

CIRCULAR ECONOMY AND OCCUPATIONAL SAFETY AND HEALTH: POLICY POINTERS AND ACTIONS FOR KEY STAKEHOLDERS

With its European Green Deal, the EU launched a long-term strategic vision to create a resource-efficient and competitive economy and become climate-neutral by 2050. In this transition process, the circular economy (CE) needs to be rapidly scaled up and mainstreamed, and circular material use will need to double in the coming decade (European Commission, 2020a). This will necessitate far-reaching changes in technologies, supply chains and business models. Released in March 2020, the New Industrial Strategy for Europe stresses the role that European industry must play in this process (European Commission, 2020b).

What the CE might mean for occupational safety and health until 2040

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 CE¹ and its effects on OSH, primarily within the European context. In phase 1 of the project, four macro-scenarios focused on the CE and its effects on OSH up to 2040 were developed, drawing strongly from previous foresight work undertaken by EU-OSHA. As a set, they represent a range of different possible outcomes for future working conditions in the EU as a result of a CE and were used to encourage dialogue and reflection about future possibilities at a series of stakeholder workshops held in 2022.

Illustration showing an overview of the four scenarios



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.

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>

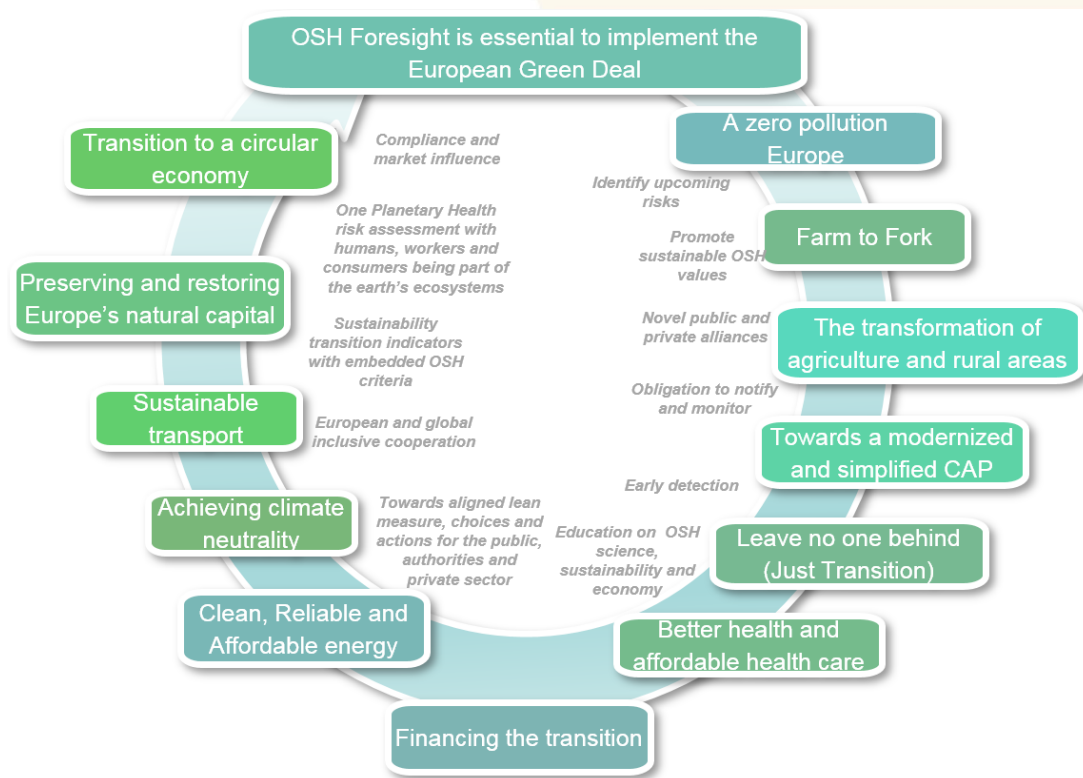
The scenarios demonstrate a broad range of future possibilities,² and offer a glimpse at the potential far-reaching changes to the world of work. OSH conditions are likely to undergo corresponding changes and will likely be characterised by new and emerging work-related safety and health risks. Timely anticipation and identification of these potential risks offers a window for action and an opportunity to positively shape the future OSH landscape through making proactive policy decisions.

This brief presents a summary of policy pointers and actions for selected key stakeholders that emerged from cross-cutting implications across all four scenarios. Here, thematically connected policy pointers are clustered into engagement areas,³ and included in this policy brief is a short overview of principal green initiatives on the EU level that support cross-policy dissemination.

Key action for policy: involving key green initiatives to support cross-policy dissemination

The transition to a CE will involve, to varying degrees, a wide range of European agencies and green EU initiatives. Building an all-encompassing, **OSH-centred alliance to modernise and strengthen OSH in key areas** would ensure that the EU's employment and social policies, the European Pillar of Social Rights, the European Green Deal and the United Nations Sustainable Development Goals are all realised, and that the challenges stemming from digitalisation and the changing world of work and work patterns, as well as demographic change and migration, are successfully addressed.

Illustration showing an overview of some key EU green initiatives to support cross-policy dissemination (adopted and modified from Bruinen de Bruin et al., 2022)



² For more details, see the macro-scenario report on the CE and its effects on OSH (EU-OSHA, 2021).

³ For a clustering of policy pointers via stakeholder groups, please refer to the phase 2 report 'Foresight Study on the Circular Economy and its Effects on OSH. Phase 2: Dissemination and Tailoring of Phase 1 Scenarios via Stakeholder Dialogue'.

Policy pointers and actions for specific key stakeholders

Action	Specific tasks	Lead stakeholder(s) and other relevant stakeholder groups	Timeline
Raising awareness	<ul style="list-style-type: none"> In sectors critical to the CE transition, awareness of health and safety issues should be high among stakeholders (in particular in, for example, the waste treatment sector (FEPS, 2022)). By holding events and seminars that translate relevant research findings for the respective audience, stakeholders at all levels can be reached and be made aware of a safe way forward (ETUC, 2021a). It is important that developments are seen through an OSH lens and that people are focused on improving health and safety outcomes with a 'can do' attitude with regard to OSH. 	<p>European Agency EU-OSHA.</p> <p>National authorities.</p> <p>Worker representatives and organisations.</p> <p>Industry (association).</p> <p>Employer associations.</p> <p>European Commission.</p> <p>Education providers.</p> <p>Academia.</p>	<p>2023</p> <p>-</p> <p>2030</p>
Providing funding	<ul style="list-style-type: none"> To begin with, analysis of the need for OSH transition funding for industries and sectors, and communication of results. Building of funding networks between businesses and institutions. Ensuring that measures to protect worker safety and health are not neglected as the result of cost considerations. Availability of funds should be tied to strong social and governance requirements that respect collective agreements and workers' rights (ETUC, 2021b). 	<p>European Agency EU-OSHA.</p> <p>National authorities.</p> <p>Employer associations.</p> <p>Industry (association).</p>	<p>2025</p> <p>-</p> <p>2040</p>
Protecting and helping the marginalised	<ul style="list-style-type: none"> Using the transition to a CE as an opportunity to improve the situation of low-skilled and migrant workers, as well as workers in informal employment, who share fundamental vulnerabilities and have only limited access to health and social protections (Lee and Di Ruggiero, 2022). Supporting these workers by introducing and expanding integration, skilling and job safety programmes. Tailoring (re-)education opportunities to the social situation (regarding temporal resources, capacities, motivation). 	<p>European Agency EU-OSHA.</p> <p>Worker representatives and organisations.</p> <p>National authorities.</p> <p>Academia.</p> <p>Education providers.</p> <p>Scientific society.</p> <p>Other.</p>	<p>2023+ (constant effort)</p>

Action	Specific tasks	Lead stakeholder(s) and other relevant stakeholder groups	Timeline
	<ul style="list-style-type: none"> Additionally, increased funding for supervision and control measures focusing on individual workplace situations to improve the prospects of vulnerable workers in a CE. 		
Integrating OSH considerations into political decision-making	<ul style="list-style-type: none"> In order to increase public investment in OSH, OSH should be made a primary consideration in all relevant legislation. Pivotal for successful regulatory outcomes is a shift away from the focus on quantitative impacts (see, for example, DGIP, 2022a). The focus should be on evidence-informed and foresight-based policies, to avoid safeguards that are too narrow and to ensure that rights are adequately protected (see, for example, the criticism levelled against the AI Act (HRW, 2021)). Boosting the influence of trade unions will be crucial to giving stakeholders on the ground a louder voice at the macro (EU, national), meso (sectoral) and micro (company) levels (DGIP, 2022b; ETUC, 2021a). Finally, it is advisable to integrate OSH issues into procurement standards by developing a holistic approach focusing on circularity and worker safety (similar to the 'sustainable by design' chemicals strategy in the context of the European Green Deal) (see JRC, 2022a). 	<p>European Commission.</p> <p>European Agency - EU-OSHA.</p> <p>National authorities.</p> <p>Worker representatives and organisations.</p> <p>Academia.</p> <p>Scientific society.</p> <p>Other.</p>	<p>2023</p> <p>-</p> <p>2027</p>
Protecting workers' voices	<ul style="list-style-type: none"> Workers and worker representations must have a right to be heard in all matters that concern their safety and health, to avoid protection requirements being eroded over the long term. By working with employee representatives to evaluate the consequences of the transition to a CE on collective agreements, and revising their scope where necessary, the rights of trade unions can be safeguarded (ETUC, 2021a). In this way, it can be ensured that new green jobs allow trade union representation and respect bargaining rights, and that labour standards and social rights are part of any new sectoral climate strategy (ETUC, 2021b). 	<p>European Agency - EU-OSHA.</p> <p>European Commission.</p> <p>Worker representatives and organisations.</p> <p>Employer associations.</p> <p>National authorities.</p> <p>Industry (association).</p> <p>Academia.</p> <p>Other.</p>	<p>2023+ (constant effort)</p>
Creating reskilling opportunities	<ul style="list-style-type: none"> In all industries affected by the transformation towards the CE, it will be necessary to proactively support the promotion of 	<p>European Agency - EU-OSHA.</p>	<p>2023+ (constant effort)</p>

Action	Specific tasks	Lead stakeholder(s) and other relevant stakeholder groups	Timeline
focused on OSH	<p>reskilling and lifelong learning in close collaboration between all stakeholders.</p> <ul style="list-style-type: none"> This will likely be more effective if access is easy, for example, with individual learning accounts and micro-credentials (based on the EU 'Action to improve lifelong learning and employability' (European Commission, 2021)). Content has to be relevant to both corporate requirements and individual needs, necessitating close collaboration with local stakeholders for needs assessments to avoid skills mismatches (Corradini et al., 2022). Upskilling and reskilling efforts have to be regional in character and should be based on mapping and anticipating corporate skills needs vs the potential for training (ETUC, 2021a). At the company level, OSH representatives should be involved in the development of concrete measures that ensure a fair transition for workers (ETUC, 2021a). 	<p>Worker representatives and organisations.</p> <p>Education providers.</p> <p>Employer associations.</p> <p>National authorities.</p> <p>Industry (association).</p> <p>Academia.</p> <p>Other.</p>	
Harmonising relevant standards across the EU	<ul style="list-style-type: none"> Setting clear EU-wide standards to close OSH loopholes would avoid the distortion of competition and help to effectively regulate across industries and EU taxonomy, pre-empting regulatory fragmentation between Member States with regard to OSH and accelerating development towards the CE (Nachhaltigkeitsrat, 2021). Harmonising employment standards across all Member States would pre-empt pushback from individual states, for example, in the area of rights for platform workers (EURactiv, 2022). This would make sure that labour rights remain fully enforced and workers are not exploited even if labour mobility is enhanced during the transition to avoid labour shortages and surpluses (EESC, 2022). Introducing and implementing digital twins and material passports for products, in close collaboration with business representatives, would guarantee that information on OSH-relevant material properties is easily available at all stages of a product's life cycle (see JRC, 2022b; BusinessEurope, 2022). 	<p>European Commission.</p> <p>European Agency - EU-OSHA.</p> <p>Worker representatives and organisations.</p> <p>Employer associations.</p> <p>National authorities.</p> <p>Industry (association).</p> <p>Academia.</p> <p>Scientific society.</p>	<p>2023 - 2035</p>

Action	Specific tasks	Lead stakeholder(s) and other relevant stakeholder groups	Timeline
Building a capable OSH knowledge network	<ul style="list-style-type: none"> ▪ Generating, managing and delivering both top-town and bottom-up relevant information to stakeholders involved in OSH makes sure that knowledge is up to date and available to all. ▪ An information network to improve and streamline communication on OSH and highlight best practices should be implemented between workers and employers, and national and European agencies to share experiences across the EU (i.e. allowing for worker feedback) and ensure EU cohesion with regard to training programmes and standards. ▪ Knowledge-based support (e.g. for information and technical assistance, for regional or sectoral training centres, or for formal collaborations and knowledge exchange on CE-related activities) has to be provided in particular on the level of SMEs (ETUI, 2021). 	<p>European Agency.</p> <p>National authorities.</p> <p>Worker representatives and organisations.</p> <p>Employer associations.</p> <p>Industry (association).</p> <p>Academia.</p> <p>Education providers.</p> <p>Scientific society.</p> <p>Other.</p>	2023+ (constant effort)

Conclusions

The EU's transition to a more circular economy can only be a just transition if both the process and its outcomes are as fair and inclusive as possible. Worker safety and health is crucial to leaving no one behind, it is one of the key policy areas when addressing environmental, economic and social sustainability (ILO, 2022). Ignoring the importance of OSH and failure to meet the challenge of constant improvement would carry a hefty price for society and lead to worsening inequalities. Going forward, well-coordinated and timely policy actions that come as the concerted effort of an extensive and multi-level alliance will be necessary to continue Europe's tradition as a trailblazer of worker protection. This will involve **building information networks that are available to all stakeholders, enable rapid feedback and dissemination of knowledge**, and keep pace with rapid change. Integrating precisely analysed, regional, sector-specific OSH needs offers a chance to protect the most vulnerable and, in this way, realise the most pertinent promise of the transition towards social, green and circular economies, of making life better for all.

References

- Bruinen de Bruin, Y., Franco, A., Ahrens, A., Morris, A., Verhagen, H., Kephelopoulos, S., Dulio, V., Slobodnik, J., Sijm, D.T.H.M., Vermeire, T., Ito, T., Takaki, K., De Mello, J., Bessems, J., Zare Jeddi, M., Tanarro Gozalo, C., Pollard, K., McCourt, J., and Fantke, P. (2022). Enhancing the use of exposure science across EU chemical policies as part of the European Exposure Science Strategy 2020-2030. *Journal of Exposure Science & Environmental Epidemiology*, 32(4), 513-525. <https://doi.org/10.1038/s41370-021-00388-4>
- BusinessEurope (2022). *Digital Product Passport*. BusinessEurope position paper. Retrieved 27 October 2022, from: https://www.buinessurope.eu/sites/buseur/files/media/position_papers/iaco/2022-02_buinessurope_position_paper_on_digital_product_passport.pdf

- Corradini, C., Morris, D., and Vanino, E. (2022). Towards a regional approach for skills policy, *Regional Studies*. <https://doi.org/10.1080/00343404.2022.2031950>
- DGIP – Directorate-General for Internal Policies (2022a). *Assessment of current initiatives of the European Commission on better regulation*. Retrieved 27 October 2022, from: [https://www.europarl.europa.eu/RegData/etudes/IDAN/2022/734766/IPOL_IDA\(2022\)734766_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/IDAN/2022/734766/IPOL_IDA(2022)734766_EN.pdf)
- DGIP – Directorate-General for Internal Policies (2022b). *Unionisation and the twin transition. Good practices in collective action and employee involvement*. Retrieved 27 October 2022, from: [https://www.europarl.europa.eu/RegData/etudes/STUD/2022/733972/IPOL_STU\(2022\)733972_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/STUD/2022/733972/IPOL_STU(2022)733972_EN.pdf)
- EESC – European Economic and Social Committee (2022). *Labour mobility should not be a quick fix for worker shortages*. Retrieved 27 October 2022, from: <https://www.eesc.europa.eu/en/news-media/news/labour-mobility-should-not-be-quick-fix-worker-shortages>
- EPSU – European Federation of Public Service Unions (2020). *Safe Jobs in the Circular Economy*. Retrieved 20 November 2022, from: <https://www.epsu.org/article/safe-jobs-circular-economy-new-epsu-report>
- ETUC – European Trade Union Confederation (2021a). *European Social Partners' project on circular economy and the world of work. Final report*. Retrieved 26 October 2022, from: https://resourcecentre.etuc.org/sites/default/files/2021-10/Brochure%20Final%20report%20circular%20ecenomy_EN_v4_bis_compressed.pdf
- ETUC – European Trade Union Confederation (2021b). *ETUC resolution on "Fit for 55" package*. Retrieved 27 October 2022, from: <https://www.etuc.org/sites/default/files/document/file/2021-03/ETUC%20resolution%20on%20Fit%20for%2055%20Package.pdf>
- ETUI – European Trade Union Institute (2017). *Occupational safety and health in 2040: Four scenarios*. Retrieved 26 October 2022, from: <https://www.etui.org/publications/guides/occupational-safety-and-health-in-2040-four-scenarios>
- EU-OSHA – European Agency for Safety and Health at Work, *Foresight Study on the Circular Economy and its effects on Occupational Safety and Health, 2021*. Available at: <https://osha.europa.eu/en/publications/foresight-study-circular-economy-and-its-effects-occupational-safety-and-health>
- EURactiv (2022). *Eight EU countries push back against stricter conditions for platform workers' status*. Retrieved 26 October 2022, from: <https://www.euractiv.com/section/sharing-economy/news/eight-eu-countries-push-back-against-stricter-conditions-for-platform-workers-status/>
- European Commission (2020a). *Circular Economy Action Plan. For a cleaner and more competitive Europe*. Retrieved 26 October 2022, from: https://ec.europa.eu/environment/circular-economy/pdf/new_circular_economy_action_plan.pdf
- European Commission (2020b). *A New Industrial Strategy for Europe*. COM/2020/102 final of 10 March 2020. Retrieved 26 October 2022, from: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52020DC0102>
- FEPS – Foundation for European Progressive Studies (2022). *The Circular Economy and Green Jobs in the EU and Beyond*. Retrieved 27 October 2022, from: https://circulareconomy.europa.eu/platform/sites/default/files/220224_circular_economy_final_book.pdf
- HRW – Human Rights Watch (2021). *Q&A: How the EU's Flawed Artificial Intelligence Regulation Endangers the Social Safety Net*. Retrieved 27 October 2022, from: https://www.hrw.org/sites/default/files/media_2021/11/202111hrw_eu_ai_regulation_qa_0.pdf
- ILO – International Labour Organization (2022). *Frequently Asked Questions on just transition*. Retrieved 27 October 2022, from: https://www.ilo.org/global/topics/green-jobs/WCMS_824102/lang--en/index.htm
- JRC – Joint Research Centre (2022a). *Safe and sustainable by design chemicals and materials*. Retrieved 27 October 2022, from: <https://op.europa.eu/en/publication-detail/-/publication/567e3b0f-a66a-11ec-83e1-01aa75ed71a1/language-en>
- JRC – Joint Research Centre (2022b). *Towards a green & digital future*. Retrieved 27 October 2022, from: <https://publications.jrc.ec.europa.eu/repository/handle/JRC129319>

Lee, J., and Di Ruggiero, E. (2022). How does informal employment affect health and health equity? Emerging gaps in research from a scoping review and modified e-Delphi survey. *International Journal for Equity in Health*, 21, Article 87. <https://doi.org/10.1186/s12939-022-01684-7>

Nachhaltigkeitsrat (2021). *Circular Economy: Leveraging a Sustainable Transition*. Retrieved 27 October 2022, from: https://www.nachhaltigkeitsrat.de/wp-content/uploads/2022/02/20211005_RNE-Statement_Circular-Economy-1.pdf

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