EU-OCHSA’s Foresight project on the Circular Economy and its impact on OSH

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Background to EU-OSHA’s foresight work

**OBJECTIVE:**

To anticipate new and emerging challenges to Occupational Safety and Health (OSH)

  
  Calls EU-OSHA to “Anticipate possible negative effects of new technologies and changes in work organisation on workers’ health and safety”

- **EU Strategic Framework on Health and Safety at Work 2021-2027**
  
  Key objective: “Anticipating and managing change in the new world of work brought about by the green, digital and demographic transitions”
EU-OSHA's foresight work

- **2002 – 2006: 4 Expert forecasts**
  - On emerging physical, chemical, biological and psychosocial risks
  - Based on Delphi surveys

- **Since 2008: 3 Foresight cycles based on scenario-building**
  - OSH in green jobs
  - Digitalisation and effects OSH
  - Circular Economy and its effects on OSH (ON-GOING)
A tool for strategic futures thinking
- Doesn’t assume the future is pre-determined, doesn’t demand consensus
- To provide insight and stimulate debate into ways to shape the future

Scenarios of plausible, possible futures:
- Help policy-makers gain insights into long-term developments
- Better understand what decisions could help avoid/encourage these futures

Participatory:
- To engage with different groups of stakeholders and generate strategic discussions
- With multi-disciplinary experts and policy-makers to gain knowledge of each other’s disciplines and mainstream OSH

Global approach
- Societal, technological, economical, political context are taken into account
**Example: Scenarios Digitalisation**

High/Supportive

Scenario 1: Evolution

Scenario 2: Transformation

Scenario 3: Exploitation

Scenario 4: Fragmentation

Low/Resistive

Governance & public attitudes

Economic growth & technology innovation
Relevance:

- Transitioning to a CE is a key driver of the EU Green Deal implementation and of the EU goal of achieving carbon neutrality by 2050 while creating sustainable growth and jobs.
- It has significant policy and regulatory implications that will affect future jobs.
- It will also have consequences for workers’ safety and health.
- Relevance to the EU OSH Strategic Framework 2021-2027
  - Key objective: “Anticipating and managing change in the new world of work brought about by the green, digital and demographic transitions”
Foresight study on the circular economy and OSH

First phase (2021): scenario development - Macro scenario’s.

Second phase (2022): dissemination and tailoring of the macro-scenarios, via stakeholder dialogue and workshops - Micro scenario’s.
Intro: Circular Economy and OSH

Adaptation/innovation in working processes, creativity in business models, short circles, new ways of collaboration, less waste

- new type of design of working processes for the future
- incorporation of digital technology.
- preserving and extending what’s already made
- prioritising regenerative resources, especially use “waste” as a resource
- adaption of the existing ‘Business models’
- better collaboration to create joint value.

It will have consequences for workers’ safety and health:

- impacts on jobs in hazardous sectors, related to maintenance and repair, disassembly and recycling, could have a negative impact on working conditions;
- changes in organisational processes and/or redesigning tasks could have an impact on job content and satisfaction
Phase 1 (2021): focused on the development of Foresight macro scenarios

**Objective:**
Produce a set of scenarios on the future of the Circular Economy and its potential implications for OSH, in the European context. (To be utilised and reflected on more with stakeholders in next project phase)

<table>
<thead>
<tr>
<th>Literature review</th>
<th>Expert interviews</th>
<th>Review of relevant publications</th>
<th>Scenario Creation</th>
<th>Expert interviews</th>
<th>Reporting &amp; Communication</th>
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| Key studies on (the future of):
  - CE
  - Work
  - OSH
  INRS study: translation & key insights | Interviews with experts in CE and future of OSH to validate research findings & provide additional insights / check blind spots | Review of key drivers, megatrends & scenarios from earlier EU-OSHA foresight cycles based on insights from literature review & expert interviews | Key factor selection & descriptions, incl. projections
  - Software-based Robustness / Consistency Analysis
  - Scenario drafts on the future of CE with OSH implications | Interviews with experts in CE and future of OSH to validate scenario drafts and provide additional insights / check blind spots | Final report, policy briefs and visualizations (incl. Focal Points Network presentation & OSHwiki article) |

https://osha.europa.eu
The scenarios:
four different CE (and OSH) futures until 2040
Key Factor

Today 2040

Projection 1
Projection 2
Projection 3
Projection 4
Scenario Construction

Example of key factors (in blue) and their projections (in yellow) arranged in a morphological box. The raw scenarios are represented by the coloured lines.
Four different CE (and OSH) scenarios, in the EU until 2040

The 4 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

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**Result Phase 1: four macro scenario’s on CE and OSH in the EU until 2040**

<table>
<thead>
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<tr>
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<td>In 2040, the products that sell best are those that are cradle-to-cradle and &quot;net-positive&quot; in terms of social and environmental sustainability.</td>
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The roaring 40’s – fully circular and inclusive

In 2040, the products that sell best are those that are cradle-to-cradle and ‘net-positive’ in terms of social and environmental sustainability.
Phone call between the union representative and a maintenance worker (names withheld for privacy reasons), 1.6.2040:

Maintenance worker: ‘Kind of you to ask, but no, I’m not worried about anything. I like it up here — and I do feel safe. Sometimes, when you hear about the accidents people had two decades ago when the first serious urban PV installations started; it feels ridiculous, or horrifying. People working with helmets and hi-vis vests only, no airbag, nothing. Plus, it sounds like no one was ultimately responsible for them. I have my safety AI Eugene watching over me …’

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Staying afloat – amid economic and environmental crises

In 2040, the biggest concern for many is just having a job – and not what the job entails. Most people are focused on keeping things afloat, so that there’s little consideration for much else - not the environment, not social rights and not job quality.
Agáta Novotná, Zlín, Czechia, March 2040

Agáta wakes up at 04:50 sharp, giving her just enough time to roll out of bed and log on to jobseek.eu, where job vacancies are published throughout the EU daily. With a professional background in real estate (who would buy in this market?) Agáta has increasingly been forced to take on platform jobs in the waste collection industry just to make ends meet. Like the Uber drivers of yesteryear, cash‘4’collect drivers provide on-demand waste collection services to households in the Moravia region. All that is required of potential workers is their own vehicle and a prompt collection and drop-off service. Today looks like a quiet one, though, with hardly any collection tickets on offer. Agáta slips back into bed, deciding to put off worrying about how she’s going to pay rent this month until after she next wakes up.
Carbon neutrality - of a hazardous kind

The year 2040 marks the achievement of carbon neutrality in Europe. But: With environmental outcomes having been prioritized above all else, this has often come at the expense of job quality and working conditions.
In 2040, everyone knows: contracted employees are well looked after, but those in non-standard employment are not. Neither is the environment, with circularity being mostly regional.
Phase 2: dissemination and tailoring of the scenario’s

✓ Definition of the stakeholder groups (stakeholder analysis)

• Potential workshop participants
• Target audience for effective communication and dissemination

✓ Development of 4 different “lenses” for the workshops

• Workshop 1: focus on vulnerable stakeholder groups (incl. e.g., migrant workers, lower-skilled, youth, etc.).
• Workshop 2: focus on most affected sectors by the transition to a circular economy.
• Workshop 3: focus on waste management (stakeholders from the waste industry as well as other high waste producing sectors).
• Workshop 4: focus on cross-cutting implications for OSH as well as regional perspectives.
Workshop lenses (i.e., focus) for each of the workshops, including suggested stakeholder groups.

**Workshop 1**
- **Vulnerable Groups**: Participants include a mix of stakeholders with a focus on those who represent vulnerable workers (e.g., migrant workers, lower-skilled, youth, etc.)

**Workshop 2**
- **Most Affected Sectors**: Participants include a mix of representatives with a focus on those representing each of the sectors most affected.

**Workshop 3**
- **Waste Management**: Participants include representatives from waste sector as well as other sectors, policy, OSH, etc.

**Workshop 4**
- **Cross-cutting Implications & Regional Perspectives**: Audience to be determined
The workshops:

Each workshop starts from the existing macro-scenarios (with already tailored content).

Examples of guiding questions:

• What kind of change can we expect the macro-scenario to bring about for the stakeholder groups (both collectively and individual groups)?
• How would work change in the scenario (covering opportunities as well as risks)?
• What are the specific OSH implications?
• From the macro-scenario, what are the (new) needs for action and policy?
• Which needs for further research can we identify today?
• Which of the changes and implications identified in the discussions cut across the scenarios, and which ones are specific for one specific pathway?
**Planning**

**Workshops:**
The first **3 workshops** have taken place on resp. the 9th and the 29th of March, and 7th of June 2022.

The **4th workshop** will take place in October 2022 and the lens is focused on cross-cutting implications for OSH as well as regional perspectives.

- Mix of policy makers from a broad cross section of networks and disciplines
- Regional representation guaranteed via FOP nominees

**Reports and further dissemination:**
The interactive workshops and further desk research will lead to the development of **a set of micro scenarios** for 4 relevant branch/stakeholder group combinations per scenario (16 in total). These will be published as a report (including a summary and policy briefs) beginning of 2023.
In development: draft micro-scenarios (16)

The Roaring 40’s – Fully Circular and Inclusive
- Low-skilled worker + Energy sector
- Migrant worker + Transport sector
- Non-standard employment contact + Construction sector
- High-skilled worker + Manufacturing sector

Carbon Neutrality – of a Hazardous Kind
- High-skilled worker + Energy sector
- Low-skilled worker + Transport sector
- Migrant worker + Construction sector
- Non-standard employment contact + Manufacturing sector

Staying Afloat – Amid Economic and Environmental Crisis
- Non-standard employment contact + Energy sector
- High-skilled worker + Transport sector
- Low-skilled worker + Construction sector
- Migrant worker + Manufacturing sector

Regional Circularities – with European Divides
- Migrant worker + Energy sector
- Non-standard employment contact + Transport sector
- High-skilled worker + Construction sector
- Low-skilled worker + Manufacturing sector

Narrative Vignette on waste sector E.g. day in the life, newspaper clipping
Narrative Vignette on waste sector
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Placeholder for new visuals on micro-scenarios
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NB: in the final report, ways will be explored how to best integrate new scenario pathways around what have been major developments in the interim period since Phase 1 of the project, including e.g. the Ukraine crisis and the potential effects of these developments on both the circular economy and working conditions (and OSH) in the EU until 2040.
Adaptation/innovation in working processes, creativity in business models, short circles, new ways of collaboration, less waste

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WORKING SESSION 3: ROAD-MAPPING OCCUPATIONAL SAFETY AND HEALTH LEVERS FOR PROTECTING VULNERABLE WORKERS

WE NEED A "WORKER CENTRIC" APPROACH TO RISKS LINKED WITH NEW TECHNOLOGY & AUTOMATION!

WE NEED TO GUARANTEE "CLEAN ENERGIES" DO NOT PUT WORKERS AT RISK!

INTEGRATION OF GREEN & JUST PUBLIC PROCUREMENT!

GREEN AND OSH POLICIES!

LIFELONG LEARNING!

TARGETED TRAINING

FUTURE IMPACTS

A BROAD COVERAGE OF OSH TO ALL WORKERS!

VULNERABLE WORKERS MUST BE PROTECTED BY A CLEAR LEGAL FRAMEWORK!

SCREEN RETIRED WORKERS & LINK THEIR DISEASES TO PAST WORK LIVES!

CIRCULAR ECONOMY MEANS INNOVATION!

...IS THERE TIME FOR RISK ASSESSMENT OF THE NEW PROCESSES?

NEED TO MONITOR UNLAWFUL OSH CONDITIONS!

WHITE PAPER ON OSH RISKS

FIND WAYS TO CONNECT OSH TO SCIENTIFIC CONCEPTS...

AND EMBED INTO INDUSTRY 5.0

COOPERATION BETWEEN SOCIAL PARTNERS!
SHARING RESULTS, FINAL REFLECTIONS & NEXT STEPS

ON HOW DIFFERENT SECTORS MIGHT BE AFFECTED...

OSH COULD PLAY A SUBSTANTIAL ROLE IN ENSURING A POSITIVE, SAFE, FAIR & SUSTAINABLE TRANSITION!

RAPID & FAR-REACHING CHANGE!

NEW JOBS!
NEW MATERIALS!

THE BOUNDARIES BETWEEN SECTORS ARE BLURRING!

CASH IS KING!
... A LACK OF INVESTMENT

WILL WORKERS BE AT THE MERCE OF THE TECHNOLOGY?
E.G. DRIVERS RESTING WHILE EVS RECHARGE

DECREASED DRIVE FOR RECYCLING...

THE BIG PICTURE IS MISSING!

KEY QUESTIONS AROUND NEW & EMERGING HAZARDS

THE GREATEST RISKS ARE WHERE LARGE INFRASTRUCTURE IS NEEDED!

DANGER! NANOBIOS!

NEW RISK FROM NEW TECH?

CONTINUOUS INVESTMENT IN TECHNOLOGY & INFRASTRUCTURE!

FUTURE IMPACTS

European Agency for Safety and Health at Work

Cornelia Daheim, Jessica Prendergast, Future Impacts

Annick Staeren, EU-OSHA

On OSH LEVERS FOR SUPPORTING THE MOST AFFECTED SECTORS...

Take an Anticipatory Approach for OSH & Risk Assessment!

Continuous Investment in Technology & Infrastructure!

https://osha.europa.eu
ON-GOING:

- Workshops with stakeholders
- Development of micro-scenarios with stakeholders dedicated to specific contexts (regions, sectors, activities, workers’ groups)
- Final reports with micro-scenario’s expected Q1 2023

Publication of a report and 2 Policy briefs:

- “The role of digitalisation in the circular economy and implications for OSH”
- “Challenges and opportunities for occupational safety and health in the waste sector”

Concerns

- If green jobs are to be truly sustainable, we need to make sure that they benefit workers' safety and health, as well as the environment. In the green economy, as elsewhere, good OSH plays a vital role in increasing competitiveness and productivity. In this fast-developing area, we need to ensure that what is good for the environment is good for workers too.

- Given how quickly the green economy is expected to grow, it is important that we anticipate any new or emerging OSH risks in relation to green jobs before they appear. That is why EU-OSHA has carried out foresight studies and reviews looking at the challenges and opportunities that will arise as part of the transition towards climate neutrality:
Thank you!

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