooming in on sectoral and stakeholder perspectives, the micro-scenarios explore different ways in which the CE may impact on work and jobs, and what consequences this may have for OSH. At the same time, they also demonstrate that the potential pathways for the CE in the EU and their effects on working conditions and OSH could vary widely. The project findings suggest that in the current window of opportunity, concerted key actor measures offer the best option for achieving positive OSH outcomes. By improving links between European and national agencies, organisations and other actors, integrating shared OSH standards into broader EU environmental policies, and constantly updating OSH guidance and education through timely exchange of information and stakeholder consultation, an anticipatory approach is possible that enables all involved to create well-balanced rules and regulations focused on improving the health and safety of workers across the EU. To further European cohesion, particular focus should be paid to local and regional stakeholders and skilling solutions tailored to their needs, as this would best protect the most vulnerable.

Executive summary

At its core, the mission of the European Agency for Safety and Health at Work (EU-OSHA) is to contribute to making Europe a safer, healthier and more productive place to work. To better promote a culture of risk prevention and improve working conditions in Europe, it identifies emerging physical, chemical, biological and psychosocial risks by looking at changes that may take place in the future and considers what their consequences could be for workers' safety, health and wellbeing, with the aim of supporting policymaking and raising awareness to reduce work-related accidents and ill health. Whereas in the past, occupational safety and health (OSH) — 'the discipline dealing with the prevention of work-related injuries and diseases as well as the protection and promotion of the health of workers'¹ — was focused on technical solutions to technical problems, today it aims at the improvement of working conditions and environment, and has thus become an interdisciplinary activity that also looks at worker social and mental wellbeing, necessitating EU-OSHA to take a holistic approach to its mission.

In the definition of the International Labour Organisation (ILO), occupational safety and health (OSH) is 'the discipline dealing with the prevention of work-related injuries and diseases as well as the protection and promotion of the health of workers. It aims at the improvement of working conditions and environment.' Concerned with the prevention of occupational risks inherent to each work activity, OSH problems were initially perceived as primarily technical in nature and requiring technical solutions. Today, however, OSH has become an interdisciplinary activity that also recognises the importance of organisational issues, and more recently, human factors as well as behavioural issues and issues of organisational culture. With OSH encompassing not only the workers' physical but also social and mental wellbeing, it requires an increasingly broader, holistic approach.

For the past two decades, EU-OSHA has been applying foresight approaches as part of its forward-looking activities. Following a first round of Delphi activities, previous foresight cycles based on scenario building have looked at OSH in green jobs and digitalisation and its effects on OSH. In its current third cycle, work is focused on the circular economy (CE) and its effects on OSH, primarily within the European context. The transition to a CE is a key driver in the implementation of the European Green Deal, and of the EU goal of achieving carbon neutrality by 2050, while simultaneously creating sustainable growth and jobs. The policy and regulatory implications of this transformative development will have tremendous consequences for workers' health and safety and will affect a large number of future jobs.

A CE will demand new types of business models that incorporate and use digital technology in radically innovative ways. Creative collaboration with an aim to produce joint value will play a much greater role, with working processes tailored towards shorter supply chains that preserve and extend what's already made. Not only will waste be significantly reduced and considered to be a resource, rather than something to be disposed of, regenerative resources will be prioritised. As organisational processes change and tasks are redesigned, workers' job content and work satisfaction will change. As jobs in 'brown' sectors disappear, new ones in green sectors take their place. Some long-standing work hazards could recede and may be replaced by new risks in maintenance and repair, disassembly and recycling. Skills demands will also undergo a transformation, forcing many workers to undergo reskilling and possibly also reallocation processes.

This project on the CE and its effects on OSH is carried out against the background of an EU policy shift towards more environmentally sustainable practices, with several policy initiatives driving efforts in the CE arena. This development towards the CE is widely considered to be critical for the action against climate change and will have a significant impact on jobs and on OSH. Hence, this project aims to explore different ways in which future jobs may be affected by efforts towards implementing a CE, and what consequences this may have for OSH in the future, and which implications can be drawn for stakeholders and key actors in this process.

¹ ILO, 1998, p. 22.

In the first phase of this project, four macro-scenarios focused on the CE and its effects on OSH were generated by Future Impacts, together with the EU-OSHA project team, via a key factor-based scenario methodology drawing from an extensive literature analysis (which included significant parts of earlier foresight work done by EU-OSHA) and expert interviews. A narrative was then developed for each scenario, describing the world in 2040, including how the development pathways came to be, and levers and turning points. Special emphasis was placed on the effects on working conditions, including a first review of potential implications for OSH. With their wide variations with regard to the potential pathways to a European CE, the scenarios demonstrated how different the effects on working conditions could be. Potential implications for workers' OSH cover a correspondingly wide area, from a transformation approach that integrates OSH considerations at all stages, from product development and design to end-of-life recycling, to a world in which policymakers and stakeholders fail to grasp the opportunity to shape developments and in which economic success comes at the expense not only of the environment but also of worker safety and health, and in which OSH is relegated to the sidelines.

This document presents the results of phase 2 of this project, which centred on the dissemination and tailoring of the scenarios via stakeholder dialogue at four workshops held in 2022 (three were held in the first half of 2022 virtually on account of the ongoing COVID-19 pandemic, and one was held in-person in the second half of 2022). Participants in the workshops were well balanced with regard to organisational type, professional expertise and focus, and tripartite attribution to ensure that the results were informed by a wide range of perspectives. During this stage of the project, the scenarios had the role of encouraging dialogue and reflection, with stakeholders being invited to explore future possibilities and identify specific implications for OSH. While in phase 1 of the project macro or framework scenarios with an emphasis on overall developments were developed and explored, phase 2 concentrated on zooming in on the details of stakeholder and sectoral perspectives to create a set of 16 micro-scenarios. By aggregating, integrating and clustering insights, these 16 micro-scenarios were developed to shed light on working conditions and OSH implications within each scenario. Each micro-scenario 'zooms in' on a specific group of workers and a sector and outlines potential future changes for working conditions under a CE, as well as highlighting OSH-specific implications.

From the research and discussions on the scenarios at the workshops, several cross-cutting key messages were identified: Primarily, that there is currently a window of opportunity to shape events and advance the CE while simultaneously realising OSH improvements, with both developments benefiting from each other. Secondly, digital technologies will play a key role in Europe's transition to a CE. Without them, a modern economy cannot become truly sustainable. A high standard of OSH in a CE will be achieved only if this process is well managed and, crucially, the workforce is reskilled, and a monitoring system is installed to prevent illegal imports of products that may be potentially hazardous during recycling. Thirdly, robust regulatory efforts and policy mechanisms will be necessary to achieve the fundamental shift the transformation needs. Finally, if based on the principle of a 'just transition', an EU-wide implementation of a CE would offer significant opportunity to advance OSH conditions but could also lead to the emergence of new risks and undesired side effects (especially around repeated recycling). Provided there are clear cost incentives and suitable markets, these new risks have the potential to be used as growth opportunities. Within and between Member States and sectors, progress with regard to the CE and the integration of OSH measures could vary widely, resulting in a broad range of OSH outcomes. Here, cohesion will depend on making sure that there is sufficient support for all regions, sectors and countries, especially those with comparatively fewer resources.

In all four workshops, participants agreed that OSH had the potential to become a true facilitator of the CE, if OSH considerations were integrated across EU policies (e.g. 'Fit for 55' package, European Green Deal and others) with a sufficiently broad reach and coverage. New technologies in automation and IT alterations to the organisational structure of employment (primarily platform work) and the open fate of collective bargaining and the representation of workers' rights will have a profound impact on workers and their quality of life, and on workplace conditions. Workplace hazards (in this document, these are categorised into physical, chemical and biological hazards, and ergonomic and psychosocial issues as well as other hazards²) will change as technological innovations and new approaches to the use of digitalisation, robotics and the use of nanotechnology, among others, make their influence felt.

² For a detailed description and definition of each hazard category, please see the section 'Analysis of OSH Implications'.

During the workshop debates, implications were drawn for OSH — hazards aggravated or reduced, or new hazards emerging — as well as for key levers to improve OSH outcomes to 2040. Depending on the scenario, these implications varied considerably, from overwhelmingly positive for the first scenario ('The roaring 40's') to almost entirely negative ('Staying afloat' and 'Regional circularities'). Echoing the findings of phase 1 of the project, this again demonstrated the wide range of options, and the principal openness of the pathway to future OSH conditions in a CE.

The pathway to future OSH conditions can still be shaped, and key actors — policymakers, education providers, OSH representatives, employer associations and worker organisations — will play a pivotal role in doing so. In the workshops, a number of cross-cutting implications were identified that show that realising a human-centred approach to OSH — investing in people's capabilities and enabling them to acquire and update skills — will enable workers to adapt to new and emerging risks, while the integration of OSH considerations into decision-making and the furthering of stakeholder involvement will ensure that regulatory activities during the transition to a CE will actually improve health and safety outcomes. Among the identified key actions are giving workers a voice on all levels, creating knowledge networks for business, tailoring reskilling initiatives to local conditions and needs, introducing material passports, and, in particular, preparing stakeholders on all levels for the tremendous pace of the transformation. However, they will only be successfully realised if all key actors work together, and if the shift towards the CE is driven by robust regulatory efforts and policy mechanisms.

The implications demonstrate that in order to realise the significant opportunities to improve OSH conditions, and to use the CE to achieve lasting improvements, technological innovation and political decision-making will have to be precisely analysed and assessed at each step of the way to ensure that the consequences of all actions are positive for workers and society. OSH considerations have to be an integral part of the life-cycle assessments of materials, products and processes that are at the heart of the CE. A constant dialogue and exchange of knowledge and best practices has to be institutionalised between key actors. Stakeholder feedback will play a crucial role in processes, with conditions 'on the ground' constantly compared to expected outcomes to have an early warning function for all matters concerning worker health and safety. Similarly, outcomes for industry will be better if there is a constant information flow to ensure that training and reskilling are precisely tailored to requirements in the respective sectors and regions. Well-balanced rules and regulations can be based on harmonised standards between Member States, regions, and institutions or key agencies, and the introduction of comparable foresight practices would ensure that not only all aspects of new developments are constantly on the radar, but also that regulatory efforts stay ahead of the curve. True convergence in health and safety outcomes across Europe will be crucial to future convergence.

The European Agency for Safety and Health at Work (EU-OSHA) contributes to making Europe a safer, healthier and more productive place to work. The Agency researches, develops, and distributes reliable, balanced, and impartial safety and health information and organises pan-European awareness raising campaigns. Set up by the European Union in 1994 and based in Bilbao, Spain, the Agency brings together representatives from the European Commission, Member State governments, employers' and workers' organisations, as well as leading experts in each of the EU Member States and beyond.

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