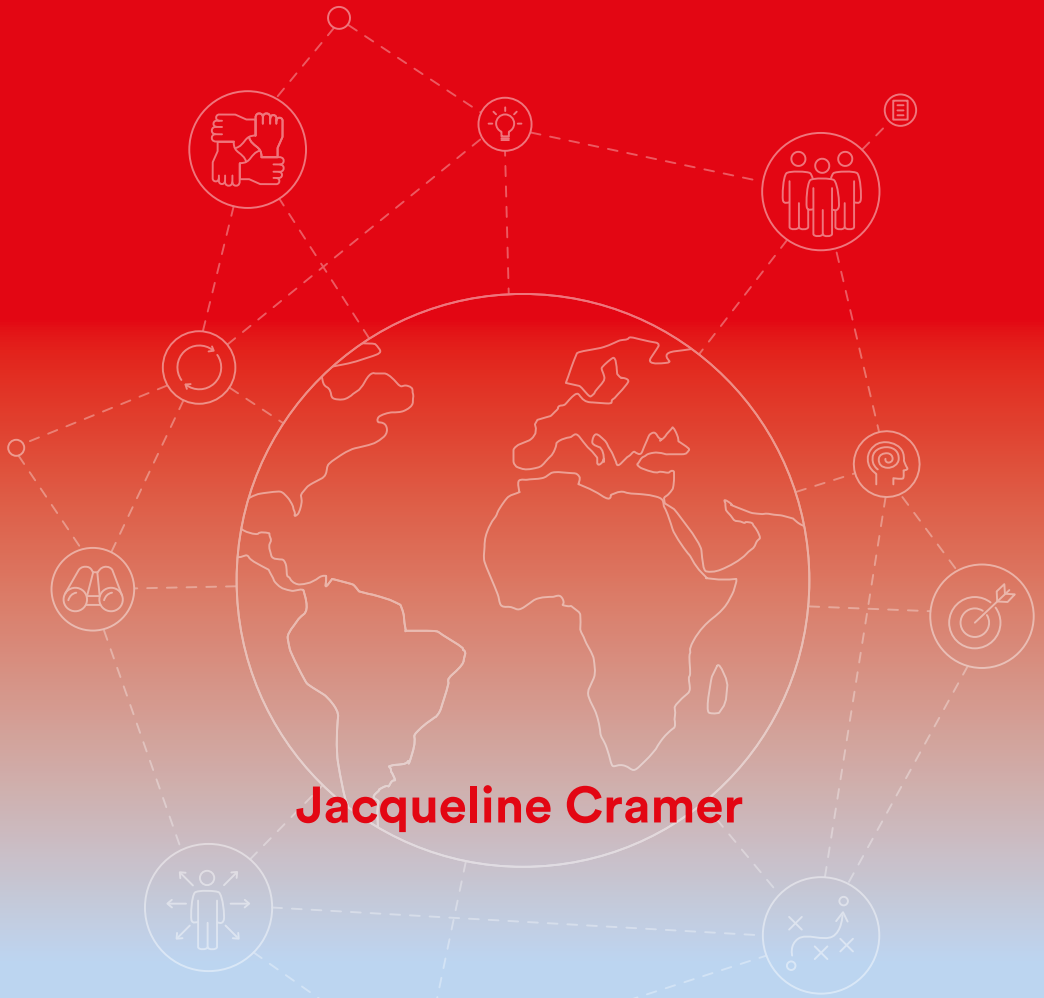


Building a Circular Future

Ten Takeaways for
Global Changemakers



Jacqueline Cramer

Building a Circular Future

**Ten Takeaways for
Global Changemakers**

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with Holland Circular Hotspot

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Preface

Understanding the similarities and differences in governing the circular economy worldwide: that is what this book is about. It is a sequel to the book *How Network Governance Powers the Circular Economy: Ten Guiding Principles for Building a Circular Economy, Based on Dutch Experiences*, published by the Amsterdam Economic Board in 2020. After issuing that book, I shared the highlights at digital international conferences with people working on circular economies worldwide. Their feedback was inspiring, particularly their positive responses to the importance of network governance. Participants in these meetings frequently asked for advice on how to implement network governance in their own countries. Unfortunately, a lack of country-specific knowledge prevented me from giving clear answers. But it did prompt me to embark on a follow-up study.

I hope this book helps changemakers around the world in their efforts to build a circular economy (CE). As chair of the Supervisory Board of Holland Circular Hotspot, I was fortunate to have easy access to representatives of circular hotspots and comparable national circular economy platforms in 15¹ different countries via Freek van Eijk. He is the director of Holland Circular Hotspot, cooperates closely with most of the representatives and is actively involved in establishing new circular hotspots in various parts of the world. The digital interviews with 20 representatives I conducted in 2021 were lively and informative. All interviewees

1 For the purposes of this study, I've referred to Flanders and Scotland as countries, even though they are formally part of federal governments, Belgium's and Great Britain's respectively. However, because they both have their own governments and CE policies, I will consider them here as countries.

freely spoke about the problems they encounter in governing circular economies and how these can be explained. I am grateful for the openness they showed in sharing their thoughts with me and for their comments on a draft version of this book.

I would also like to thank the Amsterdam Economic Board for its great support in publishing this book together with Holland Circular Hotspot. Mirjam Streefkerk did a marvellous job as coreader, and Daniel Cramer was stellar as designer of the figures and tables. I feel privileged to be surrounded by so many people that inspire me to continue the journey to a circular economy.

Chapter 1

The pressing call for a circular economy

Chapter 1

The pressing call for a circular economy

Scarcity and overconsumption of resources lead to alarming problems. The supply of sufficient resources is at stake, as we annually consume more than the Earth can provide. In 1970, it required the equivalent of one Earth to sustain our current population; nowadays, it takes about 1.75 Earths, and if we maintain our present consumption patterns, we will need three Earths by the year 2050¹.

Our current production and consumption patterns are not sustainable. We extract raw materials and use them to generate products without taking prudent care of the attendant environmental and social problems. Consumers use and then dispose of the products, often not realising the consequences.

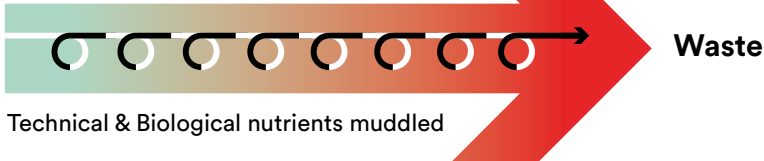
To solve these problems, we need to move away from this so-called linear economy and transition to a circular economy. In a circular economy, we keep resources, materials and products as long as possible in the cycle, we use renewable energy sources and safeguard the resilience of natural systems. By doing so, we minimise environmental pollution and optimise the use of valuable

1 Kaza, S. et al., What a Waste 2.0: A Global Snapshot of Solid Waste Management to 2050, World Bank Group, Urban Development Series, Washington D.C., 2018, <https://hdl.handle.net/10986/30317>

resources, materials and products, while at the same time ensuring the security of supply, creating new, sustainable businesses and jobs and generating new knowledge and innovation².

Linear Economy

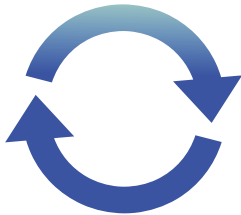
Take > Make > Dispose



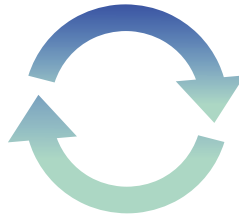
Energy from finite sources

Circular Economy

Technical nutrients



Biological nutrients



Making use of energy from renewable sources

Safeguarding the resilience of natural ecosystems

After Ellen MacArthur Foundation, 2013

² Ellen MacArthur Foundation, *Towards the Circular Economy: Economic and Business Rationale for an Accelerated Transition*, Cowes, 2013, <https://www.ellen-macarthurfoundation.org/assets/downloads/publications/Ellen-MacArthur-Foundation-Towards-the-Circular-Economy-vol.1.pdf>

The urgency to deal more prudently with our resources has put the circular economy high on national agendas. Governments, industry and civil society have taken numerous initiatives to enable a circular economy. Although the number of circular initiatives has recently been growing worldwide, their implementation is still in the early stages. Various governments — including those of China, Japan and the European Union — have formulated circular economy policies and developed instruments to support implementation. The Chinese government was the first to embrace the concept of a circular economy. In 2002, the government implemented the Circular Economy Initiative Development Strategy, followed in 2008 by the Law for the Promotion of Circular Economy³. The European Union soon followed with its flagship initiative for a resource-efficient Europe in 2011, and in 2015, it introduced the Circular Economy Package, “Closing the Loop: An Action Plan for a Circular Economy.” Five years later, the new Circular Economy Action Plan was launched as part of the European Green Deal.

In response to growing societal concerns over the waste of resources, new and existing businesses have introduced circular products and services, often accompanied by alternative business models. There is a great number of inspiring examples and best practices⁴ that show the merits of circular business development. The promise of the circular economy has also elicited the interest of scientists, consultancy firms and applied researchers. They have published piles of articles and reports on issues such as: What is the circular economy? How can product chains be redesigned from a circular perspective? And how can we map and report on

³ Beaulieu, L. et al., *Circular Economy: A Critical Literature Review of Concepts*, CIRAI, International Reference Centre for the Life Cycle of Products, Processes and Services, Polytechnique Montréal, Montréal, 2015.

⁴ See for instance www.hollandcircularhotspot.nl

a circular economy?⁵ Finally, civil society and NGOs campaign to increase public awareness for the circular economy, and they critically observe governmental policies.

The will to move to a circular economy is growing. However, it's not yet clear how to effectively govern its implementation. Governments formulate circular economy policies and implement measures that encourage it. Such incentives, based on conventional public governance, can clearly accelerate the transition process, particularly when they enforce fundamental change.

For example, the introduction of targeted legislation and impactful economic incentives can redirect our economy. However, bottom-up support from industry and the community is indispensable to implementing government policies. As the transition to a circular economy replaces our current — mainly linear — system with a new circular system, no company, local government or NGO can implement circular initiatives alone. All partners involved should be willing to participate in this transition, otherwise the change cannot be made. We need each other to jointly build a coalition of partners of people willing to contribute to transformative change. To be effective, such networks of partners should be orchestrated. I call this kind of orchestration 'network governance'.

Network governance does not replace conventional public governance but complements it. It helps achieve circular goals and increases societal support for more stringent government measures. Networks of partners can perform successful circular initiatives, which are the building blocks for the circular economy. When such initiatives are scaled up and ultimately become mainstream, the linear economic system is successively broken down and the circular system built up. To become fully circular, we need numerous circular initiatives in all product chains. The transition to

⁵ See for instance www.ellenmacarthurfoundation.org; www.circle-economy.com and Merli, R. et al., *How Do Scholars Approach the Circular Economy? A Systematic Literature Review*, *Journal of Cleaner Production*, Vol. 178, 2018, 703-722, <https://doi.org/10.1016/j.clepro.2017.12.112>

a circular economy is an iterative process that spans at least two decades. It is a continuous transformative change in which all product chains play an important role.

Just as with public governance, network governance is crucial for achieving the transition to a circular economy. In my previous book, *How Network Governance Powers the Circular Economy: Ten Guiding Principles for Building a Circular Economy, Based on Dutch Experiences*⁶, I stress the importance of combining both public governance and network governance to accelerate the circular economy. My publication prompted reactions from around the world, and those inspired me to question how we can use the idea of network governance in different socio-cultural and political contexts and in different stages of the transition. That is what this book is about. It compares governing the transition to a circular economy in 16 different countries and provides 10 takeaways. Everyone working on circular initiatives can use these varied experiences and translate them to their own socio-cultural and political contexts.

I spoke to representatives from those 16 countries who are actively involved in a worldwide network of so-called circular hotspots or similar platforms promoting the circular economy. The 20 people I interviewed are crucial actors in their countries and promote the circular economy as independent, intermediary parties. As chair of the supervisory board of Holland Circular Hotspot, a Dutch public-private organisation, I was able to identify the one or two most suitable people (viz. the director and/or senior manager) to interview in each nation. Appendix 1 lists the interviewees and includes details about my research design.

⁶ Cramer, Jacqueline, *How Network Governance Powers the Circular Economy; Ten Guiding Principles for Building a Circular Economy, Based on Dutch Experiences*, Amsterdam Economic Board, Amsterdam, 2020, www.amsterdameconomicboard



Digital meeting of representatives of circular hotspots worldwide

This book starts with the main Dutch highlights of powering the circular economy, as they form the foundation of my adopted approach. Next, I compare the circular experiences of the 16 chosen countries, which results in the 10 takeaways. I hope these lessons will serve as a guide to everyone orchestrating a circular economy — taking into account their socio-cultural and political context.

Chapter 2

Dutch experiences powering the circular economy

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Dutch experiences powering the circular economy

Building a circular economy is a long journey. Its beginnings in the Netherlands date back to the 1970s, and gradually efforts to transform our throwaway economy have evolved into what we now call the circular economy. I have been part of this journey since the late 1970s. During these years, I learned that the governance of a circular economy cannot only rely on public governance but also needs network governance. Based on my own experiences, I formulated 10 guiding principles for network governance to power the circular economy.

2.1 Dutch historical context of the circular economy

The Netherlands builds on a 40-year history of dealing with issues related to the circular economy. Even though the term ‘circular economy’ had not yet been used at the time by policymakers, the first Dutch circular initiatives date back to the late 1970s. In 1979, the Dutch government introduced into its environmental policy the waste hierarchy of ‘reduce, reuse, recycle, energy recovery, incineration and landfill’. Albeit with a few exceptions, landfilling soon became prohibited. Landfilling in a country as small and muddy as the Netherlands caused serious soil pollution, and the clean-up turned out to be very expensive, particularly

when new neighbourhoods were built on top of landfills. The Dutch government, in the early 1980s, decided to shift from land-filling to incineration and recycling. The mid-1980s brought the establishment of new waste incineration plants and recycling activities. The government formulated strategies for 30 resource streams, such as tyres, batteries and packaging, and executed those according to the waste hierarchy. For some resource streams (e.g., paper, packaging, electronics and cars), an Extended Producer Responsibility (EPR) was introduced from the 1990s onwards. As a follow-up, the Dutch government introduced an environmental product policy in the early 1990s. This policy encouraged companies to design products more sustainably. Coined as ‘eco-design’ and later as ‘cradle-to-cradle’, this approach accounted for a product’s potentially negative environmental impact over its entire life cycle.

In the 21st century, both waste and product policies were expanded. Waste policies developed in the 1980s and 1990s formed the basis of the National Waste Management Plan first issued in 2002. Since 2007, waste management and eco-design policies have been gradually integrated into one overall policy on the circular design of products and closing material cycles at the local and global level. This culminated in 2016 with the launch of an ambitious government-wide circular economy programme. Aligned with EU policies, the programme aims to develop a circular economy by 2050 and see a 50% reduction in the use of primary raw materials — such as minerals, fossils and metals — by 2030. To reach its ambitious 50% reduction goal, the programme covers all aspects of the ‘R-ladder’ of circularity. In order of priority it focuses on initiatives that refuse and reduce the use of raw materials, the redesign of products and product use, high-value recycling and incineration with energy recovery⁷.

⁷ Cramer, J., *The Raw Materials Transition in the Amsterdam Metropolitan Area: Added Value for the Economy, Well-Being and the Environment*, Environment, 2017, 59, 3, 14-21, <https://doi.org/10.1080/00139157.2017.1301167>

Levels of circularity: 10 R's

Order of priority

High



Refuse: Prevent raw materials' use

Reduce: Decrease raw materials' use

Redesign: Reshape product with a view to circularity principles

Reuse: Use product again (as second hand)

Repair: Maintain and repair product

Refurbish: Revive product

Remanufacture: Make new from second hand product

Re-purpose: Reuse product but with other function

Recycle: Salvage material streams with highest possible value

Low

Recover: Incinerate waste with energy recovery

For circular initiatives in this programme, the government encourages organisations to adopt new circular business models, such as selling performance or services rather than goods, and sharing costs and benefits among partners in the value chain. The basic idea of these new revenue models is that producers remain responsible for their products from cradle ('inception') to cradle ('rebirth').

In January 2017, *the Dutch government and more than 400 organisations signed the National Agreement on the Circular Economy* to develop transition agendas for five priority sectors: food and biomass, plastics, manufacturing, construction and consumer goods. These agendas were further elaborated on one year later. Per transition, stakeholders formulated the main lines of action. These are now being implemented.



The Dutch government and more than 400 organisations signing the National Agreement on the Circular Economy (2017) (Photo: J. Lousberg)

Around 2016, Dutch local governments also began prioritising the transition to a circular economy, following the lead of national, European and other international policies. The policies that municipalities and provinces launched were not completely new, as they aligned with existing waste management policies, startup support and green economy promotion. However, these previously siloed activities now often fell under one umbrella. Their scope broadened, from being a merely environmental issue (e.g., waste management) to an integrated approach in which environment, economy and social wellbeing go hand in hand.

The roots of the circular economy in the Netherlands created a fertile ground for the Dutch transition to the circular economy we know today. Over the course of time, industries, research institutes and other organisations gained essential knowledge for successful circular initiatives. The national government — and local

governments, too — have learned how to encourage and regulate the more prudent use of natural resources within industries and to promote more sustainable consumption patterns. The next step is to bundle this existing knowledge and develop new expertise — to put the circular economy into practice.

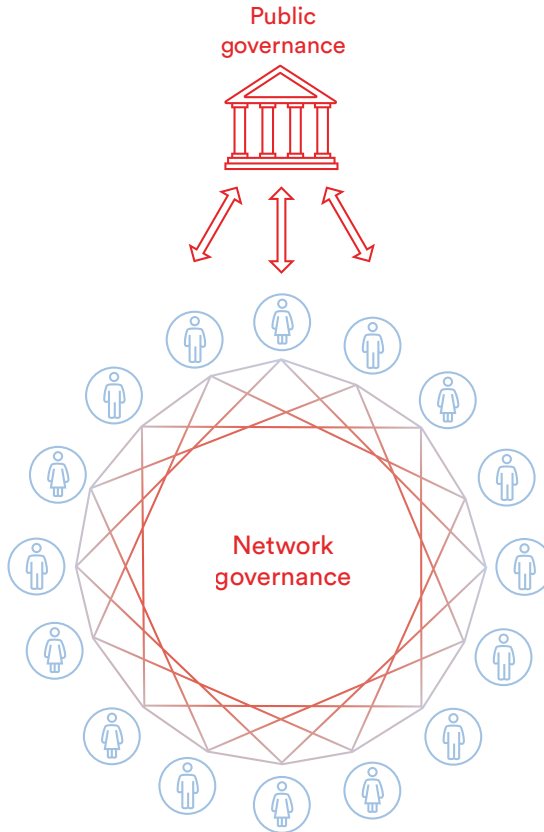
2.2 The importance of network governance

Although the Dutch government managed to set up an integrated circular economy policy, its implementation couldn't be realised without the active support of stakeholders. I was involved in many great Dutch circular initiatives, and I noticed it was relatively easy to find a coalition of stakeholders willing to join forces. However, the stakeholders found it hard to organise and to agree on the ambition and actions needed, since they mostly had different stakes. That hampered consensus on bold steps forward. I often acted as an intermediary and could successfully steer the change process from a neutral perspective. I could help align the stakeholders and accelerate the transition process. I called myself a 'transition broker'.

Although the networks I mobilised were tailor-made, they had many similarities. They all aimed to build a new circular initiative with different partners whose selection was carefully attuned to the particular initiative at stake. This idea of network governance is not new, but it is crucial when it concerns a system change — as is the case with circular initiatives. Such changes are complex and need goal-oriented network governance to be effective.

It is my firm belief that network governance and public governance should go hand in hand. We need public governance, because the national government — as guardian of the common good — is responsible for circular economy policies to which all stakeholders should adhere. To put these policies into practice, we need network governance in which stakeholders, including the national government, jointly realise the desired objectives. We can visualise the joint application of public and network governance as follows:

Relation between public governance and network governance



The importance of network governance — largely due to its novelty — is often underestimated. When putting network governance into practice, confusion arises among government representatives about how it fits into current institutional and democratic structures. Other stakeholders have doubts about their particular roles and responsibilities. They question what they have to do differently, and why. We are so used to operating in a traditional division of roles, that we fail to realise that adopting this model is also part of the transition towards a circular economy. All stakeholders must redefine their roles and responsibilities to help accelerate the

transition. But relationships have become institutionalised in daily practice, making finding roles in a new context difficult. I have seen how intermediary persons or organisations operating from an intermediary position — the transition brokers — are able to orchestrate the change process. Once they get the mandate to fulfil this servant leadership role, the preconditions for successful implementation can be organised more easily.

2.3 Ten guiding principles for building a circular economy





To support others in their efforts with network governance, I formulated 10 guiding principles for building a circular economy⁸. An elaborate explanation can be found in Appendix 1.

Part 1. Sparking the transition

Implementing circular initiatives is not business as usual: going from a linear to a circular system is a drastic transformation. The first four guiding principles help lay the foundation for a successful transformation.

Sparking the transition

Lessons learned (1)

- 1  The transition starts with a shared sense of urgency. No actor can realise a circular initiative alone
- 2  The implementation occurs in four subsequent, but cyclic phases (preparing, building, scaling and mainstreaming)
- 3  The tasks to be performed for each circular initiative are roughly the same, but case specific
- 4  Building a circular economy is a journey with a clear destination, but without a predetermined path




⁸ Cramer, J., *How Network Governance Powers the Circular Economy; Ten Guiding Principles for Building a Circular Economy, Based on Dutch Experiences*, Amsterdam Economic Board, Amsterdam, 2020a, ISBN 978-90-90-33928-3

Part 2. Context is key

People and organisations working on circular initiatives need to know the context in which the transformative change will take place. These variables are rarely clear upfront; finding them is part of the challenge. A first global overview is enough to start a circular initiative. In time, more insight into the specifics of the system variables emerges. This generates a sharper picture of the context in which you operate and consequently how to steer towards a circular economy. The following three guiding principles delve more into this context.

Context is key

Lessons learned (2)




- 5**  Focus on the most promising and far-reaching innovations. Select front-runners in industry as lead
- 6**  Map the key drivers and preconditions for successful implementation at the start
- 7**  Identify the relevant actors and access their willingness to join forces at the start

Part 3. Successful implementation

After sparking the transition comes the implementation of a circular initiative. I have learned that for successful implementation, the last three guiding principles must be followed.

Successful implementation

Lessons learned (3)

- 8**  Develop new circular business models that benefit all consortium partners
- 9**  Orchestration through intermediaries ('transition brokers') can accelerate circular initiatives
- 10**  Build a consortium of relevant network partners and agree upon a transparent division of labour

Chapter 3

International experiences with governing a circular economy

Chapter 3

International experiences with governing a circular economy⁹

What works in the Netherlands may not necessarily be successful in other socio-cultural and political contexts. That is why I took the concept of network governance abroad. I spoke to representatives of 16 countries worldwide who coordinate the circular economy in their regions. Their experiences give fantastic insight into the effectiveness of governing circular economies in different countries.

3.1 Sixteen countries

The 20 interviewees from the 16 countries I focused on are all active as coordinators of circular hotspots and comparable national circular economy platforms. My questions centred on the strength of public governance, the involvement of relevant actors and the receptivity to network governance in their particular socio-cultural and political context.

9 This chapter is based on Cramer, J., Effective governance of circular economies: An international comparison, Journal of Cleaner Production, 2022, 343, 130874, <https://doi.org/10.1016/j.jclepro.2022.130874>

I interviewed representatives of the following countries:

Table 1: Overview of the 16 countries involved

| | | | |
|--|--|---|--|
|   Nederland |   Flanders |   Italy |   Finland |
|   Slovenia |   Slovenia |   Slovakia |   Czech Republic |
|   Turkey |   Australia |   Brazil |   Canada |
|   Norway |   Scotland |   Poland |   Taiwan |

3.2 Current circular economy policies and practices

In many countries, the current circular economy policies and practices are still in an early stage, as we can see in the table on the right. For this overview, I used available statistical data from Eurostat and the OECD regarding waste management: the percentages of landfill, incineration, and recycling of municipal waste. I also asked the interviewees whether their government has a national circular economy policy plan with clear targets and actions, if there is a circular product policy (aimed at measures that are higher on the 10R ladder of circularity) and about the extent of their second-hand and repair markets.

Table 2: Current CE policies and practices

| | National policy plan ² | Landfill percent ¹ | Incineration percent ¹ | Recycling percent ¹ | Product policy ² | Second hand ² | Repair ² |
|----|-----------------------------------|-------------------------------|-----------------------------------|--------------------------------|-----------------------------|--------------------------|---------------------|
| 1 | Yes | Low | High | High | Yes | Medium | Medium |
| 2 | Yes | Low | Medium | High | Yes | Medium | Medium |
| 3 | No | Medium | Medium | Medium | Yes | Medium | Low |
| 4 | Yes | Low | High | Medium | Yes | Low | Low |
| 5 | Yes | Low | High | Medium | No | Medium | Low |
| 6 | Yes | Medium | Medium | Medium | No | Low | Low |
| 7 | No | High | Medium | Low | No | Medium | Low |
| 8 | No | Medium | Medium | High | No | Low, but growing | Low, but growing |
| 9 | No | High | Low | Low | No | Low, but growing | Low, but growing |
| 10 | No | High | Medium | Low | No | Low, but growing | Medium, but growing |
| 11 | No | High | Medium | Low | No | Low, but growing | Low |
| 12 | Yes | Low | Medium | High | No | High | High |
| 13 | No | High | Low | Very low | No | Low, but growing | Medium |
| 14 | No | High | Low | Medium | No | Low, but growing | Low |
| 15 | No | High | Low | Low | No | Low, but growing | Low, but growing |
| 16 | No | High | Low | Very low | No | Low | Low |

Note: Landfill: low (<8%), medium (8-38%), high (>38%); Incineration (conventional and energy recovery from waste): low (<11%), medium (11-41%), high (>41%); Recycling municipal waste: very low (<30%), low (30-40%), medium (40-56%), high (>56%)

1. OECD statistics 2021 Municipal Waste Generation and Treatment and Eurostat, Circular Economy Overview 021 Waste Statistics

2. Based on assessment of interviewees

Only six countries (the Netherlands, Flanders, Finland, Norway, Scotland and Taiwan) have a policy plan for the circular economy. These countries also have a high or medium percentage of household waste being recycled and a low percentage of waste going to landfill, except for Scotland. Eight of the remaining countries still have high percentages of landfill waste, while Italy and Slovenia have medium percentages.

Only four countries (the Netherlands, Flanders, Italy and Finland) have a circular product policy in place. “The first EU Circular Economy Package was much more related to waste, which was already part of our environmental policies, while now, the new circular action plan issued in 2020 is much more systemic, which implies the involvement of different ministries,” explains one of the interviewees from a country without such a policy. This means that options higher on the ladder of circularity require more fundamental changes and are the joint responsibility of various ministries, which complicates smooth implementation.

For most non-European countries included, it is too early to implement a circular economy product policy. They are still in an early development phase. Taiwan is the only non-European country included in this study with an advanced track record on the circular economy, but it does not have a circular economy product policy in place either. The interviewee provides the following reason: “It’s hard for us to formulate and implement product policies because we — a product manufacturing economy — are very dependent on the consuming markets, about what they are requesting. And the product policies in Europe have until now been very unclear. Therefore, we focus on recycling.”

The second-hand and repair markets are in most countries quickly maturing. Although the second-hand markets are at a low and sometimes medium level in the countries I have studied, they are clearly growing — particularly due to the younger generation’s interest in buying second-hand goods. The same holds for the repair

market. Interviewees from Eastern Europe emphasise that buying second-hand items and repairing products were part of their culture during Soviet times. But that has changed. “After 1989, everybody was free to buy everything (...). It was not so fancy anymore to buy second-hand (...). But right now, I can see that customers are pushing big companies to take back things and repair stuff (...). It is becoming a new fashion to buy second-hand.” Another interviewee says: “Not owning new things and repairing things was something that under socialism was a must (...). Nowadays, when you’re introducing that, people tend to say, ‘We can finally afford new things. Why are you forcing us now to reuse, repair and so on?’ (...). But now it’s changing (...). Particularly the younger generation realises that keeping something that is valuable, taking care of it, can bring satisfaction, too.” Similar remarks about the interest of the younger generation in second-hand and repair are made by interviewees from other countries. Taiwan is the only country that scores high on second-hand and repair. The interviewee explains: “One of the characteristics of Taiwan is that the repair engineers are very crafty as a result of (...) a robust ICT supply chain. If they want components, they know where to get them, they are all readily available (...). And labour is cheaper in Taiwan (...). In addition, we are a very resource-poor country surrounded by water. So culturally speaking, we have a habit of holding things. So, that culture breeds that kind of underground economy in the repair and second-hand market.”



Taiwan, a densely populated island deficient in resources (Photo by Jeremy Bishop on Unsplash)

3.3 Development phase, government leadership and involvement of stakeholders

The countries in this book are in different phases of their circular economy transitions, a process in which I distinguish four phases.

Table 3: Characteristics of CE transition phases

| Predevelopment | Startup | Acceleration | Stabilisation |
|--|--|--|---|
| No national policies on circular economy | National policies on circular economy in development | National policies on circular economy in place | National policies on circular economy as ‘the new normal’ |
| Percentage of recycling of household waste below 40% and no attention for redesign/reuse of products | Percentage of recycling of household waste between 40% and 56% and low levels of attention for redesign or reuse of products | Percentage of recycling of household waste above 56% and medium levels of attention for redesign/reuse of products | |

Table 4: Development phase, government leadership and involvement of different actors in the 16 countries

| | Development phase | Strong leadership CE | Involvement of industry | Involvement of startups/scale-ups | Involvement of local government | Involvement of NGOs/civil society |
|----|---|----------------------|--|-----------------------------------|---------------------------------|-----------------------------------|
| 1 | Netherlands Just before acceleration | Yes | Medium/high | High | High | Medium/low-medium |
| 2 | Flanders Just before acceleration | Yes | Medium/high | High | High, in bigger cities | Medium/low-medium |
| 3 | Italy Startup | Yes | Medium/high | Medium | Regions medium, cities low | Low |
| 4 | Finland Just before acceleration | Yes | Medium/high | Medium | Medium/high | Low |
| 5 | Norway Predevelopment | No | Low, except for frontrunners | Low/medium | Low | Low |
| 6 | Scotland Just before acceleration | Yes | Low/medium | High | Low/medium | High/low-medium |
| 7 | Hungary Predevelopment | No | Low, except some international companies | Low/medium | Low, with some exceptions | Medium/low |
| 8 | Slovenia Startup | No | Medium/high for international and export-oriented companies | Medium | High | Low-medium/low |
| 9 | Slovakia Predevelopment | No | Low | Low | Low | Medium/low |
| 10 | Czech Republic Predevelopment | No | Low/medium to high for some international companies | Low/medium | Low | Medium/medium |
| 11 | Poland Predevelopment | No | Low/medium for some international and large domestic companies | Medium | Medium | Medium/low |
| 12 | Taiwan Just before acceleration | Yes | Medium/high for internationally oriented companies | High | Low | High/low-medium |
| 13 | Turkey Predevelopment | No | Medium | Medium | Low, with some exceptions | Low some high/medium-high |
| 14 | Australia Predevelopment | No | Low/medium | Low | Low, with some exceptions | Low-medium/low |
| 15 | Brazil Predevelopment | No | Low, except for some international companies and companies that export to the EU | Low | Low | Low |
| 16 | Canada Predevelopment | No | Low | Low | Low, with some exceptions | Low |

I asked the interviewees to assess their countries on the following criteria: the phase it's in regarding transitioning to a circular economy; the state of governmental leadership on the circular economy; and the involvement of actors such as industry, startups/scaleups, local governments, NGOs and civil society. You can find the results of this assessment in table 4.

The table shows that the 16 countries' development phases vary. Nine are in the pre-development phase, two are in the startup phase and five are just before the acceleration phase. The countries that are further along have stronger governmental leadership on the circular economy than those that are still in the pre-development phase. Slovenia appears to be an exception. The country's previous government had taken a clear leadership role in promoting the circular economy and had implemented numerous measures.



Hotel Bohinj Revitalised/OFIS Architects: a circular initiative in tourism, construction & renovation and heritage in Slovenia

Table 4 also shows that industry is generally more involved in the circular economy when governments play a stronger leadership role. This also holds for local governments, with a few exceptions. For example, the involvement of local governments in Poland is at a medium level even without strong leadership from the national government. “Local government is responsible for waste management. Various cities take this role seriously,” says the interviewee. In Scotland, on the other hand, local involvement is still low, while governmental leadership is strong. The Scottish government’s interest in the circular economy has risen quickly over the past few years; the local government still has to respond. In Taiwan, local governments are hardly involved at all because of “the short-term orientation of local politicians.” The involvement of startups/scaleups varies widely and seems to depend more on the general innovation culture in a country than on governmental leadership on the circular economy. Remarkably, the interviewees often consider the involvement of NGOs and civil society in implementing a circular economy as being at low or medium levels. Most NGOs focus on specific environmental issues: they relate to circular ideas, but often don’t frame them as such. Few NGOs are actively involved in promoting the circular economy; they often depend on government subsidies to carry out their work. Exceptions are Taiwan and Scotland, where NGOs are actively engaged. Consultancy firms focusing on the circular economy usually play a more prominent role than NGOs. They are often financed by governments to help implement circular initiatives. Various interviewees emphasise the low interest in the circular economy from the general public, but notice attention growing, particularly within the younger generations. Turkey is the only country where the interviewee assesses the involvement of civil society as medium/high, as “it is embedded in the culture to be conscious with natural resources.”

3.4 Importance of network governance

The interviewees were positive about the concept of network governance, which I introduced in my previous book. They see its importance and also that of the 10 guiding principles, including the role of transition brokers. But they all admit the difficulty of implementing it. “It’s very important to work in networks — in true partnerships,” says one of the interviewees. Others say: “Yes, we firmly believe that all the actors need to cooperate (...) to close the chain. Otherwise, it’s impossible to make effective decisions.” “The network approach makes a lot of sense.” And: “You need to cooperate in order to really establish the new circular economy system. It is indeed complementary to public governance. We cannot do it without network governance.” All interviewees generally recognise the guiding principles that summarise the Dutch experience with the circular economy. An example: “The guiding principles are great to use. They have become the standard for the circular economy platform here in Hungary (...).” And: “All the lessons together make total sense for me.” One of the interviewees even said that the lessons learned were like a bible to her.

The interviewees also value the role of an independent intermediary: “The transition broker’s role is to bring the stakeholders together and make sure that they get agreement on specific projects. A neutral intermediary is very important, because entrepreneurs, government and society have different perspectives.” Another interviewee states: “Transition broker’ is a fantastic term.”

Implementing network governance is proving challenging for all interviewees. “I don’t think it’s ever easy to establish network governance (...); it takes a lot of work,” said one. Another noted: “Due to the fact that there is a kind of fear between public and private partnership (...), network governance has not been implemented.” And: “It takes some time to find joint interests. Going forward is slower than maybe taking strong positions and seeing if others are following. So at least it takes longer than just deciding, ‘Let’s do this and see what happens’.”



Circular Hubs network aligns to discuss ‘Scaling Up Circular Economy in Cities’ during the World Circular Economy Forum (WCEF) (Helsinki, 2019)

3.5 Receptivity to network governance

I used the work of Hofstede¹⁰ and Schneider and Barsoux¹¹ on cultural differences in management and political culture to identify potentially relevant dimensions for the receptivity of countries to network governance. I selected seven dimensions, each representing opposite extremes that I expected to be most relevant. Then I asked the interviewees to assess these seven socio-cultural and political dimensions for their country and evaluate their relevance for network governance. I have summarised their responses in the table on the following page.

10 Hofstede, G., Dimensionalizing Cultures: The Hofstede Model in Context, Online Readings in Psychology and Culture, Unit 2 Subunit 1, 2011, 26 pages, <https://doi.org/10.9707/2307-0919.1014>

11 Schneider, S.C. and Barsoux, J.L., Managing across Cultures, second ed., Prentice Hall, New Jersey, 2003.

Table 5: Receptivity to network governance, specified by 7 cultural dimensions

| | Antagonistic vs. Consensus-oriented society | Autocratic vs. pluralistic government | Short-term vs. long-term-oriented government | Media controlled by state vs. freedom of speech | Centralised vs. decentralised government | Dominant role vs. limited role of state in economy | Individual vs. collective interests prevail | |
|----|---|---------------------------------------|--|---|--|--|---|------------|
| 1 | Netherlands | Consensus-oriented | Pluralistic | Short-term | Freedom of speech | Decentralised | Medium | Collective |
| 2 | Flanders | Consensus-oriented | Pluralistic | Short-term | Freedom of speech | Decentralised | Dominant | Collective |
| 3 | Italy | Consensus-oriented | Pluralistic | Short-term | Freedom of speech | Middle | Medium | Collective |
| 4 | Finland | Consensus-oriented | Pluralistic | Short-term | Freedom of speech | Middle | Medium | Collective |
| 5 | Norway | Consensus-oriented | Pluralistic | Short-term | Freedom of speech | Decentralised | Dominant | Collective |
| 6 | Scotland | Consensus-oriented | Pluralistic | Short-term | Freedom of speech | Centralised | Dominant | Collective |
| 7 | Hungary | Antagonistic | Autocratic | Short-term | Controlled by state | Centralised | Dominant | Middle |
| 8 | Slovenia | Antagonistic | Autocratic | Short-term | Controlled by state | Middle | Dominant | Individual |
| 9 | Slovakia | Antagonistic | Autocratic | Short-term | Middle | Middle | Dominant | Individual |
| 10 | Czech Republic | Antagonistic | Autocratic | Short-term | Middle | Decentralised | Medium | Individual |
| 11 | Poland | Antagonistic | Autocratic | Short-term | Controlled by state | Centralised | Dominant | Individual |
| 12 | Taiwan | Consensus-oriented | Pluralistic | Short-term | Freedom of speech | Middle | Medium | Collective |
| 13 | Turkey | Middle | Middle | Short-term | Middle | Centralised | Dominant | Collective |
| 14 | Australia | Middle | Middle | Short-term | Freedom of speech | Middle | Limited | Middle |
| 15 | Brazil | Consensus-oriented | Pluralistic | Short-term | Controlled by state | Middle | Medium | Middle |
| 16 | Canada | Antagonistic | Middle | Short-term | Freedom of speech | Middle | Dominant | Middle |

The table shows that three dimensions do not seem to affect the receptivity to network governance. The choices for the ‘dominant versus limited role of the state in the economy’, ‘centralised versus decentralised government’ and ‘individual versus collective interests prevail’ are randomly distributed, and the interviewees do not consider them critical for network governance. I expected that network governance may be easier when the role of the state is less dominant and the government decentralised, but the data did not support my assumption. I also supposed that when collective interests prevail, the embedded sense of community would be stronger and the involvement of different actors higher. Although a direct correlation with network governance could not be found for this case either, I believe that this dimension can be a driver for network governance. The interviewees’ responses reveal that a high sense of community may increase the positive attitude of civil society towards the circular economy, as community-oriented people care not only about their own interests but also about the common good.

Regarding the dimension ‘short-term versus long-term oriented government’, all interviewees say their country’s situation represents a short-term approach. Many interviewees state that the four-year term of their national government generally leads to short-term orientation, which hampers circular economy policies directed at long-term transformation. Some interviewees, particularly those from countries with a circular economy policy plan, are positive about the longer-term orientation of their government on this issue. This means that overcoming the short-term orientation of government is a major driver. The dimension ‘media controlled by the state versus freedom of speech’ is also important, as freedom of speech allows for open debate and the varied and sometimes conflicting input of many stakeholders. However, looking at the data, freedom of speech is a supportive, not a dominant, factor in network governance.

Table 6: Actors' attitude towards each other¹

| | Government <-> Industry | | Government <-> NGOs | | NGOs <-> Industry | | Difficulty to implement network governance |
|-----------|-------------------------|--------------|-------------------------------------|-------------------------------------|------------------------------------|------------------------------------|--|
| 1 | Netherlands | Cooperative | Cooperative/sometimes antagonistic | Cooperative/sometimes antagonistic | Cooperative/sometimes antagonistic | Cooperative/sometimes antagonistic | Low |
| 2 | Flanders | Cooperative | Cooperative | Cooperative | Cooperative/sometimes antagonistic | Cooperative/sometimes antagonistic | Medium |
| 3 | Italy | In-between | In-between | In-between | Cooperative | Cooperative | Medium |
| 4 | Finland | Cooperative | Cooperative/sometimes antagonistic | Cooperative/sometimes antagonistic | Cooperative/sometimes antagonistic | Cooperative/sometimes antagonistic | Low |
| 5 | Norway | Cooperative | Cooperative/sometimes antagonistic | Cooperative/sometimes antagonistic | Cooperative/sometimes antagonistic | Cooperative/sometimes antagonistic | Low |
| 6 | Scotland | Cooperative | Cooperative | Cooperative | In-between, depending on NGO | In-between, depending on NGO | Low |
| 7 | Hungary | Antagonistic | Depending on the NGO | Depending on the NGO | Depending on NGO | Depending on NGO | Medium/high |
| 8 | Slovenia | In-between | Antagonistic | Antagonistic | Antagonistic | Antagonistic | Medium/high |
| 9 | Slovakia | Antagonistic | Cooperative | Cooperative | Cooperative | Cooperative | Medium/high |
| 10 | Czech Republic | In-between | Antagonistic or in-between | Antagonistic or in-between | Antagonistic or in-between | Antagonistic or in-between | Medium/high |
| 11 | Poland | Antagonistic | Cooperative, NGO dependent on money | Cooperative, NGO dependent on money | Cooperative, depending on NGO | Cooperative, depending on NGO | Medium/high |
| 12 | Taiwan | In-between | In-between | In-between | In-between | In-between | Low |
| 13 | Turkey | In-between | Depending on NGO | Depending on NGO | Depending on NGO | Depending on NGO | Low |
| 14 | Australia | In-between | Cooperative/sometimes antagonistic | Cooperative/sometimes antagonistic | Cooperative/sometimes antagonistic | Cooperative/sometimes antagonistic | Medium/high |
| 15 | Brazil | In-between | Depending on NGO | Depending on NGO | Depending on NGO | Depending on NGO | Medium |
| 16 | Canada | Antagonistic | Cooperative, depending on NGO | Cooperative, depending on NGO | Antagonistic with some exceptions | Antagonistic with some exceptions | High, fear for co-optation |

1. Based on assessment by the interviewees

Two cultural dimensions stand out as directly related to the receptivity to network governance: autocratic versus pluralistic government and an antagonistic versus consensus-oriented society. In order to substantiate this conclusion, a separate assessment on the attitude of different actors vis-à-vis each other and how that correlates to the difficulty of implementing network governance needs to be made first (see Table 6).

Table 6 clearly shows that a cooperative attitude between different actors facilitates network governance. As the Finnish interviewee states: “The cooperation we have between government and industry is quite common; network governance in the circular economy is in that sense easy to organise.” A country like Brazil can also adopt network governance — but for a different reason: “Brazil is a ‘relations’ country: you work with your friends. You develop a bond on a one-to-one basis. For example, you can sign a contract with a company and carry out an excellent job, but when that person leaves the company, the job might not be continued. At government and industry level it is the same thing. So, if you have the right connections and trust each other, you do great things. This is part of our culture.”



Members of the Brazilian Circular Economy Hub signing their commitment to collaborate

Even when interviewees assess the levels of cooperation as ‘in-between’, like in Turkey and Taiwan, network governance can work. The interviewee from Turkey states: “If cooperation is possible, then network governance is possible as well. The culture is really able to absorb that.” The interviewee from Taiwan argues: “In Taiwan, we have people from China, indigenous people, a Japanese influence, a strong relationship with the US, and now we have a lot of people from Southeast Asia. So, we just need to constantly work with each other and understand each other and move on.” When the assessment is ‘antagonistic’, particularly in the relationship between government and industry, network governance is considered more difficult (medium/high). According to the interviewees representing Eastern European countries, the antagonistic attitude between government and industry is rooted in history and political culture. As one of them states: “The people from the government cannot officially work together with someone from the private sector (...). It has to do with our history.” Another interviewee adds: “The government is always afraid to cooperate with business, because they are afraid of corruption; it’s a very sensitive topic. There is more openness for NGOs. That’s why our NGOs sometimes serve as a buffer between business and government.” Another representative from Eastern Europe states: “The government is the boss. We can build the networks we want with the companies and NGOs, but we cannot do [anything] without government intervention. Any consensus can be overruled for political purposes.”








































Interviewees from other countries that experience difficulties in implementing network governance also stress the fear of cooperation. The Canadian representative states: “The idea of working with industry openly is an anathema because the public regards industry as the bad guys and doesn’t want to see the government working with industry. Otherwise, the government is getting co-opted.”

While the attitude of government versus industry seems to be cru-

cial in how difficult network governance is perceived, the attitude of NGOs towards both government and industry is less decisive. The interviewees often answer that it depends on the NGO whether cooperation is possible. That is why their assessments in this category tend to be nuanced.

The table below combines the above data on the receptivity to network governance on the vertical axis and the phase of circular economy development on the horizontal axis. Based on this figure, it seems that countries with an antagonistic society and often an autocratic government experience difficulty in implementing network governance. The introduction of the circular economy also goes relatively slowly. Countries with medium or low levels of difficulty usually have a cooperative society and pluralistic government and have proceeded further in their circular economy ambitions.

Table 7: Relation between receptivity to network governance and development phase

| Receptivity to network governance | Cooperative  | | In-between  | | Antagonistic  | |
|-----------------------------------|--|--|--|--|---|--|
| | Pluralistic  | | In-between  | | Autocratic  | |
| High | Norway   | Scotland   | | The Netherlands   | | |
| | Turkey   | | | Finland   | | |
| Medium | Brazil   | Italy   | | Taiwan   | | |
| | Australia   | | | Flanders   | | |
| Low | Slovakia    | Poland   | | | | |
| | Hungary   | Canada   | Slovenia   | | | |
| | Czech Republic   | | | | | |
| | Pre-development | | Startup | | Acceleration | |
| | Development phase | | | | | |

3.6 Drivers for effective network and public governance

Drivers for network governance

A structured, goal-oriented approach is the main driver for effectively implementing network governance. The 10 guiding principles based on the Dutch experience are seen by the interviewees as a good example of such a structured approach and as a helpful standard on which to build a circular economy. Based on their own experiences, the interviewees also shared a few noteworthy additional drivers.

1. Market pressure through supranational policies

According to the interviewees, the EU's circular economy policies do not just impact EU member states' policies and practices but also governments and companies that have a trade relationship with the EU. For instance, as a product manufacturing economy, Taiwan is closely connected to the consumer markets of the United States and Europe. Taiwan must therefore follow the product policies on the circular economy of these markets. As the Taiwanese representative states: "Until today, these policies are not clear yet. That is why design — a part of the circular economy — and also our product policies are weak. We don't know what to formulate, what kind of policies." The representative from Turkey argues: "The EU policy plans are a reference for us." The interviewee from Brazil adds: "If we want to distribute our products worldwide, then we need to follow developments elsewhere. That is why industry is looking at Europe and other places where they see what's happening on, for instance, circular economy." Besides EU circular economy policies, China's import ban on plastics and other waste has also triggered circular economy initiatives, in Australia and Europe among other places, according to several interviewees.

2. International companies committed to promoting a circular economy worldwide

Various interviewees emphasise the impact of international companies that have the ambition to implement circular economies worldwide. The Slovenian interviewee illustrates this point. “Our industry is quite involved, particularly the international companies, because their competitive advantage is very much related to whether they have embedded the principles of the circular economy and sustainability into their core businesses.” And the Australian interviewee says: “The main driving actor is the business community. Particularly multinationals that have already made a commitment worldwide.” The Canadian interviewee argues that international companies do not always apply their global circular economy practices worldwide. As Canada does not export much to Europe, the Canadian interviewee says: “Our major export market is the United States, which is in about the same lagging position regarding the circular economy as Canada, probably a little less. Consequently, there is no significant market pressure on Canadian industry, even on the Canadian branches of multinational corporations, to adopt circular practices.” The Dutch interviewee adds: “International companies with a short-term stock market orientation will not be frontrunners; they tend to defend their vested interests. Those companies that consider the circular economy as an opportunity are more proactive.”

3. Positive attitude of civil society towards the circular economy

The urgency felt by society to deal prudently with resources and products is an important driver in some countries. Interviewees stress that civil society, including NGOs, can play a positive role in the implementation of the circular economy. When a particular country’s society and culture is more predisposed to caring for the environment, this will enhance its interest in prudently dealing with resources and products as well. However, to mobilise societal support, actors including national and local governments and industry need to join forces. The interviewee from the Czech Republic states: “My generation, I would say people under 35, are

getting more and more interested in the circular economy (...). This consciousness about the current state of the environment is bringing a new generation of customers to the companies. And big brands that already work with this group of Millennials are also taking the environment into consideration. For instance, some supermarkets are introducing local repair and recycle things. It is surprising how fast it's happening.”

4. Financial support for strengthening circular economy skills, knowledge, platform facilities and business development

Giving meaning to the circular economy, visualising its potential and implementing it is a big challenge for many countries. Various interviewees mention financial support for the development of circular economy skills and knowledge as a major driver. For instance, the Italian interviewee says the main barrier to implementing the circular economy was “fostering a dialogue and a clear framework in order to make the implementation of the CE effective in our country (...). It requires a toolset to overcome regulatory fragmentation, skills for implementation and an appropriate organisational culture. This would strengthen the many good practices implemented in Italy.” The Slovakian interviewee adds that it is also a “lack of capacities, money and time that needs to be allocated for long-lasting and step-by-step system changes.” In this context, various interviewees also stress the importance of raising general awareness and education, the need for creating a circular economy platform and appointing transition brokers.

As the Hungarian interviewee states: “You need to create a platform for people interested in the circular economy — a place where they can get to know each other. And budgets need to be allocated to finance circular initiatives.” The Dutch interviewee stresses “the need to better align circular economy startups and SMEs with tools and subsidies and to prepare the financial sector for circular economy business models.”



Investing in education has been essential for Finland's journey towards a circular economy.

Drivers for public governance

To build a circular economy, adequate policies and economic, legal and other government instruments should be in place. Given the current state of policies and practices in the 16 countries studied, substantial efforts still have to be made. According to the interviewees, the main driver for public governance is to create effective government policies and practices for a circular economy. They mention the following additional drivers for public governance:

1. Breaking through the silo mentality in government

A circular economy can have a positive impact on the environment, the economy and social well-being; it covers various policy areas. Circular economy governance needs to move beyond the confines of traditional environmental policy and focus on integral policy mechanisms such as a national strategy and legislation, with a clear delineation of mandates and responsibilities of public bodies and other actors involved during different stages of a material's life cycle. Working across ministries and different levels of government

is perceived as causing a significant bottleneck. The Australian representative states: “We have three layers of government to deal with and you also often have to liaise with many departments within these to raise an issue, get consensus and have action taken. That is our reality.”



Global collaboration between Australia and The Netherlands to stimulate local action (Melbourne 2019)

The interviewee from Flanders responds similarly: “We try to work together across all these silos. Because everything is organised in a very traditional matter, we need to go all the way through. And that’s something we really need to learn.” The interviewee from Taiwan adds: “The old style of this siloed thinking or dividing things into pieces, it’s no longer useful. We need more systems thinking.”

2. Long-term orientation of government

Long-term-oriented circular economy policies are mentioned by many interviewees as a driver for the transition to a circular economy. Many interviewees stress that currently, their government is too short-term-oriented to take the lead in the long-term objective of a circular economy. The Slovakian interviewee says: “Policy makers and government representatives are mainly short-term-oriented because of their limited term in office. Continuing with the ownership of a long-term transformation process such as the circular economy after a change of government is not the norm.” The Brazilian interviewee echoes this: “I think the biggest challenge in Brazil is that we always work towards short-term objectives.” The risk avoidance attitude in government is seen as one of the causes of this short-term orientation, as made clear in an Eastern European representative’s words: “People act very much in their comfort zone. Experimenting with something new or proposing something new might be risky and therefore they don’t do that. I think it really has to do with this mindset.”

3. Inclusion of external costs in the price of products

A fundamental problem is that the environmental and social costs of products during their lifecycle are often not reflected in their price. As the Dutch interviewee states: “Inclusion of external costs in the price of products and new business models are needed to stimulate the circular economy.” Through implementing policy instruments such as extended producer responsibility, taxes and charges — the costs, for example, of product disposal or pollution from industrial production — can be reflected in the product price.

4. Willingness to build public-private partnerships

No company or government can realise a circular economy alone. It requires partnerships among companies within and across production chains and between government and industry. Interviewees also mention limited cooperation between these parties as an important obstacle to implementing a circular economy. For Taiwan, the main issue is the weak connection

between manufacturing and the consumer market. “Given that products today have a high degree of complexity and cut across various industries, no single company can realistically manage these product cycles on their own. Making collaborative efforts along the entire value chain and across industries is fundamental.” A representative from Slovakia stresses a reluctance to share information. “Generally speaking, companies are afraid of sharing know-how and data; that is why their attitude is competitive rather than cooperative. Public-private partnerships are an exception rather than mainstream.” The Slovakian interviewee responds similarly: “Businesses apply a competitive rather than a cooperative approach. ‘I can do it better myself’ is a quite common excuse when doing business.” Government can play an important role to overcome these bottlenecks, but so can neutral transition brokers that orchestrate networks.

Chapter 4

Ten Takeaways to Empower Global Changemakers for a Circular Economy

Chapter 4

Ten Takeaways to Empower Global Changemakers for a Circular Economy

Are public governance and network governance both needed to successfully govern the circular economy? And if so, how can both types of governance be effectively implemented, given the socio-cultural and political context of each country? That is what I have tried to discover in this book.

I had the wonderful opportunity to interview key transition brokers actively involved in building a circular economy in 16 different countries. They informed me about the state of the circular economy in their countries and the role of network governance. Their input gave me a clear picture of the role public governance plays in the transition to a circular economy, the role of different actors (industry, startups/scaleups, local government, NGOs and civil society), the receptivity to network governance and the drivers for governing the circular economy.

With respect to public governance of the circular economy, the comparative analysis clearly shows the different development

phases of the countries studied. The analysis also reveals that a strong leadership role by a national government usually corresponds with greater involvement of both industry and local government in a circular economy. The involvement of startups/scaleups, NGOs and civil society seems to be less dependent on strong government leadership and is also triggered by other factors, including an innovative culture and a high environmental consciousness on the part of civil society.

Complementary to public governance, all interviewees consider network governance crucial. However, they admit that implementing network governance is complicated. The most favourable conditions under which network governance can thrive seem to be a consensus-oriented society and a pluralistic government.

The wealth of information the people I interviewed supplied me with, leads to the following 10 takeaways. I believe they are useful, particularly for anyone responsible for building a circular economy.

1. Combining public and network governance enhances the transition to a circular economy.

The transition to a fully circular economy requires a long game and goes through various cycles before one can speak of a fully circular economy. All interviewees stress that we need both network and public governance for a successful transition to a circular economy. Public governance represents the conventional role of government as the guardian of the common good, which here means respecting the planetary boundaries. Complementary to public governance, network governance is considered crucial, as cooperation between partners in networks is what puts policy into practice. Network governance is about building coalitions of partners: people who are willing to contribute to the transformative change — in this case to a circular economy. As this change implies a fundamental shift from a linear to a circular system, no actor can accomplish it alone. Actors need each other to realise these goals, and they need the support of the national government

to implement any required measures (e.g., regulation, taxation, circular public procurement, extended producer responsibility and other incentives).

Network governance goes beyond political mandates; it has a long-term impact. Encouraging and supporting circular initiatives and networks enables a more effective transition to a circular economy and contributes to both the resilience of society and the competitiveness of the economy. To guarantee that all network partners benefit, circular business models should rely upon new revenue models. New economic balances throughout the value chain will have to be found.

When a city aims to move away from incineration or landfilling residual streams to recycling them, for example, all actors should be aligned to enable high-value recycling. The city needs to find a company willing to invest in a recycling facility. However, the company can only do that when a sufficient supply of residual streams is guaranteed, which is usually a city-organised task. In addition, there should be a clear demand for the high-value application of the recyclates. This requires collaboration with well-established and new, innovative companies.

Similarly, making a product circular implies a fundamental reorganisation of the product chain. Developing a strategy to make this shift requires the involvement of all actors in the chain. Network governance is indispensable in orchestrating that process. For instance, most mattresses are currently incinerated or landfilled. If we want to shift to circular mattresses, we need to start with the questions: How can we redesign mattresses to remain in the cycle for as long as possible? What are the most sustainable raw materials to use, and how can the producers remain responsible for their product from cradle to cradle? What does this imply for the functioning of the whole product chain in the short- and long-run? And how do we ensure the most circular measures for existing mattresses being discarded?

Implementing network governance is difficult because most countries are not familiar with it. Everybody knows what it is like to work in networks of parties, but these networks are usually not formalised and don't carry obligations. Network governance, however, is formalised and aims to align parties in networks with the ambition to jointly reach specific goals. When a network is being established, the parties need to share a sense of urgency. The motives to join may differ, but the common goal needs to be agreed upon. Every circular initiative is a building block on the road to a circular economy. If successful, the initiative can be scaled up and ultimately mainstreamed. Many of these circular initiatives can together lead to a circular economy in approximately 20 years. This goal-oriented network governance has been successfully adopted in the Netherlands. Based on Dutch experiences, 10 guiding principles for building a circular economy have been formulated (see Appendix 2) that can serve as inspiration for other countries.

2. Network governance needs transition brokers

All 20 people I interviewed in the context of this study stress the importance of transition brokers in network governance — and recognise themselves in fulfilling this role. Actors joining a circular initiative usually have different stakes that need to be aligned to achieve success. Because many of these actors are used to working in silos — sometimes even within their own organisations — building circular initiatives through new forms of cooperation is a real challenge. Transition brokers can help build joint initiatives and steer as servant leaders in the desired direction. They need to be neutral, trustworthy people who have sufficient authority to orchestrate the transition process. Their tasks are to develop proper interfaces between the different actors, help satisfy any necessary preconditions and make sure that impactful, circular initiatives can be established. When these circular initiatives are successful, another important task is to scale them and motivate companies to join. Transition brokers not only orchestrate the process, but they also organise the contents of the circular transition. Transition brokers need to ensure that the most promising

circular options are prioritised when building circular initiatives. In order to raise ambitions and standards, they must involve external experts and innovative companies. This approach often leads to more advanced ambitions than individual market actors could achieve on their own. They jointly create a collective intelligence that is impossible to realise by working in isolation. In order to carry out the above tasks, a transition broker ideally needs to have the following competencies:

Competencies of transition brokers



To be entrepreneurial, dare to leave your comfort zone, persevere, be impatient and be willing to follow up with contacts



To excite and inspire others to cooperate



To think and act from a systems perspective but at the same time to be pragmatic



To get the idea of circular economy accepted in a variety of businesses and organisations, translate the desired actions into the language of other organisations and do not appear threatening



To act in the collective interest and be professional enough to stand above the parties



To have a very broad knowledge base in circular economy innovations, the business environment and political culture



To be able to open doors at all policy levels to remove barriers that need to be solved by governments

It can be difficult to combine all of these requirements in one person, but two or more people can cover all the competencies needed in a team. Thus, the network of relevant stakeholders is self-organised, but chaired by an independent lead person or team that can steer the network towards the desired goals. This formalises the network governance and keeps it goal-oriented.

The importance of appointing transition brokers is often underestimated. They are usually not recognised as crucial for the transition to a circular economy. Governments mainly support innovation through subsidies for research and development, pilot studies and knowledge exchange, but not through funds for transition brokers. Business is not inclined to do so either. However, my experience is that when government and business understand that the transformative change to a circular economy is not just a technological endeavour but also as an institutional, organisational, socio-economic and behavioural one, funds for orchestrating change become more easily available. It is hard to put a price tag on the role of a transition broker, but it is pocket money compared to the large amount of innovation subsidies available.

3. Receptivity to network governance depends on the socio-cultural and political context

To assess receptivity to network governance, I asked the interviewees to characterise their country based on seven socio-cultural and political dimensions. Two dimensions representing opposite extremes stood out as directly related: an autocratic versus pluralistic government and an antagonistic versus consensus-oriented society. Countries with a consensus-oriented society and a pluralistic government encounter no real difficulties when implementing network governance. The different parties are used to cooperating on the issues at stake. Reaching consensus is sometimes hard as diverging views can lead to much discussion, but everybody knows that in the end a decision should be made. Even countries that are in between on the two dimensions are quite receptive to network governance. In this case, people search for parties they trust and with whom they can build alliances. Their culture is receptive enough to take up network governance.

Countries representing an antagonistic society experience more difficulty in implementing network governance; this is reinforced when the system of government is more autocratic and state-controlled. Then, the lack of cooperation between government and

industry seems to hamper implementation of network governance. The opposed attitude of these parties vis-à-vis each other is often deeply rooted in a political culture in which fear of corruption or co-optation dominates. This culture is hard to change. Parties like NGOs sometimes serve as buffers between business and government and can act as an intermediary between the two.

In network governance, cooperation takes place among a variety of parties: national and local government, industry, startups and scaleups, NGOs, civil society and experts. They can join forces and carry out circular initiatives together in networks. Although all parties can contribute, cooperation between government and industry (including startups and scaleups) is the most crucial. When cooperation between these two parties is difficult — as often is the case in an antagonistic society — the implementation of a circular economy does not proceed smoothly. Some NGOs prefer to stay aloof. They operate from outside as watchdogs, while others set up their own environmental actions or work at the local level on raising awareness for the circular economy. It depends on the NGO whether cooperation with industry and/or government is established.

Receptivity to network governance varies, depending on the sociocultural and political context. However, this does not mean that less-receptive countries cannot implement a circular economy, as will be shown below.

4. The governance of a circular economy is country-specific

My study shows that governance of the circular economy is country-specific. There is no one-size-fits-all approach that can be adopted, regardless of the socio-cultural and political context and the people involved. For some countries, the dual application of both public and network governance fits their culture, while for others it is less obvious. In all cases, it is a continuous search for how to mobilise the positive forces in society to move to a circular economy. Every country has different cores of change that can

empower a growing number of people to join. The big challenge is to orchestrate the transformation and overcome all barriers. For smaller circular initiatives, success is easier, of course, if financial and other support are in place. However, when these initiatives are scaled up, the resistance of the parties representing the current, linear system becomes more evident. Understandably, the established parties are reluctant to change, fearing the consequences. They are often unable to see whether this change will benefit their business or local community.

In times of change, fear is a bad counsellor. We live in a critical period of history where the sustainability of humankind is at stake. We all need to adapt to a new eco-industrial era of which the contours are visible but the details still uncertain. We know the ultimate goal — a circular economy — but not the exact road towards it. That is why it is important to start with initiatives that are expected to create positive benefits: not only for the environment, but also for social well-being and the economy. Successful examples inspire others and accelerate the transition to a circular economy. Technically, we can move mountains, and the benefits of a circular economy are evident. But our current way of thinking and acting blocks change. It is not just a technical endeavour to move to a circular economy; foremost, it is a process of socio-institutional and cultural change. In these challenging times, network governance can significantly contribute to well-being on a local level. Even more: if we apply network governance in different countries and international networks, it will contribute to a global thriving society and economy.

5. Effective governance of a circular economy depends on three general key determinants

Although the governance of the circular economy is country-specific, three general determinants play a crucial role in its successful implementation: government leadership, actor involvement and receptivity to network governance. How these key determinants play out, though, is country-specific.

In countries where the dual application of public and network governance falls on fertile ground, transition brokers follow a multilevel approach. They interact with national and local governments and set up circular initiatives with business and other actors. Where public governance shows leadership in promoting the circular economy with policies and other government instruments, and where network governance is properly organised, substantial progress can be made moving away from a linear economy. Various Northern European countries, Scotland, Italy and Taiwan fall into this category.

Transition brokers working in countries that do not yet exhibit government leadership but are receptive to network governance tend to focus on bottom-up initiatives with coalitions of the willing. They work on initiatives with frontrunners in industry and aim to create awareness about the urgency and benefits of a circular economy. Their main challenge is to expand the circle of influence of these proactive companies within the business community and society and to find allies in the local and national government that can act as change makers. Brazil and Turkey stand out as good examples of this approach.

There are also transition brokers working in countries that have neither strong government leadership on the circular economy nor receptivity to network governance. They have a harder time creating alliances because there is no obvious starting point. Various Eastern European countries, Canada and Australia are all examples. The inspiring conclusion, however, is that even in these places there are windows of opportunity to initiate change.

For example, in Australia various individual companies were willing to join forces, some states or municipalities were eager to take action and numerous representatives of research and educational institutions got involved. This led to the country's first of what will likely be many more circular initiatives in the coming years. A similar change is visible in some Eastern European countries. The

transition brokers I spoke with were all looking for the cores of change and had set up first initiatives with these allies, who were often proactive businesses but sometimes local authorities and citizen groups. Slovenia is a special case. Here, progress has already been made with policies and other government instruments to promote the circular economy. The previous government enabled this progress: it took clear leadership and involved industry and society in its journey. If strong leadership is present, networks of stakeholders can be mobilised, even though the receptivity to network governance is low. The weakness, however, is that as soon as strong government leadership stops, network governance tends to fall flat.

6. Specific drivers can enhance effective governance

Besides the three key determinants mentioned in lesson 5, specific drivers can help overcome bottlenecks for implementation, enhancing effective public and network governance.

The interviews show that given the state of public governance in the 16 countries, substantial efforts still have to be made. The main challenge is to create effective government policies and practices for the transition to a circular economy. The interviewees often mention similar additional drivers for public government that they frequently encounter. They also pinpoint the important drivers to effectively implement network governance. Their first response is mostly the adoption of a structured, goal-oriented approach, referring to the 10 guiding principles based on Dutch experiences. They also formulate a variety of additional drivers that are usually country-specific.

The table on the following page summarises the drivers for network and public governance the interviewees mention. It is up to the people orchestrating the transition to a circular economy to decide which of these — or other additional — drivers can be helpful for their specific situations.

Drivers to enhance network and public governance



Drivers for network governance

1. **Main driver: structured approach to implement goal oriented network governance**
2. **Additional drivers**
 - Market pressure through supranational policies
 - International companies committed to promoting a circular economy worldwide
 - Positive attitude of civil society towards a circular economy
 - Financial support for strengthening circular economy skills, knowledge, platform facilities and business development
 - ...



Drivers for public governance

1. **Main driver: implementation of adequate policies and government instruments**
2. **Additional drivers**
 - Breaking through the silo mentality in government
 - Long-term orientation of government
 - Inclusion of external costs in the price of product
 - Willingness to build public-private partnerships
 - ...

7. Utilising the strong aspects of a country's governance and mobilising the most relevant actors and adequate drivers increases the effectiveness of circular initiatives

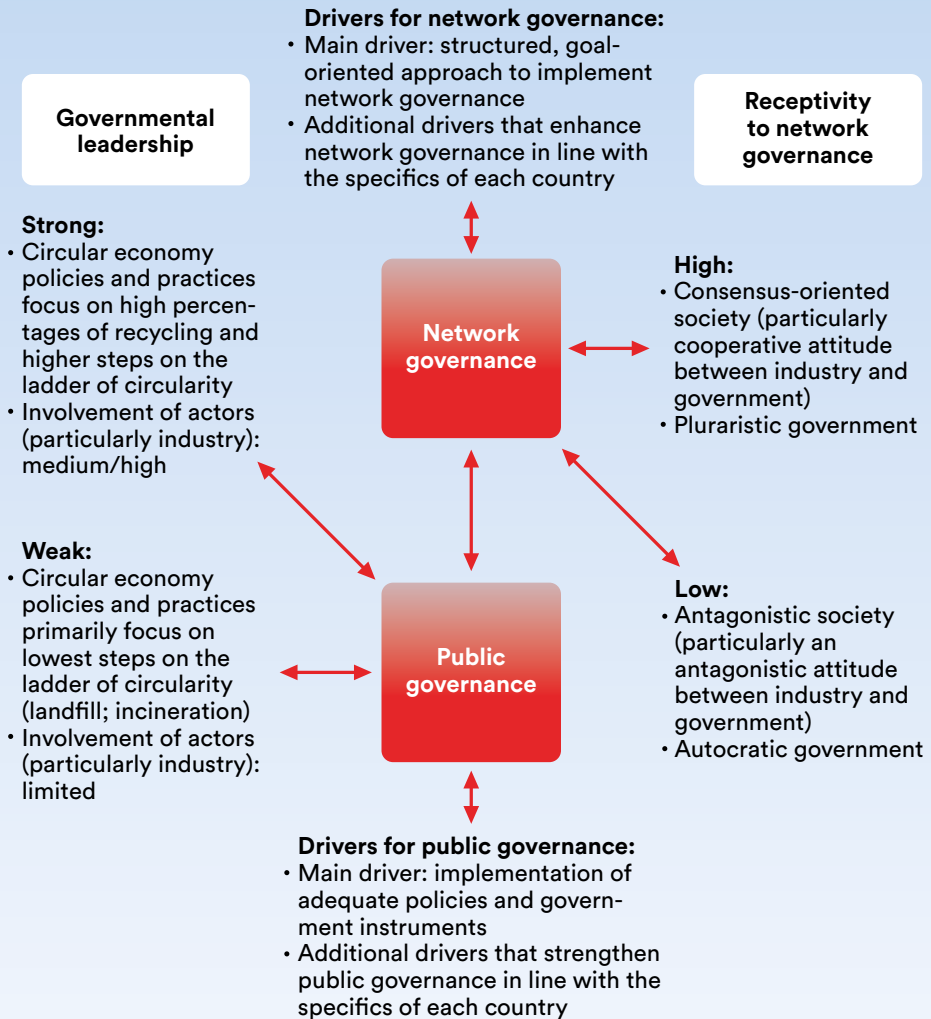
How a country implements public and network governance, involves an increasing number of actors, and how it mobilises the drivers differs per country. The effectiveness of governance increases when the circular economy strategy is timed right.

The experiences of the 16 countries reveal that transition brokers are struggling with mobilising partners for the transition to a circular economy. Where can we start and how can we structurally build the circular economy? And which important allies can help make the change? The figure on page 77 helps transition brokers structure their strategic choices. It summarises all aspects that may influence the effectiveness of circular economy governance. It is

based on data about the strength of government leadership in a circular economy, involvement of relevant actors (particularly industry), receptivity to network governance and drivers for governing circular initiatives. The transition can be catalysed by using the strong aspects of a country's governance and involving the most relevant actors. Experiences have shown that the targeted involvement of actors — particularly proactive companies — willing to join forces provides better opportunities to boost circular initiatives.¹² The strategic selection of actors leads to a more focused course of action. After setting up the first successful circular initiatives, the challenge is to scale up and increase actors' participation. This not only holds for the number of external stakeholders, but also for internal stakeholders working at different departments within companies and organisations, especially larger ones. Being able to scale up ambitiously requires a firm sense of goal-orientation in the broad network. At this stage, government leadership becomes indispensable, too.

12 Cramer, J., How Network Governance Powers the Circular Economy; Ten Guiding Principles for Building a Circular Economy, Based on Dutch Experiences, Amsterdam Economic Board, Amsterdam, 2020a, ISBN 978-90-90-33928-3

Effectiveness of the governance of circular economy



8. Four main avenues can be distinguished to move to a circular economy

In governing the circular economy, the following four avenues come to the fore. The first is when both strong government leadership, medium/high involvement of (industry) actors and receptivity to network governance are present in a country. This

offers favourable conditions for effectively implementing network governance. However, obstacles still have to be removed. For instance, it might be that a silo mentality in government or a risk-averse attitude in business prevails, or that negotiation processes are slow or counter-productive. It can also be — as in Taiwan — that a weak connection between the manufacturing and consumer markets hampers collaborative efforts along the entire value chain. To overcome such obstacles, it is extremely important that additional drivers are mobilised and network governance be orchestrated in a goal-oriented manner — in close interaction with (inter)national and local governments, which also need to act accordingly. Various Northern European countries, Scotland, Italy and Taiwan are cases in point.

The second avenue is when strong government leadership is lacking but medium/high involvement of (industry) actors and network governance are present. Then considerable progress can be made in the predevelopment and startup phases with the companies willing to work together. In the case of Brazil and Turkey, those companies are mostly international ones with a clear global circular economy mission, companies exporting to the EU and proactive solution providers (mostly SMEs). In this avenue, setting up joint initiatives through network governance can trigger the involvement of other actors. That creates a bottom-up movement which demonstrates the importance and benefits of moving to a circular economy. To strengthen this movement, network partners can also mobilise additional drivers, particularly those that speed up network governance. This may urge governments to take on a leadership role as well, thereby facilitating the acceleration phase and ultimately the mainstreaming phase.

The third avenue is when strong government leadership exists, but involvement of (industry) actors and receptivity to network governance are limited. Slovenia used to be an inspiring case. The country's previous government took a leading role in promoting circular economy policies and mobilised additional drivers to strengthen public governance. It got industry support for imple-

menting top-down measures and also involved NGOs, which generally have an antagonistic attitude towards government and industry in the country. This example shows that clear government leadership can create network governance, including in cases involving an antagonistic society. The previous Slovenian government was not autocratic, meaning the collaboration between public and network governance worked much better than it does with today's autocratic government. Presently, the business sector leads the way in circular transformative processes, since "companies understand they can lose competitive advantages if they don't get more circular", the interviewee argues. China — one of the frontrunners in the circular economy — is not part of this study but can also serve as a good example of this third starting point. The transition to a circular economy is seen there as a gradual process, directed, controlled and monitored from above. Policies particularly focus on the meso- and macro-levels. The challenge is to reach the micro-levels of implementation with active support from the bottom-up.¹³

The last avenue is the one where countries lack both strong government leadership, have low to medium involvement of (industry) actors and low receptivity to network governance. Generally, these countries are in a less favourable position to implement a circular economy. However, here, too, cores of change can be created, particularly by proactive companies. They can join forces, setting up first circular initiatives and mobilising additional drivers to enhance network governance. Their successful examples can show the merits of a circular economy, which triggers the interest of more actors. For instance, in some Eastern European countries, a coalition of companies kick-started the circular economy. And in Australia, specific companies, cities and states are the engines of change. When these bottom-up initiatives lead to promising economic, social and ecological results, the pressure on national

13 Naustdalslid, J., Circular Economy in China –The Environmental Dimension of the Harmonious Society, International Journal of Sustainable Development & World Ecology, Vol. 21(4), 2014, 303-313, doi:10.1080/13504509.2014.914599

governments and others to actively engage may also increase.

The table below summarises the four avenues for developing a circular economy in different contexts. It is up to the transition brokers to strategically select the most appropriate strategies tailored to the specifics of their own countries.

Avenues for developing a circular economy (CE) in different contexts

| Starting point | Prospects for developing CE | Lead actors | Example countries |
|---|---|--|--|
| 1. Government CE leadership: strong . Involvement industry: medium/ high . Network governance: medium/high . | Conditions for starting and accelerating CE are favourable , but several obstacles should be removed to get all actors on board. | Government, industry and other relevant actors jointly take the lead to reach ambitious CE objectives. | Various Northern European countries, Scotland, Italy and Taiwan. |
| 2. Government CE leadership: limited . Involvement industry: medium/high . Network governance: medium/high . | Starting CE is relatively easy . Proactive companies can start CE, but acceleration requires mobilisation of additional drivers and actors, including government. | Coalition of the willing of proactive companies can kickstart circular initiatives, hoping that other actors and government will follow. | Brazil and Turkey |
| 3. Government CE leadership: strong . Involvement industry: low . Network governance: low . | Starting CE is relatively easy . Government can implement policies but needs support from relevant actors for implementing top-down measures. | Government is lead actor but should make sure that industry and other actors implement the actions needed to reach CE objectives. | Slovenia |
| 4. Government CE leadership: limited . Involvement industry: low . Network governance: low . | Starting CE is complicated . Kick-off possible via first movers in industry (and others). But mobilisation of additional drivers and actors, including government, is crucial. | Proactive companies can start (with other relevant actors) circular initiatives and jointly increase pressure on government and others to follow | Various Eastern European countries, Canada and Australia |

9. Regular reflection on progress helps to keep the right focus

The implementation of a circular economy is a long journey, making it wise to reflect regularly on its progress. But with so many variables at play, evaluating progress is challenging. What needs to be measured and in which detail? My advice is to keep it simple at first and elaborate the range of indicators based on experience later. For example, when we started the Amsterdam Economic Board's regional circular economy programme in 2015, we distinguished 9 different resource streams, subdivided into 22 sub-streams. The objective was to upgrade these streams via high-value recycling, which means making optimal use of the resources available in the resource stream. Depending on the resource stream, we also focused on product reuse and redesign. After four years, we could measure the number and quality of the circular initiatives we had successfully built. In addition, we developed a circular procurement programme with 31 representatives of local governments, businesses, universities and educational institutes, which we also measured by number of circular procurement initiatives, paying particular attention to the 10R ladder of circularity. Additionally, we organised an evaluation meeting with the most important stakeholders and asked them to critically reflect upon the progress and our role as transition brokers.

The next step was to monitor the effects of the transition to a circular economy. How much impact did the circular initiatives have in terms of greenhouse gas and other emissions, both directly and indirectly? And which economic effects were seen? There are recognised tools to measure the environmental performance of a product over its entire lifecycle — e.g., Life Cycle Analysis (LCA). It's more complex to compare current environmental performance to different innovative alternatives. The same holds true for economic effects.

Measuring the impact of circular initiatives is valuable but does not fundamentally address the major aim of a circular economy: reducing the amount of materials used. To cope with this problem,

the Ellen MacArthur Foundation¹⁴ has developed with Granta Design a so-called Material Circularity Indicator (MIC). This indicator measures the circularity of a product by using a bill of materials (BoM) for materials and components. The bill contains information such as input in the production process, utility during use phase, destination after use and the efficiency of recycling. While the development of a Material Circularity Indicator is still a work in progress, several consultancy companies can already draw maps of the amount and nature of materials circulating in a country, region or town.¹⁵ This information about material flows can give countries a first insight into the most important materials that may be key areas of concern.

Reflection on progress should also include an evaluation of the transition process itself. Are we on the right track? Are we working with the right partners on meaningful circular initiatives, or are we overlooking specific aspects? Has the level of trust increased among the network partners? Was there knowledge exchange and data sharing? What are the next steps, knowing that our context is also evolving? Which system changes are there and what do they teach us? This reflection can be carried out not only with crucial stakeholders at the local/regional level or product chain level, but also at a national level. To track progress, the national government can also use process indicators such as the amount of new circular businesses, innovation funds for circular initiatives, resources mobilised for the circular economy and the social merits (e.g., affordable and accessible circular solutions).

The above explanation gives a variety of options for tracking progress. As most countries studied are in an early stage of implementing a circular economy, systematic monitoring often does not yet have high priority. I expect that tracking progress will receive

*14 Ellen Macarthur Foundation and Granta, *Circularity Indicators; An Approach to Measuring Circularity; Project Overview*, 2015 [https://www.clmsostenible.es › uploads](https://www.clmsostenible.es/uploads)*

*15 For instance, the Dutch consultancy firms *Metabolics and Circle Economy**

more attention as the transition to the circular economy proceeds. Reporting about progress is not only essential for those involved, but also for potential followers to get inspired.

10. Exchanging experiences and cooperation between countries can accelerate the worldwide transition to a circular economy

We are on a journey to find out how we can build a circular economy. We have numerous policy instruments, road maps, practical tools and wonderful examples at our disposal. However, the proof of the pudding is in the eating: we need to translate the promises of the circular economy into practice. This study shows that there is no simple prescription that tells countries to start at point A and end with Z. The journey is country-specific. Despite the differences in socio-cultural and political context, this study also reveals that countries have much in common.

It is worthwhile to exchange experiences and cooperate with other countries that are interested in embarking on the circular economy journey. We can set up joint training and education programmes to train future professional transition brokers. We can also learn from each other about practical tools, icon projects and smart policy instruments and practices. It is great to see that several international and interregional platforms for exchanging information on the circular economy have already been established. The number of international conferences to share experiences is increasing, along with the number of participants. I find this encouraging because no country can realise a circular economy alone. Our markets are closely connected through international trade and mutual dependencies on resources, materials and products. At the same time, developed countries can learn about circularity from developing countries and indigenous cultures, where much knowledge and wisdom can be found. The circular economy is not something we invented in developed countries; it is something we forgot. We therefore need to cooperate across borders to create circular product chains and safeguard the liveability of our planet. We need to connect with other circular enthusiasts around the

globe. Let us join forces and make sure that in 25 years' time, our current linear economy will be replaced by a circular economy.



Jacqueline Cramer

About the author

Dr. Jacqueline Cramer is a member of the Amsterdam Economic Board, where she is actively engaged in circular economy initiatives. She is also supervisory Board chair of Holland Circular Hotspot and a professor of sustainable innovation at Utrecht University. From 2007 to 2010, she was the Minister of Housing, Spatial Planning and the Environment for the Dutch Labour Party. Since 1990, Jacqueline has been a consultant, advising over 200 companies and many partners cooperating in product chains and at a regional level on implementation of sustainable entrepreneurship, corporate social responsibility and the circular economy.

To this day, she is a member of various governmental, industry and non-profit advisory boards. Some of her other current roles include chair of the Dutch Concrete Agreement, the Dutch Building Agreement Steel and the Dutch Circular Textile Valley.

In recent years, Jacqueline has advised various governments and international organisations on circular economy implementation. As a well-known expert on the circular economy and on sustainability overall, she is a valued speaker at conferences in the Netherlands and abroad.

Appendix 1

Design of the study

I interviewed the following 20 people for my study:

- Ladeja Godina Kosir, Circular change, Slovenia and co-chair of the European Circular Economy Stakeholder Platform, January 28, 2021
- Beatriz Luz, Circle Economy Hub, Brazil, January 29, 2021
- Agnieszka Sznyk, Institute of innovation and Responsible Development (INNOWO), Poland, February 2, 2021
- Cynthia Reynolds, Circular Regions, Norway, February 8, 2021
- Järvinen Laura and Kari Herlevi, SITRA, Finland, February 8, 2021
- Iren Marta, Business Council for Sustainable Development Hungary, Hungary, February 9, 2021
- Colin Isaacs, Canada Circular Hotspot, Canada, February 15, 2021
- Soňa Klepek Jonášová, Institute for Circular Economy (INCIEN), Czech Republic, February 15, 2021
- Shadow Chen and Charles Huang, Circular Taiwan Network, Taiwan, February 19, 2021
- Paul Klymenko, Planet Ark Environmental Foundation, Australia, March 4, 2021
- Denisa Rášová and Petra Csefalvayová, Circular Slovakia, Slovakia, March 26, 2021
- Grazia Barberio, Italian National Agency for New Technologies, Energy and Sustainable Economic Development. Italy, March 29, 2021
- Brigitte Mouligneau, Flanders Circulair, Flanders, April 23, 2021
- Ms. Ebru Dildar Erin and Münevver Bayhan, World Business Council for Sustainable Development (WBCSD), Turkey, May 10, 2021
- Mr. Iaian Gulland, Zero Waste Scotland, May 27, 2021
- Freek van Eijk, Holland Circular Hotspot and Co-chair of the European Circular Economy Stakeholder Platform, the Netherlands, September 12, 2021

Prior to being interviewed, the interviewees received my book about Dutch experiences in implementing the circular economy and a list of 45 questions with a response rate of 100%. Additionally, I studied policy documents and other relevant material provided by the interviewees.

The interviews were held via video calls, lasted an average of 2 hours and consisted of four parts. Part 1 discussed current CE policies and practices. Part 2 addressed the view of the interviewee(s) on the importance of network governance for implementing CE in their countries and the applicability of the experiences gained in the Netherlands. Part 3 discussed the receptivity to network governance in view of the socio-cultural and political context of their countries. The final part of the interview, part 4, aimed to reflect on the most important drivers for network governance and public governance. Through an open question, the interviewees were asked their views on the issue. Before publishing the results, the interviewees checked the data and gave permission to use their quotes. Their comments were included in a final draft of this book.

The results of the qualitative study presented here were first published in an academic journal¹⁶ and then used as the basis for this book. The findings are preliminary but show the relevance of this area of research. More insight should be gained in the particularities of the governance of individual countries and the successes and failures gained in practice. Based on these detailed insights, the conclusions about the governance of the circular economy presented in this book may need to be refined. The outcome of this study is based on interviews with one or two key people who are neutral intermediaries (“transition brokers”) in each country. Their assessments are inherently subjective and could be generalised further by holding interviews with additional actors. Despite these reservations, this study provides the first insights into the topic of governance — one that is much underexposed in the literature on the circular economy.

¹⁶ Cramer, J., *Effective governance of circular economies: an international comparison*, *Journal of Cleaner Production*, 2022, to be published.

Appendix 2

**Ten guiding
principles for
building a
circular
economy based
on Dutch
experiences**

Ten guiding principles

The guiding principles discussed below are based on my experiences with and scientific reflections on dozens of circular initiatives in the Netherlands. Three parts are distinguished:

Part 1: Sparking the transition

Part 2: Context is key

Part 3: Successful implementation

Part 1. Sparking the transition

Implementing circular initiatives is not business as usual; it requires a transformative change. The transition from a linear to a circular system goes through different phases, although it ultimately leads to the mainstreaming of the circular economy. The first four guiding principles help lay the foundation for a successful transformation.

Guiding principle 1

The circular initiative starts with a shared sense of urgency

Urgency is created when a government sets clear policy goals, societal pressure increases or market opportunities are threatened. Participants in each circular initiative should share a sense of urgency about changing the system. If they do not understand the gravity of the problems or their role in the product chain, the initiative will fail. In that case, government enforcement should increase the pressure on key actors.

It is essential that despite any differences in motives, participants have enough in common to take collective action. Their sense of urgency can be compelled by different rationales, such as tangible profits, but participation more often offers intangible advantages. These can be proactive motives, such as building a better repu-

tation among clients and current and prospective employees, or preparing for new market trends. Other motives include increasing market share, entering new markets, strengthening organisational or regional innovation and being seriously concerned about the environment. Some motives may also be reactive, including responding to societal and political pressure, reducing potential risks, anticipating regulations and avoiding negative environmental and social performance.

I have learned that at least some sense of urgency usually exists in each product chain or local initiative. Some market frontrunners have already developed circular products and services that are bought by a growing number of consumers and commercial customers. Local authorities increasingly use their purchasing power to prime the market for circular products and services and improve their waste management practices. It is, however, a major challenge to bundle these scattered activities and build circular initiatives that can be scaled up and ultimately mainstreamed. With so much hassle involved in starting a joint initiative, individual actors often abstain from taking the lead. Each often works in a specific silo, failing to oversee a transformative change with all the actors needed throughout the product chain or region. They tend to restrict themselves to what they can do in their own organisation, waiting to see whether someone else will take the collective lead for change. That's why a transition broker can fulfil an empowering role (see principle 9).

Guiding principle 2

The implementation of circular initiatives occurs in four sequential yet cyclical phases

The execution of circular initiatives consists of four phases:

1. *Preparing the circular initiative;*
2. *Building a joint business case;*
3. *Scaling up a successful circular initiative;*

4. Mainstreaming circular initiatives.

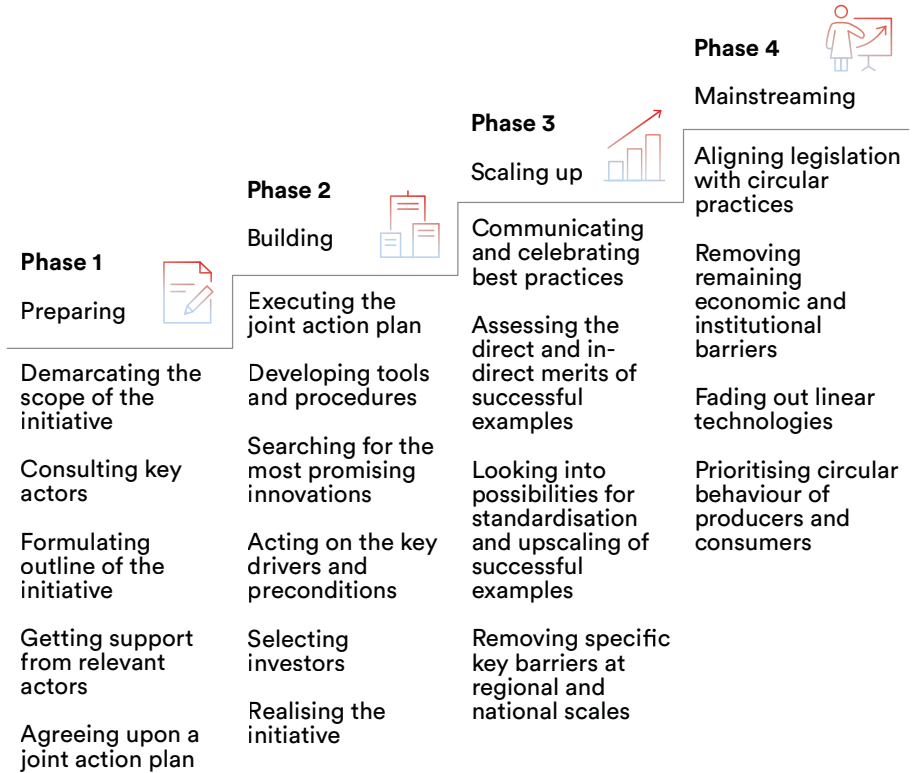
This four-stage process should not be seen as linear but rather as a cyclical journey towards improvement. A circular product chain or regional initiative cannot be realised in one go; it requires several rounds of more far-reaching improvements while avoiding a technological lock-in. This means that the transition should be seen as the implementation of a continuously growing number of meaningful building blocks on the road to a circular economy, rather than a sudden radical system change.

Guiding principle 3

Tasks to be performed for each circular initiative are roughly the same, but the focus is case-specific

In each of the four phases, a similar set of tasks must be executed. How much work and how much time it takes to perform a task differs per initiative. The figure on the following page summarises these tasks. Those mentioned in phase 4 are indicative, not yet having been tested in practice.

Tasks to be performed in circular initiatives



Guiding principle 4

Building a circular economy is a journey with a clear destination but no predetermined path

In designing a strategy, all cases adopted the following step-by-step action plan, broadly applied across industries¹⁷.

¹⁷ Cramer, J., *Learning about Corporate Social Responsibility; The Dutch Experience*, IOS Press, Amsterdam, 2003.

Step-by-step action plan



1 Formulate a vision and mission



2 Gain insight in the current environmental, economic and social situation and societal demands



3 Set long-term goals which guide the short-term actions



4 Draw up a strategy, including main priority points with intermediate and final targets



5 Develop the necessary tools and adapt the procedures



6 Monitor the results, evaluate the progress and formulate next steps



7 Implement an offline and online communication strategy

However, in carrying out the action plan, one cannot follow a predetermined set of activities. In a fundamental system change — which the transition towards a circular economy is — experimenting is crucial; it is not a project planned from beginning to end. It is a process requiring flexibility to achieve set goals. It is a transformative change process in which participants should continuously adapt, learn and respond to new situations. One has to think big, but at the same time approach each goal step by step. It resembles a journey in which the destination is clear, but the path is undefined. Sometimes you make fast progress, sometimes the process gets stuck or delayed or you need to make a sharp right or left turn.

Part 2. Context is key

When one aims to move from a linear to a circular economy, a number of key system variables should be taken into account. One needs to know the context in which the transformative change is to take place. These variables are rarely clear upfront; finding them is part of the challenge. A first global overview is enough to start a circular initiative. In time, more insight into the specifics of the system variables emerges. This generates a sharper picture of the context in which one operates and how to steer towards a circular economy. The following three guiding principles delve more into this context.

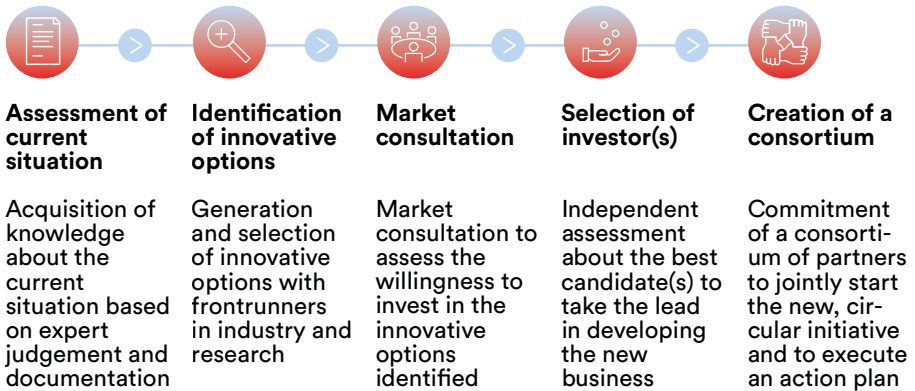
Guiding principle 5

Focus on the most promising and disruptive innovations

Because the transformation towards a circular economy requires fundamental changes, innovation is indispensable. The aim should be to give room to innovative solutions and resist the pressure of companies that defend the current system. This measure was intended to avoid the problem of becoming locked in conventional innovation trajectories such as low-grade recycling. To generate and select the most promising innovations, I developed a generic approach, as summarised in the figure on the right¹⁸.

18 Cramer, J.M., Implementing the Circular Economy in the Amsterdam Metropolitan Area: The Interplay between Market Actors Mediated by Transition Brokers, Business Strategy and the Environment, 2020, 1-14, <https://doi.org/10.1002/bse.2548>.

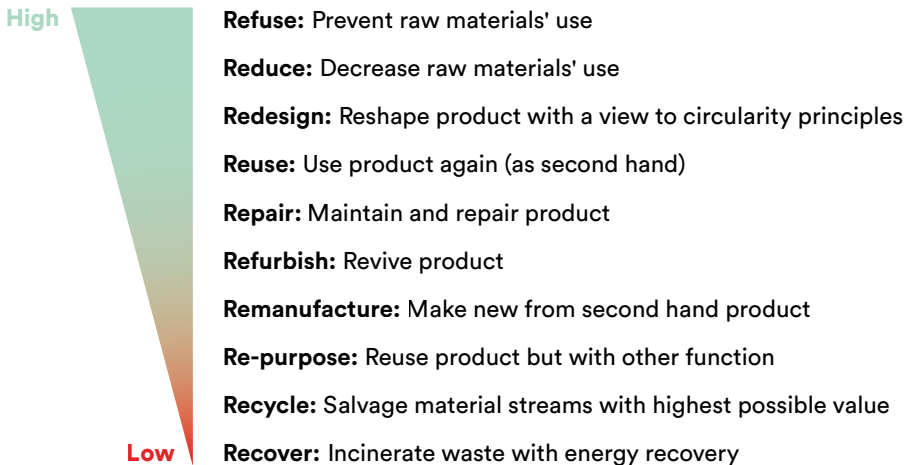
Generic approach for generating and selecting the most promising innovations



When selecting options, keep in mind the 10 R's. I developed this hierarchy to give guidance in prioritising those options that are higher on the circularity ladder¹⁹.

Levels of circularity: 10 R's

Order of priority



¹⁹ Cramer, J., *The Raw Materials Transition in the Amsterdam Metropolitan Area: Added Value for the Economy, Well-Being and the Environment*, Environment, 2017, 59, 3, 14-21, <https://doi.org/10.1080/00139157.2017.1301167>

To deal with any potential resistance to taking bolder steps, it is helpful to regularly refer to the targets to be achieved and to put the companies behind the most innovative options in the driver's seat of a change process. These companies can either be established companies or newcomers. If a newcomer has the most promising innovation, it should take the lead and get scaling-up support from established companies. This dynamic interaction only occurs when niche and regime actors join forces on the basis of an ambitious goal and common interests.

I have often experienced that established companies are reluctant to lead the transition towards the circular economy. Organisational inertia and external challenges prevent them from developing new strategic networks around the circular economy and replacing existing relationships. Moreover, they are often hampered by risk aversion and special interests, with much to lose in the short-run. They tend to remain close to their core business and focus on incremental improvements. They may, however, be inclined to join circular initiatives or even take the lead if they are frontrunners or envisage market opportunities through diversification or redirection and/or experience political or societal pressure. Newcomers to the market who focus on innovations that deviate from existing regimes are less affected by these constraints. They can create a starting point for system change, but often lack the broader market acceptance to scale up innovations.

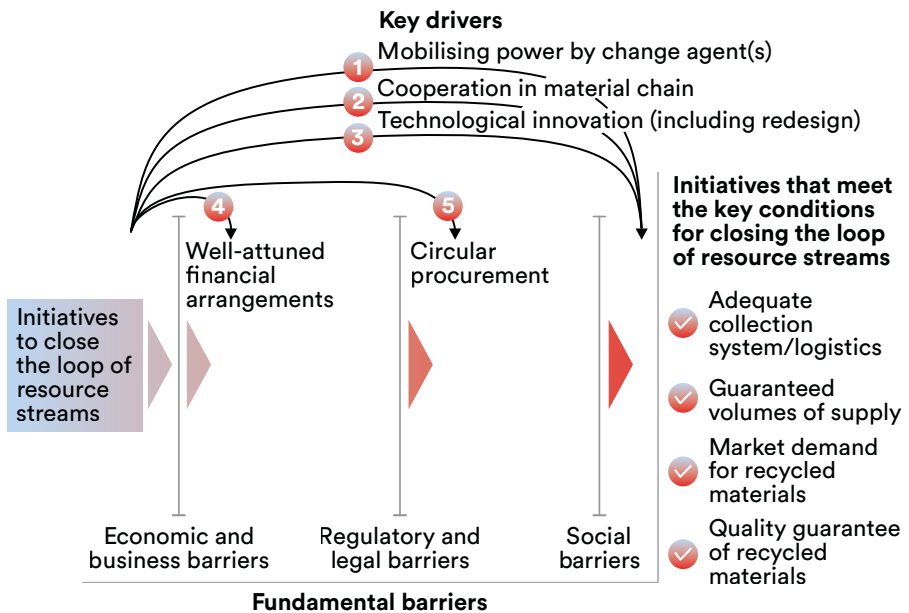
Guiding principle 6

Map the key drivers and preconditions for successful implementation

To effectively steer towards the desired circular direction, you need to know the force field in which you operate. You need to be aware of the fundamental barriers — be they economic, financial, legal or social — you might encounter. These cannot be removed at the local or chain level. In my experience, some of these barriers

can be circumvented by accounting for specific key drivers and preconditions. By doing so, we move forward, and we increase the pressure to tackle these fundamental barriers at a higher level. It is possible to map these drivers and preconditions upfront, but only in general terms. Specification follows gradually after the initiative has started. An explicit description of how to mobilise key drivers and realise preconditions is useful for having a focused discussion among the actors. It will clearly pinpoint who has to do what for collective success.

Key drivers and preconditions for closing the loop of resource streams



One can encounter several types of key drivers and preconditions. To illustrate this point, the main ones for the successful implementation of circular initiatives aimed at closing the loop of resource streams are shown in the figure above.²⁰ In this stra-

²⁰ Cramer, J., *Key Drivers for High-Grade Recycling under Constrained Conditions*, *Recycling* 2018, 3, 16; 15 pages, doi:10.3390/recycling3020016

tegy, cooperation between partners is required, as are mutual agreements about the fair distribution of costs and benefits. To create the right conditions, it is necessary to provide the lead actor with some certainty that the required volumes of raw materials will be collected, transported and supplied. And that — if possible — the recycled materials can be sold. Circular purchasing and tendering often turns out to be an important key driver. If this whole process meets all the conditions, it is possible to realise the initiative and circumvent fundamental barriers.

Guiding principle 7

Identify the relevant actors and assess their willingness to join forces

To enhance the transformative change towards a circular economy, it is crucial to have a network of willing actors to join forces and create cohesion in building a circular economy. The first step is to find actors that can serve as the engines of change. It is hard to determine upfront which actors are interested in simply being part of the change process and which actors will eventually be the prime actors. One can only make a rough assessment and gain a fuller picture over time. The relevant actors can be grouped into three categories: prime actors, complementary actors and supportive actors. Generally speaking, prime actors can steer the transformative change process in the direction of scaling up and mainstreaming. However, if they are reluctant to do so, the process will stagnate. At that point, the national government will have to remove fundamental barriers to make mainstreaming possible.

Part 3. Successful implementation

After preparing and building a circular initiative comes implementation. I have learned that successful implementation depends on three key factors, which inform the last three guiding principles.

Guiding principle 8

New circular business models should benefit all network partners

Financing a circular initiative with several partners is one of the hardest parts of implementing such initiatives. The business model should benefit all network partners; it helps the actors to structure and align their efforts towards the circular economy and to market their own circular product or service. This can be called a ‘networked business model’.²¹ As each individual business wants a fair share of the overall network profits, a networked business model needs to be linked to all the company’s individual business models. Two interconnected business models are necessary: one at the company level and one at the systems level.

A networked circular business model can represent a variety of new financial arrangements. The model most often applied is the shared costs and benefits model, in which key actors jointly estimate the overall cost-result ratio in advance and make a calculation that reflects the share of each actor in a well-balanced manner. Such an honest accounting of the costs and benefits is often needed to build a viable consortium that is economically attractive to all partners.

The networked circular business model does not necessarily change the existing ownership relationships and current way of

21 Planko, J. and Cramer, J.M., The Networked Business Model for Systems Change: Integrating a Systems Perspective in Business Model Development for Sustainability Transitions, in: Aagaard, A., Lüdeke-Freund, F. and Wells, P. (Eds.), Business Models for Sustainability Transformation, London Borough of Camden: Palgrave MacMillan, 2021.

collaborating among actors. Some businesses go one step further and propagate a more radical shift in our current production system. They argue that the producers should remain responsible for their products during their whole lifecycles, including their next cycles. The producer does not sell a product anymore but provides the product as a service. After use, the producer is responsible for the optimal reuse or recycling of the product. Various product service models have been introduced that conform to this approach, e.g., leasing, borrowing and renting. To make sure that producers know how their product performs during its whole lifecycle, an open data sharing platform is indispensable. Industry newcomers particularly experiment with these kinds of financial arrangements and aim to create viable business cases based on this vision.

Guiding principle 9

Transition brokers can accelerate circular initiatives

Experiences in implementing circular economy initiatives show that every actor is constrained in one way or another and needs other types of actors to work on initiatives. Intermediaries, or what I call transition brokers, can help align all relevant stakeholders. It is the broker's role to orchestrate the transition process, which is something they can accelerate from a neutral position. They are trustworthy and try to build coalitions with parties that are willing to take transformative steps forward. Their tasks are to develop proper interfaces between the different actors, help satisfy the necessary preconditions and make sure that impactful circular initiatives can be established. Other important tasks are to motivate the majority of companies to join circular initiatives and to help establish the link between local and national governance²². Transition brokers orchestrate not only the process, but also the content of the circular transition. Their efforts focus primarily on

22 Cramer, J.M., The Function of Transition Brokers in the Regional Governance of Implementing Circular Economy: A Comparative Case Study of Six Dutch Regions, Sustainability, 2020, 12, 5015, <https://doi.org/10.3390/su12125015>

circular initiatives with a positive impact on prosperity, wellbeing and the environment. Transition brokers need to ensure that the most promising circular options are prioritised in building the initiatives. To raise standards and keep ambitions high, they must involve external experts and innovative companies. It helps tremendously when clear and ambitious short- and long-term goals are jointly set by the participants, including the government. This approach often leads to more advanced ambitions than individual market actors can achieve alone.

To carry out these tasks, a transition broker ideally has the following competencies.

Competencies of transition brokers



To be entrepreneurial, dare to leave your comfort zone, persevere, be impatient and be willing to follow up with contacts



To excite and inspire others to cooperate



To think and act from a systems perspective but at the same time to be pragmatic



To get the idea of circular economy accepted in a variety of businesses and organisations, translate the desired actions into the language of other organisations and do not appear threatening



To act in the collective interest and be professional enough to stand above the parties



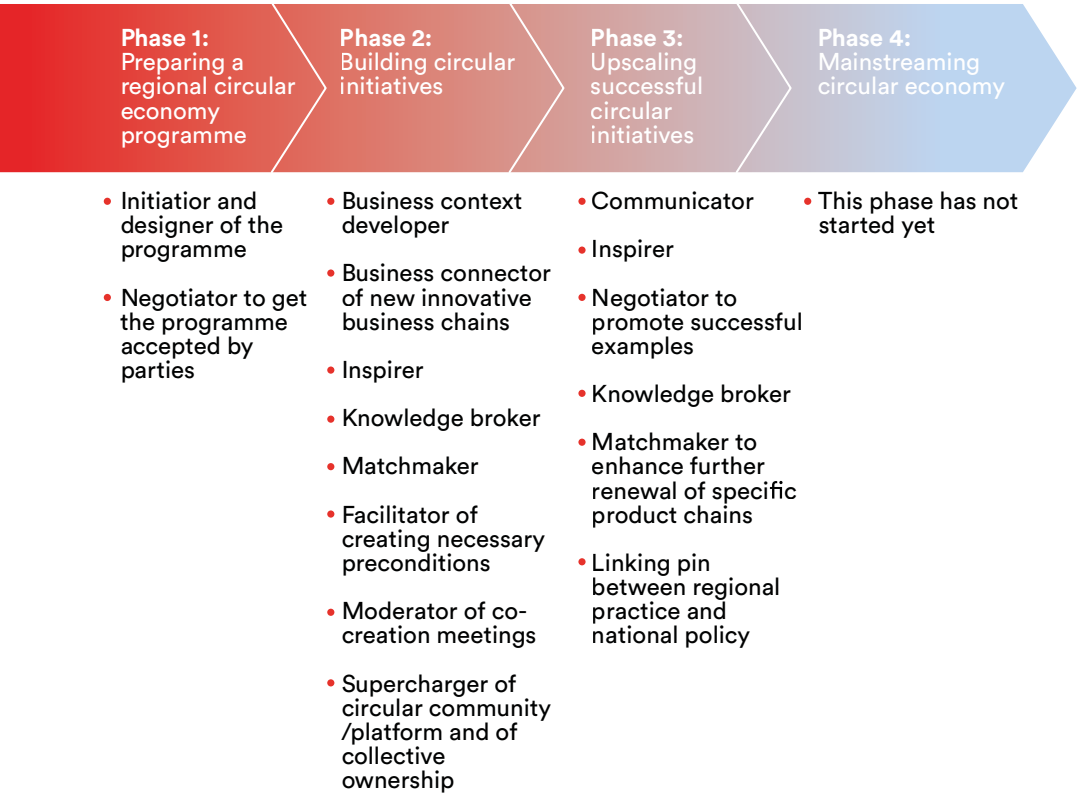
To have a very broad knowledge base in circular economy innovations, the business environment and political culture



To be able to open doors at all policy levels to remove barriers that need to be solved by governments

As it can be difficult to combine all of these requirements in one person, two or more people can be included to cover all competencies needed in the team. They need to play a variety of roles during various phases of the transition process.

Roles of transition brokers in various phases



Guiding principle 10

A transparent division of labour among the relevant actors is indispensable

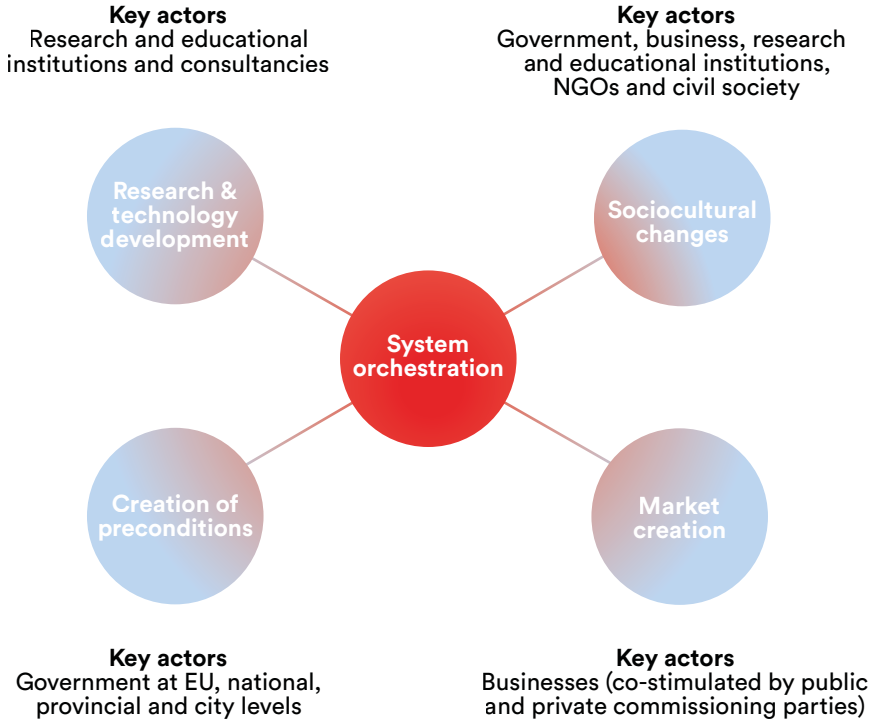
To successfully build a circular initiative, key actors must feel responsible for the execution of the activities necessary to their roles in the system. It is crucial that the function of each actor and system-building activity be agreed upon upfront in general terms and, later in the process, more specifically. This sounds self-evident, but my experience is that this important last guiding principle is often overlooked. Most actors willing to join forces will

admit that an alignment of players is necessary for the successful implementation of circular initiatives. Making transparent arrangements about the division of labour is less common, but it appears to be indispensable. Generally speaking, the function of each actor in a system transformation is obvious: government is responsible for the creation of proper preconditions; businesses for the provision of circular products and services; research and educational institutions and consultancies for the development and transfer of knowledge; and all actors for the necessary socio-cultural changes. However, how every function plays out in a particular case and which particular system-building activities should be performed by each actor are usually not specified or agreed upon.

I have used the term ‘network governance’ for this model of jointly building a circular initiative. I believe that this new form of governance empowers all relevant actors to accelerate transformative change. Its essence is that all actors depend on each other for the successful implementation of an initiative. When some system-building activities are not taken up, the change process will stagnate. Each party has a singular role to play, but collectively they enact change. One particular actor cannot transform the system, but together with other actors, change is possible. As this often does not happen by itself, it is helpful to have the transition broker functioning as an orchestrator. The figure on the following page summarises five key actors clustered in five different functions.²³ System orchestration is placed in the middle, as it is the interlinking element between all of the system’s functions.

23 Cramer, J.M., The Function of Transition Brokers in the Regional Governance of Implementing Circular Economy: A Comparative Case Study of Six Dutch Regions, Sustainability, 2020, 12, 5015, <https://doi.org/10.3390/su12125015>

Key actors and functions in network governance



The system-building activities related to the five key actors and functions are listed on the right. These activities are roughly the same but need to be specified, depending on the case at stake.

Functions and system building activities to be performed by key actors

| Function | Key actors | System-building activities |
|--|--|---|
| Research & technology development | Research and educational institutions and consultancies | Knowledge development and exchange Co-creation of circular products and services |
| Creation of preconditions | National and local governments | Policy development Adjustment of policy instruments Policy execution Promotion of employment and new business in circular economy Facilitation of innovation and learning networks on circular economy <i>Additional for municipalities</i> Responsibility for logistics/collection of municipal waste streams Interaction with citizens |
| System orchestration | Transition broker | Preparing circular initiatives Helping to build circular initiatives Upscaling successful circular initiatives Mainstreaming circular economy |
| Sociocultural changes | Government, business research and educational institutions, NGOs and civil society | Changing behavior (e.g., of consumers, users or bidders) Creating institutional changes to anchor circular economy in organizations Effecting changes in the education system Generating a pool of skilled labor |
| Market creation | Business (co-stimulated by public and private commissioning parties) | Developing commercially viable circular products and services Building circular business in partnership Cooperating with other stakeholders in product chain and/or in the local context Developing circular business model |

Our current production and consumption patterns are not sustainable. We need to move away from today's linear economy and transition to a circular economy. But how?

This book provides answers on how to govern the transition to a circular economy in different socio-cultural and political contexts. It's meant to help the global changemakers who are building our circular future. Author Jacqueline Cramer spoke with 20 representatives of circular hotspots worldwide, thoroughly analysed their different contexts and extracted 10 key takeaways. Everyone working on circular initiatives can use these and adapt them to their own socio-cultural and political contexts.

This book is a publication of the Amsterdam Economic Board in cooperation with the private-public platform Holland Circular Hotspot. It is a sequel to Cramer's earlier book, *How Network Governance Powers the Circular Economy, Ten Guiding Principles for Building a Circular Economy, Based on Dutch Experiences*.

Author professor Jacqueline Cramer is a member of the Amsterdam Economic Board, where she is actively engaged in circular economy initiatives. She is also chair of the supervisory board of Holland Circular Hotspot and holds several other managerial positions. From 2007 to 2010, she was the Dutch Minister of Housing, Spatial Planning and the Environment.

