

FORESIGHT STUDY ON THE CIRCULAR ECONOMY AND ITS EFFECT ON OCCUPATIONAL SAFETY AND HEALTH: SCENARIOS UNTIL 2040

In this FOP webinar, the first raw scenarios of EU-OSHA's foresight study on the topic of the Circular Economy (CE) have been presented and interactively discussed. Although the event had to take place online, discussion has been fruitful via breakout sessions in subgroups and plenary feedback and Q&A, in the same way as it would have taken place in a 'real' physical seminar.

Introduction:

EU-OSHA's project manager Annick Starren opened the webinar with a short introduction to the background of the Foresight study. The foresight studies go along for several years as part of EU-OSHA's mission to contribute to the improvement of safe and healthy working conditions in the EU. By anticipating on developments that may take place in the future (e.g. related to new technologies, new ways of working and societal change), changes that could have an impact on workplace safety and health can be considered in an early stage.

The current foresight study focuses on the topic of the Circular Economy (CE). As defined 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>).

This study aims to explore different ways in which future work and jobs may be impacted by efforts towards implementing a CE, and what consequences this may have for OSH in the future. For this purpose 4 macro-scenarios have been developed focused on the CE and its effects on OSH, by our contractor Future Impacts.

Presentation and overview of the project including the four scenarios

Next, the four scenarios have been presented by our contractors Jessica Prendergast and Cornelia Daheim (Future Impacts), as well with a contribution of Cécile Désaunay (Futuribles). Apart from the 4 scenarios, the presentation entailed information on the aim, the expected outcomes, key questions that the scenario's reflected upon, and an overview of the project:

- **Aim of the webinar:**
 - to involve the FOPs with the results from the foresight project so far and enable a shared reflection on the scenarios via a first look at implications for OSH and possible regional or national aspects.
- **Expected outcomes of the webinar are:**
 - - shared understanding of 'what's important' going forward and
 - - insights and shared reflection on the four scenarios and their implications.
- **Key questions that the scenario's reflect on are:**
 - what does a future European CE really entail? And how far are there differences between different i.e. regional, national, global level etc.?
 - (how) can we come to a shared agreement on the concepts we are striving towards? I.e. Circular Economy vs. Just Transition etc.

- could environmental goals be pursued at the expense of working conditions and job quality?
- **Other aspects especially relevant for working conditions and OSH:**
 - to what extent could varying levels of future digitalisation (a key enabler of the CE) impact upon working conditions and OSH?
 - what role will the waste sector play in the transition towards a CE?

Results of the break-out sessions in groups

In the groups discussion the opportunity has been provided for reflection on the scenarios and to bring up the first insights on OSH implications. To support and structure the discussion, the following guiding questions have been defined:

1. What are your first **associations** with, and reactions to, the scenario?
2. From the scenarios, which **Circular Economy specific OSH implications** stand out for you? (i.e. specific to the Circular Economy aspects of the scenario, and not the more general aspects i.e. climate change, digitalisation, etc.)
3. To what extent do you see **regional, national differences** in the Circular Economy specific OSH implications from the scenarios?
4. *Optional step: listing of Circular Economy specific OSH Implications from the scenarios for specific sectors.* Examples of the CE aspects from the scenarios:
 - EU wide shift towards a CE with ample government funding and support, digitalisation and new technologies help drive the transition;
 - ambitious climate targets change adaptation and mitigation;
 - consumption levels rise much more slowly, with focus on ethical purchasing;
 - austerity measures in EU;
 - digital tech is everywhere, and work is abundant;
 - automation is relied on to improve workplace safety;
 - new materials and recycling tech solutions are increasingly used.

Examples of relevant sectors: Energy, Transport, Construction, Agriculture, forestry & food and Waste, Recycling & environmental remediation.

- **Group Discussion results for Scenario 1: The roaring 40's – fully circular and inclusive.**

First association for this scenario is that it is a “bonus world”, basically here where we have all. It is seen as a desirable scenario. Although optimistic, with quite major changes implied, it is possible to make it happen. Major levers are needed, like a paradigm shift, in values, behaviour and economic systems: “a need to change how we think, and how things work”. Strong political measures are needed to make this scenario happen, for example by (tax) incentives to make it attractive to buy less (and better quality). Also the generational perspective need to be taken into account: the younger population is often already on board, but also for them (more) awareness raising is needed, e.g., an education push with the youngest, in schools / kindergarten; the baby boom/ older generations contribution will probably best be received via price incentives.

Examples of prerequisites to enable this pathway:

- harmonizing the legislation in Europe, even more so around environmental than OSH aspects;
- investment in research, e.g. early identification of new risks for emerging/substitute materials;
- change of production processes / systems “away from producing-and-selling-more-and-more”; “flipping the (economic) system” by creating new kind of incentives for and in the economy.

▪ **Group Discussion results for Scenario 2: Carbon neutrality - of a hazardous kind.**

First association for this scenario is that it is not a sustainable scenario. Not all aspects could have been explored in details, like energy generation/ atomic energy. As well it is seen as important to consider the whole life cycle (in particular with Photo Voltaics) in the scenario.

An important lesson learnt from this scenario comes from the parallel between the environmental change and the pandemic: both ask for better crisis management and well linked policy areas.

▪ **Examples of Circular Economy specific OSH implications that stand out:**

- ensuring OSH at a higher level is an issue even today: traditional methods and manufacturing/recycling of raw material is and will be high;
- for OSH implications we also need to look at the technologies and processes;
- exposure of dangerous substances leads to new risks, for example during transportation of dangerous waste, on the other hand the 'Principle of substitution' could be an opportunity (working with less dangerous substances from the beginning through recycling);
- Job inequality may be enlarged / high and low level jobs (especially in recycling), even if part of it is digitalised;
- ageing of material asks for changed processes and so for changed tasks;
- next to the beneficial aspects of PV's for greening, they may also lead to new risks;
- same for wind turbines, energy transformation and recycling, which could lead to: work on height, work in solitude or out of office, mobile work;

Regarding regional differences, differences are seen between but also within countries, for example between north and south Italy regarding the involvement into CE. In addition, differences are triggered between regions depending on the industrial development (e.g. mining, carbon dependency). Moreover, some countries are producers and others store the waste. And last: social rights should be considered in terms of mentality / cultural approaches. This can be seen as a transition in parallel.

▪ **Group Discussion results for Scenario 3: Staying afloat – amid economic and environmental crises.**

First association for this scenario is the focus on digitalisation, cost- effectiveness and profit. The green transition is a distant memory. It is seen as the Nightmare scenario: "we don't want this for our children", or "imagine that the rising unemployment, limited public spending, economic recessions what we have seen in this pandemic crisis would not improve from now on but develop even worse..!". In this scenario, it is also expected that the general public responsiveness to discuss the changes and topic of CE is low, while it is important to understand the topic and to be able to discuss what it is about, to foresee the consequences.

Examples of Circular Economy specific OSH implications that stand out:

- inequality in job status: in this scenario there is no inclusiveness, here workers are lucky or left behind;
- no means for training available, no support for new (needed) skills, e.g. digitalisation skills and skills regarding work organisation (e.g. self management);
- ethical borders will be moved: no attention for OSH because people have to work and do anything to get to work. Every person is fighting for him/herself;
- exposure to workers to dangerous substances grows because profit is seen more important than assessment of new material, accidents rates increase;
- also emotional conditions are lower because of this growing individuality and self-centeredness and because of increased working time;

- institutions and labour inspectorates will be weak, so we don't even notice: no monitoring and also no promotion of OSH.

Regarding regional differences it is expected that the added value of Europe is low. Every region is working for themselves, individually. Only business and cost effectiveness is important. No social fabric or safety network is available, either cohesion, or support for cohesion initiatives. The poor regions are lagging behind, the richer take care for themselves only.

▪ **Group Discussion results for Scenario 4:**

Regional circularities - with European divides.

In this group the first associations for this scenario is two sided. Some see it as rather unrealistic in terms of two competing narratives: 1) health and safety as a priority, and 2) a rise in unsafe work practices, and an informal economy. In contrast, others think the scenario is too plausible and too close to today's world, and that perhaps more drastic developments are needed.

Also in this group all scenarios are seen quite pessimistic, but rightly.

Examples of Circular Economy specific OSH implications that stand out are:

- issue of time gaps between exposure and knowledge of risks compared with safety research and information (and e.g. OSH policy and guidelines);
- these time gaps also stretch more when the issue is not perceived as being critical;
- rapid is the key word in this scenario, and also a key word when thinking about emergence of risks and whether adequate policies and procedures are in place to address them;
- ability to retrain is the other related keyword (which needs both industry and policy support).

Regarding regional differences, differences are seen between regions but also within regions, e.g. rural vs. urban regions. For example, waste facilities can be located in rural areas far away from supervision. Small economies will always need to export waste, to a greater or lesser degree.

Final discussion

The four scenarios provide potential pathways for CE in Europe and on how their effects on working conditions could vary widely, with a similarly wide-ranging set of first implications for OSH and respective possible future policy areas.

Although it is not easy to grasp the scenario's in a rather short workshop, the input and reflections from the groups have been very rich, leading to the validation of the scenarios for discussion, as well as to new insights, where possible based on regional or national experiences.

Next steps

Phase 1 of the project focused on the development of macro-scenarios. This workshop has been an opportunity for first validation of the scenarios and for further reflection. Comments will be included in the finalisation of the Macro scenarios. In phase two the macro scenarios will be further disseminated and tailoring via stakeholder dialogue and workshops.