

FORESIGHT STUDY ON THE CIRCULAR ECONOMY AND ITS EFFECTS ON OSH: IMPROVING OSH PROSPECTS FOR VULNERABLE WORKERS

Project background

The European Agency for Safety and Health at Work (EU-OSHA) has for several years been applying foresight approaches as part of its mission to contribute to safer and healthier working conditions in the EU. Its foresight approach looks at changes that may take place in the future and considers what their consequences could be for occupational safety and health (OSH), with the aim of supporting policymaking and raising awareness to reduce work-related accidents and ill health and improve safe and healthy working environments.

Within its third foresight cycle, work is focused on the circular economy (CE)¹ and its effects on OSH, primarily within the European context. This project 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.² These initiatives, and indeed the CE as a whole, are widely considered to be critical and influential developments that will be beneficial to the action against climate change and will ultimately have impacts on jobs and on OSH.

In phase 1 of the project, four macro-scenarios on the CE and its effects on OSH up to 2040 were developed following a key factor-based methodology,³ which drew strongly from previous foresight work undertaken by EU-OSHA. The four scenarios demonstrate a broad range of future possibilities with potential implications for OSH covering a correspondingly wide area, that is, from a transformation approach that integrates OSH considerations at all stages, to 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 of both the environment and worker safety and health.

This brief covers the potential impacts the CE will have on OSH for vulnerable workers⁴ identified by participants at a series of workshops held with key stakeholders in 2022. Also included are options for the key stakeholders, that is, measures that would improve OSH prospects going forward if taken in the near future. The table below shows the four macro-scenarios, with a short description listing each scenario's characteristics.

¹ For the purpose of this project, we have followed the definition of a CE put forward by the Ellen MacArthur Foundation: 'A Circular Economy is based on the principles of designing out waste and pollution, keeping products and materials in use, and regenerating natural systems.' See: <https://www.ellenmacarthurfoundation.org/circular-economy/what-is-the-circular-economy>

² The key policy initiative in this space is the EU Commission's European Green Deal initiative that has the overarching aim of making Europe climate-neutral by 2050 (see: https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal_en). Alongside the Green Deal initiative sits the Commission's 2015 CE package, comprised of an EU action plan for the CE ('Closing the Loop') with 54 concrete actions to achieve a CE, many with significant policy and regulatory implications for the sectors discussed in this brief (see: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52015DC0614>).

³ For further details on the methodology behind the scenario development and the scenarios themselves, please see EU-OSHA, 2021.

⁴ Please note that while 'vulnerable workers' and 'precarious work / workers' are often used interchangeably, in OSH terms a distinction should be made 'between the precariousness of work attributable to particular types of contractual relationships, and the vulnerability of the people carrying out the work' (Sargeant and Ori, 2013, p. ix), that is, workers often are, but do not have to be, vulnerable as a result of power imbalances when engaged in temporary work, subjected to organisational change (e.g., downsizing or restructuring), self-employed, etc.



The Roaring 40's – Fully Circular and Inclusive	Carbon Neutrality – of a Hazardous Kind	Staying Afloat – Amid Economic and Environmental Crises	Regional Circularities – with European Divides
In 2040, the products that sell best are those that are cradle-to-cradle and 'net-positive' in terms of social and environmental sustainability.	In 2040, Europe has achieved carbon neutrality. But with environmental outcomes taking top priority, job quality and working conditions have suffered – at least in some areas.	In 2040, work is what people want – any job will do. Keeping your head above the water is all that matters, the environment, social rights or job quality come a distant second.	By 2040, work has become a two-tier system: Contracted employees are well looked after, those in non-standard employment are not. Neither is the environment, with circularity being mostly regional.

Illustration showing an overview of the four scenarios

Growing number of vulnerable workers in the EU

During the transformation to a CE, not only will workplace conditions undergo a transformation as employers adapt their business to meet new requirements, but at the same time the impact of demographic ageing on the labour market will become more pronounced, with the working-age population in Europe expected to shrink from 265 million in 2019 to 230 million in 2050 (European Commission, 2020). Europe will have to draw on all of its strengths, talents and diversity to make up for this shortfall and boost labour market participation of women, the elderly (in particular, as working lives are expected to become longer (Eurostat, 2022)), and people with disabilities. In addition, labour market migration to the EU will also increase, resulting in a larger and more inclusive labour market.

This labour market will have a larger share of workers defined as vulnerable, that is, those belonging to the 'sensitive risk groups' defined by the European Commission: workers with disabilities, young and old workers, pregnant and nursing mothers, and untrained or inexperienced workers including seasonal, temporary or migrant workers, as well as workers in precarious employment (EU-OSHA, 2009). These groups are particularly exposed to occupational injuries and risks, because they are employed in areas that are especially hazardous (the so-called four D jobs that are considered 'dirty, dangerous, difficult, and discriminatory' (ICOH, 2022)), or because they do not conform to the 'average worker' mould that workplace and OSH conditions are tailored to (ILO, 2022).

Potential implications for OSH from the scenarios for vulnerable workers

Please note that this table lists both safety and health risks that are unique to vulnerable workers, and risks that apply to all workers, but to which vulnerable workers have considerably greater exposure.

The Roaring 40's – Fully Circular and Inclusive	Carbon Neutrality – of a Hazardous Kind	Staying Afloat – Amid Economic and Environmental Crisis	Regional Circularities – with European Divides
<ul style="list-style-type: none"> Improved working conditions support risk-reduction, especially for vulnerable workers Automation and robotics reduce physical demands 	<ul style="list-style-type: none"> In the rapid transition, dangerous jobs, for example, in the energy sector, will more likely be filled by migrant workers 	<ul style="list-style-type: none"> Overall higher risks and more negative OSH outcomes for all workers, and especially for vulnerable and precarious workers 	<ul style="list-style-type: none"> High OSH risks in the informal economy that has a higher share of vulnerable workers, especially in repair and waste industries

The Roaring 40's – Fully Circular and Inclusive	Carbon Neutrality – of a Hazardous Kind	Staying Afloat – Amid Economic and Environmental Crisis	Regional Circularities – with European Divides
<p>on workers, positive for the elderly and people with disabilities</p> <ul style="list-style-type: none"> As ergonomics improve and work schedules and locations are more flexible, work becomes better adapted to and less hazardous for workers with a more diverse background Well-regulated AI safety support overall adapts well to workers from diverse backgrounds, but could lead to issues of data security, data protection, and ethical considerations Increased union representation means that vulnerable workers rank higher in collective bargaining on OSH As the nature of work becomes human and environment-centred, 'safety and health for all' is incorporated by industries Standardisation within the CE makes reskilling easier and safer, improving 'OSH-sense' among workers with a previously low level of awareness 	<p>without OSH skills and training</p> <ul style="list-style-type: none"> Automation and robotics reduce physical demands on workers, positive for the elderly and people with disabilities AI and human-machine interaction not programmed for inclusiveness, unexpected OSH risks for vulnerable workers Rapid transition: OSH in effect deregulated to increase pace, legislation (including risk assessment) may struggle to keep pace with emergence of non-known (and invisible) risks Heightened OSH risks in repair work and emerging sectors with high proportion of migrant and precarious workers OSH skills quickly become outdated for new types of employment, posing particular problems for workers with learning or language issues Less collective bargaining via unions or OSH representatives means that vulnerable workers, in particular, are not 	<ul style="list-style-type: none"> Outsourcing and subcontracting / platform work increase exploitation of vulnerable workers, OSH is not adapted for them As precarious workers (have to) change jobs frequently, they are more likely to be 'inexperienced, uninformed or physically more vulnerable', that is, more likely to lack OSH protection (EU-OSHA, 2019) During crises, OSH incidents increase in particular in sectors dominated by women (EU-OSHA, n.d.)⁵ More work becomes precarious, increasing psychosocial risks and leading to a greater number of people considered to be vulnerable With no climate change adaptation, workers in 'four D' jobs (e.g. in construction and agriculture) are particularly at risk During tensions within the workforce, the most vulnerable will rank lowest and be further disadvantaged 	<ul style="list-style-type: none"> During the exodus of workers from poor regions, vulnerable workers will be more likely to be left behind, creating regional pockets in which the vulnerable have to take on jobs physically unsuitable for them Increased occupational health inequalities within and across countries in Europe and 'outsourcing of risks' lead to widely varying OSH conditions for vulnerable workers Increased human-machine interaction and automation exacerbate psychosocial risks Increase in precarious work in the waste sector may lead to both occupational and environmental health challenges Bias in automated systems results in discriminatory practices, for example, in AI human resources management, which worsens psychosocial pressure for vulnerable workers (Mathieson, 2022)

⁵ Foresight Study on the Circular Economy and its effects on OSH – Phase 2: Micro Scenarios, (EU-OSHA, 2023)

The Roaring 40's – Fully Circular and Inclusive	Carbon Neutrality – of a Hazardous Kind	Staying Afloat – Amid Economic and Environmental Crisis	Regional Circularities – with European Divides
	consulted with regard to OSH	<ul style="list-style-type: none"> Shift towards individualisation of OSH with all responsibility placed on the worker, which disproportionately affects vulnerable workers Re-emergence of 'old risks' (e.g. use of chemicals with no 'green alternative') plus emergence of 'new risks' (e.g. recycling of lithium batteries), especially in informal workplaces 	<ul style="list-style-type: none"> Information gaps regarding components and material properties during recycling will be significantly worse among vulnerable workers, especially migrants

Improving OSH prospects for vulnerable workers

Overall, measures that focus on providing better OSH to all workers will also likely improve the situation of vulnerable workers. Hence, the measures listed and described below could all be integrated into CE-related policy actions focusing on OSH and would not have to be conducted separately. Instead, they would also improve the safety and health of all EU workers.

▪ Reskilling offensive targeting people in precarious employment

A key component in improving the safety and health of vulnerable workers would be the introduction or expansion of integration, skilling and job safety programmes. These (re-)education opportunities would best be tailored to the vulnerable workers' social situation (regarding temporal resources, capacities, motivation), that is, with provisions to include speakers of non-European languages, workers working few hours, or workers who suffer from difficult personal circumstances. Flanking outreach programmes would likely be necessary to be able to reach and activate the targeted workers in all industries affected by the transformation towards the CE.

The programme's success will hinge upon ease of access – helpful would be, for example, individual learning accounts and micro-credentials (based on the EU 'Action to improve lifelong learning and employability' (European Commission, 2021)), as well as making all (up- and re-) skilling efforts strongly regional in character to better address workers and cover their actual skills needs. Finally, increased funding for supervision and control measures focusing on the individual workplace situations of vulnerable workers would ensure that employers pay close attention and participate in these programmes, as well as enable the workers' participation.

▪ Improved worker representation for vulnerable workers

The transition to a CE can be used as an opportunity to improve the situation of vulnerable workers and provide them with wider access to health and social protections (Lee and Di Ruggiero, 2022). Safeguarding and, where necessary, expanding workers' rights to collective bargaining in close collaboration between employee representatives, employer associations and policymakers during the shift between economic paradigms is

crucial to making sure that workers are heard in all matters that concern their safety and health. To ensure that in all new sectoral climate strategies workers in precarious employment enjoy labour and protection rights similar to those in standard employment, provisions should be made that provide vulnerable workers (in particular, elderly and migrant workers) with improved representation rights.

- **4 Knowledge networks directed towards vulnerable workers**

Developing and implementing a knowledge network that provides knowledge-based support to all EU employees and provides workers with technical assistance and a network for collaboration would especially benefit vulnerable workers. By directly involving a diverse range of key stakeholders in its set-up (i.e. vulnerable workers, employee representatives, employer associations, OSH professionals, European and national agencies, and policymaking bodies), networks could provide vital OSH information for vulnerable workers in areas particularly affected by the transition to a CE, and in particular for SMEs. Ideally, this network would be managed and delivered in both a bottom-up and top-down manner, including delivery in non-European languages to better support migrant workers. At a minimum, content could include communication and feedback on experiences, needs and best practices, with the aim of ensuring that OSH guidance is similar (and ideally aligned) throughout Europe. In addition, information gathered within the network could feed into standards and the agenda of training programmes.

Conclusions

The transition towards a more circular economy offers crucial opportunities to improve conditions in OSH for vulnerable workers. Considering their needs prior to the transition and integrating measures to make workplace safety better suited to the unique hazards they face would also help all EU workers. Providing the vulnerable with relevant training and information and making sure that OSH measures are tailored to their needs and circumstances would considerably improve future outcomes, and also make sure that in the CE, fewer workers would actually have to be considered vulnerable.

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