European Commission

Approaches to effectively engaging stakeholders

A case study on the Chemelot Circular Hub in South Limburg, NL

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Key messages

- → The principles of the just transition are equally relevant in the context of the circular economy and the transformation of carbon-intensive industries as they are to the energy transition.
- → Moving to a circular economy demands collaborative partnerships and networks of interdependent actors instead of the one-to-one relations of the linear economy. Innovative stakeholder engagement practices – such as the triple helix partnership of the Chemelot Circular Hub – can help to leverage the strengths of a region and eventually provide long-lasting change for citizens.
- → Thoughtfully designed initiatives that involve key stakeholders and play to a region's strengths can be the spark for broader stakeholder cooperation to perpetuate the just transition in carbon-intensive regions.

1. Linking the circular economy and the just transition

The concept of a circular economy has a range of definitions and diverging interpretations. The European Commission defines the circular economy as a "model of production and consumption, which involves sharing, leasing, reusing, repairing, refurbishing and recycling existing materials and products as long as possible."[1] The transition to a circular economy is one of the main building blocks of the European Green Deal, the EU's plan to become climate neutral by 2050.

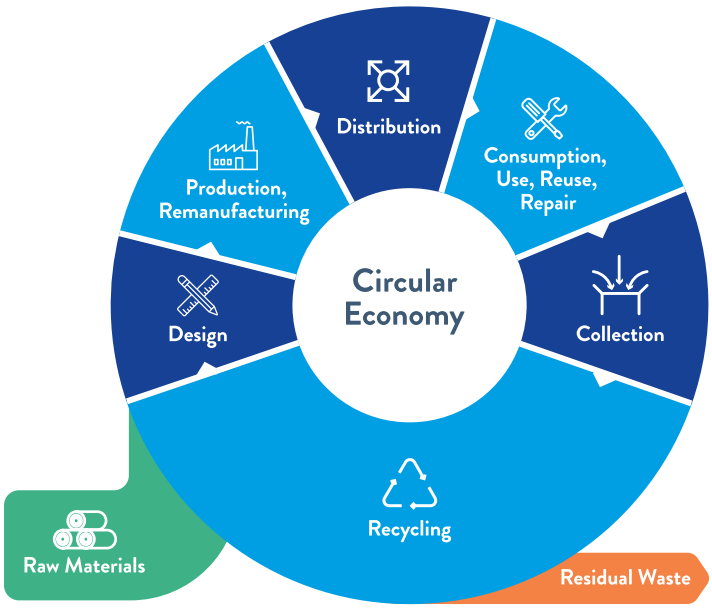

Figure 1: Depiction of the circular economy model. Source: Environmental Protection Agency of Ireland.

Moving from a model of "extracting, making, using and disposing" to a circular economy model of "recycling, repairing, renting and remanufacturing" can create up to 700,000 jobs across Europe.[2] Though environmentally and economically attractive, implementing a circular economy and transforming value chains will have social consequences for workers and their communities. Workers in linear extractive industries – such as mineral, metal and coal mining – will be among the most heavily impacted as the demand for finite natural resources decreases and levels of circularity increase. In addition to the decline in mining jobs, multiple sectors – such as waste processing and manufacturing – will need to transform their operations, requiring different skills and a retraining of the workforce.

The European Commission's Just Transition Mechanism (JTM) addresses the social and economic consequences of the transition to climate neutrality, focusing on the regions, industry sectors, and workers who are most impacted.[3] While the just transition is often associated with discussions on phasing out fossil fuels in energy production, its principles are equally relevant in the context of the circular economy and the transformation of carbon-intensive industries.[4] Extra effort needs to be taken to ensure that the circular economy delivers not only for the environment, but also for workers and communities. To ensure that nobody is left behind, two elements must be at the centre of aligning the transition to a circular economy with just transition principles:

- The impact on employment. A far-reaching restructuring of industry and increased digitalisation will have an impact on employment. Shifting to the circular economy requires a clear idea of which sectors will need extra workers and where jobs will be lost.[5]
- Social justice considerations. The local context in which the circular economy is to take root needs to be considered from the outset. Policymakers should identify communities that will be adversely affected by the transition to a circular economy, include their needs, and engage them in implementation planning.

2. The need for a stakeholder-based strategy in the circular economy

While the linear economy is built on one-to-one relations between resource providers, companies, distributors, and consumers, the circular economy demands collaborative partnerships and networks of interdependent actors. Often described as industrial symbiosis, companies obtain a competitive advantage by exchanging materials, energy, and information, similar to how natural ecosystems function.[6] As such, the actors implementing a circular economy need to change their behaviour: the transformation from being a stand-alone actor in the economy to working in a collaborative partnership requires trust and shared understanding. For the circular economy model to be successful, different modes of cooperation between stakeholders will need to be facilitated.

A study by researchers from the University of Navarra highlights that effectively identifying stakeholders and facilitating cooperation between them is a crucial factor in transforming the linear economy.[7] Starting the circular economy transformation from a stakeholder-based strategy will develop an understanding of important actors' needs to enable the transition, and engages key stakeholders from the start. One way to structure intensive stakeholder cooperation is by setting up triple helix partnerships, as exemplified by the Chemelot Circular Hub, the focus of this case study. The three partners in a triple helix partnership are industry, government, and knowledge institutions. The helix symbolises their deep cooperation, which boosts new technologies, companies, and connections.[8] In a triple helix partnership, the role of knowledge institutions is to generate new knowledge through research and development (R&D). Industry commercialises and scales R&D projects, cooperating actively and intensely. The role of the government is to provide a regulatory framework, secure funding, and organise public participation to ensure that activities contribute to the local economy and meet the needs of citizens.[9]

3. Best practice: Chemelot Circular Hub in South Limburg, the Netherlands

3.1 Local context – South Limburg, the Netherlands

South Limburg is a best-practice example of effective cooperation between stakeholders in the transformation to a circular economy. Limburg is the southernmost province of the Netherlands, bordering Belgium and Germany. The region specialises in producing chemicals, which is concentrated in the Chemelot Industrial Park. Chemelot accounts for 20% of the Dutch chemical industry, making it one of the biggest chemical clusters in the country. The 800-hectare site is comprised of around 200 companies and directly employs 8,500 people.[10] Brightlands Chemelot Campus – a 50-hectare science and business park – is located next to the Park. It is seen as a centre of expertise on circular innovation and houses start-ups, scale-ups, pilots, education and R&D spaces, and knowledge institutions.[11] The Park is responsible for one third of Limburg's greenhouse gas emissions and around 3% of the country's total emissions.[12] It therefore has a key role to play in the Netherlands' goal to reach climate neutrality by 2050.

Addressing the social consequences of the climate transformation is of vital importance in South Limburg. The region has the lowest employment rate of the country, which is particularly pronounced amongst the younger generation. 17.5% of 15-to-27-year-olds in South Limburg are unemployed and are not working towards a degree or vocational qualification – twice the Dutch average.[13] The region also underperforms on health indicators: a study from the University of Maastricht found that people in South Limburg score lower on self-perceived health, have more chronic illnesses, are more at risk of depression, and have higher health costs compared to the rest of the Dutch population.[14] Next to that, the region suffers from population decline and has a higher percentage of people over 65 years old than the rest of the country.[15]

However, South Limburg knows how to overcome adversity: the region successfully moved away from the mining industry in the 1960s and 1970s, as described in the overarching "Chemelot Circular Hub" case study, available here. Today, the region is actively working towards a circular economy that delivers for its citizens. South Limburg is one of six regions in the Netherlands to receive support from the Just Transition Fund (JTF) of the European Commission, with €60 million set aside to ensure a socially just transition to circular production in Chemelot.[16]

3.2 Chemelot Circular Hub

The Hub and its Circular Economy Action Plan

Chemelot Circular Hub is a triple helix partnership of the Chemelot Park and Campus, knowledge institutions and government, all working towards a circular economy and society. In their vision for Chemelot Circular Hub, partners recognised that the circular economy of the future will not only depend on an energy transition and a feedstock transition from linear to circular value chains, but will also require a cooperation transition, as shown in Figure 2.

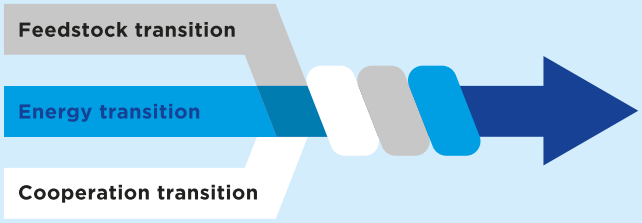

Figure 2: Importance of the cooperation transition in the Chemelot Circular Hub. Source: Circular Economy Action Plan, Brightlands Circular Space.

The stakeholders of Chemelot Circular Hub jointly developed a Circular Economy Action Plan. As shown in Figure 3, it is organised in four pillars: (I) Circular innovations and applications, (II) Circular human capital agenda, (III) Circular fundament, and (IV) Circular society. The four pillars are described in more detail in the overarching "Chemelot Circular Hub" case study, available here.

Bottom-up cooperation in the development of the Circular Economy Action Plan has led to a guiding document that recognises the current challenges in South Limburg and addresses them holistically. The Circular Economy Action Plan foresees actions to enhance the quality of life of citizens, secure employment, and safeguard the health of future generations by improving the circumstances of young people. The transformation to a circular economy will thus not only change the chemical industry but can also lead to long-lasting change for citizens, their health, and their career prospects.

From plan to impact: Brightlands Circular Space

The Circular Economy Action Plan is meant to communicate the intentions of the stakeholders – not all actions have been put in motion yet. As such, the Circular Economy Action Plan is the guiding agenda for circularity in the region, and Chemelot Circular Hub represents the overarching platform. **With Brightlands Circular Space (BSC), the Hub moves from strategy to impact.** The project is a partnership between the company SABIC, Maastricht University, the independent research organisation TNO, and Brightlands Chemelot Campus, aiming to set up the first fully circular demonstration facility on the Campus.[17] BSC involves regional, national, and international stakeholders and generates impact through teaching, research, and experimental testing.[18]

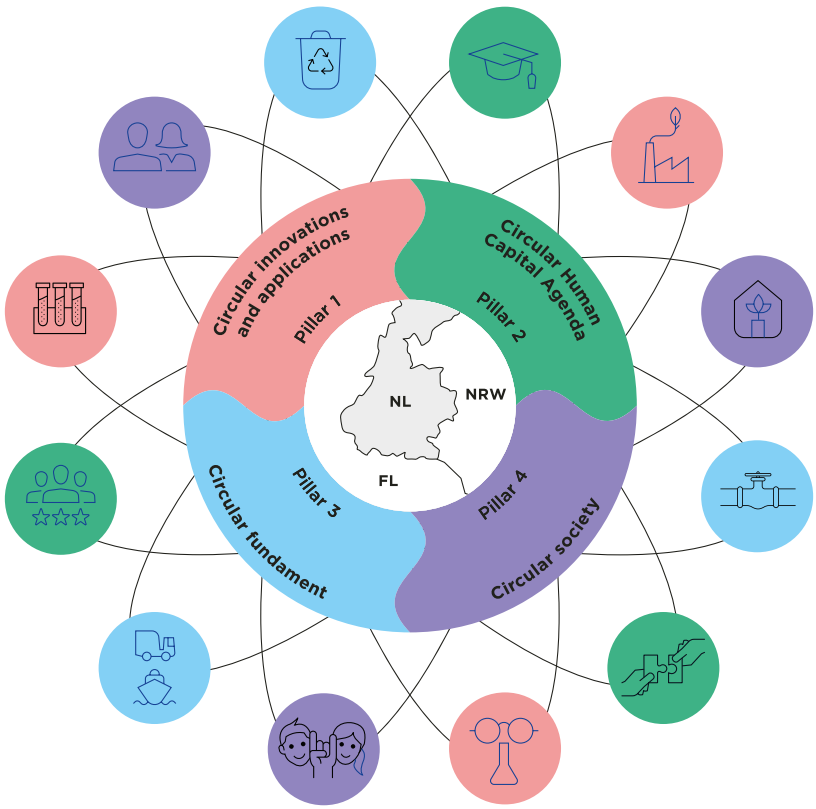

Figure 3: The four integrated pillars of Chemelot Circular Hub's Circular Economy Action Plan. (FL = Flanders, NL = the Netherlands, NRW = North Rhine-Westphalia.) Source: Circular Economy Action Plan, Brightlands Circular Space.

The cooperation transition in South Limburg

Chemelot benefits from long-standing cooperation between industry and science, facilitated by the onsite presence of Brightlands Chemelot Campus. The first laboratory on the site dates from 1940, and today the deep collaboration between Chemelot companies and scientists, students, and entrepreneurs enables them to continually develop innovative ideas for circular materials.

Government and knowledge institutions complete the picture: the combination of Chemelot Park and Campus and its environment is the driving force in Chemelot Circular Hub. The province of Limburg has its own Circular Economy Policy Framework, and Sittard-Geleen – the municipality in which Chemelot is located – sees the circular economy as an integral part of its future.[19],[20] The local knowledge institutions – such as Maastricht University, Zuyd University of Applied Sciences and VISTA College – are similarly geared towards the circular economy, offering students tailored programmes and hands-on learning at the Brightlands Chemelot Campus. For example, the knowledge institutions and companies at Chemelot collaborate in Chemelot Innovation & Learning Labs (CHILL) at the Brightlands Chemelot Campus, in which students work on innovation questions from start-ups and companies.[21] Students can also take the world's first Circular Engineering Bachelor at Maastricht University, and VISTA College aims to adapt the content of many vocational curricula to include the changing needs of the circular economy.

By cooperating intensively, the stakeholders in the triple helix partnership of Chemelot Circular Hub are able to:

Leverage the region's strengths

- The stakeholders started by analysing the strengths of the region. They identified the importance of Chemelot to the economy and the expertise in circular innovation provided by the Brightlands Chemelot Campus as vital to the transformation to a circular economy. The region's can-do attitude regarding transforming the economy – resulting from its previous departure from mining – is also seen as a contributing factor.

Identify synergies to enhance cooperation

- Stakeholder engagement is a key enabler of South Limburg's transformation to a circular economy. However, the transformation will not happen overnight. Connections between the stakeholders are growing organically, and the project moves forward step by step. The stakeholders recognise that shaping the circular economy as a partnership is a long-term endeavour and that building trust takes time.

Put key regional organisations in the driver's seat

- While climate neutrality objectives are determined at the highest levels of government, effective implementation of the circular economy starts with bottom-up cooperation. Given their importance to the local economy, the companies at Chemelot can act as catalyst for South Limburg's transformation. Established knowledge institutions like Maastricht University, Zuyd University of Applied Sciences and VISTA College are closely involved in shaping the future workforce of the circular economy and offering the younger generation an attractive workplace.
- The same key players continue to be involved as the Circular Economy Action Plan is translated into impact by way of Brightlands Circular Space.[22]

Ensuring cross-fertilisation between the innovation ecosystem and society

- To ensure that Chemelot Circular Hub makes a difference in the daily lives of residents of South Limburg, policymakers and citizens are brought on board. One of the pillars of the Circular Economy Action Plan aims to develop a circular society, for example by planning city labs to improve the quality of life for residents and by introducing a programme on healthy lifestyle choices in primary schools. Workforce development is also central to the Circular Economy Action Plan given that the number of positions at Chemelot is expected to increase significantly as the circular economy takes hold. Actions include linking the educational and practical training initiatives to programmes to attract people and help them navigate reskilling in one-to-one trajectories. The Circular Economy Action Plan also aims to set up a programme to help reduce youth unemployment. Initiatives like these help translate the abstract concept of the circular transformation into tangible results for citizens.

This document was prepared by researchers at Guidehouse having conducted desk research, interviews and surveys. Any information and views contained in the present document do not reflect the official opinion of the European Commission. Reuse is authorised provided the source is acknowledged.

This document is part of a series presenting information and lessons learned on policy approaches at national, regional or local level supporting a just transition to a climate-neutral economy. The Just Transition Platform (JTP) assists EU Member States and regions to unlock the support in this transition. Visit the JTP website.

Endnotes

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