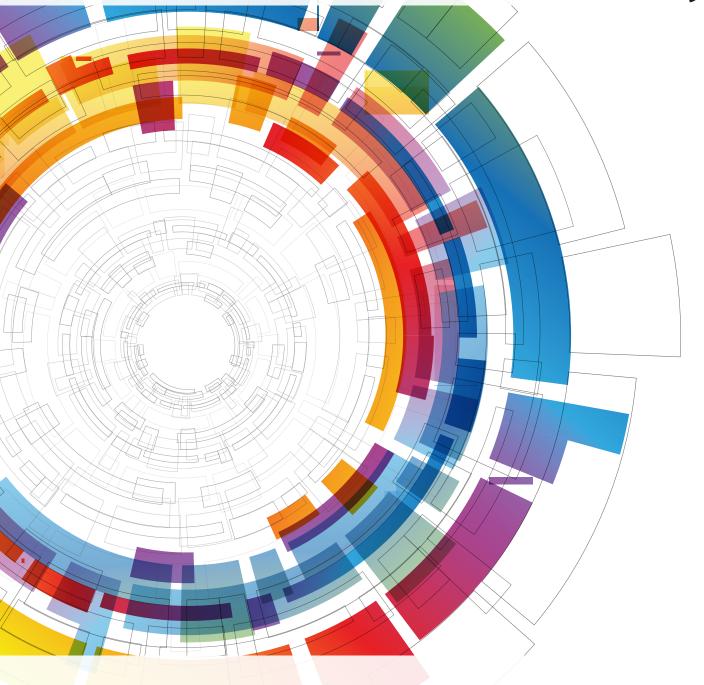
Institutional Arrangements for the Circular Economy







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Abbreviations

CBS Statistics Netherlands

EPR Extended Producer Responsibility

EU European Union

GACERE Global Alliance on Circular Economy and Resource Efficiency

GDP Gross Domestic Product

GIZ German Agency for International Cooperation

IEA International Energy Agency

INNOWO Polish Institute of Innovation and Responsible Development

OECD Organisation for Economic Co-operation and Development

OSCE Organization for Security and Cooperation in Europe

PBL Netherlands Environmental Assessment Agency

RIVM National Institute for Public Health and the Environment

SDGs Sustainable Development Goals

STEP Stakeholder Engagement Platform

TÜV Technical Inspection Association

UK United Kingdom

UNDA United Nations Development Account

UNDP United Nations Development Programme

UNECE United Nations Economic Commission for Europe

US United States of America

WRAP Waste and Resources Action Programme

Preface

A circular economy is an economy where the value of materials in the economy is maximised and maintained for as long as possible; the input of materials and their consumption is minimised; and the generation of waste is prevented and negative environmental impacts reduced throughout the life-cycle of materials.

The United Nations Economic Commission for Europe (UNECE), one of the United Nations five Regional Economic Commissions, has taken important steps to advance the transition to a more circular economy. In April 2021, at its 69th Session, UNECE requested its relevant Sectoral Committees and bodies to scale up their efforts to promote circular economy approaches and the sustainable use of natural resources. It also requested to consider how to enhance the impact of relevant existing UNECE instruments, including by proposing ways to identify, assess and fill gaps in governance and good practices (E/ECE/1494).

Over the last two years, the UNECE secretariat has responded to this request and worked to integrate the circular economy approach in the full scope of its relevant activity streams. Among others, this includes exploring how Government institutions and other stakeholders can interact to ensure a smooth transition to circularity.

Nearly all areas of a country's economy are relevant to the circular economy and have the potential to become an engine of change. Given the systemic nature of the transformation that is needed, it is paramount that circular transitions be coordinated along multiple government levels (i.e. national, sub-national and supra-national); and through engaging multiple stakeholders from private sector, academia, civil society, among others. Due to the cross-cutting nature of this endeavour, there are gains to be made not only in terms of broadening political support for reforms, but also for bolstering planning and ensuring cost savings linked to the avoidance of duplication of work. Still, setting up a roadmap for reform is not an easy task in most contexts, especially for developing countries and countries with economies in transition. Path dependency from linear models that persist, in addition to lack of finance and support mechanisms means that coalition building cannot be taken for granted.

What is clear is that Governments embarking on circularity reforms may wish to learn from successful case studies. This policy paper is part of the UNECE paper series on the circular economy. It analyses recent experiences on enacting institutional frameworks that can enable circular transitions in different countries of the UNECE region. It identifies best practices by multiple actors and economic sectors and summarizes the first steps that are needed for Governments that wish to design an institutional architecture to advance circular models. I hope that this publication will help decision makers and practitioners make progress on the paradigm shift that circular transitions require and thus contribute to green transitions and the attainment of the sustainable development goals (SDGs).

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Executive summary

The systemic nature of the circular economy model necessitates the establishment of lasting and sustainable linkages among the actors and stakeholders involved. A successful circular economy requires a high degree of interconnections between the various policy measures targeting circularity. Therefore, the transition to the circular economy requires a deep, systemic change in the way both public and private institutions and entities operate.

The crux of this change – and one of the ultimate goals of the transition – is the achievement of sustained collaboration between the actors and stakeholders along value chains, and between the actors and stakeholders influencing sustainable production and consumption patterns (SDG 12).

On the one hand, this requires strengthening linkages among the stakeholders; on the other hand, it necessitates implementing appropriate incentives to motivate stakeholders to collaborate. A truly circular economic model requires a constant flow and exchange of information and expertise between businesses, public authorities and other relevant stakeholders committed to the principles of the circular economy.

A successful transition to a circular economy requires collaborative links at three levels:

- Collaboration across policy areas: the circular economy benefits from the involvement of multiple areas of policy, including but not limited to environment and economics ministries.
- Collaboration across policy layers: national, regional and municipal governments
 all are key to the implementation of a circular economy. Given the global nature of
 supply chains, international collaboration is essential, e.g. for sharing information
 along value chains and for facilitating peer learning and capacity-building.
- Collaboration across stakeholder groups: the transition to a circular economy requires participation from all parts of society. Knowledge and experience can be leveraged from numerous businesses, research institutes, and non-profit organizations, as well as civil society groups.

Governments have an important role to play in strengthening institutional linkages and collaboration towards a circular economy through various policy interventions and actions.

- A high-level government commitment to the principles of the circular economy
 (at the level of key ministers) sends strong signals to all stakeholders and can motivate
 them to engage in collaborative relations.
- A standing inter-agency council or board tasked with coordinating circular
 economy policy development and implementation, can help instrumentalize such
 a commitment. Leading representatives of the business community may also be
 invited to take part in the work of this committee.
- At the regional and municipal levels, top officials of lower-level public bodies can take the lead in motivating stakeholder collaboration and supporting circularity.

There are many examples of institutional mechanisms that facilitate stakeholder collaboration.

- Circular economy roundtables or working groups can be set up across governments or government departments, and also involve business sector representatives as well as other relevant stakeholders.
- Stable stakeholder networks across value chains can help improve communication along value chains, strengthening linkages across the circular ecosystem (e.g. in light of circular material flows).
- Engagement between actors, stakeholders and the public at large can help boost awareness across society of the benefits of the circular economy, further supporting the transition.

Institutional arrangements that foster stakeholder collaboration among public bodies, businesses, academia and civil society are needed across the different phases of policy formulation, implementation, and subsequent measuring.

- Collaboration is essential for the formulation of circular economy roadmaps, action plans and policies. For example, collaboration in policymaking can help better align the requirements stemming from legislation with their impact on circularity, and in so doing, it can help ensure buy-in for subsequent implementation.
- Collaboration can also support the implementation of circular initiatives, supported by the government's convening power and instigation of collaboration among stakeholders.
- Finally, institutional arrangements are needed need to maximize the benefits
 of monitoring and evaluation. Setting specific, measurable, assignable, realistic
 and time-related (SMART) goals is also a factor enabling collaboration among actors
 as it provides them with a shared direction and understanding.

The policies and actions targeting institutional change are closely intertwined with other sector-specific, as well as cross-sectoral policies for promoting the circular economy. These include, among others, finance and investment; industry and trade; energy; agriculture and food systems; public health; social affairs and employment; education, science and technology; and finally, digitalization.

What is essential for all forms of institutional change to take place and be sustained is that the public sector leads by example in demonstrating its strong commitment to the transition to circular economy. Furthermore, governments should put in place guarantees that this is a lasting commitment and that there will be policy continuity across political cycles. This is a sine qua non condition for the business sector to take the needed long-term decisions and engage in long-term collaborative relations.

As different countries are at different stages of the circular economy transition, there is ample space for peer-learning and experience sharing. This is, among others, one of the objectives of Circular STEP.

Chapter 1 INTRODUCTION

Circular economy and the sustainable use of natural resources

The world faces a formidable challenge: in a time of consumerism and demographic growth, how can we balance excess demand with finite planetary resources? It is well established that our current system of linear production and consumption is both unsustainable and environmentally harmful. One possible way of reconciling the ecological objectives of zero waste and eco-efficiency with economic growth is by decoupling growth from resource use. For this to happen, governments must shift from the linear economic model and towards circularity. A circular economy increases sustainability by lengthening the lifespan of products and minimizing resource use along value chains.

The model of a circular economy was developed as a solution to pressing modern challenges associated with finite resources: economic ones, such as price volatility and supply security; and environmental ones, such as pollution, greenhouse gas emissions and biodiversity loss. These challenges, the model argues, stem from the predominantly linear nature of our production and consumption systems: we take materials, make products out of them, use those products and eventually dispose of them. The circular economy reimagines our global and local economic systems to minimize pollution and waste and increase efficiencies. One of the main principles of the circular economy is that all materials become an input for new products.¹

The circular model can be traced back to the 1970s,² though many of its practices have arguably existed in different forms across various cultures long before the advent of modern industrial systems.³ In the past decade, the circular economy has gained significant traction globally in businesses and policy, as well as civil society. While there is no internationally agreed definition of a circular economy, the description of the United Nations Environmental Assembly (UNEP/EA.4/Res.1) provides a shared understanding of some of its basic principles.

¹ Aglaia Fischer and Stefana Pascucci, "Institutional incentives in circular economy transition: the case of material use in the Dutch textile industry", Journal of Cleaner Production, vol. 155, No. 2 (2017).

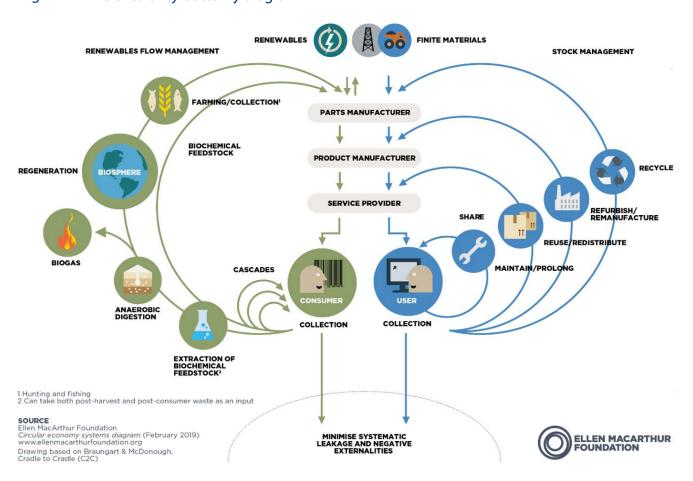
² Martin Geissdoerfer, and others, "The circular economy – a new sustainability paradigm?", Journal of Cleaner Production, vol. 143 (2017), pp. 757-768; Walter R. Stahel and Genevieve Ready-Mulvey, "The potential for substituting manpower for energy", Report to the Commission of the European Communities No. 76/13 (Geneva, Battelle, Geneva Research Centre, 1977).

³ Janine M. Benyus, Biomimicry: Innovation Inspired by Nature (New York, Harper Perennial, 2002).

A circular economy is "one of the current sustainable economic models, in which products and materials are designed in such a way that they can be reused, remanufactured, recycled or recovered and thus maintained in the economy for as long as possible, along with the resources of which they are made, and the generation of waste, especially hazardous waste, is avoided or minimized, and greenhouse gas emissions are prevented or reduced".

The gist of the transition to circularity implies setting up feedback loops in the economy, so that products, components and materials no longer end up as waste but re-enter the supply chains as valuable inputs. This is well illustrated by the butterfly diagram of the Ellen MacArthur Foundation (figure 1). On the right-hand side of the diagram lie the technical cycles in which products are reused, repaired, remanufactured and refurbished, and as a last resort solution, recycled. On the left-hand side, materials are treated in biological cycles, in which further value is extracted and nutrients restored into the biosphere while agricultural practices maintain the ecosystems. Bringing these feedback loops to reality requires numerous interventions and innovation, notably in terms of product design, business models and reverse logistics.

Figure 1 The circularity butterfly diagram



Source: The Butterfly Diagram: Visualising the Circular Economy (ellenmacarthurfoundation.org)

The circular economy addresses the United Nations Sustainable Development Goals (SDGs), as well as common national objectives such as economic development, a resilient supply of crucial resources, and the preservation of climate and ecosystems. There are economic benefits for businesses that adopt the principles of the circular economy,⁴ including through cost savings and new sources of revenues, and for the economy at large, through job creation and greater resilience to supply shocks. More recent analyses have also shown the importance of circular economy principles in mitigating climate change: nearly half of greenhouse gas emissions can be attributed to production processes⁵ or to the extraction and processing of materials, fuels and food.⁶ A circular economy strategy is thus an important complement to the efforts made towards greater energy efficiency and renewable energy as well as in the preservation of biodiversity.⁷

Institutions are the rules shaping economic decisions; they make up the core of how stake-holders interact with one another. The transition to circularity is a complex and systematic process because it requires reshaping policies, regulations and laws. This policy paper explores some options available to governments to embrace circularity.

The circular economy is widely acknowledged as a dynamic, multi-actor, multi-level solution that requires intervention from a multitude of angles, in a combination of activities led by business and civil society, which in turn are influenced by government policy.8 This requires a systematic approach to promote the transition towards circularity.

First, collaboration among public bodies, businesses, academia and civil society is essential for the formulation of circular economy roadmaps or action plans; multistake-holder discussions are needed to develop circular standards and guidelines. Second, this approach requires coordination across many layers of policymaking and economic activities, involving different actors along value chains (e.g. repair initiatives, second-hand markets). Third, business models need to be adapted in order to make circular changes cost-effective (e.g. creating marketing strategies and business plans for second-hand and recycled products). A systems perspective is key to achieving these goals. 10

⁴ Ellen MacArthur Foundation, "Towards the Circular Economy", vol. 1, 2012, 2, 2013, and 3, 2014; Ellen MacArthur Foundation, "Growth within: A circular economy vision for a competitive Europe", 2015.

⁵ Ellen MacArthur Foundation, "Completing the picture: How the circular economy tackles climate change", 2019.

⁶ UNEP, "Global resources outlook 2019: natural resources for the future we want", 2019.

⁷ PBES, "The global assessment report on biodiversity and ecosystem services", 2019; Ellen MacArthur Foundation, "The nature imperative: how the circular economy tackles biodiversity loss", 2021

⁸ Derk Loorbach, "Transition management for sustainable development: a prescriptive, governance framework", Governance, vol. 23, No. 1 (2010), pp. 163-183.

⁹ OECD, "Business models for the circular economy: opportunities and challenges for policy", 2019.

¹⁰ E. Lacovidou, J. Hahladakis and P. Purnell, "A systems thinking approach to understanding the challenges of achieving the circular economy," Environmental Science and Pollution Research, vol. 28, No. 19 (2021), pp. 24785-24806.

The role of policy in the transition to a circular economy

A growing number of businesses of all sizes are already applying circular economy principles in different sectors and value chains. Private sector investment in circular economy opportunities is also increasing. Yet despite these promising trends and the numerous benefits of the model, the transition to a circular economy has made only marginal progress.¹¹

Numerous market barriers prevent the model from scaling up, such as the following:

- Mispricing of natural resources
- Transaction costs that hinder collaboration across value chains
- Trade policies that restrict cross-border flows of circular products
- Status quo biases affecting investments and consumer behaviour.¹²

Multiple studies have worked on defining and structuring the role of policy in circular economy. Notably, the Ellen MacArthur Foundation identified five universal goals for circular economy policy:

- Stimulate design for the circular economy, e.g. through product and planning policies.
- 2. Manage resources to preserve value, e.g. with tax and procurement policies and harmonized sorting and collection policies.
- 3. Make the economics work, e.g. by aligning taxes and subsidies with circular economy.
- 4. Invest in innovation, infrastructure and skills, e.g. by funding interdisciplinary research and offering early-stage venture funding.
- Collaborate for system change, e.g. by fostering public-private collaboration and working across government departments and internationally.

Policymakers have a key role to play in scaling up the model of a circular economy by removing barriers and supporting further adoption of the principles. Numerous countries and regions, including China,¹³ Europe¹⁴ and Japan¹⁵ are already taking strides in this direction. A global study by Chatham House¹⁶ identified over 520 policies and regulations linked directly to enabling a circular economy, with more than 30 national circular economy roadmaps launched in UNECE region.

- 11 For example, according to the Circularity Gap Report, global circularity wilted from 9.1 per cent in 2018 to 8.6 per cent in 2020.
- 12 OECD, "Business models for the circular economy: opportunities and challenges for policy", 2018.
- 13 Will McDowall and others, "Circular economy policies in China and Europe", Journal of Industrial Ecology, vol. 21, No. 3 (May 2017), pp. 651-661.
- 14 Kris Hartley, Ralf van Santen and Julian Kirchherr, "Policies for transitioning towards a circular economy: expectations from the European Union (EU)", Resources, Con-servation and Recycling, vol. 155 (April 2020).
- 15 Patrizia Ghisellini, Catia Cialani, and Sergio Ulgiati, "A review on circular economy: the expected transition to a balanced interplay of environmental and economic systems", Journal of Cleaner Production, vol. 144 (February 2016), pp. 11-32.
- 16 Circular Economy Earth, "Policies", interactive map, 2020. Available at: https://circu-lareconomy.earth/.

Out of 56 member States, UNECE supports 17 programme countries with technical assistance. For these countries, integration of circular economy principles into policies is emerging and will require additional efforts and capacity-building.

Looking into the statistics of resource productivity¹⁷ – a measure of the total amount of materials used directly by an economy, measured as domestic material consumption, in relation to its economic output, measured in gross domestic product (GDP) – the 17 programme countries are lagging behind, as they use large amounts of material inputs for comparatively low economic outputs (figure 4).¹⁸

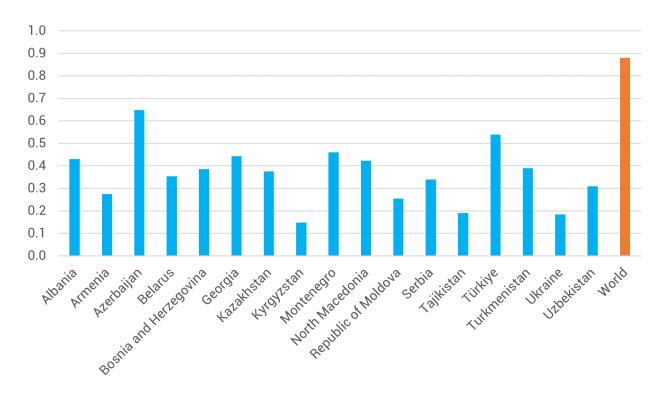
The higher the resource productivity, the more output can be produced with the same amount of input. For example, in the European Union and the United States, resource productivity is high, which means they get more output in dollars per kilogram of product for the full life cycle than do economies in the rest of the world. On the other hand, all 17 UNECE programme countries show below-average resource productivity compared with the rest of the world. In the absence of additional policies promoting resource productivity, material use is projected to nearly double by 2060, compared with 2017 levels (OECD, 2019).

¹⁷ Eurostat, "Resource productivity", glossary entry, May 2016. Available at: https://ec.europa.eu/eurostat/statistics-explained/index. php?title=Glossary:Resource_productivity.

¹⁸ Global Material Flows and Resource Productivity: Assessment Report for the UNEP International Resource Panel (United Nations Environment Programme publication, 2016). Available at: https://www.unep.org/resources/report/global-material-flows-and-resource-productivity-assessment-report-unep.

Figure 2 Resource productivity in UNECE programme countries

Resource productivity in dollar per kilogram of material used, 2019



Source: Compiled by the author and UNECE Secretariat, based on United Nations Global SDG Database

Institutional arrangements for the circular economy

Given the systemic nature of the circular economy, the wide range of benefits and the diversity of stakeholders involved in driving the change, a variety of policy levers are needed to support the transition. It is crucial that these levers work in concert, which is possible only through effective national arrangements. The circular economy is furthermore a global endeavour, so international cooperation is essential to its implementation.¹⁹

This section presents a summary of approaches that countries are leveraging today to foster a circular economy, as well as the challenges they have experienced in the process. The insights are based on a combination of publicly available data and interviews with members of Circular STEP.

Though the countries of the UNECE region are at different stages in their transition towards a circular economy, notable examples exist of good circular policies regarding collaboration and cooperation. What approaches best suit a member State will vary based on the political system, culture, size and economic landscape of the country. Though there is no one-size-fits-all recommendation, there are many institutional options from which member States can take inspiration in tailoring to their own context.

Three categories of collaboration are significant to foster the circular economy:

- Collaboration across policy areas: circular economy benefits from the involvement of multiple areas of policy, including environment and economics ministries.
- Collaboration across policy layers: national, regional and municipal governments have different scopes, all of which are key to the implementation of a circular economy. Given the global nature of supply chains, international collaboration is also essential.
- Collaboration across stakeholder groups: numerous businesses, research institutes and non-profit organizations are significant actors that hold knowledge and experience. Thus, they should be consulted in the design of policy programmes.

¹⁹ Patrick Schroder and Jack Barrie, A Global Roadmap for an Inclusive Circular Economy (London, Chatham House, 2022).

Chapter 2

INSTITUTIONAL ARRANGEMENTS BOLSTERING THE CIRCULAR ECONOMY

Proposed institutional set-up for accelerating the transition towards a circular economy

Nearly all policy areas are relevant to the circular economy and affected by it. Due to its cross-cutting nature, circular economy policies could benefit from the involvement of multiple policy actors, and thus diverse ministers, State agencies and other government bodies, each contributing a different perspective linked to their specific remits. Table 1 provides an overview of the most common topics covered by ministries across countries²⁰ and examples of circular policies, which also point to concrete areas in which governments can work with subnational bodies to shape a circular economy agenda.

In many countries that have developed circular economy policies and roadmaps, policies are led by a combination of ministerial areas. Usually, the ministries of environmental and economic affairs play a strategic role, spearheading circularity strategy in consultation with selected line ministries. This shows that, at least to some extent, countries understand the cross-policy relevance of the circular economy. Whereas in practice only a few examples exist where the circular economy is fully integrated across government departments in a coordinated way, some success stories exist. In Portugal, for example, the Circular Economy Action Plan developed in 2017 was initiated by the Ministry of Environment and Climate Action, but soon involved other ministries such as the Ministry of Economic Affairs, the Ministry of Agriculture, and the Ministry of Science and Technology.

The perceived benefits of such collaborations include the following:

- The policies developed have broader political support from the outset, allowing for faster implementation thanks to fast approval by line ministries.
- The policies developed consider the perspectives of a larger number of stakeholders than if they are developed primarily by one ministry.
- Duplications of action and budgets can be avoided, thus contributing to public finance savings.

²⁰ Adapted from Fabio Franchino and Bjorn Hoyland, "Legislative involvement in parliamentary systems: opportunities, conflict, and institutional constraints", The American Political Science Review, vol. 103 No. 4 (2009), pp. 607-621.

However, such coordinated efforts are not without their challenges:

- Different ministries typically have different strategic priorities and stakeholder groups,
 even more so in countries where the ministers belong to different political parties.
- The topic of the circular economy may be higher on the agenda for one of the ministries, creating some imbalance in involvement.
- The involvement of multiple ministries can furthermore exacerbate competition among them or slow down progress due to the difficulty of reaching consensus.
- The level of engagement of the different parties may be affected by other complex factors such as available resources, other political agendas or interpersonal relationships.

The endorsement of the circular economy by the highest level of government greatly facilitates cooperation across ministries. In Finland for example, the first circular economy roadmap was developed after the Prime Minister selected the circular economy as one of the key projects for his government in 2015. The active engagement of ministers in different areas was an enabling factor for their teams to act on the topic, as it demonstrated the importance of the topic within their wider political agenda.

A clear view of how a particular country will benefit from a circular economy is a significant catalyst of action. Analysis of benefits is often a prerequisite to the commitment of high-level government officials, and it helps to identify key stakeholders. Many governments currently engaged in circular economy started their journey by evaluating the benefits of the model for their particular context, building on existing supra-regional analyses and often with the help of external organizations. Such analyses can be conducted at national, regional or city level.

For example, the Welsh Government built its circular strategy on several studies estimating the benefits of the transition in the nation, one by the Ellen MacArthur Foundation and WRAP that estimated the potential economic savings at over £2 billion per year and one by WRAP and the Green Alliance that predicted the potential creation of up to 30,000 new jobs.²¹

Box 1 includes some summaries of available institutional arrangements for transition towards a circular economy that exist in some countries of the UNECE region. The overview is provided for informational purposes only.

²¹ Welsh Government, "Achieving a more circular economy for Wales", written statement 2016. Available at: https://www.gov.wales/written-statement-achieving-more-circular-economy-wales.

Table 1	Table 1 Relevance of different policy areas for the circular economy		
Policy area	Implementing institutions (examples)	Relevant Circular Economy topics (examples)	
Finance/ investmen economy	t/ • Ministry of Finance	 Strategic planning Fiscal measures, including economic incentives (e.g. extended producer responsibility) Investment policy Financial sector regulations Grants 	
Industry/ trade/ economy	Ministry of IndustryMinistry of Commerce	 Tarif and non-tariff measures Supply chain policies Competition policy, consumer information Digital transition Bioeconomy and the use of biobased materials Entrepreneurship and incubators 	
Environme	 Ministry of Environment Ministry of Forestry 	 Waste management Pollution and toxicity monitoring Climate action Energy efficiency policies Biodiversity Food loss and waste management Bio-economy and the use of biobased materials 	
Energy	Ministry of EnergyMinistry of Environment	Energy efficiencyStandardsRenewable energy infrastructure	
Agricultur	• Ministry of Agriculture re	 Agricultural policies and support measures Food loss and waste reduction Sustainable agriculture Use of input materials (water, nitrogen, etc.) Biobased materials (contributing to bioeconomy) 	
		1/2	

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Table 1	Table 1 Relevance of different policy areas for the circular economy		
Policy area	Implementing institutions (examples)	Relevant Circular Economy topics (examples)	
Public health	Ministry of Health	 Materials toxicity Pollution	
Social affairs/ employment	 Ministry of Culture 	Circular jobsJust transitionLabour rights, including health and safety regulations	
Education	Ministry of Education	Adaptation to education programmesSkill development programmes	
Science and technology/ innovation	 Ministry of Science and Technology Ministry of Information and Communications Technology 	 Research and innovation programmes and funding Business incubators, accelerators and technology parks Transformative innovation Innovation-enhancing procurement Science-industry linkages Digitalization, artificial intelligence, internet of things 	
Public administration	State procurement agencies n	Public procurementInter-agency cooperationStakeholder consultation	
Transport	 Ministry of Transport Businesses and industry groups Government agencies	 Green mobility and infrastructure Sustainable consumption	
Interior/home affairs/justice	 Ministry of Justice 	 Law enforcement and prosecution 2/2 	

Source: Elaborated by the author and UNECE Secretariat

Box 1

Institutional arrangements for circular economy in the UNECE region

In 2020, the **European Union** adopted the 2020 Circular Economy Action Plan (CEAP) as one of the main pillars of the European Green Deal. It includes directions on processes, fostering sustainable consumption and ensuring that resources stay in the economy for as long as possible. Policy in the European Union is a major driver for the development of new instruments and funds for circular economy finance. Key policy frameworks include the Circular Economy Action Plan for a Cleaner and More Competitive Europe²², a comprehensive body of legislative and non-legislative actions adopted in 2015 with the aim of transitioning the European economy from a linear to a circular model. The Action Plan mapped out 54 actions, as well as 4 legislative proposals on waste. In March 2020, the European Commission adopted an updated Action Plan. It includes measures to mobilize private financing in support of the circular economy and proposes the launch of a global circular economy alliance to explore starting a discussion on a possible international agreement on natural resource management.

In 2015, **Finland**'s Prime Minister Juha Sipilä selected the circular economy as one of the key projects of his government, which involved an investment of €40 million. The following year, the country published the world's first national roadmap for a circular economy, prepared under the leadership of the Finish Innovation Fund (SITRA). The document combines strategy, purpose and an action plan and is aimed not only at policymakers at the national level but also at municipalities, businesses, and citizens. A steering committee composed of 21 members from businesses, administration, research, and non-government organizations supported SITRA in developing the objectives and strategic policies and in the implementation of the steps of the roadmap.

In 2021, in **Montenegro**, the Chamber of Commerce published the country's first roadmap for a circular economy, supported by UNDP country office and other experts. The roadmap provides recommendations along three intertwined areas: public policy, business models and citizen values, narratives and behaviors. To achieve these results, the government set up a working group for the green transition, which is coordinated by the Ministry of Economic Development and Tourism and includes key ministries (e.g. of Economy, Ecology, Capital Investments and Agriculture), institutions (e.g. the Chamber of Commerce), donors (e.g. UNDP), business associations and non-government organizations, to design and cooperate on programmes.

In 2019, **Poland** adopted the roadmap towards the Transition to a Circular Economy, which aims to identify measures with the broadest possible social and economic impacts and prioritize opportunities to deal with existing and future challenges. Both the Ministry of Economic Development and Technology and the Ministry of Climate and Environment are engaged in circular economy activities, and a working group was recently established to facilitate cross-department collaboration. A public-private platform known as the Polish Circular Hotspot was set up to bring together national and local government bodies with businesses, entrepreneurs, the scientific community and civil society to jointly develop and apply the concept of a circular economy. One of the key partners helping to facilitate inter-agency collaborations is INNOWO, the Polish Institute of Innovation and Responsible Development.

²² European Commission, Circular Economy Action Plan: for a Cleaner and More Competitive Europe. Available at: https://ec.europa.eu/environment/circular-economy/pdf/new_circular_economy_action_plan.pdf.

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In 2017, **Portugal** adopted its first Circular Economy Action Plan, which provided a series of guidelines for the transition of the country to an economy that promotes efficient and productive use of resources. Today Portugal is in the process of developing its new plan, with the aim to align with the EU's Circular Economy Action Plan, published in 2020. It will develop country-level circular economy indicators in collaboration with the national statistics institute and will include actions on sectoral agendas of the five sectors: textile and footwear, retail, green public procurement, construction, and tourism.

In 2021, **Serbia**, produced a roadmap for Circular Economy Serbia, with support of UNDP. At the local level, a key role is played by the Local Self-Government Units, which monitor the national regulations and are, for example, required to prepare local waste management plans. Circular economy policy is driven primarily by the Ministry of Environmental Protection, notably in a dedicated Department for Circular and Green Economy, but also as part of the waste and wastewater management and chemicals divisions. The circular economy is also an important theme for some of the other ministries. The Ministry of Economy, for example, included circular business models as one of the goals of its Industrial Policy Strategy for 2021–2030. The circular economy is also addressed from the perspective of urban mobility by the Ministry of Construction, Transport and Infrastructure. Collaboration between these different actors takes place through joint projects, workshops and information sharing. A Working Group for Circular Economy was set up in 2019 with representatives of all the national political institutions as well as several international actors (UNDP, GIZ, OSCE) to define policies in the field.

Tajikistan recently started exploring the concept of a circular economy. Some national strategies under development relate to the circular economy without naming it explicitly: the National Strategy on Waste Management, led by the Committee for Environmental Protection, and the National Strategy on Green Economy, led by the Ministry of Economic Development and Trade. A series of workshops are being set up with UNECE support to inform key stakeholders on the model. Several ministries are involved in these activities, and notably the Ministry of Economic Development and Trade, the Ministry of Agriculture and the Ministry of Industry. The private sector is also engaged, for example through the presence of the Chamber of Commerce, as it includes key stakeholders for the circular economy.

The **United States of America**'s approach to circular economy is primarily bottom-up. In addition, numerous agencies and parts of the federal government play a role in implementing the circular economy. The Environmental Protection Agency, for example, develops domestic regulatory frameworks such as public procurement and standards. Various government agencies support collaborations between businesses and academia and help to close the gap between promising innovations in research and their application in the market. Many departments of the federal government work on issues related to a circular economy without explicitly using those terms. At the local level, states and cities are exploring and passing policies and approaches of relevance to circular economies, such as zero-waste policies or extended producer responsibility. Meanwhile, the private sector offers innovative solutions for a circular economy such as service models and asset sharing. The United States is also involved in international programmes. It is, for example, on the board of the 10-Year Framework of Programmes on Sustainable Consumption and Production Patterns.

Source: Elaborated by the author and UNECE Secretariat

Enhancing collaboration across policy layers

The circular economy policy arises not only at the national level, but also at state, regional and municipal levels. Each policy layer contributes differently to the circular economy, each holding different powers and responsibilities. While national policymakers have more capacity to drive deep structural changes in the country's economy and production and consumption patterns, cities and municipalities – thanks to their smaller size – can be nimbler in their activities and thus provide hotbeds for experimentation. Good collaboration and feedback between these different levels thus provides the opportunity for local initiatives to contribute the lessons they learned to the design of national policies and for national policies to best support local developments. In most countries analysed for this report, the circular economy initiatives were advanced through both national and local policies, with a recognition of the value of both top-down and bottom-up dynamics of change, though where the emphasis was placed varied greatly from one country to another.

In the United States, for example, much importance is attached to the local circular initiatives while at national level, the circular economy is primarily seen as being within the purview of previously existing environmental and sustainability bodies, such as the Environmental Protection Agency. In Finland, the circular economy is explicitly endorsed from the top level of the government as a national strategy. In Serbia, the relationship between national and local levels comes primarily from the so-called Local Self-Government Units that monitor the national regulations. It is, for example, their role to prepare local waste management plans. In many cases, the development of circular economy roadmaps provided key opportunities for exchange and collaboration between different layers of power. In Portugal, for example, the latest road-mapping exercise considers macro-, meso- and micro-levels, the latter being developed by each region separately with funding from the national environmental funds.

Given the international nature of a large share of supply chains, many aspects of circular economy policy require international collaboration, such as updated trade agreements and standards. Several international agreements and commitments exist, such as the Global Alliance on Circular Economy and Resource Efficiency (GACERE),²³ the Global Commitment on Plastics²⁴ or the UN Treaty on Plastics Pollution.²⁵ Within the European Union, the European Commission plays a key role in developing circular economy policy, notably through its Circular Economy Action Plan, first published in 2015 and later updated as part of the European Green Deal approved in 2020.

Given the diversity of stages of maturity of different governments in the UNECE territories, opportunities abound to learn from the experience of other countries.

²³ European Commission, "Global Alliance on Circular Economy and Resource Efficiency (GACERE)". Available at: https://ec.europa.eu/environment/interna-tional_issues/gacere.html.

²⁴ Ellen MacArthur Foundation, "The global commitment 2022", 2022. Available at https://ellenmacarthurfoundation.org/global-commitment-2022/overview.

UN Environment Programme, "What you need to know about the plastic pollution resolution", 2 March, 2022.

For example, when Portugal set up its Action Plan in 2017, few other countries had produced such a circular economy action plan, the Netherlands being one of them. A team of Portuguese representatives thus went to Amsterdam to learn about the Dutch experience.

UNECE supports exchanges of good practices. For example, UNECE created Circular STEP, whose aim is to "step up" the circular economy transition by filling gaps and creating syn-ergies among member States. Activities include the development and dissemination of evidence-based good policy practices. This will open new opportunities and facilitate dialogue and knowledge sharing among participating stakeholders.

Maximizing the role of monitoring and evaluation

Setting specific, measurable, assignable, realistic and time-related (SMART) goals is also a factor enabling collaboration among actors, as it provides them with a shared direction and understanding.

Clear, measurable goals constituted a key success factor for Finland as it helped to create a shared understanding among people and organizations with different ways of think-ing and approaching issues. In 2022, the Finnish Government published a resolution promoting a circular economy which included the goals of doubling the productivity of resources and circular material use by 2035 compared with 2015. These targets were based on the higher-level objective of becoming a carbonneutral circular economy society by 2035.²⁶ The Dutch government set the target of being fully circular by 2050, with the intermediary goal of halving the consumption of primary raw materials by 2030.

Crucial to meeting targets is the ability to monitor progress towards the goals. It requires both an appropriate monitoring method and the data to support it. In the Netherlands, it was proposed to establish a monitoring system in which a distinction is made between monitoring the desired effects, i.e. the reduced consumption of natural resources, and monitoring the transition process, i.e. the adoption of numerous circular strategies such as extending the lifetime of products. It was observed that given the complexity of the transition to a circular economy, effects may happen slowly in a first instance even if strategies are well adopted.²⁷

The European Union published a circular economy monitoring framework based on 23 indicators relating to production and consumption, waste management, secondary raw materials, and competitiveness and innovation.²⁸

²⁶ Ministry of the Environment of Finland, "Finland's circular economy programme sets targets to curb overconsumption of natural resources", 8 April, 2022.

²⁷ See study by the Netherlands Environmental Assessment Agency, Statistics Netherlands and the National Institute for Public Health and the Environment.

²⁸ Eurostat, "Which indicators are used to monitor the process towards a circular economy?". Available at: https://ec.europa.eu/eurostat/web/circular-economy/indicators#:~:text=Competitiveness%20and% 20innovation-,This%20area%20comprises%20two%20indicators%3A,as%20a%20proxy%20for% 20innovation.

Such monitoring schemes, however, require certain capabilities and abundant data, two elements that will be lacking for many countries. Producing and reporting data on national material flows and consumption emissions would constitute a good first step, enabling the design of adequate circular economy policies.

However, setting quantitative targets inevitably implies reducing the systemic model of circular economy to a limited set of indicators, which risks losing sight of the bigger picture. In the worst case, it can lead to the reductionist maximization of individual objectives with-out considering the impact each has on other policy areas. For example, targets focused primarily on environmental metrics may distract policymakers from social and economic needs. Some important goals such as well-being or fairness may not lend themselves as easily to quantification. Such issues can be addressed for example by combining different indicators, by contextualizing the targets and by including qualitative objectives. Collab-oration with different policy departments and stakeholders is also crucial, to consider the broader societal implications of policies.

Enhancing government consultations with stakeholder groups

Engaging multiple actors among civil society in the development of circular economy policy presents multiple benefits, such as building on the experience of businesses with a circular economy and thus addressing the challenges and barriers that private actors meet in practice. In the case of academia, drawing on the knowledge base developed in research institutes could offer examples of innovation opportunities that are still in their infancy. It is also important to inform future research and education programmes about the needs of companies and firms, especially those more clearly involved in priority supply chains.

Addressing adverse social impacts of the transition (e.g. increased unemployment in industries undergoing restructuring) requires better consideration of these effects in decisions and policy. They could be enhanced by involving organizations that represent diverse groups of citizens and consumers. Taking advantage of existing civil networks could help promote the message of the circular economy among a wider layer of stakeholders. Engaging all actors early in the transition is also important, so that potential tensions and disagreements can be anticipated and mitigated. Stakeholder engagement activities also have the potential to help businesses form their own collaborations and alliances. These are key to reducing the risk of investment decisions for a circular economy, in which private operators are highly dependent on one another.

Engaging diverse actors is, however, not without its challenges. First and foremost, coordinating numerous stakeholders takes time and resources, often requiring the involvement of external actors, such as consultants, to help the process. Second, diverse stakeholders raise diverse issues and create challenging debates; for example, on how the policies will affect the economy, particular sectors and so on. Given the deep interconnectedness of circular economy issues and the early stage of the transition, it is not always possible to provide rigorous and complete answers to these questions. However, the value of the exchanges on these questions far outweighs the risk that some will remain unanswered.

To get useful inputs from the different stakeholders, it is important to ensure their effective engagement in the process. This can be a time-consuming effort. In Chile for example, the development of the circular economy roadmap involved more than 100 people organized in executive and strategic committees as well as 11 thematic groups of 14 people each. This gave rise to frequent meetings and was facilitated by a dedicated coordinator from the Government, with additional support from a consultancy. In Finland, key stakeholders were invited to join a steering group of 21 members co-chaired by the Minister of the Environment, Energy and Housing, and a professional in corporate board work.

While these examples focus on actively engaged experts, public consultations provide opportunities to involve much larger number of citizens. In Scotland for example, the consultation on proposals for a Circular Economy Bill received over 2,000 responses. Yet one could argue that for systemic change of the scale of the transition to a circular economy, even larger numbers of citizens should be reached out to in nation-wide conversations and debates.

The UNECE Nexus approach²⁹ may provide a helpful framework to engage stakeholders by identifying areas where interlinkages between resources are especially relevant and thus require integrated governance and cross-cutting engagement.

Box 2 UNECE Stakeholder Engagement Platform: Circular STEP

Circular STEP is a UNECE-led stakeholder engagement platform to support the circular economy transition, fill in gaps, and create synergies among the many practical and value-creating initiatives in the sphere of the circular economy. Activities of the network are demand-driven, to address the priorities and needs of UNECE Member States.

The network is maintained within a project "Accelerating the transition towards a more circular economy in the UNECE region" (multi-agency UNDA project, 2021–2024).

Among others, Circular STEP develops and disseminates evidence-based international good policy practices and unites experts from national, regional and local governments, business and academic communities, and civil society from the UNECE region. Key areas of analytical and capacity-building work include research and technical assistance on institutional arrangements for a circular economy, trade, innovation-enhancing procurement, management of waste in the agri-food sector, small and medium enterprises, traceability of value chains, financing, and digital solutions. Capacity-building support takes place on a regional and a national level.

Currently, over 20 UNECE member States have officially nominated a Circular STEP focal point. UNECE member States are invited to nominate official focal points by sending an email to:

ece-trade4circularity@un.org

In addition, multiple actors are partnering with Circular STEP, including UNEP, UNIDO, SITRA (Finland), the Ellen MacArthur Foundation, Chatham House (United Kingdom), Circular Supply Chains Inc. (Canada), Institute for Circular Economy (Bulgaria), University of Enna Kore (Italy), MedWaves (Spain), TUV Rheinland (Germany), O2 İletişim (Republic of Türkiye) and Expertise France (France).

Source: Elaborated by the UNECE Secretariat

²⁹ UNECE, Natural Resource Nexuses in the ECE Region (UNECE publication, 2021). Available at: https://unece.org/sustainable-energy/publications/natural-resource-nexuses-ece-region-0.

Chapter 3 CONCLUSIONS AND POLICY OPTIONS

Governments can strengthen institutional linkages and collaboration towards a circular economy through different policy interventions and actions. A high-level government commitment to the principles of the circular economy (at the level of key ministers) sends strong signals to all stakeholders and can motivate them to engage in collaborative rela-tions. To instrumentalize such a commitment, a government may also consider instituting a standing inter-agency council or board tasked with the coordination of circular economy policy development and implementation. Leading representatives of the business com-munity may also be invited to take part in the work of this committee.

Top officials of lower-level public bodies can take the lead in motivating stakeholder collab-oration that supports circularity at the regional and municipal levels. Furthermore, central, regional or local governments can rely on their superior convening power to establish the respective networks of relevant stakeholders and instigate collaboration among them. The public sector may also propose the establishment of public-private coordination councils to support stakeholder collaboration in implementing circular initiatives

Stakeholder collaboration is essential for the development of some of the main building blocks of the circular economy. Collaboration among public bodies, businesses, academia and civil society is essential for the formulation of circular economy roadmaps or action plans. In a similar vein, such collaboration provides a strong foundation for circular econ-omy policymaking and ensures the commitment of different stakeholders to support the implementation of circular policy initiatives. Such a dialogue will help in better aligning the requirements stemming from different pieces of legislation with their impact on circularity.

Wider stakeholder collaboration can be supported by circular economy roundtables or working groups across governments or government departments. Business sector representatives as well as other relevant stakeholders should also be invited to take part. More generally, the public sector needs to take the lead in establishing stable stakeholder networks across value chains. Such networks would help to strengthen the linkages in the circular ecosystem and improve communication among actors and stakeholders, as well as the public at large. In turn, multistakeholder dialogue will help to better identify and assess the sustainability risks, share the visions and get commitment from industry.

Broad stakeholder collaboration in different phases of policy formulation and implemen-tation will boost awareness across societies of the benefits of the circular economy, further supporting the transition to circularity.

The policies and actions targeting institutional change are closely intertwined with other cross-sectoral policies for promoting the circular economy. Thus, coordinated multistakeholder collaboration is essential for the development of standards, guidelines and toolkits addressing circularity issues.³⁰ In turn, **modern digital infrastructure and digital solutions can greatly facilitate multistakeholder collaboration.** Digital platforms can bring together diverse stakeholders from public, private and academic sectors, across multiple levels – city, industry, state and transnational – for collaboration, coordination and co-creation. Digital solutions can boost the visibility of inter- and intrasectoral initiatives and provide a platform for collaboration and symbiosis. The establishment of multistakeholder collaborative initiatives supporting the functioning of cross-country traceability systems also represents a form of deep institutional change.

The country experiences reviewed in this study suggest that planning and setting up proper communication channels between circularity stakeholders is a key to success. At the national level, establishing an inter-agency board tasked with coordinating development and implementation of circular economy policy can lead to better coordination of policy development and implementation. At the sub-national level, establishing public–private/business coordination councils and promoting stakeholder collaboration in implementing circular initiatives can lead to stronger stakeholder commit¬ment in implementing circular economy initiatives. In both cases, establishing circular economy roundtables or working groups across governments departments with the participation of business representatives will ensure a better identification of sustainability risks as well as stronger commitment from industry. With regards to stakeholder networks across value chains, the public sector must take the lead to ensure stronger linkages in the circularity ecosystem.

It should also be highlighted that no two countries will implement the circular economy in the same way, given the great diversity in economic landscapes, political systems and government cultures across the UNECE region. Some countries will seek to adopt more top-down approaches, in which national-level policy largely dictates more local initiatives. Others will prioritize a bottom-up mindset, giving more agency to local actors and the private sector. In all circumstances, the transition processes will benefit from fostering effective and numerous interactions between actors, ensuring feedback and exchange of insights across all parts of society. For Governments that are only starting to discuss a circular transition, Table 2 lists recommendations for improving institutional arrangements for accelerating the transition towards a circular economy. What is essen-tial for all forms of institutional change to take place and be sustained is for the public sector to lead by example in demonstrating its strong commitment to the transition to circular economy. Furthermore, governments should put in place guarantees that this is a lasting commitment and that there will be policy continuity across political cycles. This is a sine qua non condition for the business sector to take the needed long-term decisions and engage in long-term collaborative relations.

³⁰ For example, cross-sectoral stakeholder collaboration is needed to develop knowledge and awareness about digitalization and its role in the circular economy. This will facilitate the development of relevant norms to ensure interoperability, cyber-security, inclusivity and ethical use, and other critical factors.

	Recommendations for improving institutional arrangements for accelerating the transition towards a circular economy			
What?	Why?	How (options)?		
Set up coordination group (task force) for managing the transition	To ensure that the transition to a circular economy is effectively managed and coordinated	Consider creating a circular economy task force/ working group to work towards common goals, identify criteria and indicators for progress and carry out reporting. The task force/working group should have a leading ministry, to coordinate the input of relevant stakeholders.		
Develop a strategic guiding document for transition towards a circular economy (national strategy/ roadmap)	To provide a clear and coherent framework for the transition to a circular economy, ensure that all relevant stakeholders have aligned goals and objectives, and that policies and actions are consistent and coordinated.	 Develop the following guiding documents: Gap analysis of the national situation to identify the current state of economy; Roadmap/strategy with clear goals and targets for transition to a circular economy; Comprehensive action plan to implement the roadmap/strategy. 		
Raise awareness about the circular economy	To educate a wide range of stakeholders on the benefits of circular economy and support the transition.	Provide information and resources to a wide range of stakeholders on circular practices. Engage a wide range of stakeholders in decision-making and implementation efforts for national strategy/roadmap.		
Empower collabora- tion and partnerships	To facilitate the transition to a circular economy.	Support circular economy networks and platforms on the national level and engage in international knowledge exchange. Collaborate with other countries and organizations to share best practices (engage in global and regional initiatives, such as Circular STEP).		
Adjust legislation to enable the circular economy transition	To enable the development of sustainable consumption and production practices (incl. circular economy business models and practices).	Review policies on trade, waste reduction, resource efficiency, product and packaging design to ensure synergies and progress towards a common vision for the cross-cutting theme – circular economy.		
Monitor and evaluate progress	To help identify areas for improvement and support continuous improvement in transitioning to a circular economy.	Develop tailored criteria and indicators for the circular economy (such as waste reduction, resource recovery and economic benefits).		

Source: Elaborated by the author and UNECE Secretariat

Annex 1:

A self-assessment of institutional capacities to strengthen circular economies

Self-assessment questionnaires can provide practical tools to start looking into the institutional arrangements of a country and the extent to which they enable collaboration. Table A.1 provides a questionnaire to identify to what extent institutional arrangements are set up to enable good collaborations across policy areas, policy levels and stakeholders.

To conduct the self-assessment, each question should be answered by "yes" or "no". A predominance of "yes" answers indicates that the country is already applying most of the best practices for institutional collaboration towards circular economy. A predominance of "no" constitutes an invitation to reflect and explore whether some of the practices could be helpful to your government. The table provided in the following section lists a series of corresponding options and a summary of the risks and benefits of each.

Table A.1		Institutional collaboration towards a circular economy: self-assessment questions		
N°	Assessn	nent	Yes	No
1	Is there endorsement and long-term commitment made for circular economy at a high level?			
2	Are two or more ministries engaged in circular economy action?			
3	Are two or more levels of policy making (from local to national) engaged in circular economy action?			
4	Does the government engage with international actors on the circular economy, for example as part of global initiatives and commitments relating to circular economy?			
5	Is there a circular economy roadmap or action plan?			
	If so:			
5.1	Were representatives of business involved in designing the action plan?			
5.2	Were re	presentatives of research and education involved in designing the action plan?		
5.3	Were re	presentatives of civil society involved in designing the action plan?		
6	Is there a structured mechanism for the government to engage businesses, research and education and civil society in circular economy policymaking?			
7	Is there data on the current state of play of the country regarding circular economy?			
8	Have concrete measurable and time-bound targets for circular economy been set?			
9	Is progress on the country's circular economy transition being tracked?			
10	Have th	e particular benefits of the transition been identified for:		
10.1	government? economic actors?			
10.2				
10.3	civil soc	iety?		
11		ources for facilitating coordination of different stakeholders in the country edicated?		

Source: Elaborated by the author and UNECE Secretariat

Annex 2: Additional reading on circular economy (examples)

Introductory reading

Over the past decade, a large number of introductions to circular economy have been published. The following were selected for their accessibility and relevance to the UNECE region.

- <u>Ellen MacArthur Foundation Homepage</u>
 The website of the Ellen MacArthur Foundation provides numerous resources to learn about circular economy. Of special relevance are the <u>circular economy introduction</u> and the resources for governments and policy.
- Circular economy and the sustainable use of natural resources:
 Trends and opportunities in the region of the Economic Commission for Europe
 This UNECE document presents major trends in resource use across member States and discusses the role of a circular economy as a policy approach to reducing environmental pressures, enhancing resilience and improving competitiveness. It describes the relevance of normative instruments, policy advice and capacity-building activities for the promotion of a circular economy and the sustainable use of natural resources in connection with the work of UNECE.
- From Waste to Resource Productivity Evidence and Case Studies
 This 2017 report of the United Kingdom Government's Chief Scientific Adviser comprises chapters addressing circularity and resource use efficiency across five exemplar sectors (household waste; commercial and industrial waste; agrifood; mining and resource recovery; construction and demolition) and provides illustrative case studies.

Estimating the benefits of a circular economy

Countries seeking to estimate the benefits of a circular economy within their own territory can take inspiration from a wealth of analyses and publications on the benefits of the model in various scopes.

- Delivering the circular economy: A toolkit for policymakers
 Published in 2015 by the Ellen MacArthur Foundation, this toolkit aims to guide policymakers through the process of designing a circular economy strategy for their territory, including how to prioritize circular economy opportunities and quantify their impact.
- <u>Circular economy in cities: Opportunity and benefit factsheets</u> (Ellen MacArthur Foundation)

These downloadable factsheets aim to answer all the key questions about the circular economy in cities, including the potential economic, social and environmental benefits of the model.

Targets and monitoring

Countries seeking to estimate the benefits of a circular economy within their own territory can take inspiration from a wealth of analyses and publications on the benefits of the model in various scopes.

· EU monitoring framework for circular economy

The European Commission developed a monitoring framework based on 10 indicators relating to production and consumption, waste management, secondary raw materials, and competitiveness and innovation. The main tables are available here: Main tables - Circular economy - Eurostat (europa.eu)

· Circular economy: What we want to know and can measure

This report, co-written by the Netherlands Environmental Assessment Agency, Statistics Netherlands and the National Institute for Public Health and the Environment, outlines a system to monitor the transition of the Netherlands towards a circular economy.

Creating a circular economy roadmap or action plan

Developing a national roadmap is seen by many countries as a strong enabler for institutional collaboration towards a circular economy as it sets a common goal and provides an opportunity to engage with a large number of stakeholders. Though each country will need an approach tailored to its own needs and culture, the resources below provide useful insights into the process.

How to create a national circular economy roadmap

Building on their experience developing the first national circular economy roadmap, the Finnish Innovation Fund Sitra compiled a guide to help other countries in this complex process.

· National roadmaps and action plans

Numerous countries have since developmed their own circular economy roadmaps and action plans, such as the Netherlands, France, Portugal, and Serbia, to name a few.

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Get in touch!

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To join the Circular STEP network and receive updates about the circular economy, visit: unece.org/trade/CircularEconomy