



# LABOUR MARKET IMPACTS OF THE CIRCULAR ECONOMY

A briefing for social partners  
on shaping the future of the  
circular economy



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# ACCELERATING THE TRANSITION TO A CIRCULAR ECONOMY

## The circular economy will lead to shifts in industries and labour markets

In a circular economy, the value of products, materials and resources is preserved for as long as possible and waste is minimised and eventually designed out completely.<sup>1</sup> This alters how goods and services are produced and consumed, and consequently, the relationship between capital and labour.<sup>2</sup>

If managed well, the adoption of circular economy strategies could promote employment opportunities for workers. However, jobs that contribute to the circular economy are not inherently of better quality than other jobs. Combining the social and the circular economy agendas could facilitate an inclusive, just and safe labour market.<sup>3</sup> But to do this, we need to better understand how to support workers in areas of the labour market facing these changes.

Large-scale adoption of circular economy strategies is expected to initially be labour-intensive. Circularity relies heavily on activities and services that are focused on reusing materials and closing material cycles— processes that require more hands than many activities in the one-directional, linear economy. Demand will increase for new and existing roles in labour-intensive industries, such as services, resource management and repair. At the same time, the transition will see declining employment in material-intensive extractive industries, like mining and the manufacturing of products from raw materials.<sup>4</sup>

The adoption of the circular economy will affect jobs in four ways:<sup>5</sup>

1. some new jobs are created,
2. some jobs are substituted by other, more circular activities,
3. some are lost,
4. meanwhile, others are redefined as the tasks and skills required of workers change.

## Long-term planning is needed to bring workers along in the circular economy

Circularity has the potential to strengthen local and regional economies and jobs by creating more local and regional closed-loop value chains.<sup>6</sup> It will also embrace automation and new technologies, all of which will impact jobs. Changes will be felt differently by regions due to their different specialisation and compositions and will not come free of challenges and risks when it comes to decent work.<sup>7</sup> In regions and sectors where job losses are concentrated, particularly close consideration must be paid to the ability of workers to relocate or transfer their skills to another line of work.

**Training and long-term skills pathways** will be crucial enablers of decent labour shifts and of a just transition to circularity. Recent studies suggest that most 'green jobs' require an upskilling of the labour force, rather than a complete reskilling and that changes in job skill requirements can probably be met via incremental changes to existing systems of vocational training.<sup>8</sup> Although circular jobs differ from the concept of green jobs, a similar pattern of change is likely to apply to both.

## The covid-19 pandemic is accelerating labour market changes

The covid-19 pandemic has contributed to mass unemployment worldwide, with many economies facing deep recessions. The pandemic has also already accelerated the ongoing digital and green transformation. This increased speed and rate of adoption of new processes risk widening the already present skills gap. Additionally, there is the risk that polluting industries could turn recovery plans to their advantage and apply pressure to have costly environmental regulations eased.<sup>9</sup>

Stimulus packages and policies put in place to mitigate further unemployment from the pandemic, particularly in Europe, are increasingly adopting the circular economy as a key instrument to 'build back better'.<sup>10</sup> The adoption of circular economy strategies has been placed at the centre of rolling out the Green New Deal in Europe. Only a circular economy that is ethical and inclusive will be suited to meet these challenges.

This brief lays out the opportunities and challenges that come with adopting a more circular economy, and how organised labour and social partners can become central actors in a just transition to circularity and in building back better in the post-covid world.

The covid-19 pandemic has revealed our current economic system's vulnerability to risk and has shed light on the urgency to protect our environment. Still, global demand for products is expected to continue growing, while millions of workers need new jobs or improved working conditions. The circular economy is challenging us to rethink and redesign for resilience not only the production and consumption model, but also industrial action towards greater worker participation and better quality jobs. The circular economy can boost resilience, but it's not a silver bullet. It will require system thinking. Every actor in the economy, from businesses, workers, social partners, and governments, needs to proactively act now, starting with social partners.

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## What are circular jobs?

A **circular job** is any occupation that directly involves one of the elements of the circular economy or indirectly supports such activities.

More information on the definition of circular jobs used by Circle Economy and how they relate to circular strategies implemented by businesses and organisations can be found [here](#).



## KEY DATA & FIGURES

The current global economy is only **8.6% circular**. Doubling this figure by applying circular strategies to global economies would help us reach the climate goals of the Paris Agreement.<sup>11</sup>

Around **90%** of total CO<sub>2</sub> emissions are attributable to ten industries that account for just **16%** of total employment. OECD 2012<sup>12</sup>

The net increase in jobs of the shift to the circular economy will be approximately

**+700.000**

jobs in EU by 2030<sup>13</sup> EU , +7-8 million worldwide.<sup>14</sup>

For every **10,000 tonnes** of resources that are recycled instead of being incinerated,

**36** additional jobs are created.<sup>15</sup>

Up to

**18 million**

in the EU will need reskilling in one form or another due to a shift to a low-carbon economy.<sup>16</sup>

On average, employers expect to offer reskilling and upskilling to just over **70% of their employees by 2025** yet, only

**21%** of businesses

feel able to make use of public funds to support their employees through retraining initiatives.<sup>17</sup>

## FORECASTED JOB GAINS & LOSSES<sup>18</sup>



### EMERGING SECTORS

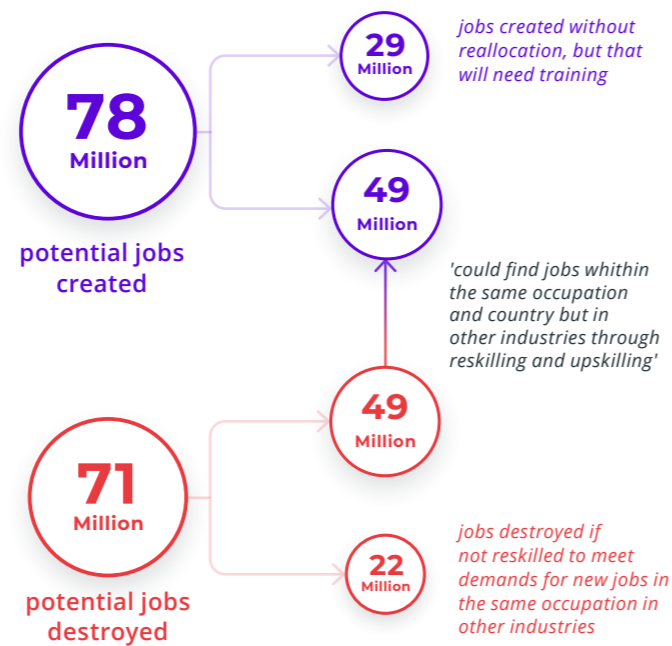
1. Waste Management
2. Services
3. Repair & Installations



### DECLINING SECTORS

1. Non-metallic mineral
2. Construction
3. Electronics


## SKILLS FOR A GREENER FUTURE<sup>19</sup>





## THE ROLE OF SOCIAL PARTNERS

Social partners representing the interests of workers and employers, such as trade and labour unions, are key to ensuring a just transition to the circular economy. Positioned in the centre of workers, businesses and governments, they can:


 **Translate circular challenges into opportunities.** There is some uncertainty over how the circular economy transition will impact jobs — especially in industries where the biggest changes are anticipated. Social partners can bring the social dimension to the circular economy agenda: reduce uncertainty and increase the quality of information used in social dialogue, and instigate transformation change by expanding climate awareness in the workplace. They can do this by translating findings from the latest research into practical information for workers and businesses in specific sectors, as well as other partners and policymakers.

 **Create access to training and upskilling opportunities.** The circular economy requires a general upskilling across industries to support labour mobility. Social partners have a key role to play in facilitating the co-development of new qualifications, assessment tools and training pathways by industry and education. This can include working closely with the vocational education and training (VET) system and taking a participatory approach when designing upskilling programmes with and for workers in industries undergoing changes.

 **Act as a redistributive power.** Social partners can help to ensure that workers are not negatively impacted under green policies and that social protection is guaranteed. This could include, for example, ensuring that public revenue generated by material taxes and other green economic policies can be recycled back into the labour market, and that large-scale temporary job retention schemes include wage support measures.<sup>20</sup> By steering transparent social dialogue, social partners can also guarantee that new policy developments include adequate compensating policies and funding related to skills, education and decent work.




 **Limit trade-offs between social and environmental targets.**<sup>21</sup> Emerging circular enterprises where jobs will be created may not be unionised.<sup>22</sup> This could negatively influence working conditions, wages and quality of jobs. Social partners' have an opportunity to strengthen existing collective bargaining instruments in both declining and growing sectors, as well as encourage unionisation and collective agreements in emerging sectors to ensure bargaining power and proper representation of workers.

 **Connect stakeholders through social dialogue.** The trickle down from circular policies to workers and industries is vital. Social partners can act as intermediaries between workers and businesses, as well as knowledge and political partners to incentivise all actors to take a proactive role in the transition, and raise awareness about the expected changes in the labour market. As intermediaries, they can identify and exploit synergies between existing policies, and create collaboration between actors (trade unions, companies, employer organisations, national authorities, training centres) to ensure a just transition that also benefits workers.



 **Promote Industry 5.0.** Industry 5.0 is human-centered and balances environmental, social, and fundamental labour rights' dimensions.<sup>23</sup> Social partners can be at the forefront of supporting industry 5.0 to adopt circular strategies and encourage them to prioritise job quality, job duration, health and safety and gender inequalities.

## THE ROLE OF LABOUR POWER IN THE ADOPTION OF RENEWABLES IN GERMANY

### KEY ENVIRONMENTAL ISSUES

-  Two Thirds of all GHG anthropogenic emissions
-  Pollution of air, soil, water during the operation and construction of energy facilities
-  Land use change and waste production

### TRAINING & EDUCATION NEEDS

-  Upgraded skills for emergent energy markets
-  Technical knowledge for application of energy efficiency and renewable energy technologies

Germany's transition towards renewables has seen extractive, material-intensive energy generation, mainly coal- and lignite-based, being phased out. While fossil fuel-related labour has decreased, it is still very well organised and thus powerful. Homogeneous fossil fuel workers' unions have been a source of political power and were able to take collective action through coalitions with green (low-carbon) counterparts, successfully preserving the groups' interests: the preservation of jobs and of the area's industrial heritage. Today, some other regions in Germany have been able to profit from renewable energy job creation. More than 20 in 1,000 jobs in these regions were generated by the renewable energy sector in 2015, and mining sites are being turned into cultural venues and museums. Read more [here](#) and [here](#). Another example from the UK can be found [here](#).

# OPPORTUNITIES & CHALLENGES FOR THE LABOUR MARKET

OPPORTUNITIES	CHALLENGES
<b>Job creation</b>	
<p>Studies consistently report that the transition will result in a positive, yet modest, impact on the labour market. The projected net employment increase is about 700,000 jobs in Europe<sup>24</sup> and between 7 and 8 million worldwide by 2030.<sup>25</sup> Initial job gains are predicted to be highest in waste management and services, with extractive industries related to nonmetallic minerals and construction seeing the highest job losses.</p>	<p>Circular economy strategies will redistribute employment between sectors by stimulating growth in labour-intensive industries that close material cycles while reducing demand in capital-intensive and extractive industries. As such, the impacts of the transition will vary between regions based on the specialisation and composition of local economies. Moving away from a reliance on virgin material extraction, for example, may result in job losses in resource-reliant countries in the Global South.</p>
<b>Harnessing skills</b>	
<p>The circular economy will require some new skills alongside a general upskilling across industries. Without skills development, investment in circular strategies will not translate into employment opportunities. Skills development can valorise workers' skills and ensure that existing skills, just like valuable raw materials, are not wasted or lost in the transition. Continuous and lifelong learning is needed so that industries and workers can keep up with new innovation and technologies.</p>	<p>Training and proactive skills pathways will be crucial to ensure 'future-proof' skill-sets and labour mobility. The promotion of occupational labour mobility must come with protections to ensure flexible labour arrangements do not make workers vulnerable. Specific underserved groups should be targeted under skills development programmes, such as workers in rural communities, women, migrants and informal workers.</p>

OPPORTUNITIES	CHALLENGES
<b>Job quality</b>	
<p>With the circular economy, there is an opportunity to restructure the labour market and promote decent work and livelihoods, particularly in growing and emerging industries that host new occupations. Social partners can help ensure investments in training are reflected in better quality jobs and higher salaries for workers.</p>	<p>Jobs that contribute to the circular economy will not inherently be of better quality. Addressing the potential blindspots of circular business models will be crucial to ensuring job that they are implemented in a fair and just manner in terms of health and safety standards, wages and workers representation.<sup>26</sup> For instance, improving resource management in cities and increasing recycling rates must come hand in hand with addressing the health and safety, and in many regions the informality, of workers working in this sector.<sup>27</sup></p>
<b>Business competitiveness</b>	
<p>The circular economy promotes competitiveness across value chains, from downstream service sectors to high-valued activities. This presents opportunities for regions with already strong service industries. Circular business models also attract young and qualified workers who see the relevance and opportunities presented by circularity and can assist currently struggling sectors to replace an older generation of workers eyeing retirement.</p>	<p>Businesses' competitiveness, innovative capacity and productivity will strongly depend on the availability of skilled workers. To remain competitive, businesses must facilitate access to training, reskilling and upskilling opportunities, leveraging on the already existing knowledge and skills of the industry they operate in. Competitiveness will also depend on the development and implementation of policy measures to guarantee fair competition between businesses that are subject to circular and green regulations and international competitors that do not face the same regulations.</p>

# KEY CONSIDERATIONS FOR SOCIAL PARTNERS

When designing interventions and policies and steering social dialogue, social partners should take these additional considerations into account.

- **360 policies.** Achieving the structural changes needed for the adoption of the circular economy will largely be driven by government policies. The implications of future green policies for labour markets have been extensively studied and modelled against various scenarios. Some scenarios highlight the high risk for workers if adequate compensating policies related to skills and decent work are not put in place. The OECD, for example, estimates that—without labour markets and skills policies to ensure an efficient and just transition to a low-carbon economy—climate change mitigation policies could contribute to a fall in wages.<sup>28</sup>
- **Addressing skills needs.** Anticipating the skills needed in the future can be difficult. On top of this, current circular economy policies and action plans underestimate the importance of skills to the transition. Less than 40% of Nationally Determined Contributions (NDCs) pledged under the Paris Agreement include any plans for training to support their implementation, and over 20% do not plan any human capital related activities at all.<sup>29</sup> Countries where circular economy strategies are already in place should convene the private sector and social partners to work together on forecasting skill needs. The use of digital platforms could be a helpful tool in this direction (see [CEDEFOP digital platform](#)).
- **Digitalisation and automation.** Some circular strategies utilise ‘smart’ digital systems and other enabling technologies. Digitalisation and automation already constitute a major focus on education and skills policy. Digital platforms can be key enablers of the sharing economy but can classify workers as self-employed or lack fair digital taxation. This may lead to an erosion of working conditions and unfair redistribution of profits. A foundation of digital literacy and better collective bargaining to guarantee worker representation are needed to achieve a digitally-enabled workforce that thrives in the circular economy and in a human-centric and resilient Industry 5.0.<sup>30</sup>
- **Legal barriers.** Circular activities are often cross-sectoral and interdisciplinary. Practices like eco-design, sharing, repairing and reuse of

materials work best in a cross-sectoral setting. This has various implications for current legal frameworks and industrial classifications. In turn, this complicates policies and the update of sectoral collective agreements, as they need to break through sectoral divisions or create new agreements for new companies where no collective labour agreement applies.

- **Mobility and labour flexibility.** The mobility and transferability of skills and workers will play an important role as value chains and sectors undergo changes. Reskilling and upskilling can reallocate jobs within the same occupations in growing industries, while professional training can help new sectors absorb laid-off workers. Job market matching will be crucial to understand where and how workers can be reallocated across sectors and occupations.
- **Funding for skills development.** Skills development will be one of the most important enablers of a just transition to circularity. Yet, the circular economy has been neglected in the climate debate in terms of government budgets. Future initiatives should call for the coordination of both private and public financing to promote innovation and training. The Recovery and Resilience facility (RRF) to mitigate the economic and social impact of the coronavirus pandemic may constitute an important opportunity to direct funding to education and training.<sup>31</sup> The European Commission's planned investments in new European Partnerships to speed up the transition towards a green, climate-neutral and digital Europe is expected to mobilise additional investments in support of the transitions and create long-term positive impacts on employment, the environment and society.<sup>32</sup>

## RESKILLING CONSTRUCTION AND MOBILITY WORKERS

### KEY ENVIRONMENTAL ISSUES

- High GHG emissions operational and embodied in materials
- Resource depletion due to high consumption of raw virgin materials
- Land use change, waste production and pollution

### TRAINING & EDUCATION NEEDS

- ✓ Upgraded knowledge and skills to enforce highest environmental standards
- ✓ Technical knowledge for sustainable building design and use of alternative bio-based materials

In the construction and mobility sectors, changes need to be supported by reskilling workers; from new building construction to renovation in housing, to public transport and electric vehicles in mobility. Learning through formal higher or vocational education, public-private partnerships and informal learning can all contribute to the building of long-term ‘future-proof’ skill pathways. There will, however, be challenges. In construction, for example, a key challenge coordinating the promotion of a growing market for green structures with the generally incremental greening of both initial vocational training (e.g. apprenticeship programmes and university architectural programmes) and continuing vocational training. Read more about retraining and reskilling workers in different sectors [here](#) and [here](#).

## CIRCULAR POLICIES SHAPING THE MANUFACTURING INDUSTRY

### KEY ENVIRONMENTAL ISSUES

- Product design with low value
- Ways of obtaining raw materials and resources
- Resource and waste management

### TRAINING & EDUCATION NEEDS

- ✓ Upgraded knowledge and skills to enforce highest environmental standards
- ✓ Technical knowledge for sustainable raw material collection, product development, distribution and trade

The manufacturing industry unites over 30 million workers in Europe and accounts for nearly 16% of the global GDP. Environmental regulations have been important drivers of eco-innovation in this sector, especially the [EU Ecodesign Directive](#). Revisions for this Directive could soon establish mandatory circular product requirements, such as durability, reparability, upgradeability, design for disassembly, information, and ease of reuse and recycling (see the [Ecodesign Working Plan 2016-2019](#)).

Circular economy policies like the Ecodesign Directive may impact prices and preferences for different products with, for example, products that require more materials rising in price. In response, businesses may change the way they make their products and consumers may change what they buy. The policies may also impact businesses differently, thereby influencing incomes and patterns of trade as some adapt quicker than others. Read more [here](#) and explore case studies in the motor vehicle and other sectors [here](#).



## UNDERSTANDING SKILLS NEEDS AND THE POTENTIAL OF VET

Many studies are now forecasting the skills and education needs for different sectors (for example, [OECD](#), [ILO](#), [Cedefop](#), [EU](#), [DG Environment](#), [Circle Economy](#)). Mapping skills needs across entire value chains is crucial to make better use of human capital and increase the competitiveness of industries. In the electricity sector, an EU-funded project to study the drivers of change, their impact on job profiles and the diversity of education programmes in Europe has, ultimately, identified the role of VET as a mechanism for driving innovation, supporting equity and closing the skills gap. Strengthening the collaboration between VET providers and national social partners is also identified as a key element to address future challenges of the labour market. Read the study [here](#) and discover more about VET in the circular economy [here](#). Another example from the UK can be found [here](#).

## LOOKING BEYOND THE USUAL SUSPECTS: THE TOURISM INDUSTRY

Travel and tourism also have an important role to play in the circular economy. As acknowledged by the World Tourism Organization (WTO), the covid-19 crisis—alongside megatrends such as digitalisation, overtourism, environmental and social impacts—has cast doubts on the linear, growth-based model of the tourism sector. Circular economy concepts allow the tourism sector to also benefit from shared circular value creation and value capture within relevant local value chains, positively contributing to developing human capabilities to achieve fair and inclusive societies translating into attractive places to work, live and visit. Read more [here](#) and [here](#).

## TAKE ACTION

Circle Economy is actively strengthening evidence on the shift in and demand for jobs and skills in a circular economy. [The Circular Jobs Monitor](#) is a free online tool that gathers, displays, and tracks the number of and range of jobs that are part of the circular economy. It provides policymakers, economists and social partners with insights into the relationship between jobs and the circular economy. These can facilitate the design of evidence-based strategies for promoting the circular economy and decent work opportunities, as well as provide a benchmark of current circular activity against which to monitor future progress.

Would you like to help us grow the Circular Jobs Monitor? There are various ways to collaborate with us and we value all contributions. Get in touch today to explore adding a new region or country to the monitor, or other opportunities for collaboration.

## CONTACT

To learn more about circular jobs, and explore the activities and resources available via Circle Economy's Circular Jobs Initiative, [sign up for our newsletter](#) or get in touch with our team.



# REFERENCES

1. European Commission. (2020). A new circular economy action plan for a cleaner and more competitive Europe (pp. 1-20, Rep.). Brussels, Belgium: European Commission. Retrieved from: [European Commission Communications](#)
2. Laubinger, F., Lanzi, E., & Chateau, J. (2020). Labour market consequences of a transition to a circular economy: A review paper (pp. 1-50, Working Paper No. 162). Paris, France: Organisation for Economic Co-operation and Development (OECD). Retrieved from: [OECD](#)
3. Circle Economy. (2020). The social economy: A means for inclusive & decent work in the circular economy? (pp. 1-16, Rep.). Amsterdam, Netherlands: Circle Economy. Retrieved from: [Circle Economy](#)
4. Circle Economy (2020). Jobs and skills in the circular economy: State of play and future pathways (pp. 1-28, Rep). Amsterdam, Netherlands: Circle Economy. Retrieved from: [Circle Economy](#)
5. Laubinger, F., Lanzi, E., & Chateau, J. (2020). Labour market consequences of a transition to a circular economy: A review paper (pp. 1-50, Working Paper No. 162). Paris, France: Organisation for Economic Co-operation and Development (OECD). Retrieved from: [OECD](#)
6. Circle Economy (2020). Jobs and skills in the circular economy: State of play and future pathways (pp. 1-28, Rep). Amsterdam, Netherlands: Circle Economy. Retrieved from: [Circle Economy](#)
7. Wiese, K., Mayrhofer, J., Meynen, N. & Susova, L. (2020). Escaping the growth and jobs treadmill: a new policy agenda for post-coronavirus Europe (pp. 1-60, Rep.). Brussels, Belgium: European Environmental Bureau, European Youth Forum. Retrieved from: [EEB](#)
8. European Commission. (2014). Green employment initiative: Tapping into the job creation potential of the green economy (pp. 1-13, Rep.). Brussels, Belgium: European Commission. Retrieved from: [European Commission Communications](#)
9. Gardiner, B. (2020, June 23). In pandemic recovery efforts, polluting industries are winning big. Yale Environment360. Retrieved from: [E360](#)
10. European Commission. (2020). Annual sustainable growth strategy 2021. Brussels, Belgium: European Commission. Retrieved from: [Communication from the Commission](#)
11. Circle Economy (2021). Circularity Gap Report 2021 (pp. 1-71, Rep.). Amsterdam, Netherlands: Circle Economy. Retrieved from: [Circle Economy](#)
12. OECD. (2012). The jobs potential of a shift towards a low-carbon economy (pp. 1-134, Rep.). Paris, France: OECD. Retrieved from: [OECD](#)
13. European Commission. (2018). Impacts of circular economy policies on the labour market (pp. 1-287, Rep.). Brussels, Belgium: European Commission. Retrieved from: [Trinomics](#)
14. International Labour Organization (ILO). (2019). Skills for a greener future (pp. 1-30, Rep.). Geneva, Switzerland: ILO. Retrieved from: [ILO](#)
15. Reuse. (2015). Briefing on job creation potential in the re-use sector (pp. 1-6, Rep.). The Reuse and Recycling EU Social Enterprises network. Retrieved from: [reuse Website](#)
16. Engel, H., & Tyreman, M. (2020, December 4). Why Europe must reskill workers to reach its climate goals. Euractiv. Retrieved from: [Euractiv Website](#)
17. World Economic Forum. (2020). The future of jobs report 2020 (pp. 1-163, Rep.). Cologne, Switzerland: World Economic Forum. Retrieved from: [World Economic Forum Website](#)
18. European Commission. (2018). Impacts of circular economy policies on the labour market (pp. 1-287, Rep.). Brussels, Belgium: European Commission. Retrieved from: [Trinomics](#)
19. International Labour Organization (ILO). (2019). Skills for a greener future (pp. 1-30, Rep.). Geneva, Switzerland: ILO. Retrieved from: [ILO](#)
20. OECD. (2019). Policy scenarios for a transition to a more resource efficient and circular economy (pp. 1-78, Rep.). Paris, France: OECD. Retrieved from: [OECD](#)
21. Schroeder, P., Anggraeni, K., & Weber, U. (2019). The relevance of circular economy practices to the sustainable development goals. [Journal of Industrial Ecology, 23\(1\), 77-95. doi:10.1111/jiec.12732](#)
22. European Commission Directorate-General for Employment, Social Affairs and Inclusion. (2020). The role of social dialogue for fairness and inclusion. In Employment and Social Developments in Europe. Luxembourg: Publications Office of the European Union. Retrieved from: [European Commission](#)
23. European Commission (2021). Industry 5.0. Retrieved from: [DG for Research and Innovation](#)
24. European Commission. (2018). Impacts of circular economy policies on the labour market (pp. 1-287, Rep.). Brussels, Belgium: European Commission. Retrieved from: [Trinomics](#)
25. International Labour Organization (ILO). (2019). Skills for a greener future (pp. 1-30, Rep.). Geneva, Switzerland: ILO. Retrieved from: [ILO](#)
26. Circle Economy. (2020). Avoiding blind spots: promoting circular and fair business models (pp. 1-44, Rep.). Amsterdam, Netherlands: Circle Economy. Retrieved from: [Circle Economy](#)
27. Wegmann, V. (2020). Safe jobs in the circular economy: Health and safety in waste and wastewater management (pp. 1-68, Rep.). Brussels, Belgium: European Federation of Public Services Unions. Retrieved from: [EPSU](#)
28. Chateau, J., & Mavroedi, E. (2020). The jobs potential of a transition towards a resource efficient and circular economy (pp. 1-77, Working paper No. 167). Organisation for Economic Co-operation and Development. Retrieved from: [OECD](#)
29. ILO. (2019). Skills for a greener future (pp. 1-30, Rep.). Geneva, Switzerland: ILO. Retrieved from: [ILO](#)
30. European Commission. (2021). Industry 5.0. Retrieved from: [DG for Research and Innovation](#)
31. European Environmental Bureau (2020). Recovery and resilience funds must fund the transition to a circular economy (pp. 1-5, Position Paper). Retrieved from: [EEB](#)
32. European Commission. (2021, February 23). EU to set up new European partnerships and invest nearly €10 billion for the green and digital transition [Press release]. Retrieved from: [European Commission](#)

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