



# **JOBS & SKILLS** IN THE **CIRCULAR** **ECONOMY**

State of Play and  
Future Pathways



## ABOUT THE CIRCULAR JOBS INITIATIVE

Circle Economy is an impact organisation that connects and empowers a global community to create the conditions for transformation towards the circular economy. Our mission is to accelerate the transition through practical and scalable insights and solutions that address humanity's greatest challenges.

The *Circular Jobs Initiative* is a knowledge centre that aims to ensure the transition to the circular economy is positive for work and workers. We are committed to promoting this mission by working with employers, workers, governments, multilateral organisations, education institutions and research organisations to shape this future.

With the support of the Goldschmeding Foundation, the *Circular Jobs Initiative* develops and shares knowledge and best practices on the future of jobs for the circular economy and translates this knowledge into practical and scalable solutions.

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# INTRODUCTION

Our world is facing immense challenges, including growing inequality, climate breakdown and diminishing resources. These challenges require major systemic change. The circular economy presents opportunities for both the economy and the environment; developing new markets and increasing business resilience within planetary boundaries, while also helping to limit global warming within 1.5°C. The circular economy also has a vital role to play in promoting societal wellbeing.

Through the lens of three focus areas—skills, quality of work and inclusivity—this report provides an overview of how current labour market issues apply to the circular economy transition, the opportunities that circularity presents for the labour market and the challenges that need to be overcome to achieve a future labour market that enables people and the planet to thrive.

As such, this report forms a consolidated and focused agenda for Circle Economy's *Circular Jobs Initiative* and the change we are seeking to achieve over the short to medium-term, both as Circle Economy and in collaboration with our partners.

## The scope of this report

The ambitions in this report were developed in collaboration with over 50 cross-sector organisations, through individual interviews and roundtable consultations held at the end of 2019, supported by an extensive literature review. Please see the Annex for a full outline of the methodology used and a list of contributors.

This report is based on the current status of the circular economy and expert predictions of how the circular transition will play out over the next 10 to 20 years. We outline how the circular economy may have specific implications on aspects of the labour market.

Given its current prominence in circular strategies, the resource management sector features heavily in examples included in this report. Efforts have been made to include the role of other sectors that will be important in the circular economy, including services, construction, manufacturing and logistics. With this, we hope to draw attention to the systemic nature of the circular economy and the range of areas in which the transition will be felt in the labour market.

The statements put forward in this report largely reflect the European perspective on the circular economy transition. As the *Circular Jobs Initiative* continues its work, in-depth analysis of different markets and circular economy strategies within regions outside of Europe will be conducted in order to fully represent and support the global approach.

Many of the issues highlighted in the report are not unique to the circular economy and apply to the labour market at large. With this report and the *Circular Jobs Initiative*, we intend to elevate labour issues and the needs of workers in local, national and international debates on the circular economy.

# THE OPPORTUNITY

The circular economy presents opportunities for the environment, the economy and society. It is therefore an essential vehicle for aligning existing efforts towards environmental, economic and social impact. As the circular economy puts forward new ways of creating value and relating to the world around us, the circular economy changes the world of work.

Decent, secure and fulfilling livelihoods are a cornerstone of thriving societies, enhancing our quality of life, sense of belonging and the distribution of wealth. Employment is an important medium for social inclusion, illustrated by its prominence in United Nations Sustainable Development Goals<sup>1</sup>, the International Labour Organisation's Decent Work Agenda<sup>2</sup> and the European Pillar of Social Rights.<sup>3</sup> Work is not only important for our own wellbeing, but also the wellbeing of those around us.<sup>4</sup>

The circular economy offers the next progressive step in our economic model, taking over from the current linear 'take-make-waste' economy by seeking to extract the maximum value from resources in use and keeps materials in circulation for as long as possible through processes like reuse, repair, remanufacture and recycling. The end goal of a circular economy is to establish an ecologically safe and socially just operating space for humankind.<sup>5</sup>

There are tensions in the implications the circular economy may have for the labour market. The transition to the circular economy is expected to initially be labour intensive.<sup>6</sup> For example, for every 10,000 tonnes of resources that is recycled instead of being incinerated, 36 additional jobs are created.<sup>7</sup>

This is because the reuse and recycling of materials requires more hands and more complex processes, as in reverse logistics, resource sorting and the cleaning of components in the refurbishment of products. As well as increasing demand for existing roles in resource management and repair, circular business models and production processes, it is expected to create demand for different combinations of skills and ways of working.<sup>8,9</sup>

At the same time, the transition should see declining employment in extractive industries, like mining and the manufacturing of products from raw materials.<sup>10</sup> Circularity should create more localised economies, through clusters of closed-loop value chains, and so has the potential to strengthen local economies and jobs.<sup>11</sup> At the same time, it will embrace digital technology, automation and large-scale repair and refurbishment programmes, all of which will impact on jobs.

The transition to the circular economy presents us with an opportunity to redefine work, rebalance power and reimagine the way we use and value resources—including labour.<sup>12</sup>

# JOBS IN THE CIRCULAR ECONOMY

The circular labour market is comprised of all kinds of jobs in different sectors, ranging from manufacturing and creative industries to waste and resource management. Jobs in the circular economy, shortly 'circular jobs', are all jobs that contribute to one of the strategies of the DISRUPT framework.

- **Core circular jobs.** These jobs ensure that raw material cycles are closed and thus form the core of the circular economy. They include jobs in renewable energy, repair and waste and resource management sectors. Examples of core circular jobs are displayed in light blue in the framework on the right.
- **Enabling circular jobs.** These jobs enable the acceleration and upscaling of core circular activities and thus form the supporting shell of the circular economy. They include jobs in leasing, engineering and digital technology - albeit only those that actually contribute to circularity. Examples of enabling circular jobs are displayed in dark blue in the framework on the right.
- **Indirect circular jobs.** These jobs provide services to the primary circular activities above and thus form the activities that indirectly uphold the circular economy. They include, for example, jobs in education, logistics and the public sector. Examples of indirect circular jobs are displayed in grey in the framework on the right.



## DESIGN FOR THE FUTURE

Adopt a systemic perspective during the design process, to employ the right materials for appropriate lifetime and extended future use.

**Circular equipment engineers** design products to enable parts and resource recovery after the product's use phase. They excel in complex problem solving on a technical level designs for the future.



## INCORPORATE DIGITAL TECHNOLOGY

Track and optimise resource use and strengthen connections between supply-chain actors through digital, online platforms and technologies.

**Building information managers** maintain data on construction components so as to keep track of these physical assets. They understand how to integrate and interpret virtual information management systems.



## SUSTAIN & PRESERVE WHAT'S ALREADY THERE

While resources are in-use, maintain, repair and upgrade them to maximise their lifetime and give them a second life through take back strategies when applicable.

**Repair technicians** repair appliances, machines or vehicles. They possess strong technical and manual skills which can be acquired through a formal and informal education and training.



## RETHINK THE BUSINESS MODEL

Consider opportunities to create greater value and align incentives through business models that build on the interaction between products and services.

**Demand planners** oversee supply and demand to make refurbishment a profitable business model. This role requires logical thinking and reasoning.



## USE WASTE AS A RESOURCE

Utilise waste streams as a source of secondary resources and recover waste for reuse and recycling.

**Process operators** sort waste for sellable products, for example to produce livestock feed made from waste flows. Although classed as practical-skill work, knowledge of the quality of incoming raw materials is crucial.



## PRIORITISE REGENERATIVE RESOURCES

Ensure renewable, reusable, non-toxic resources are utilised as materials and energy in an efficient way.

**Agronomic advisors** support healthy soil nourishment with organic fertiliser from composted manure and crop remnants. They combine strong interpersonal skills with ecological knowledge.



## TEAM UP TO CREATE JOINT VALUE

Work together throughout the supply chain, internally within the organisation and with the public sector to increase transparency and create shared value.

**Procurement professionals** stimulate the demand for secondary materials and discern and connect new suppliers in order to do so. This profile points to the need for entrepreneurial, interpersonal skills.

## INDIRECT CIRCULAR JOBS

These jobs provide services to the primary circular activities above and thus form the activities that indirectly uphold the circular economy.

The **courier** brings packages to and from consumers as part of a reverse logistics scheme that enable new business models.

The **teacher** transfers knowledge and skills to the (future) workforce so as to equip workers with the skills for all circular economy strategies.

## WHY THIS WORK IS NEEDED

Despite growing economies, unemployment remains a persistent issue driving inequality in both the Global North and South.<sup>14</sup> At the same time, rates of employment often mask excessive working hours, increasing numbers of non-standard work arrangements and hidden in-work poverty.<sup>15</sup> Our current economic system classifies labour as a cost, often ignoring its social benefits.<sup>16</sup> This is perpetuated by business models that strive to drive down costs across the supply chain, sometimes at the expense of labour standards.<sup>17,18</sup>

The circular economy transition cannot guarantee large net gains in employment, nor can we assume that jobs in the circular economy will inherently be better quality than jobs in the linear economy.<sup>19</sup> This means that, as the circular economy aims to achieve environmental goals without sacrificing social wellbeing, we need to ensure that the jobs it creates are good quality and that working conditions are safeguarded.

Promising steps are being made towards circularity, however, less attention is given to the workforce that is vital in realising these changes. Research on the circular economy can be highly technical and often concerned with material flows above people flows. This has resulted in the ethical and environmental arguments for the circular transition becoming fractured and the rights of different groups of workers becoming sidelined in policy.

Understanding of circular jobs is also limited, and too often restricted to roles that directly relate to the handling of materials, such as in resource management and repair. This means that vital jobs that enable these sectors or indirectly support them through the provision of services, digital platforms and other resources risk being overlooked in policies and predictions. As ways of designing, producing and cycling goods change, so will job profiles across sectors.

Although we can learn from efforts for a just transition to clean energy, we lack historic examples of reorientation on which to base labour policies for the large-scale systems transition to the circular economy. With these examples, we risk falling into the same traps as previous industrial transitions, which have both increased living standards for many and left behind some workers and communities.<sup>20</sup>

When it comes to creating an ecologically safe and socially just operating space for humankind,<sup>21</sup> we are all developing countries. Now is the time to translate the opportunities the circular economy presents into real benefits for workers and communities.



**Human labour—work—is different from the other renewable resources: creative, versatile and adaptable and able to be educated, but perishable if unused.<sup>13</sup>**

## THREE PILLARS OF THE CIRCULAR LABOUR MARKET

If managed well, the transition to the circular economy will have multiple benefits for the labour market, including the opening up of job opportunities, raising job standards and reducing inequalities through a global redistribution of value. But a positive transition to circularity for work and workers must be underpinned by three pillars:

- **Skilling and reskilling** of the workforce through the integration of circularity into education and training programmes and support from government to enable access to these programmes for everyone.
- **Good quality jobs** that are fairly paid, secure and carry social value, supported by governments, market mechanisms, strong trade unions and labour standards that are championed and upheld by business and through regulation.
- **An inclusive labour market** that provides opportunities for people in precarious work, that are distant from or at risk of being phased out of the labour market, as well as workers across skill levels, regardless of their location.

These backbone elements form the three focus areas for the *Circular Jobs Initiative*. In the following sections, we lay out how current labour market issues apply to the circular economy transition in relation to each of these pillars. We outline the ideal scenario and the changes needed to achieve this ideal scenario and ensure a positive transition to circularity for work and workers. These conclusions have been drawn from extensive literature review and dialogue with experts on these three focus areas, as outlined in the Annex.



# SKILLS TO POWER THE CIRCULAR ECONOMY

The transition to the circular economy will depend on the skills available, as well as shape the skills that are needed in the labour market. Jobs in the circular economy are likely to involve a combination of more traditional skills, such as manual ones, and more novel circular skills, such as those in modular design and the analysis of material compositions. Soft skills for collaborating across sectors and service-related skills will be just as important as hard skills for programming, operating and repairing equipment.<sup>22</sup> Skilling for the circular economy requires both practical and academic education pathways, across all fields of knowledge.<sup>23</sup>

Demand for skills and knowledge will also vary across sectors and stages of the transition. As well as requiring a general upskilling as a result of task diversification, advances in technology, reverse processes and increasing complexity of tasks, the circular economy calls for a fundamental shift in mindsets at all levels of the workforce. This is needed to ensure workers, from leadership to the shop floor, understand and take ownership of their roles in a wider regenerative system. In many cases, this will mean a shift towards extended responsibility and products as services. This will be a particular challenge in sectors that traditionally have a risk-averse mindset and tend not to hold responsibility for products past the point of delivery.

## WHERE ARE WE NOW?

### Learning is linear

Our current education system, particularly in countries in the Global North, is linear: we are largely schooled for one profession and task divisions between job roles can be rigidly defined. We lack the culture of life-long learning and continuous development that is vital in transitioning economies, where new innovations are constantly being developed, broader skill sets are required, and roles are more diverse. Where life-long learning is being made more accessible via online platforms, work is still needed to ensure these programmes are high quality and accessible to people of different levels of education.

We are living and working longer in an age of rapid digitalization, increasing the need and opportunity for retraining across our working lives.

### Labour is viewed as cost by employers, not talent to be developed

There is a lack of political leadership and corresponding frameworks that support circular talent development. Re- and upskilling is not always seen as cost-effective for employers, with practically-skilled and older workers generally receiving the fewest opportunities for professional development.<sup>24,25</sup> This creates social inequality and low wages particularly for practically-skilled workers, even in times of economic growth.<sup>26</sup> However, opportunities to capitalise on the advances of technologies and business models are appearing as employers are seeing the ever increasing need to place priority on the skills gaps emerging in their organisations and invest in training.<sup>27</sup>

### Uncertainty leading to skills gaps

Despite being a hotly debated topic on national and international agendas, we are often unclear about what constitutes different skills or how they should be taught. There is collective uncertainty about the skills that will be needed in the future circular economy and the potential for job loss as sectors transition. Without a proper understanding of emerging and future skills needs, industry and government are hesitant to invest in their development. Skills gaps are emerging in sectors that are innovating at high pace to become more circular as a result, for example in the digital tracking of building materials and components.<sup>28</sup>

### Circular knowledge is limited and not being shared

Understanding of the benefits of the circular economy is limited and where present, it is largely concentrated in research institutions and frontrunner businesses and cities. Awareness of the circular economy is not being widely promoted amongst the public or translated into curriculum and practice in schools, universities or professional training programmes. This means that important skills like those needed to connect and co-create with others, assess systems implications of design decisions or those needed to repair appliances are not being taught or encouraged to people in education or training.<sup>29</sup> As a result, education cannot adequately prepare students for the demands of the future and the changing world of work, nor does it equip people to make circular choices as consumers.<sup>30,31</sup> Although efforts are being made towards creating more bottom-up and peer-to-peer approaches to life-long learning in the context of the circular economy.<sup>32</sup>



## THE IDEAL SCENARIO

In a fully-fledged circular economy, knowledge and skills that help to preserve the world's resources are valued. Currently undervalued skills, such as crafts skills, are being promoted and complement newer circular skills, thereby blurring traditional distinctions between categories of high- and low-skilled workers. Circularity is integrated across educational curricula, giving circular jobs greater social value and making them more attractive to workers.

Different hard and soft skill needs are well understood, as well as the training that is required to develop them in line with changing demand.<sup>33</sup> Teaching, learning and informal experience can be applied cross-functionally, reflecting emerging innovations and enabling students and workers to adapt to changes in the labour market, advances in technology and work in more diverse roles that involve collaboration across sectors and supply chains.

Political support helps to nurture the supply of circular skills to both large corporations and smaller enterprises through feedback loop systems.<sup>34</sup> Employers and individuals are incentivised to invest in continuous learning and development, with adequate funding and compensation for professional and individual personal development. All this helps to create a culture of life-long learning.

Labour is viewed widely as innovation power to be developed and nurtured. Education, training and life-long learning produce a sustainable pipeline of skilled workers, supported by public-private partnerships and partnerships between industry and research.

## FUTURE PATHWAYS

### 1. Bolster understanding of the skills needs of the circular economy

To do this, we need to unite fragmented narratives and create a common language for new and existing skills that are needed for jobs that contribute to the circular economy, supported by definitions, metrics and standards. This will help to inform the development of practical and accessible tools for mapping skills needs across sectors and regions, which can be used to understand the impact of transition pathways on skills demand and labour distribution. From here, we can develop a better understanding of which training programmes are needed, and the impact of policy levers on skills demand and supply.

### 2. Create a policy environment that promotes circular business and skills.

National and regional policies for up- and reskilling workers and job seekers need to be designed, taking into consideration where—in what sectors and regions—skills will be needed to match workers to skills gaps. Connections between trade unions, businesses and public authorities need to be strengthened to ensure workers' voices are heard and fed back into the design of skills policies and training. Tax shifts that put a fairer price on scarce resources and greater value of human capital are an important first step to this end.

### 3. Open up opportunities for continuous learning and development.

To ensure new efforts are effective and meet demand, past and existing training programmes, policies and modes of learning need to be evaluated. Public funding is also required to facilitate the more rapid translation of cutting-edge research into practical and affordable training programmes and principles of circularity into school curricula. Life-long learning needs to be more accessible to people of different educational levels. Both formal and informal learning need to be promoted and open source and online learning needs to be further developed to ensure it is just transformative as learning in the classroom. Ways of valorising informal learning, such as skills passports, should be further explored.



# QUALITY OF WORK IN THE CIRCULAR ECONOMY

Everyone has the right to be fairly paid, well treated and offered security through their work. As well as serving basic needs, we need to feel that our work is valued, that we have agency and opportunities for developing our knowledge and skills. Early research in Europe points to the potential for the circular economy to increase job satisfaction and security.<sup>35</sup> However, we cannot assume that jobs in the circular economy will be inherently better than jobs in the current linear economy.<sup>36</sup> As the transition to the circular economy changes the content, design and structure of work, workers' rights and working conditions need to be continuously protected.

Until waste can be phased out of our society, the circular economy will continue to require people to manage these resources. These jobs are often depicted as 'dirty work'<sup>37,38</sup> and physically demanding. As the resource management and other circular sectors continue to grow, we need to ensure that the jobs they create are good quality, that the health and safety of workers is safeguarded, and that people are not marginalised by the type of work the circular economy presents them with. This will only be possible through government commitment and trade union input, and therefore it needs to be taken into consideration from the design of new policies and strategies, as well as circular business models and products.

## WHERE ARE WE NOW?

### Inadequate protection for atypical workers

The labour landscape is changing, as evidenced by the exponential growth of the platform economy and new forms of working arrangements.<sup>39</sup> An increasing number of companies employ atypical workers on temporary, self-employed, or part-time contracts.<sup>40</sup> This makes for fissured workplaces, where many employers are now not directly responsible for the workers producing or delivering their services. Such flexible work is often associated with vulnerable livelihoods. Current legal frameworks do not adequately protect platform workers—who provide services via digital

platforms—and gig workers—whose labour is coordinated via digital platforms.<sup>41</sup>

### Precarious work in areas of the circular economy

Several sectors core to the circular economy traditionally hinge on less regulated work, resulting in short-term contracts, precarious working conditions and long working hours. In many countries in the Global South and Eastern Europe, informal workers represent a large share of the waste management sector where formal waste management systems are not in place.<sup>42,43</sup> Sectors like construction also rely heavily on contract workers across the Global North and South.<sup>44,45,46</sup> This kind of work often takes place in unregulated conditions and precarious workers are not provided the same support by regulations as other workers.<sup>47</sup> Jobs in unregulated and non-unionised sectors often form an entry point into the labour market for migrant workers, young or elderly people and people from minority communities.<sup>48</sup> However, they often come at the price of safe working conditions and social protection.<sup>49,50</sup> Where present, trade unions often lack the power to improve conditions for workers. In the absence of social partners, grassroots organisations, such as cooperatives, work to bring workers together and create less precarious working conditions.<sup>51</sup>

### Rapid growth exacerbates poor working conditions

Even when regulated, some sectors, particularly those characterised by practical and manual work, struggle to meet basic standards of labour law in relation to health and safety, minimum wages and working hours.<sup>52</sup> Rapid growth is exacerbating poor working conditions, particularly in manufacturing, as it creates a competitive market for low-cost products. This increases pressure on suppliers who often cannot charge prices that adequately cover the cost of wages, thereby undermining chances of decent work.<sup>53</sup> Increasing economies of scale and pressures towards higher rates of productivity are leading to, in combination with entrenched social

issues, a demand for labour that is perpetuating child, migrant and forced labour in countries including China, India and Bangladesh.<sup>54</sup> Whereas it is sometimes assumed that poor working conditions are only being imposed on workers in the Global South, where labour costs are commonly lower, in reality, workers across the world are subject to adverse and inhumane working conditions.<sup>55,56</sup>

### Practical jobs carry less social value

An economic system that does not value labour has led to a discourse of practically-skilled jobs often meaning low-quality jobs and the related polarisation of wages and working conditions for workers of different skill levels.<sup>57,58</sup> This has created a stigma around practical work, which is not as well promoted in education or made attractive to new entrants to the labour market.<sup>59</sup> Sectors like construction, repair and recycling often struggle to recruit talent and craft skills are in decline and at risk of being lost in many countries in the Global North.



## THE IDEAL SCENARIO

In the circular economy, jobs that contribute to prosperity within planetary boundaries, are decent, accessible and attractive to workers. They answer workers' needs by providing security, safe working conditions and meaningful development. These high quality employment opportunities are available to workers at all levels, from crafts to digital technology workers. All circular jobs are socially valued and constitute a true vehicle for social mobility.<sup>60</sup>

This is sustained throughout the current transition and future shifts in value creation, technology and working culture by representation and visibility of workers. Social partners, including trade unions, grass-roots initiatives or cooperatives, hold a strong position in social dialogue across value chains and oversee the redeployment of displaced workers.

Alongside other resources, the circular economy is helping to create a society in which human labour is not regarded as waste or cost, but as capital and innovation power. Workers are treated as such and have the opportunity to meaningfully develop through work, have agency over how long to remain in work and whether and how to adapt their career path.

## FUTURE PATHWAYS

### 1. Develop frameworks for quality of work in the circular economy.

The sociological perspective on employment in the circular economy that represents workers' experiences needs to be further developed, structured and systematised. This will improve our understanding of who will be most affected by the transition, where and why, and form the basis to develop standards that safeguard the quality of circular jobs.

### 2. Strengthen the legal basis and social dialogue in sectors that will be affected by circular economy policies.

Typically less regulated sectors, such as resource management, and emerging sectors, like the platform economy, need to be prioritised in negotiations. This will improve compliance with labour standards, collective bargaining and representation of workers, and help to address some of the issues related to how informal workers are recognised and valued.

### 3. Promote the social value of jobs in the circular economy.

The image of sectors that play a role in the circular economy needs improving. Employers need to be educated about the value of circularity and share this with their employees at all levels. Systemic thinking needs to be stimulated from leadership to the workshop floor, so as to inspire workers with the role they play in the wider regenerative economy. Together with fair pay and working conditions, this should help to increase job satisfaction of workers in the circular economy.



# INCLUSIVE JOB OPPORTUNITIES IN THE CIRCULAR ECONOMY

As the circular economy has the potential to create employment opportunities for people from all backgrounds, it can help to create social cohesion and reduce inequalities. However, just as we cannot assume that the quality of jobs in the circular economy are better than in the current economic system, we cannot assume that the circular economy will be inclusive and create positive work opportunities for everyone.<sup>61</sup>

The circular economy is labour and technologically intensive, with the potential to create a diverse range of jobs and tasks that open up opportunities for people currently distant from the labour market. At the same time, the transition to the circular economy will lead to shifts in global and local supply chains and job losses in declining sectors. There is uncertainty about additional losses and potential gains due to automation.

Circular economy models and policies developed in one context will not be universal. For the circular transition to be a just transition, pathways need to be underpinned by social dialogue, education, social protection, and context-specific regional support.<sup>62</sup> In failing to do so, we risk not only leaving people behind, but also having efforts towards positive change resisted or prevented by communities most affected by the transition as they seek to protect their livelihoods.

## WHERE ARE WE NOW?

### Ripple effects across global value chains

Globalisation of the economy and the expansion of global supply chains means that changes in business practices and policies in one country have ripple effects across continents. As such, unwanted products from one country can surface in the market at the opposite end of the world. Waste from countries in the Global North create new forms of criminality and worker vulnerability in the form of illegal dumping and unsafe working conditions.<sup>63,64</sup> We lack adequate indicators for

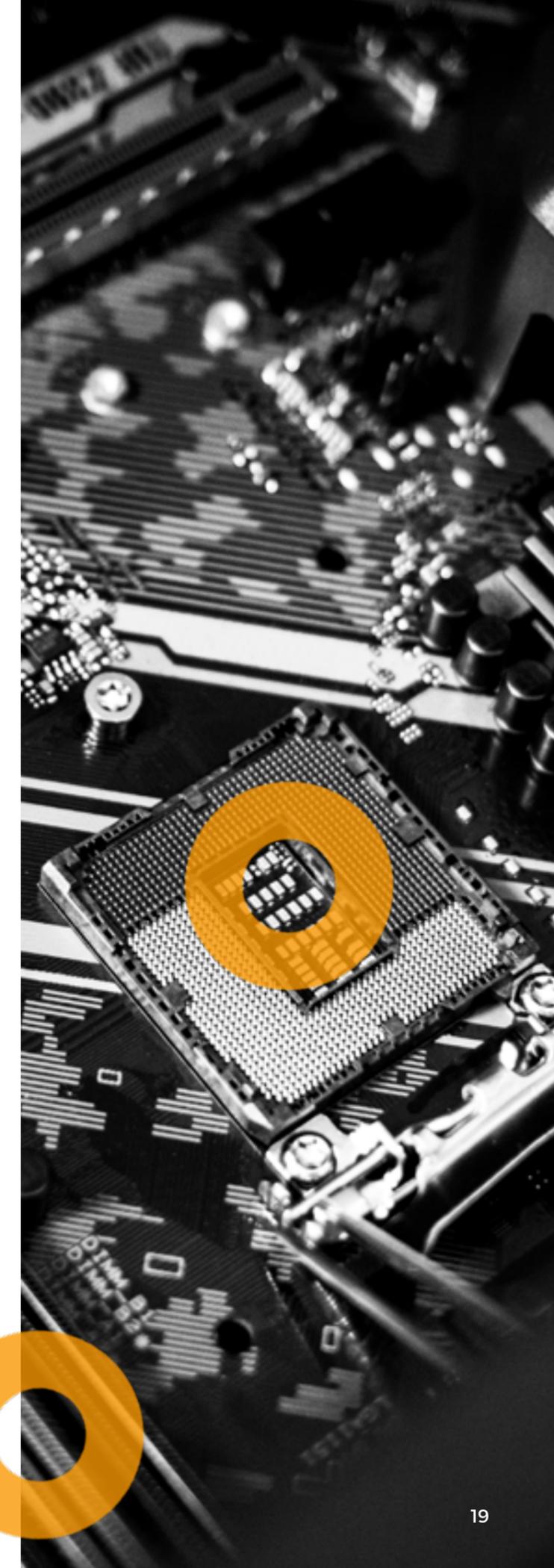
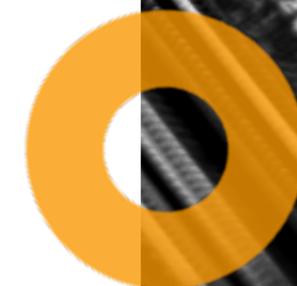
monitoring impacts across supply chains and without these, our understanding of how the circular economy affects different groups remains a blindspot.

### Structural barriers to employment

Despite increases in employment in many countries, underemployment remains an issue around the world, particularly for young people in lower income countries.<sup>65,66</sup> For young people not in education, employment or training, and other groups who experience barriers in accessing the labour market, longer periods out of work are associated with increasing risks of social exclusion and mental health issues.<sup>67,68</sup> To date, many active labour market policies have not been successful in achieving long-lasting change, pointing to deep-seated structural and social issues that prevent certain people from entering or remaining in decent work.<sup>69</sup> As well as creating barriers to formal work, levels of poverty and the state of social welfare systems within countries can incentivise people to take up informal work, often leaving them with less rights and protection. The diversity of workplaces remains an issue in many countries, calling for continued effort in challenging typical gender roles and discrimination by race or ability.

### Technology as a vehicle for inclusion or exclusion

There is uncertainty about how technology will impact jobs and to what extent technological advancements will create more or less inclusive workplaces. The rate of this change is experienced differently in the Global North and South, and rural and urban areas. The social and solidarity economy is playing an important role in both opening up pathways into work for different groups and mediating the role of technology for inclusion.<sup>70,71</sup> However, the increasing integration of technology into work also has the potential for increasing the education gap between higher and lower skilled workers.



## THE IDEAL SCENARIO

In an inclusive circular labour market, decent work opportunities are available to all people regardless of gender, ethnicity, immigration status, level of physical or mental ability, skill-level or geographic location. Countries and regions embrace circularity as one way of reducing inequalities in the labour market whilst addressing the needs of the planet and rebalancing power.<sup>72,73</sup>

Synergies between the circular and social and solidarity economies, which are both rooted in no profit maximisation and democratic governance, are widely recognised and helping to drive inclusive action. Collaborations between the social and solidarity economy, public sector and private employers secure pathways into work for people that traditionally face barriers to entering the labour market.

Workers and the public are well informed on the circular economy. Those employed in shifting or declining sectors are provided with clear guidance and options for upskilling or reskilling to be redeployed in other sectors. Technological innovation is geared towards more inclusive workplaces.

## FUTURE PATHWAYS

### 1. Ensure and monitor a just transition for workers across local and global supply chains.

To do this, we need a global picture of how different countries and sectors are approaching circularity and the ripple effects of these changes. In-depth analysis of different markets will help create an understanding of how different measures, policies and product innovation processes may affect the employment of different workers. Such analysis will help to manage the potentially hidden and adverse consequences of circularity for workers within different markets. The impact of transition pathways on different groups over time needs to be monitored through indicators developed and shared through multi-stakeholder collaboration.

### 2. Create pathways for people who face barriers entering the labour market.

The implementation of the Sustainable Development Goals, European Pillar of Social Rights and the European Green Deal should be used to elevate the rights of marginalised and undocumented workers in circular economy debates, in Europe and globally. Collaborations between public services, private businesses and social enterprises will help to respond to labour shortages and link people out of work to decent circular jobs. This needs to be underpinned by the development of inclusive public policies that support people to enter and remain in work regardless of their age, gender, background or skills.

### 3. Secure the business case for circular social enterprises.

Public support for social enterprises and cooperatives using circular business models is needed so that these enterprises can continue to provide decent and stable work opportunities for people locally. Municipalities will be key to encouraging partnerships between the social economy and sectors where there will be high demand for labour, particularly in earlier stages of the transition. Companies also need to be incentivised to design products for multiple lifecycles. This will also provide enterprises specialising in this area with a stronger business model so that they can place supporting their workers at the centre.



# OUR ROLE IN ACHIEVING THIS CHANGE

This report outlines key challenges and spotlights what is needed to achieve a positive transition to circularity for work and workers. We are committed to promoting this mission and working with employers, workers, local, regional and national governments, multilateral organisations, education institutions and research organisations to shape this future.

The *Circular Jobs Initiative* acts as a:

## CONVENER:

We build alliances and counter fragmentation of knowledge and efforts in the space of employment in the circular economy. Key to this is hosting roundtables and events for people from across sectors, countries and interest groups to get involved and share viewpoints, challenges and solutions. We help to connect what is happening in different countries and value chains to the global picture. As a convener, we team up with our Advisory Board and community to ensure that labour issues are at the forefront of the global debate on the circular economy.

## KNOWLEDGE PARTNER:

We strive to objectively gather knowledge from different disciplines and facilitate knowledge exchange. By working with partners to research and understand the opportunities and risks associated with circular jobs and skills within and across geographies, we contribute to international understanding of the impact of circular economy scenarios on employment and explore how circularity plays out for workers. As a knowledge partner, we promote the development of shared understanding and frameworks for employment in the circular economy, addressing knowledge gaps and making knowledge available to all online.

## CATALYST:

We develop compelling, evidence-based strategies to drive business and policy-level commitments to workers. Through our Circular Jobs Monitor we publish data and insights needed to measure and track the impact of circularity on the labour market and provide the necessary infrastructure and alliances to collect, retrieve and share data. As a catalyst, we consistently document evolutions in the circular labour market, supporting the application of sound labour strategies in business and policy.

## TRANSLATOR:

We translate findings from existing and emerging research on the circular economy into practical pilots, education programmes and human resource management strategies. In doing this, we work with partners to develop regional, national and international models for replication that maximise the benefits of the circular economy on the labour market and society. As a translator, we advance the development and replication of best practices in business and education.

# JOIN THE CIRCULAR JOBS INITIATIVE

Share this report to raise awareness of the circular economy, its implications on the labour market and the opportunities circularity presents for the future of work.

Join the *Circular Jobs Initiative* and contribute to a circular labour market that benefits all workers.

[www.circle-economy.com/circular-jobs-initiative](http://www.circle-economy.com/circular-jobs-initiative)

# REFERENCE LIST

1. Sustainable development goals fund (N.d.). Goal 8: Decent work and economic growth. Retrieved from <https://www.sdgfund.org/goal-8-decent-work-and-economic-growth>
2. ILO (2020). Achieving decent work in global supply chains. Report for discussion at the technical meeting on achieving decent work in global supply chains (Geneva, 25-28 February 2020). Retrieved from [https://www.ilo.org/wcmsp5/groups/public/---ed\\_dialogue/---dialogue/documents/meetingdocument/wcms\\_736541.pdf](https://www.ilo.org/wcmsp5/groups/public/---ed_dialogue/---dialogue/documents/meetingdocument/wcms_736541.pdf)
3. European Commission (N.d.). The European Pillar of Social Rights in 20 Principles. Retrieved from [https://ec.europa.eu/commission/priorities/deeper-and-fairer-economic-and-monetary-union/european-pillar-social-rights/european-pillar-social-rights-20-principles\\_en](https://ec.europa.eu/commission/priorities/deeper-and-fairer-economic-and-monetary-union/european-pillar-social-rights/european-pillar-social-rights-20-principles_en)
4. What Works Wellbeing (2017). Briefing: unemployment, (re)employment and wellbeing. Retrieved from <https://whatworkswellbeing.org/product/unemployment-reemployment-and-wellbeing/>
5. Stahel (2019). The circular economy: A user's guide. Routledge
6. Willeghems & Bachus (2018). Employment impact of the transition to a circular economy: literature study. Retrieved from <https://vlaanderen-circulair.be/en/summa-ce-centre/publications/employment-impact-of-the-transition-to-a-circular-economy-literature-study>
7. Rreuse (2015). Briefing on job creation potential in the re-use sector. Retrieved from <http://www.rreuse.org/wp-content/uploads/Final-briefing-on-reuse-jobs-website-2.pdf>
8. Circle Economy (2019). Why employers should care about the circular economy. Retrieved from <https://medium.com/circleeconomy/why-employers-should-care-about-the-circular-economy-2c0740372eec>
9. Guyet-Phung (2019). Implications of the circular economy and digital transition on skills and green jobs in the plastics industry, Field Actions Science Reports
10. Cambridge Econometrics, Trinomics & ICF (2008). Impacts of circular economy policies on the labour market: Final report. European Commission. Retrieved via [https://circulareconomy.europa.eu/platform/sites/default/files/ec\\_2018\\_-\\_impacts\\_of\\_circular\\_economy\\_policies\\_on\\_the\\_labour\\_market.pdf](https://circulareconomy.europa.eu/platform/sites/default/files/ec_2018_-_impacts_of_circular_economy_policies_on_the_labour_market.pdf)
11. Circle Economy (2019). The role of municipal policy in the circular economy. Investment, jobs and social capital in circular cities. Retrieved from [https://circulareconomy.europa.eu/platform/sites/default/files/5d15be02940ad0c394e7a9ff\\_circle\\_economy\\_-\\_the\\_role\\_of\\_municipal\\_policy\\_in\\_the\\_circular\\_economy.pdf](https://circulareconomy.europa.eu/platform/sites/default/files/5d15be02940ad0c394e7a9ff_circle_economy_-_the_role_of_municipal_policy_in_the_circular_economy.pdf)
12. Stegeman (2019). No circular economy without the human factor. Retrieved from <https://www.triodos-im.com/articles/2019/no-circular-economy-without-the-human-factor>
13. Stahel (2012). The business angle of a circular economy – higher competitiveness, higher resource security and material efficiency. Retrieved from [http://www.rebelalliance.eu/uploads/9/2/9/2/9292963/stahel\\_the\\_business\\_angle\\_of\\_a\\_circular\\_economy.pdf](http://www.rebelalliance.eu/uploads/9/2/9/2/9292963/stahel_the_business_angle_of_a_circular_economy.pdf)
14. Stiglitz (2015). The price of inequality: How today's divided society endangers our future. Retrieved via <http://www.pas.va/content/dam/accademia/pdf/es41/es41-stiglitz.pdf>
15. Impactt (2017). Nice work? Are workers taking the strain in the economic downturn? An update of Impactt's data on the prevalence of labour standards issues from 2006-2012. Retrieved from [https://impacttlimited.com/wp-content/uploads/2017/01/Nice-Work-Impactts-Labour-standards-report-2006-2012\\_online-Copy-1.pdf](https://impacttlimited.com/wp-content/uploads/2017/01/Nice-Work-Impactts-Labour-standards-report-2006-2012_online-Copy-1.pdf)
16. Groothuis et al (2016). New era. New plan. Europe. A Fiscal strategy for an inclusive, circular economy. The Ex'tax Project. Retrieved from <https://ex-tax.com/reports/new-era-new-plan-europe/>
17. Ethical Trading Initiative (2019). Business Model and Labour Standards: Making the Connection. Retrieved from [https://www.ethicaltrade.org/sites/default/files/shared\\_resources/Business%20models%20%26%20labour%20standards.pdf](https://www.ethicaltrade.org/sites/default/files/shared_resources/Business%20models%20%26%20labour%20standards.pdf)
18. De Beer & Conen (2019). De waarde van werk staat in Nederland onder druk. AIAS-HSI Kort & Bondig I. Retrieved from <https://goldschmeding.foundation/wp-content/uploads/Kort-en-Bondig-I.pdf>
19. Gregson et al (2016). Doing the 'dirty work' of the green economy: Resource recovery and migrant labour in the EU. European Urban and Regional Studies, 23, 541-555
20. TUC (2019). How industrial change can be managed to deliver better jobs. Retrieved from <https://www.tuc.org.uk/sites/default/files/IndustrialTransformationinPractice.pdf>

21. Raworth, (2017). Doughnut economics : seven ways to think like a 21st century economist. White River Junction, Vermont: Chelsea Green Publishing.
22. Guyet-Phung (2019). Implications of the circular economy and digital transition on skills and green jobs in the plastics industry. Field Actions Science Reports
23. Burger et al (2018). The heterogeneous skill-base of circular economy employment. Retrieved from <https://www.sciencedirect.com/science/article/abs/pii/S0048733318302026>
24. WEF (2018). Insight Report: The Future of Jobs Report 2018. Retrieved from [http://www3.weforum.org/docs/WEF\\_Future\\_of\\_Jobs\\_2018.pdf](http://www3.weforum.org/docs/WEF_Future_of_Jobs_2018.pdf)
25. Tikkanen (2006). The lifelong learning debate and older workers. In Promoting lifelong learning for older workers. An international overview (pp.18-47). Chapter: 2. Cedefop Reference series; 65. Office for Official Publications of the European Communities. Retrieved from [https://www.cedefop.europa.eu/files/3045\\_en.pdf](https://www.cedefop.europa.eu/files/3045_en.pdf)
26. Ter Weel et al (2019). Sociale ongelijkheid in Nederland: Intergenerationele ongelijkheid en hardnekkige lage inkomens. SEO Economisch Onderzoek. Retrieved from <http://www.seo.nl/pagina/article/sociale-ongelijkheid-in-nederland/>
27. McKinsey (2020). Beyond hiring: How companies are reskilling to address talent gaps. McKinsey Global Survey. Retrieved from <https://www.mckinsey.com/business-functions/organization/our-insights/beyond-hiring-how-companies-are-reskilling-to-address-talent-gaps>
28. European Commission (2019). Supporting digitalisation of the construction sector and SMEs, including Building Information Modelling <https://ec.europa.eu/docsroom/documents/38281>
29. Bozkurt et al (2019). Repair work as good work: craft and love in classic car restoration training. Human Relations. 1105-1128
30. WEF (2020). Schools of the Future Defining New Models of Education for the Fourth Industrial Revolution. Retrieved from [http://www3.weforum.org/docs/WEF\\_Schools\\_of\\_the\\_Future\\_Report\\_2019.pdf](http://www3.weforum.org/docs/WEF_Schools_of_the_Future_Report_2019.pdf)
31. Young et al (2010). Sustainable consumption: green consumer behaviour when purchasing products. Retrieved from <https://rgu-repository.worktribe.com/preview/296819/YOUNG%202010%20Sustainable%20consumption.pdf>
32. ACR+ & Zero Waste Scotland (2019). Circular Economy and Lifelong Learning Scenarios - Methodologies - In action. Retrieved from [https://acrplus.org/images/technical-reports/2019\\_ACR\\_Zero-Waste-Scotland\\_Circular-Economy-Lifelong-Learning.pdf](https://acrplus.org/images/technical-reports/2019_ACR_Zero-Waste-Scotland_Circular-Economy-Lifelong-Learning.pdf)
33. Bozkurt & Stowell (2016). Skills in the green economy: recycling promises in the UK e-waste management sector. New Technology, Work and Employment, 31, 146-160. Retrieved from <https://onlinelibrary.wiley.com/doi/full/10.1111/ntwe.12066> More information about Top-Mix available online via
34. OECD (2014). Measuring and managing results in development co-operation. OECD, Paris. Retrieved from <https://www.oecd.org/dac/peer-reviews/Measuring-and-managing-results.pdf> More information about Werflink available online via
35. Green Alliance (2016). Job quality in a circular economy. Retrieved from <https://www.green-alliance.org.uk/resources/Job%20quality%20in%20a%20circular%20economy.pdf>.
36. ILO (2018). Circular economy. A source of job creation and re-creation. Retrieved from [https://www.ilo.org/brussels/information-resources/news/WCMS\\_619122/lang--en/index.html](https://www.ilo.org/brussels/information-resources/news/WCMS_619122/lang--en/index.html)
37. Gregson et al (2016). Doing the 'dirty work' of the green economy: Resource recovery and migrant labour in the EU. European Urban and Regional Studies, 23, 541-555.
38. Bozkurt et al (2019). Repair work as good work: craft and love in classic car restoration training. Human Relations. 1105-1128
39. EPC (2019). The future of work: Towards a progressive agenda for all. Retrieved from [https://wms.flexious.be/editor/plugins/imagemanager/content/2140/PDF/2019/The\\_future\\_of\\_work-17\\_01\\_20.pdf](https://wms.flexious.be/editor/plugins/imagemanager/content/2140/PDF/2019/The_future_of_work-17_01_20.pdf)
40. ILO (2016). Non-standard employment around the world: Understanding challenges, shaping prospects. Retrieved from [https://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/---publ/documents/publication/wcms\\_534326.pdf](https://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/---publ/documents/publication/wcms_534326.pdf)
41. Pesole et al (2018). Platform Workers in Europe [https://publications.jrc.ec.europa.eu/repository/bitstream/JRC112157/jrc112157\\_pubsy\\_platform\\_workers\\_in\\_europe\\_science\\_for\\_policy.pdf](https://publications.jrc.ec.europa.eu/repository/bitstream/JRC112157/jrc112157_pubsy_platform_workers_in_europe_science_for_policy.pdf)
42. Lethbride, (2017) Municipal Solid Waste Management Services in Latin America. Public Services International (PSI). Retrieved from [http://www.world-psi.org/sites/default/files/documents/research/web\\_en\\_lrgm\\_waste\\_report\\_ia\\_20174.pdf](http://www.world-psi.org/sites/default/files/documents/research/web_en_lrgm_waste_report_ia_20174.pdf)
43. Wegmann (2017). Waste management in Europe. Good jobs in the circular economy? European Public Service Union. Retrieved from <https://www.epsu.org/sites/default/files/article/files/Waste%20Management%20in%20Europe.%20Good%20Jobs%20in%20the%20Circular%20Economy%20for%20web.pdf>
44. PWC (2018). A wake-up call for organisations, people and government. Retrieved from Available online via <https://www.pwc.nl/nl/dienstverlening/people-and-organisation/documents/pwc-future-of-work-2030.pdf>
45. Economic Policy Institute (2017). Diversity in the New York City union and nonunion construction sectors.
46. Brennan Center for Justice (2007). Unregulated Work in the Construction Industry in New York City. Chapter from Unregulated Work in the Global City.
47. Scheinberg et al (2016). From collision to collaboration – Integrating informal recyclers and re-use operators in Europe: A review, Waste Management & Research, 34, 820-39.
48. Agar & Manolchev (2019). Migrant labour as space: Analysing the agri-food industry. Organization, Retrieved from <https://research-repository.st-andrews.ac.uk/handle/10023/19178>
49. Gregson et al (2016). Doing the 'dirty work' of the green economy: Resource recovery and migrant labour in the EU; European Urban and Regional Studies, 23, 541-555
50. Gany et al (2014). Urban occupational health in the Mexican and Latino/Latina immigrant population: A literature review.
51. ILO (N.d.) Cooperatives and the world of work No 12. Retrieved from [https://www.ilo.org/wcmsp5/groups/public/---ed\\_emp/---emp\\_ent/---coop/documents/publication/wcms\\_715845.pdf](https://www.ilo.org/wcmsp5/groups/public/---ed_emp/---emp_ent/---coop/documents/publication/wcms_715845.pdf)
52. Impactt (2017). Nice work? Are workers taking the strain in the economic downturn? An update of Impactt's data on the prevalence of labour standards issues from 2006-2012. Retrieved from [https://impacttlimited.com/wp-content/uploads/2017/01/Nice-Work-Impactts-Labour-standards-report-2006-2012\\_online-Copy-1.pdf](https://impacttlimited.com/wp-content/uploads/2017/01/Nice-Work-Impactts-Labour-standards-report-2006-2012_online-Copy-1.pdf)
53. ILO (2017). Purchasing practices and working conditions in global supply chains: Global Survey Results. Retrieved from [https://www.ilo.org/wcmsp5/groups/public/---ed\\_protect/---protrav/---travail/documents/publication/wcms\\_556336.pdf](https://www.ilo.org/wcmsp5/groups/public/---ed_protect/---protrav/---travail/documents/publication/wcms_556336.pdf)
54. Impactt (2017). Nice work? Are workers taking the strain in the economic downturn? An update of Impactt's data on the prevalence of labour standards issues from 2006-2012. Retrieved from [https://impacttlimited.com/wp-content/uploads/2017/01/Nice-Work-Impactts-Labour-standards-report-2006-2012\\_online-Copy-1.pdf](https://impacttlimited.com/wp-content/uploads/2017/01/Nice-Work-Impactts-Labour-standards-report-2006-2012_online-Copy-1.pdf)
55. UNCTAD (2016). World Investment Report 2016. Retrieved from <http://unctad.org/en/pages/PublicationWebflyer.aspx?publicationid=1555>
56. Reinecke et al (2019). Business Model and Labour Standards: Making the Connection. Ethical Trading Initiative, London. Retrieved from [https://www.ethicaltrade.org/sites/default/files/shared\\_resources/Business%20models%20%26%20labour%20standards.pdf](https://www.ethicaltrade.org/sites/default/files/shared_resources/Business%20models%20%26%20labour%20standards.pdf)
57. McIntosh (2013). Hollowing out and the future of the labour market. Retrieved from [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/250206/bis-13-1213-hollowing-out-and-future-of-the-labour-market.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/250206/bis-13-1213-hollowing-out-and-future-of-the-labour-market.pdf)
58. Goos et al (2009). Job polarization in Europe. American economic review, 99, 58-63. Retrieved from <https://www.aeaweb.org/articles?id=10.1257/aer.99.2.58>
59. Ashforth et al (2007). Normalizing dirty work: Managerial tactics for countering occupational taint. Academy of Management Journal, 50, 149-174. Retrieved from [https://www.researchgate.net/publication/274837420\\_Normalizing\\_Dirty\\_Work\\_Managerial\\_Tactics\\_for\\_Countering\\_Occupational\\_Taint](https://www.researchgate.net/publication/274837420_Normalizing_Dirty_Work_Managerial_Tactics_for_Countering_Occupational_Taint)
60. OECD (2018). A Broken Social Elevator? How to Promote Social Mobility <http://www.oecd.org/social/broken-elevator-how-to-promote-social-mobility-9789264301085-en.htm>
61. Wegmann (2017). Waste Management in Europe. Good Jobs in the Circular Economy?
62. OECD (2017). Employment Implications of Green Growth: Linking jobs, growth, and green policies; OECD Report for the G7 Environment Ministers. Retrieved from <https://www.oecd.org/environment/Employment-Implications-of-Green-Growth-OECD-Report-G7-Environment-Ministers.pdf>
63. UNEP (2015). A rapid response assessment: waste crime – waste risks gaps in meeting the global waste challenge. Retrieved from [https://repub.eur.nl/pub/99476/WasteCrime\\_RucevskaEtal\\_GRIDArendal-UNEP.pdf](https://repub.eur.nl/pub/99476/WasteCrime_RucevskaEtal_GRIDArendal-UNEP.pdf)
64. Scheinberg et al (2016). From collision to collaboration – Integrating informal recyclers and re-use operators. Europe: A review, Waste Management & Research, 34, 820-39.
65. ILO (2017). Global Employment Trends for Youth 2017: Paths to a better working future. Retrieved via [https://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/---publ/documents/publication/wcms\\_598669.pdf](https://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/---publ/documents/publication/wcms_598669.pdf)
66. Barford & Coombe (2019). Getting by: young people's working lives. Murray Edwards College, Cambridge. Retrieved via [https://www.repository.cam.ac.uk/bitstream/handle/1810/292310/Barford\\_Coombe\\_GettingBy\\_2019.pdf?sequence=2&isAllowed=y](https://www.repository.cam.ac.uk/bitstream/handle/1810/292310/Barford_Coombe_GettingBy_2019.pdf?sequence=2&isAllowed=y)

67. Maguire & McKay (2016). Young, Female and Forgotten? Full Report. Young Women's Trust, London
68. Moorhouse & Caltabiano (2007). Resilience and unemployment: Exploring risk and protective influences for the outcome variables of depression and assertive job searching. *Journal of Employment Counseling*, 14, 115-125.
69. Jansen et al (2019). Training and Skills Development Policy Options for the Changing World of Work. 45, 460-482.
70. Circle Economy (2020). Leaving no one behind: Learning from social enterprises that are creating a more inclusive circular economy <https://medium.com/circleeconomy/leaving-no-one-behind-learning-from-social-enterprises-that-create-a-more-inclusive-circular-7af6feec47cd>
71. United Nations Inter-Agency Task Force on Social and Solidarity Economy (2019). Social and Solidarity Economy and the Challenge of Sustainable Development. A Position Paper by the United Nations Inter-Agency Task Force on Social and Solidarity Economy (TFSSE). Retrieved from [https://www.aciamericas.coop/IMG/pdf/position\\_paper\\_tfsse.pdf](https://www.aciamericas.coop/IMG/pdf/position_paper_tfsse.pdf)
72. Fischer (2014). Redistribution as social justice for decarbonising the global economy. *The Economic and Labour Relations Review*, 25, 574-586.
73. Van Lerven et al (2020). Recession ready. A green plan to beat tomorrow's downturn. New Economics Foundation. Retrieved from <https://neweconomics.org/2020/01/recession-ready>

## ANNEX : METHODOLOGY

This report was developed on the basis of extensive literature review and consultation with over 50 cross-sector organisations. Those that gave their permission are listed in the acknowledgments.

### Expert interviews and roundtables

43 one hour interviews were conducted by Circle Economy with expert stakeholders between October and December 2019. These interviews focused on one of four key issue areas for the *Circular Jobs Initiative*: skilling the workforce for the circular economy; the quality of work in the circular economy; the inclusivity of the circular labour market; and technology's role in work in the circular economy. A set of semi-structured interview questions, in line with each of these issue areas, were used to guide the interviews. These questions sought to validate the parameters Circle Economy was using to understand each of these issues; potential opportunities and solutions associated with each issue area; potential challenges; and what the expert stakeholders believed to be the biggest gaps in current knowledge and practice.

Following these interviews, all stakeholders were invited to participate in one of a series of four roundtable discussions, hosted online by Circle Economy in November and December 2019. Each roundtable lasted two hours and addressed one of the issue areas outlined above. 41 stakeholders participated in these roundtable discussions. The discussions explored in further depth the opportunities and challenges related to each issue, alongside the related roles and responsibilities and the immediate steps that should be taken to achieve positive outcomes for workers in the circular economy.

These roundtables drew Circle Economy's attention to the extent to which technology is a common element that across the topics of skills, quality of work and inclusion in the circular economy. As a result, it was consequently removed as a specific focus area and has been instead integrated across the three pillars that the *Circular Jobs Initiative* is now structured around.

### Feedback and contribution from expert stakeholders

Together with an extensive literature review, Circle Economy consolidated the insights from these interviews and roundtable discussions into this written report. All stakeholders who participated in the roundtable were given a chance to comment on the report, alongside a number of other stakeholders.

Due to this report being the product of both desk research and consultation with stakeholders, some of the statements made in this report are the summation of the insights gleaned from this approach. Where relevant, references to sources are provided to give further substantiation to statements made.

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