The window of opportunity for circular economy in Europe in the wake of the geopolitical turmoil

Connecting scales and principles

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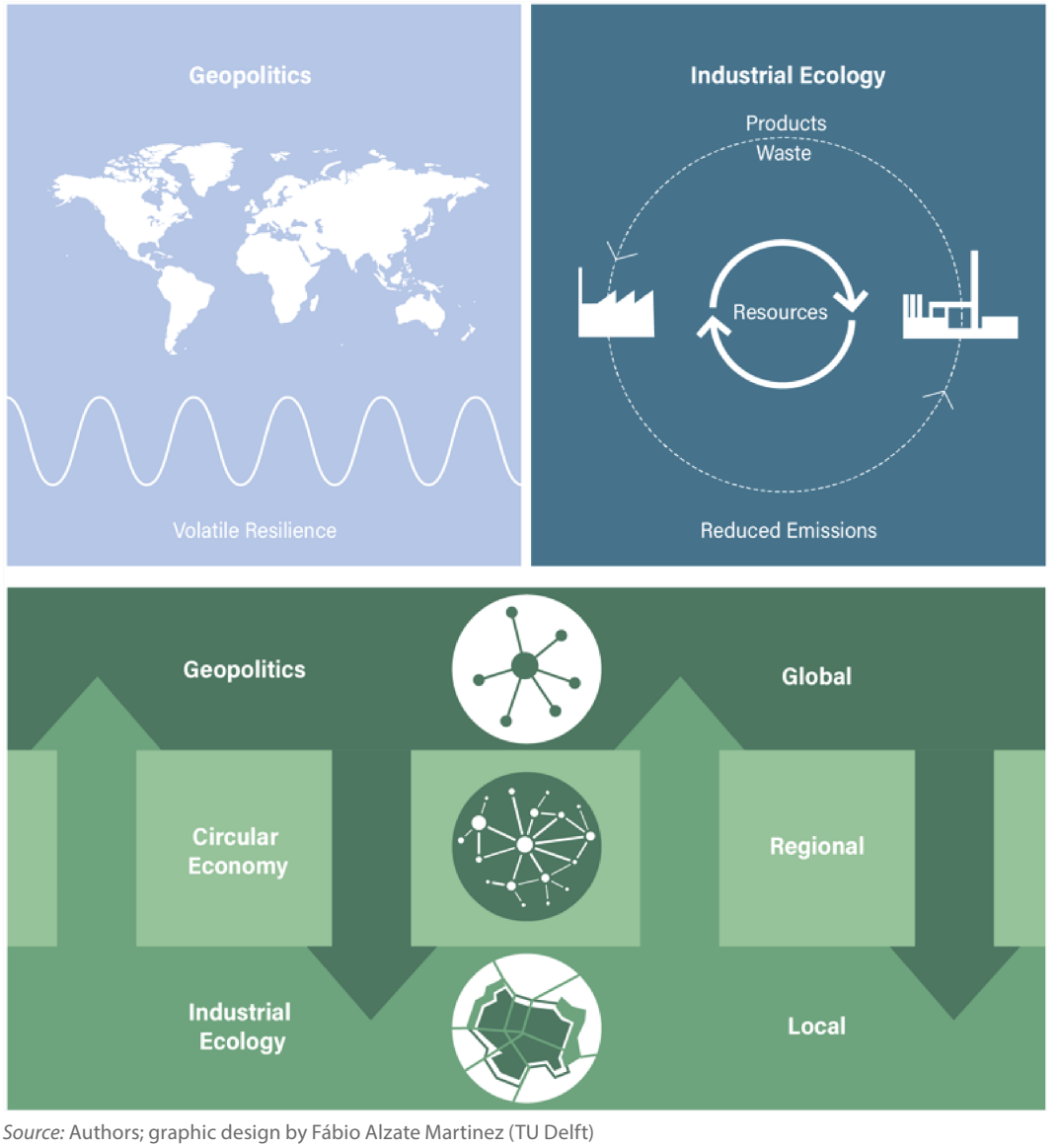
Wind turbines in the fields. *Source*: Thomas Richter, https://unsplash.com/photos/aerial-photo-of-wind-turbines-near-field-B09tL5bSQJk



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Key message

The current geopolitical turmoil offers a unique opportunity to leverage the circular economy as a strategy to reduce dependencies and enhance economic, social, and ecological resilience by localising production and reusing revaluing materials.

2.1 OVERVIEW

One of the five circular economy (CE) principles is "localisation" or "localism", understood as a smaller geographical consumption–production system that fits better with local needs. Rightfully, the rationale for localism is derived from ecological principles. However, these arguments remain debated and subsequently can fail to become operationalised in policy goals and measures. From a governance perspective, localism is perhaps the most important CE principle, as it is the only one that clearly links the circulation of resources to a confined area, and so to specific administrative areas, and eventually informs us "who is responsible", and so will have the advantages, but also the disadvantages, of CE. In this chapter, we turn our attention to the European context, where the European Union (EU) and many of its member states have set out an ambitious policy agenda for moving towards CE. We argue that the current geopolitical turmoil provides a "window of opportunity" through which to clarify the responsibilities for driving a transition towards CE across levels of government and to seize the momentum to operationalise the localism principle and move European cities and regions towards more resilient, circular futures.

2.2 WE ARE AT WAR(S)!

> Can Europe form a nation by deciding to depend on the material conditions that it pretended to ignore during the period of false peace in which it believed itself to be? (Bruno Latour)[1]

In his last paper, entitled "Is Europe's soil changing beneath our feet?" (2022), the French social scientist Bruno Latour argues that two "wars" are currently coming together: the war on climate change and the geopolitical war. He continues that both are, in essence, territorial wars, although the war on climate change was hardly perceived as such. The war on climate has been characterised by "non-action", which is in stark contrast to the territorial war ongoing in Ukraine which — for many, unexpectedly — brought about rapid geopolitical shifts and a strong response from the West (e.g., sanctions, weapons supply). But at least in one aspect, the two wars have become connected, and that is via Russian gas and oil. Suddenly, these strategic Russian resources became something that the European states should avoid paying for, as it directly funds the Russian aggression. But at the same

time, this crisis put forward the need to accelerate the switch to more sustainable energy sources. Hence, the two territorial conflicts converge. And this brings "an incredible [window of] opportunity to be seized, which is redefining the territorial situation in the dual form of border defence and energy autonomy".[2]

In this chapter, echoing the arguments raised by Latour, we focus on the implications of the shift towards CE for the EU. The EU has been at the forefront of emerging policies to promote resource efficiency and CE as a means of moving towards more sustainable futures. For instance, the EU has put forward its Circular Economy Action Plan as one of the building blocks of the wider sustainability transition agenda promoted by the European Green Deal.[3,4] This perspective is also reflected in the national policies of several EU member states. However, as we argued in chapter 1, both European and national policies tend to overlook the spatial implications of CE. Therefore, we reflect on this window of opportunity in which sustainability policy goals — particularly the transitions towards a CE — can finally be implemented by emphasising the role of space and territorial development in these transitions[5,6] within the European context. Indeed, policies that aim to cope with climate change and other ecological disasters — in some cases broadened to include economic and social goals, too — have been implemented within the European bloc at least since the "Club of Rome"[7] 50 years ago. However, we can safely argue that these policy goals have not been accomplished so far. Quite the contrary is true.

Taking the above into account, this chapter focuses on the last of the five CE principles outlined in chapter 1: localisation or localism, but not local per se.[8] The localism principles assume that economic (spatial) decisions should meet the needs as locally as possible.[9] "Local" here is not seen as an ideological starting point (whereby autarkic systems would be promoted to ensure that localities become self-sufficient by producing and managing their own resources without relying on flows from other localities), but as an end result, especially when taking into account the labour and environmental standards left out in many economic decisions .[10] In other words, a CE with the localism principle in mind strives for a production–consumption system that is as local as possible. Such reasoning thus implies the need to include space into the discussion of CE. However, the CE principle of localism is far from easy to realise in policy practice. Indeed, including labour and especially environmental and climate change considerations into spatial economic decisions is not a standard governance practice, and leads to a more normative or, perhaps, more realistic perspective on a circular city or region.

Conceptually, the difficulty in addressing climate change is that it is a global phenomenon (e.g., CO_2 increase) with (very) local and often temporary, although increasingly structural, effects, whereas governmental organisations, which are in general in the lead to drive climate policies, are territorially confined.[11] This makes policymaking vulnerable to "externalisation" of the problem by shifting it to a different location outside of one's jurisdiction or to its periphery. In turn this can lead to "green-washing" or "cherry-picking" the benefits and not the burdens, whereby governments at national and subnational levels dodge the actions that are effectively

necessary to cope with the (global) ecological challenges, despite ambitious discourse on climate change mitigation. For example, Copenhagen in Denmark is regarded as one of the leading cities on planning for sustainability. However, as shown by Krähmer,[12] Copenhagen's strategy for climate neutrality is based on the externalisation of that problem. Specifically, Copenhagen's policy only accounts for the greenhouse gas emissions emitted in Copenhagen itself. In that light, moving polluting activities out of Copenhagen is a logical course of action to reach policy targets. Obviously, this does not imply that these activities "magically" disappear. They are merely displaced beyond the city's administrative boundaries.[13]

Therefore, building on the opening quotation from Latour,[14] in what follows we will explain the window of opportunity between the "place-oriented" geopolitics based on a "us versus them" logic and the currently footloose sustainability policy implementation that could be spatially grounded via the concept of CE, the latest sustainability idea that has been gaining traction. We argue that space, and thus the localism principle, has much promise if it stands central in the CE policy discourse as it can help solve the decades-long standstill in sustainability progress. If policymakers do not take advantage of this window of opportunity wherein the two territorial conflicts converge and create scope for driving place-based circular policies, the whole CE agenda risks losing momentum. This, in turn, would undermine all the efforts of public and private organisations to promote circularity so far, and foremost all the potential it brings to improve social equity and biodiversity, which is identified on top of the "core" discourse on looping material flows. Conversely, the efforts to address the geopolitical challenge of redefining "Europe" as an entity that is less vulnerable to re-/de-globalisation and the growing geopolitical tensions could benefit from incorporating CE principles.

2.3 FORTRESS CIRCULAR ECONOMY: FROM A NEGATIVE TO A POSITIVE NARRATIVE?

Obviously, the geography of flows of tangible and intangible resources can be understood in many ways, conceptually ranging from a complete global perspective on flows of resources[15] to a local autarkic system.[16,17] We do not have space here to elaborate much on this, but we want to point out the existence of networked cross-boundary or cross-sectoral spatial systems and their geography, which are always normative and conditioned by the relations between local and global actors, assets and institutions.[18] Those divergent interpretations of CE and perspectives on the geography of flows of resources have been examined within the CE literature.[19] Four CE discourses are defined: (1) a reformist circular society that strives for economic prosperity within the planetary boundaries (cf. doughnut economics proposed by Raworth[20]); (2) a transformational circular society that completely reconfigures the current sociopolitical system to drastically reduce humanity's ecological footprint, though in harmony with everyone and with the Earth; (3) a techno-centric CE that strives for green growth based on

ecological modernisation; and (4) a fortress CE that considers the reform of capitalism impossible and mistrusts socio-technical innovations, but instead tries to maintain geostrategic resource security within a given relational space.

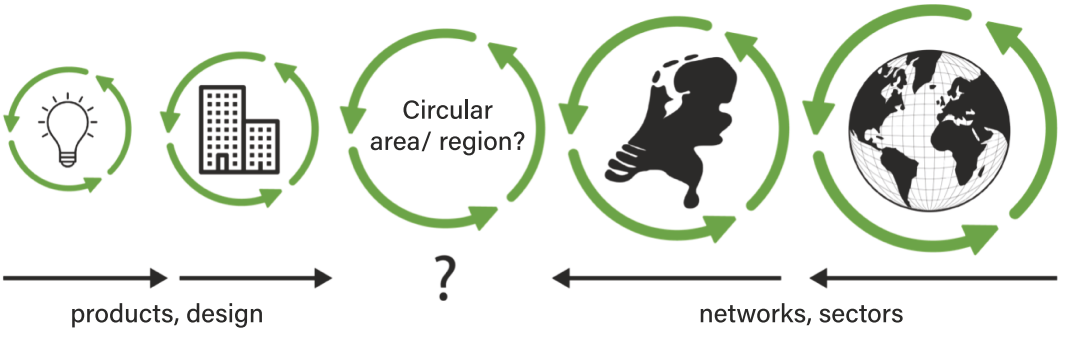
Calisto Friant et al.[21] label the "fortress circular economy" as quite a negative, cynical discourse that is not engaging with the mainstream debate. Also in the literature on the CE, only 4% of the scholarly articles relate to this discourse, while the majority debate transformational circular society (42%), reformist circular society (28%) or technocentric CE (26%).[22] This is in stark contrast to the perspective of Latour.[23] Even though he does not literally use the same "fortress" discourse, he sees this idea as an opportunity that finally can lead to a European nation built on ecological principles. Or, in other words, if we follow Latour's argument, exactly the ignoring or even negative labelling of a geographically confined understanding of a CE is a main reason why a CE, or sustainability in general, is not achieved. Thus, a "fortress CE" idea perhaps has potential if seen from a positive instead of a negative perspective.

2.4 SCALES OF CIRCULAR ECONOMY APPLICATIONS

There are some challenges with such a perspective, though. The discourse "fortress CE" can quickly become a synonym for an autarkic system. Understood as such, the local, as opposed to the global, or footloose understanding of a CE can indeed be problematic in many ways and have even a negative ecological impact. The misunderstanding is that a "localised" or "fortress CE" should not be understood in its narrow (Newtonian) perspective, but rather from a relational perspective. As such, a "fortress CE" is a CE that embraces "localism" as a means, not as a goal (cf. local). Localism, as defined by North[24] or Curtis,[25] was originally reasoned upon labour and environmental standards, but increasingly also resource security, research and development (R&D), and even norms and values are making the outcome of localism more prominent. The challenge here is, as Latour[26] argues, not to tip the balance completely the other way so that geopolitical resource scarcity becomes the main driver of localism, and thus becomes basically a strict understanding of the local, while ecological standards are in some cases left out of the policy. To understand this arguably rapid change related to localism in reference to CE, we briefly overview the different CE applications. In this, we focus on the scale at which the application of CE has an impact or for which CE policies are designed. We understand scales here not merely from a geographical perspective, but also from an institutional perspective (thus also as tiers or levels of government).

The relatively short history of CE applications has started at both "extremes" of the geographical scales, namely the local and the global (Figure 2.1). First, the local scale refers to the scale of a building or its components or specific consumer products. The first "circular" products — rolled out in the 2010s — designed with CE principles and successfully commercialised

Figure 2.1 Different scales of CE applications, their start at both the local and the global, how they gradually are up- or downscaling, and their convergence at the urban and regional scales



Source: van Bueren et al. (2022)[27]

included, for example, lighting as a service (cf. Philips), modular smart phones, clothes made from plastic waste, or bio-based, modular or recycled building materials. Soon these circular principles were being upscaled, and today circular cars and entire circularly designed and constructed buildings and infrastructures emerge. Gradually, CE principles have an impact on an ever-larger scale, as by now we observe first applications at the neighbourhood scale and ambitions by cities to "go circular" within three decades (cf. Amsterdam's policy).[28] Most likely, this trend will continue, and gradually circular design principles will impact even larger scales — that of a region or even a country.[29] Examples are strategies for development of circular urban food systems, or circular tendering policies by cities. At this point, the CE applications thus increasingly become less technical and more related to societal and political systemic questions.

Second, CE principles were initially applied at a global scale. Here the CE application is an arguably abstract policy goal. First appointed as an important strategy in China at the beginning of this century,[30] more than 10 years later the European Commission also emphasised its importance in its 2015 Circular Economy Action plan,[31] soon followed by the Organisation for Economic Co-operation and Development (OECD),[32] etc. But also private globally orientated organisations, such as the Ellen MacArthur Foundation,[33] successfully popularised the concept around the world. Arguably, the emphasis of these global CE policies was dominantly related to sustainability, seeing the CE as a strategy to help achieve the long-set sustainable policy goals. This CE policy emphasising sustainability has then travelled "downwards" through the scales. Indeed, increasingly, in recent years, national governments, such as of EU member states, started to mention CE in their national policy documents. In parallel, regions and cities joined the cause with a proliferation of urban and regional CE policies and actions to promote CE principles. Arguably, while more developed and affluent cities were front-runners of this trend (Amsterdam, Paris, London, Ghent, Toronto, etc.), the concept of CE is embraced by a growing number of local governments in large and smaller cities around the world. At present,

many cities engage in the redevelopment of urban neighbourhoods using CE principles.[34] Therefore, the abstract CE policy goals become increasingly territorialised,[35] and efforts are undertaken to integrate them into day-to-day spatial planning activities.

In sum, the CE applications that started, on the one hand, as a local technical exercise and as an abstract global policy goal, on the other, are coming together at the regional, urban or neighbourhood scales. It is no longer a technical or a policy challenge, but it is both. And therefore, it becomes a spatial challenge. Conceptually, this confluence can be understood as a spatial network or systemic/societal challenge, wherein the built environment, materials and products become connected to relational policy, sectoral, governance issues.

2.5 LOCALISM AS A RESULT OF THE GEOPOLITICAL TURMOIL

The convergence of scales, the convergence of technology and abstract policymaking, and the conceptual convergence between space and networks is increasingly challenged by a geopolitical "reality check" following the recent turmoil for Europe to which Latour[36] refers. Arguably, before the geopolitical crisis started, the effective spatial planning of the convergence between scales was mostly dominated by an arguably "nice-to-have" or even "greenwashing" CE area development. The latter is understood as an area development based on CE ideas, but foremost focusing on dense urban areas, while still externalising the land-use functions, such as waste treatment, to the periphery.[37,38] The Copenhagen example introduced above is illustrative of this.[39] Nonetheless, achieving CE principles is not a "free lunch". Especially in Europe, it is increasingly realised that (re)manufacturing, waste treatment, logistics, (sustainable) energy and (biobased) materials have a certain spatial demand and take place at a certain location, which can, in some cases, come with local burdens, such as greenhouse gas emissions, noise or odours. Externalising these was for decades the easiest way for many cities, or even for the entire EU. But if borders close and disruptions in global flows of resources and products occur due to geopolitical pressures, then suddenly achieving the desired outcomes of CE policies, such as the circular design of cars or residential areas, is no longer possible. Hence, we have come to a moment of reckoning.

Gradually, we can see signs of that reckoning in policy reports and documents. Increasingly, the dominant "just-in-time" organisational principle, the hallmark of global production networks,[40] is being replaced by the "just-in-case" principle.[41,42] Suddenly, the spatial costs derived from the far-from-efficient use of space following an inventory with (long-time) stored materials and products (e.g., face masks), or a vast reserve of (national) energy (cf. gas market disruptions), are no longer questioned. While the current discussions are mostly related to energy and specific supply chains, increasingly such geopolitical reasoning will be linked to CE,[43]

forcing us to realise and plan how regions and spatial functions relate to each other, who gets the benefits and bears the burdens of a transition towards a CE.[44,45,46]

In this perspective, it is illustrative that, for example, in the EU's recent report on the performance of science, research and innovation, it is stated that more circularity, and specifically the establishment or reshoring of the production of, for example, clean energy equipment, is needed to reduce the EU's strategic dependencies. Though the report also states that "the EU should avoid sacrificing international welfare gains".[47] In this example, we see exactly the desired confluence between geopolitics and socio-economic and ecological principles that Latour[48] appoints as the window of opportunity between the two wars. The question, though, remains if and how fast this "new" labelling of the CE on the global end of the CE applications will travel down to the urban and regional levels. Even though, as we pointed out, at this level the CE territorialisation is increasingly challenged by the geopolitical "reality check", there is a risk that this realisation is not fast enough to fully take advantage of this window of opportunity.

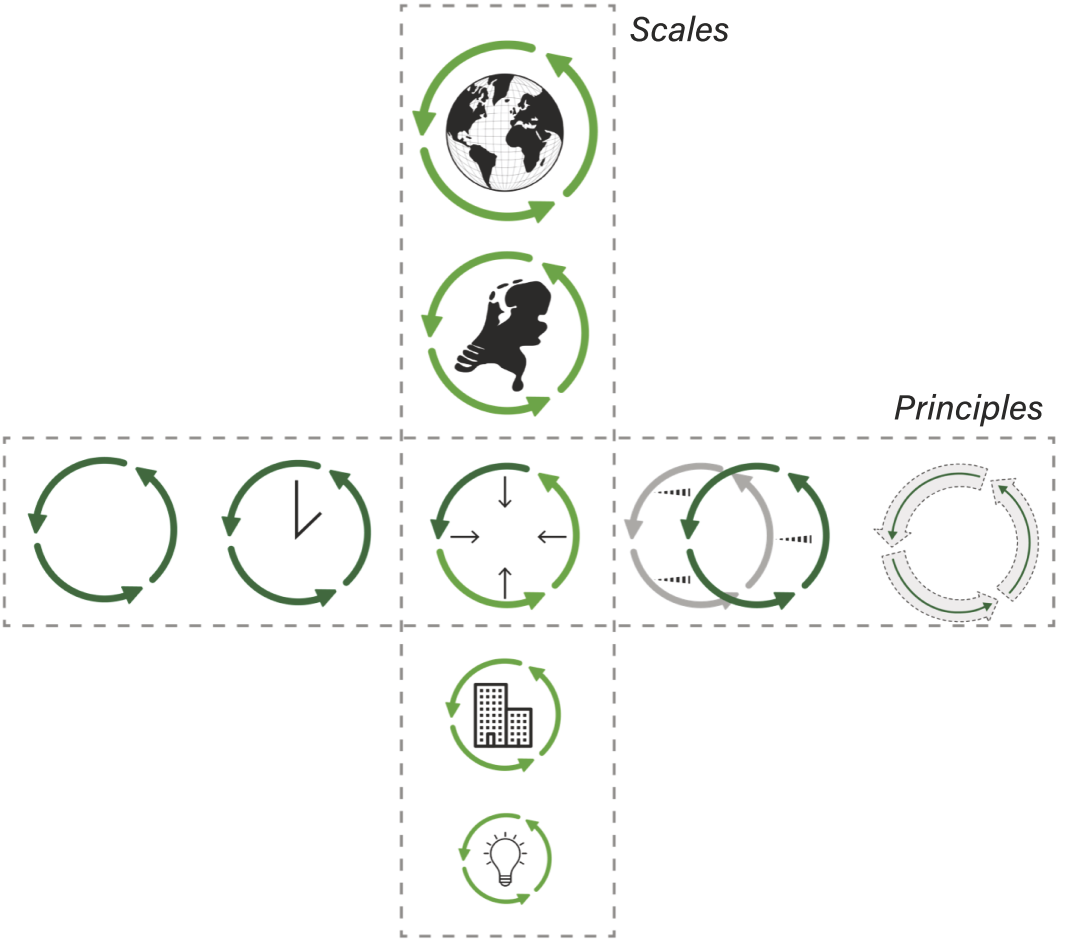
2.6 THE LOCALISM PRINCIPLE OF CIRCULAR ECONOMY IS THE MOST IMPORTANT ONE

The central argument of this chapter is that there is an opportunity to exploit in the conjunction of two wars with which Europe is confronted: the war against climate change (ecological war) and the war against Europe and the West waged by Vladimir Putin's Russia (military and economic war). We explained that the CE concept is (increasingly) a potential strategy in both these wars, respectively, to achieve the reduction of ecological impact and the decrease of geopolitical dependency by reusing materials, but in (spatial) practice these goals are conflicting. Arguably, the war against climate change that we have been fighting for decades is failing because the cause and the problem are not (always) at the same location, resulting in institutional ambiguity about who should take responsibility for concrete actions against climate change, manifested even on a local urban scale (cf. the Copenhagen example). The result is the externalisation of the burdens of urban sustainability measures (e.g., waste treatment), which remains commonplace.

Currently, the growing interest in the CE concept at the urban and regional scales, leading to its effective territorialisation or integration into spatial planning practice, leads to a continuation of this externalisation trend. What is often chosen are "nice-to-have" CE spatial planning actions, such as the circular design of residential buildings or neighbourhoods, the promotion of small-scale repair cafés, etc., instead of in many cases tackling the core urban CE activities, such as waste treatment, logistics or remanufacturing.[49,50,51] This spatial policymaking in many cities and regions is, to some extent, logical and a result of how decades of globalisation

have structured spatial global production networks.[52] But with the geopolitical "shock" that we described, European policymakers realise that open borders and externalisation of the burdens of sustainability are no longer an option. The continuing war in Ukraine, arguably a proxy war against Europe and the West, is showing how dependent Europe is on the external supply of energy, on the provision of defence, and the import of products and resources. In this perspective, the CE concept can be seen as a strategy to reduce these critical dependencies. Or, in other words, if Europe can reuse the material stocks and products it already has or manufactures, it no longer needs to import those from more or less hostile countries around the world. However, at present, this potential role of CE remains overlooked in policy debates.

Figure 2.2 Convergence of the upscaling of the circularity–technological local perspective and the downscaling of the abstract global CE policies' scales on the principle of localism. If successful, localism can become the much-needed acceleration of the other four CE principles, in the end helping to achieve long-desired social and ecological goals



Source: Authors

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2.7 CONCLUSIONS

The window of opportunity for CE that was discussed in this chapter is twofold. First, it is necessary to connect the growing demand for the localism principle and the related public and private (spatial) policy responsibility with the other CE principles. Second, it is necessary that this effective operationalisation and territorialisation of circular technologies and design and circular socio-economic and ecological policies occur at the urban and regional levels. The paradox is, however, that the current way in which CE is operationalised and territorialised at that subnational level is not yet (fully) "updated" as a result of the geopolitical "reality check" triggered by the war in Ukraine and the geopolitical turmoil. Thus, as soon as possible, planners and policymakers who are effectively working on spatial plans and policies should consider the ecological and socio-economic value of land-use functions, such as remanufacturing or waste treatment, and try to avoid the "standard", implicit course of action to externalise these functions and place them "out of sight". Thus, if we manage to put localism as a central principle of CE to enable the scales to converge (Figure 2.2), perhaps a positive answer can be given to Latour's[53] question that started this chapter. In closing, much of the reasoning in this chapter is EU oriented. That said, we believe that the window of opportunity for CE policies that we explained here is relevant for many governments and territorial administrations around the world that face similar deglobalisation challenges and wish to combine economic and ecological policy goals.

Practitioner's perspective

The Dutch government intends to achieve a fully circular economy (CE) by 2050. PBL — Netherlands Environmental Assessment Agency — supports this process with various forms of research and knowledge development. A recent study has addressed the potential spatial implications of the transition to CE, and what this means for spatial planning policy in the Netherlands.[54] In this study, we have developed four different CE scenarios in 2050. These scenarios reflect the five CE principles described in chapter 1, with "greening of production processes" added as a separate principle. The scale at which circular flows and loops operate (the extent of localism) is an important determining factor in how CE will take shape in spatial terms (e.g., how industrial zones, business sites and ports will develop, what amenities will be needed in cities and regions). Moreover, our research shows that in the transition to CE, geographical proximity matters also in other ways (in addition to localism in circular flows), as collaborations, innovations and the development of circular solutions rely on actors and activities being physically close. Finally, PBL research also highlights that moving towards a CE can contribute to strengthening the strategic autonomy of the Netherlands and Europe regarding the supply of resources.[55]

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