



*/ PD Impulse /*

# ***Doughnut Economics as a Strategic Compass***

**How municipal strategists can use doughnut economics  
for impact-oriented transformation**

April 5th 2022

*/ For the public sector of tomorrow /*

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# Foreword

The relevance of sustainable, individual and social enterprise in shaping and maintaining our lives is beyond question. Economic, ecological and societal aspects play a key role in an interwoven equilibrium. Every municipality, council and region has been tasked with implementing the aims of Germany's sustainability strategy. But how can this be achieved?

Alongside the current Sustainable Development Goals (SDGs), plans to achieve climate neutrality and an economy geared towards everyone's needs are pulling into focus another concept: the "doughnut economics" model. Developed by the British economist Kate Raworth, this refers to the limits – not just societal limits but those imposed by the Earth itself – that need to be respected if we are to attain an ecological and social balance. Look at a picture of a torus. The inner ring of the doughnut is the societal foundation and the outer ring the ecological boundary or ceiling. The idea of doughnut economics is to achieve a green and social equilibrium instead of pursuing unrestrained growth.

In Germany, doughnut economics is at the moment a mostly unfamiliar concept at the local and regional level. This study aims to change this. It has been produced by the "PD Impulse" arm of the public sector consultancy firm PD – Berater der öffentlichen Hand GmbH, in tandem with the German Institute of Urban Affairs (Difu). Taking our inspiration from the theoretical underpinnings of the model, we've been researching how measures and policies can be put into practice. Can we make use of this approach – conceived on a global scale – to bring about transformations towards greater sustainability on the local stage? Each municipal body needs to have available a range of approaches depending on where it's starting from and what its targets are. The doughnut model offers a remarkable flexibility, which we will see in the following examples of best practice from Germany and elsewhere.

Insights gained from two case studies we examined – the cities of Bad Nauheim and Krefeld – have convinced us that this concept can offer a key contribution to developing social, ecological and economic sustainability in municipalities. At the same time, specific conditions can provide a toolkit for success. We're supporting these aspects by our consultancy work in municipalities, and we look forward to generating further impulses for testing this model.

We wish you all a stimulating and thought-provoking read!

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# Overview

A fatty, sugary snack as a symbol for sustainability and social justice? Maybe it's this catchy label for the paradox that's helped the idea of doughnut economics to spread and become adopted – everyone knows what a doughnut is. The Oxford-based economist Kate Raworth, in her "Doughnut Economics: Seven Ways to Think Like a 21st-Century Economist", invites us to go beyond the limits of classical economic thinking and to turn to the challenges of this century. The doughnut's shape depicts, on its outer edge, the limits of our planet and, as its inner circumference, the social foundation (see subsection 2.1.1).

To address many of the questions posed in the book – the result of work by a vigorous community of international players under the auspices of the Doughnut Economics Action Lab (DEAL) – an array of methods for applying doughnut economics in many fields has evolved. At the municipal level, the "city portrait" method (see subsection 2.1.2) has been particularly fruitful. This paints a comprehensive and integrated picture of local realities as well as the implications of these when viewed through a global lens, opening up the opportunity for an overarching strategic direction and a perspective that takes into account possible impacts. DEAL also plans to publish a range of other resources in 2022.

Whilst "doughnut"-oriented methods are being used by many municipalities and councils around the world, at the moment in Germany they are most commonly being applied in the context of civil society initiatives that are thinking about and adopting doughnut economy ideas in their own municipal areas. This study aims to make accessible doughnut economics methods from the perspective of German municipalities, communes and councils – to categorise these and to recommend courses of action. These measures will be briefly presented in the following pages, and in particular detail in section 2.2.

<b>Contributions doughnut economics can make</b>	<b>Limits of doughnut methods at the local level</b>
<ul style="list-style-type: none"><li>/ The doughnut is a powerful and effective communications tool</li><li>/ It encourages holistic and impact-oriented thinking</li><li>/ It fosters a culture of participation in urban areas</li><li>/ It strengthens a municipality's evidence-based management approaches</li><li>/ It transcends the boundaries of classical economic theory</li></ul>	<ul style="list-style-type: none"><li>/ The doughnut doesn't make decisions or resolve conflicts</li><li>/ It absorbs resources</li><li>/ It doesn't enable one-to-one comparisons between municipalities</li></ul>



Three key **recommendations for action** can be derived from these insights:

- / To put in place doughnut-oriented measures, fresh approaches to administration are required. Public sector administration should open itself up more vigorously to civil society, think in more cross-cutting and holistic ways, and should operate beyond local boundaries.
- / It makes sense to conceptualise the doughnut in advance within a small team, for example in a strategy unit, and then on the basis of this framework to discuss its implications in a larger circle of participants internal and external to the administration.
- / The doughnut's ingredients are indicators and measurable objectives for steering the development of municipal bodies over time. Evidence-based decision-making and management are essential constituents of the doughnut and should be taken into account from the very beginning.

While section 2.2 has been kept purposely brief and is addressed to decision-makers at different levels, international examples and case studies are presented later in more detail and feature important information, particularly with regard to adopting measures on a local scale.

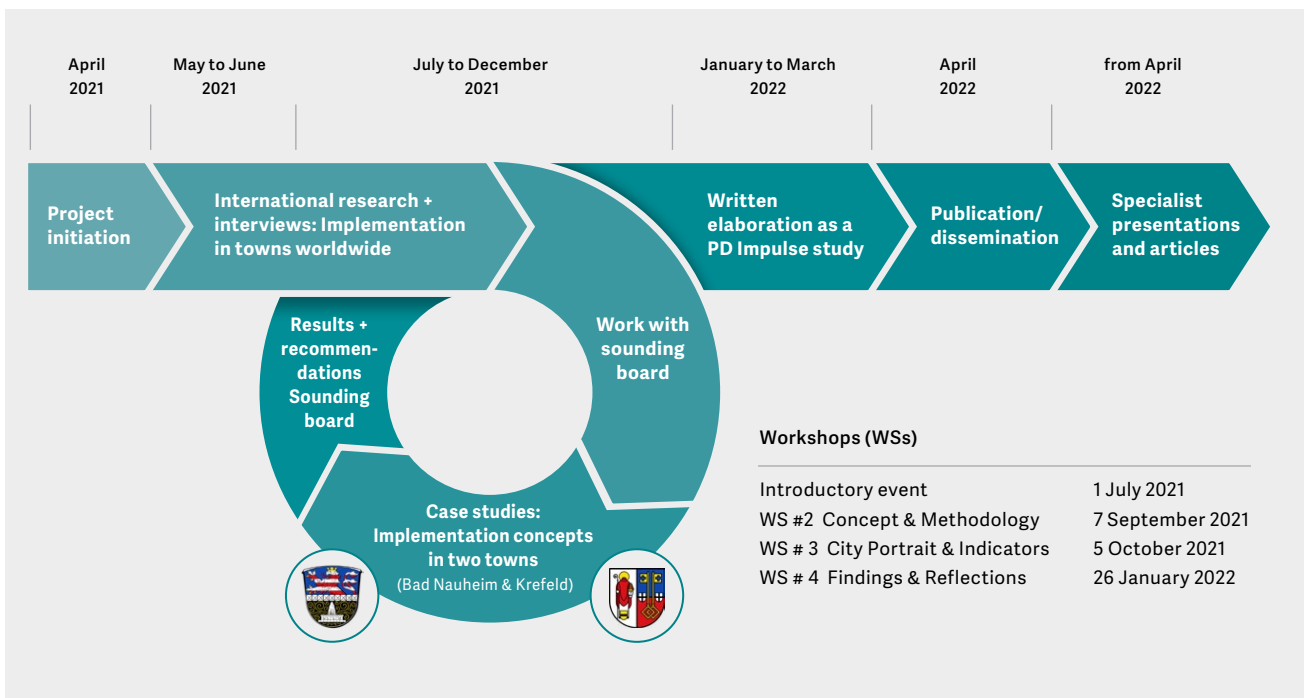
**In summary**, the doughnut offers a fresh approach to opening avenues for municipal steering committees and decision-making bodies to work strategically and in an impact-oriented fashion. Aspects of sustainability and social justice are baked in from the start. The model can be connected up with existing ideas like the Sustainable Development Goals (SDGs) and can help in visualising complex interrelationships. It's amenable to holistic thinking and can act as an enabler for civil society.

# Approaches and participants

A key objective of this study is to provide German municipal strategists with a compact and accessible introduction to the methods of doughnut economics, especially those developed and tried out on the international scale, and to devise recommendations for action. The PD team would particularly like to thank all the interview partners, members of “sounding boards” and all the staff from the cities that served as case studies, Bad Nauheim and Krefeld. A deeply felt thank you for the innumerable and invaluable impulses!

**Figure 1:**  
**Project approach and timeline**

The following figure (see figure 1)<sup>1</sup> gives an overview of how the project proceeded:



The followings remarks briefly present the essential phases of the project.

## **State of implementation in cities worldwide: Research and interviews**

As the methods of doughnut economics have so far been applied mainly at the international level, our task started with assessing the comprehensive international research materials and conducting interviews, especially with representatives from cities that have piloted this economic approach. The following list outlines the international interviewees.

<sup>1</sup> Authors' own design (PD).

Name	Municipality/ Institution
<b>Laure Malchair</b> , director	Confluence collaboration tool, Brussels
<b>Tristan Dissaux</b> , research assistant	Institut Veblen pour les réformes économiques, Brussels
<b>Alex Rainbow</b> , advisor for climate neutrality	Cornwall County Council
<b>Peter Lefort</b> , research assistant	University of Exeter
<b>Thomas Tranekr</b> , head of the Economics Department <b>Jelle van der Kamp</b> , Economics Department advisor	Copenhagen City Council
<b>Ben Geselbracht</b> , representative	Nanaimo City Council
<b>Bill Corsan</b> , department head of business development <b>Lisa Bhopalsingh</b> , department head of community development	Nanaimo City Council
<b>Kyle Diesner</b> , climate programme coordinator at the Bureau of Planning and Sustainability (BPS)	Portland City Council
<b>Andrew Fanning</b> , data analyst and head of research	DEAL Team & Advisory Team

**Sounding board: reflections on the doughnut method from the perspective of German municipalities**



**Figure 2:**  
Municipalities participating in the sounding board project

The methods of doughnut economics as well as the ways in which they have been applied around the world were discussed and reflected upon in four virtual workshops with representatives from 14 German cities (see figure 2).<sup>2</sup> Participants in these so-called “sounding boards” sessions came predominantly from the fields of strategic development, sustainability and digitalisation.

### ***Case studies: Examples of applying doughnut economics in two pilot cities***

Building from international research and from the sounding boards’ preliminary reflections on methods, applications of doughnut economics on the municipal level in two case studies were discussed with municipal authorities. The case study cities of Bad Nauheim and Krefeld, as participants in these sessions, were able to share their experiences and instances of best practice as part of these sounding boards.

The case studies are examined in more detail in section 3.2. Alongside the main findings, it will also present the approaches chosen in order to provide evidence and impulses for introducing these initiatives to those responsible for strategy in other administrative areas.

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<sup>2</sup> Authors’ own visualisation (PD).



# ***Doughnut economics – applications, findings and recommended courses of action***

## ***A brief introduction to the concept of doughnut economics***

### ***2.1.1 A guide to balanced prosperity***

The notion of doughnut economics was first publicised by the British economist Kate Raworth,<sup>3</sup> in her book “A Safe and Just Space for Humanity”.<sup>4</sup> Doughnut economics provides a way of thinking about the globally prevailing, growth-focused economic system against the backdrop of a limited availability of natural resources and with a view to imagining greater social equality.

Underpinning classical economic thinking is gross domestic product (GDP), the globally recognised measure of a nation’s performance and economic strength. GDP is also an indicator at the regional and municipal level for the economic power of an area or municipality.<sup>5</sup> Calculating GDP is based on assuming a self-contained system made up of businesses, state entities, banks, shops and households (in their roles both as employees and as consumers) that provide the necessary economic output, expressed as a nation’s GDP. However, this calculation doesn’t currently take into account value provided by societal agents (goods and services common to people’s everyday needs, in other words social or community goods) and nor does it include the use of natural resources. GDP as a figure also can’t be used to make statements about the distribution of income and patterns of consumption, nor about the assets held by a particular area.

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<sup>3</sup> “Doughnut Economics”, K. Raworth (Raworth 2018).

<sup>4</sup> The first publication by Kate Raworth on doughnut economics (Raworth 2012).

<sup>5</sup> For example, a so-called “joint task” body, or taskforce, for improving regional economic structures (known as the GRW) is the key tool for economic enhancement at the local level in Germany (see <https://www.bmwi.de/Redaktion/DE/Artikel/Wirtschaft/gemeinschaftsaufgabe-evaluierung.html>).

# 2.1

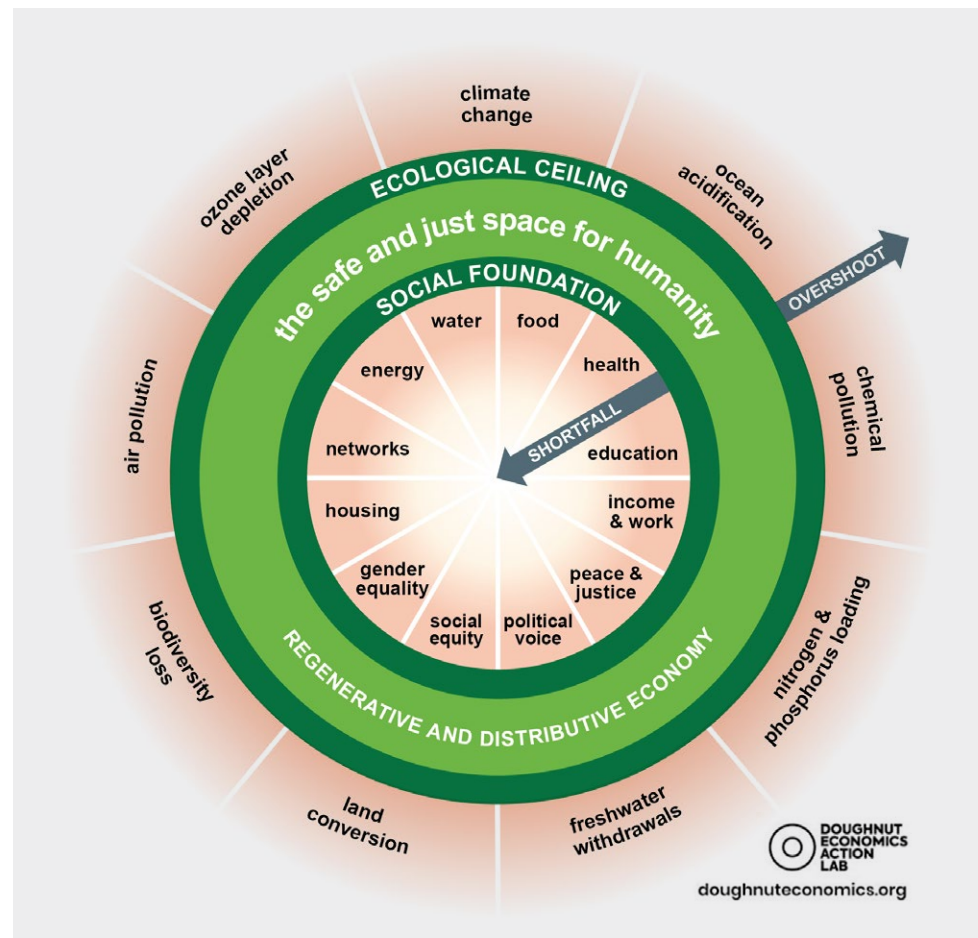
## Doughnut Economics as a Strategic Compass

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Essential aspects of the economic landscape are also unaccounted for in the classic, GDP-dependent view of our economic system. At the same time, GDP is oriented towards a growth that excludes, for example, the availability of unremunerated services, common social goods and natural resources. The consequences and limits of this classical economic model are clearly reflected in too intensive a use of natural resources, continuing loss of biodiversity, climate change and rising social inequalities throughout the world. These ecological and economic imbalances are leading us increasingly down the path of global crises.

In light of these conditions, Kate Raworth argues that GDP measurement isn't fit for purpose as a tool for capturing a country's economic progression. The more urgent requirement of an indicative and ultimate economic system geared towards human well-being and embedded in concert with ecological and social systems. To achieve this, the doughnut model has been developed **to broaden the perspective on the economic system**: "The doughnut of societal and planetary limits is a simple visualisation of both conditions – social and ecological conditions – that constitute the foundations of humanity's common well-being. The social foundation marks out the inner edge of the doughnut and comprises the basics of life that no-one should be deprived of. The outer edge of the doughnut represents the ecological ceiling that's being dangerously exceeded as a result of the pressure that humans are putting on the life-giving Earth. Between these two boundaries lies the ecologically secure and socially just area within which humanity can prosper."<sup>6</sup>

Figure 3:  
The doughnut model as a foundation for well-being

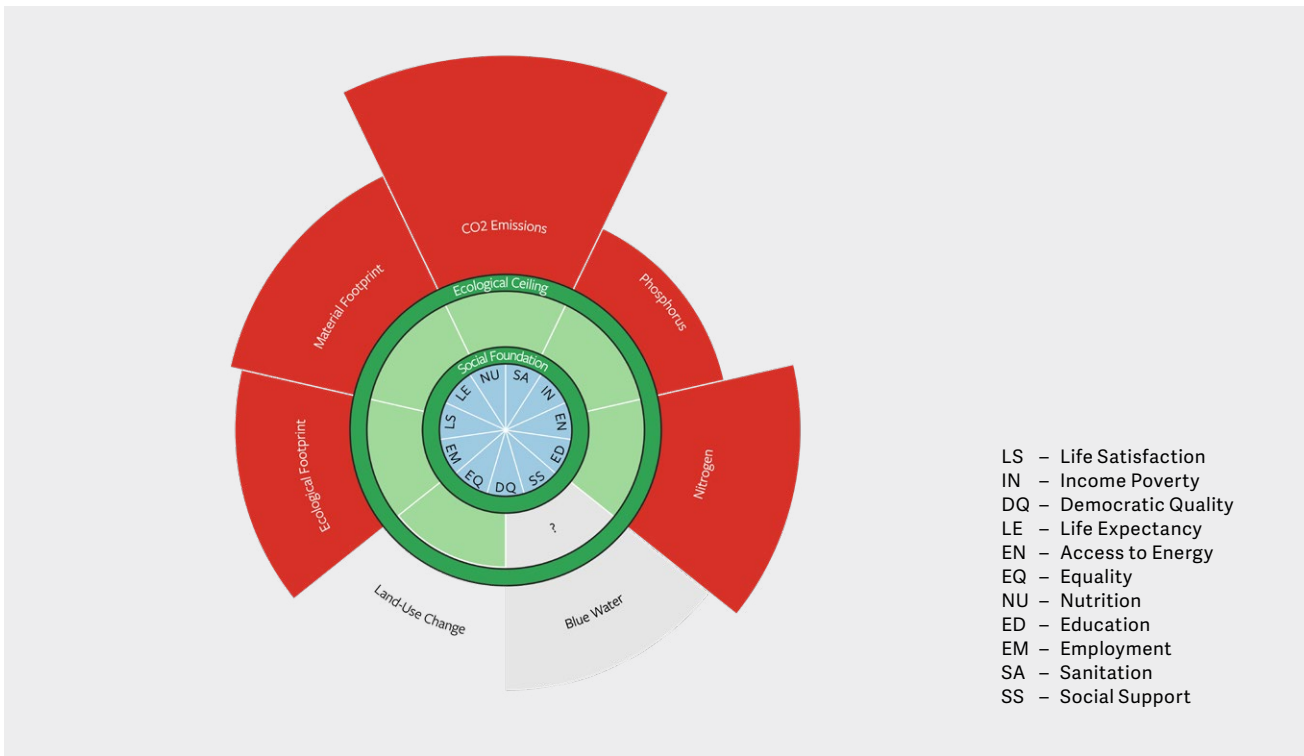


<sup>6</sup> Raworth, *ibid.*, p. 357.

The aim of doughnut economics is to manage the transition away from growth-oriented GDP and towards prosperity in an ecological and societal equilibrium. Doughnut economics offers an alternative estimate when it comes to GDP, setting out guardrails in the form of a social foundation and an ecological ceiling. Between these two emerges “a safe and just space for humanity” that enables the needs of everyone to be met within these boundaries set by our planet (see figure 3)<sup>7</sup>.

Measuring and calculating this safe and just space is done by means of indicators. In the 12 dimensions of the social foundation and the 9 dimensions of the ecological ceiling, values are measured on the basis of an internationally agreed-upon United Nations (UN) Convention and derived from the 17 Sustainable Development Goals (SDGs). The nine dimensions of the ecological ceiling are defined from scientifically derived planetary boundaries, for example those arising from climate change or freshwater scarcity.<sup>8</sup> This model provides the parameters needed to measure a nation’s well-being. But the doughnut isn’t just applicable on the national scale; it can also be used at the regional and local level. Depending on the scale – whether national, regional or local – these measurements need to be adapted in each case to take account of available data and of national, regional and local factors. According to a doughnut calculating model drawn up by a team at Leeds University<sup>9</sup>, current calculations for more than 150 nations show that in many places the basic requirements of billions of people are not being satisfied and that, at the same time, the planet’s sustainable boundaries are being exceeded. Viewed through this lens, although the social foundation in Germany is very stable compared with the global average, in terms of the dimensions of the ecological ceiling, too many resources are being used up (see figure 4)<sup>10</sup>.

Figure 4: The German doughnut in 2015



<sup>7</sup> Grüne Wirtschaft [Green Economy], Twitter, 2021.

<sup>8</sup> For further details, see Rockström et al., 2009.

<sup>9</sup> The doughnut calculating model for Germany, which charts the changes to the country’s doughnut model from 1992 to 2005, can be found at: <https://goodlife.leeds.ac.uk/national-trends/country-trends/#DEU>.

<sup>10</sup> Ibid.

The notion of doughnut economics addresses not only a **novel way of defining indicators for determining well-being**, it also refers to the need **to get away from the paradigm of growth**. To help achieve this, Kate Raworth has set out the following **seven principles for a new kind of economic thinking**:

- / Change the goal: from GDP-based growth to the doughnut
- / Grasp the whole picture: from autonomous markets to integrated economies
- / Take care of and support nature in a humane way: from rationalist Homo economicus to socially adaptable people
- / Think systemically (learning): from mechanistic conceptions of equilibrium (supply and demand) to a recognition of the dynamics and complexity of economic and social systems
- / Target distributive justice as a goal: “growth to provide for equality” as a strategic objective of distributive justice
- / Encourage regeneration initiatives: from “growth will eliminate environmental pollution” to a regenerative, circular economic system (the circular economy)
- / Take an agnostic attitude towards growth: from growth-dependency to living without the need to grow.<sup>11</sup>

These principles should set in place the impulse for a regenerative, distributively fair and growth-agnostic stance, thereby assembling the ingredients for the doughnut model. As an operational principle, it provides a pointer towards interacting with the uncertainties that lie at the heart of every change and which will continually shape our future. The doughnut model broadens out the growth-oriented economic model to an ecological and societal system, developing this into a **holistic economic model** that serves **as a compass pointing the way to well-being and prosperity in balance**.

Based on this conception of the doughnut, many action approaches and instruments to put this model into tangible practice have been devised at the national, regional and local scale. These methods are being continually fine-tuned by an **extensive network of civil society bodies, researchers and municipal actors**. The following subsection presents examples of the most frequently used tools used at those municipal and regional levels that are piloting the doughnut model.

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<sup>11</sup> See Raworth (2018), pp. 38–42.

### 2.1.2 The city portrait as a key method at the city scale

At the national, regional and local scales, the main nexus or coordinating body for further developing and transferring doughnut economics know-how is the **global network known as DEAL (Doughnut Economics Action Lab)**<sup>12</sup>. With DEAL, developers, practitioners, users and local initiators exchange knowledge and experiences relating to current activities and methods relating to the doughnut model. To break down the global and national conditions that favour applying doughnut economics on an urban scale, the so-called “city portrait” method was developed in 2019 and rolled out in 2020 by the Thriving Cities Initiative (TCI) – a joint effort by DEAL, Biomimicry 3.8<sup>13</sup>, C40Cities<sup>14</sup>, Circle Economy<sup>15</sup> and the KR Foundation<sup>16</sup>. Andrew Fanning, Data Analysis & Research Lead at DEAL and research associate at Leeds University, describes his role in an interview: “Our task at the municipal scale is to translate the global approach into the local level. Above all, this requires networking and activism. We don’t want to force the doughnut approach onto anyone but to go to those places that already have active mayors, councillors and urban planners.”

With the **city portrait**, the social foundation and the ecological ceiling are reimagined as four “lenses” and are viewed at the local scale as well as in terms of the effects they have at the global level (see figure 5)<sup>17</sup>. The pilot cities that applied the city portrait approach were Philadelphia, Portland and Amsterdam.

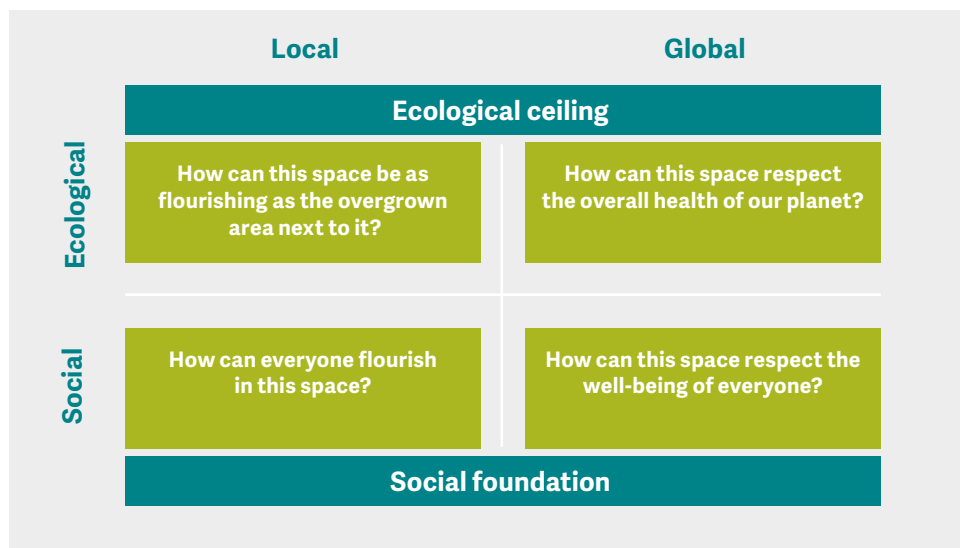


Figure 5:  
The four lenses of the  
city portrait approach

<sup>12</sup> Its website is at <https://doughnuteconomics.org/>.

<sup>13</sup> Biomimicry 3.8 is a globally leading consultancy firm in the field of biological intelligence that provides consultancy services, professional training and inspiring presentations. For more information, see: <https://biomimicry.net/what-we-do/>.

<sup>14</sup> C40 is a network of mayors from around 100 pioneering cities that are collaborating on urgently needed measures to tackle the climate crisis. For more information, see: <https://www.c40.org/about-c40/>.

<sup>15</sup> The non-profit organisation Circle Economy brings together a global network of businesses, cities and countries. Their mission is to put into practice and accelerate, in a practical and scalable way, the circular economy. For more details, see: <https://www.circle-economy.com/about>.

<sup>16</sup> The KR Foundation is dedicated to fighting the causes of climate change and environmental destruction and degradation. For more details, see: <https://krfnd.org/>.

<sup>17</sup> Authors’ own presentation (PD), based on work by the Doughnut Economics Action Lab 2022.

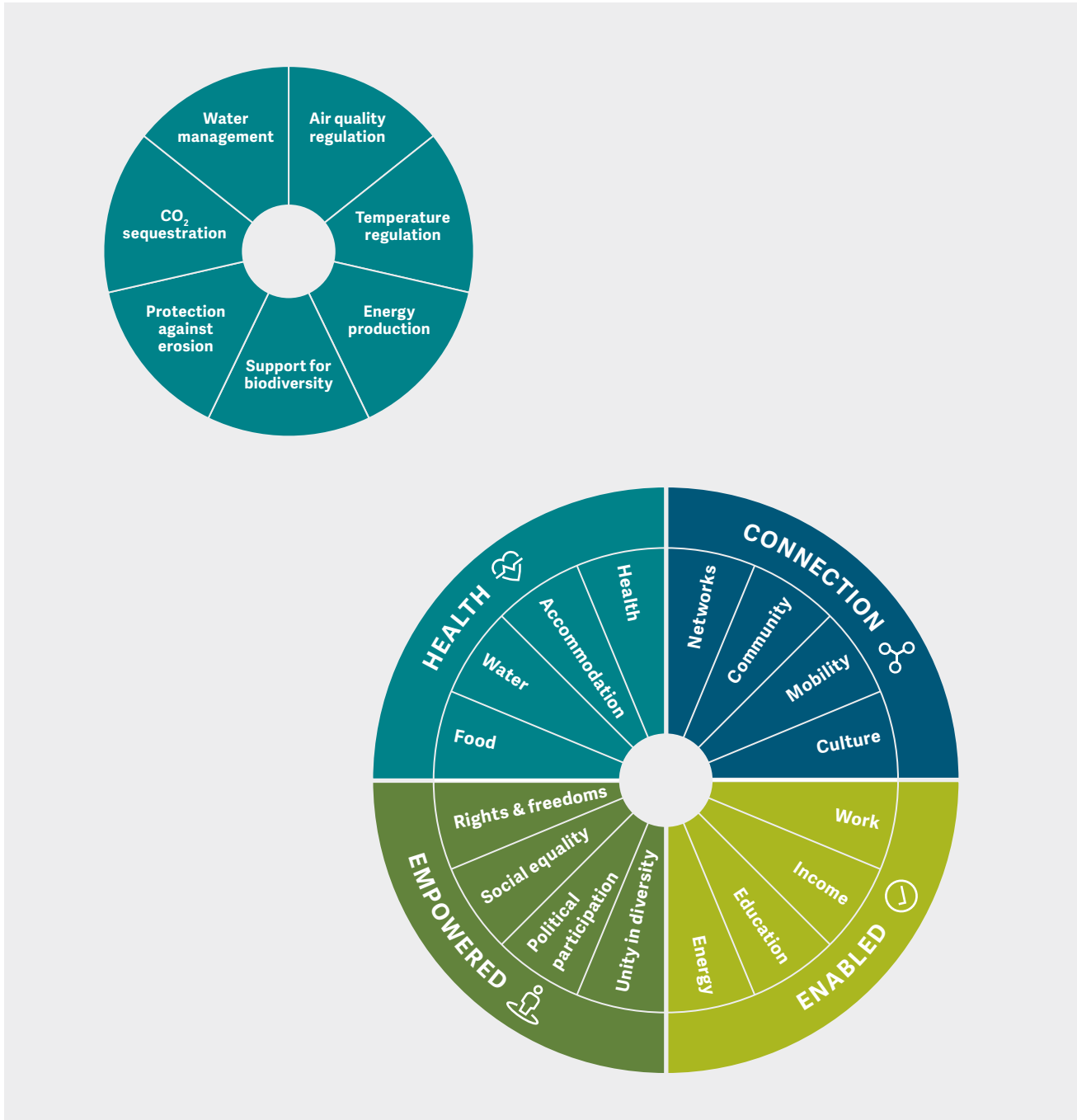
# 2.1

## Doughnut Economics as a Strategic Compass

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**Figure 6:**  
Dimensions of the social and ecological lenses at the local scale

In this depiction, each lens determines the dimension to be examined (figures 6<sup>18</sup> and 7<sup>19</sup>), and these dimensions will differ depending on the municipality. The aim of this “definition phase” is to identify an area’s objectives and spheres of activity and to assess the current state of affairs. This enables a **holistic, strategic picture of the overall urban development** landscape to be painted. Previously formulated municipal aims and strategies are baked into the doughnut’s dimensions.



<sup>18</sup> Authors’ own presentation (PD), based on work by the Doughnut Economics Action Lab 2020a, p. 12 and pp. 20–21.

<sup>19</sup> Authors’ own presentation (PD), based on work by the Doughnut Economics Action Lab 2020a, pp. 26–27 and pp. 32–33.

The **local-social lens** is separated into four categories – health, connection, empowered and enabled – which are further divided into aspects. For instance, the category “connection” includes networks, community, mobility and culture. The **local-ecological lens** is viewed through three perspectives: water, air and land. Both lenses can be combined.

**Figure 7:** Dimensions of the social and ecological lenses at the global scale



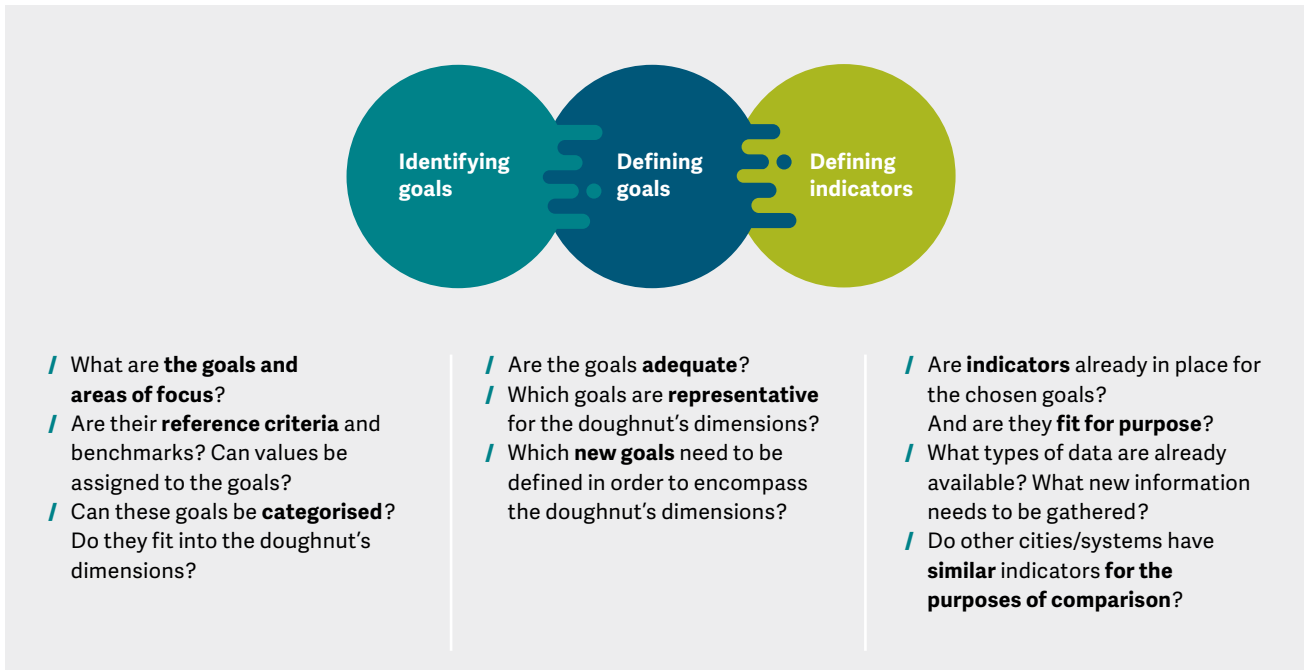
# 2.1

## Doughnut Economics as a Strategic Compass

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Figure 8:  
Operating steps  
for each lens

The global-social and global-ecological lenses set out here are built on the same principles. The outermost ring represents the **planetary limits**, while the inner ring represents the space of possibilities for a global-social and a global-ecological scope for action. Outer rings are connected with inner ones. The four approaches – the four lenses – can be addressed on the basis of key issues. The lenses and issues serve as impulses and can be changed during a process and adapted to local conditions.



The analysis is based on **comparing** the target with the **actual situation in terms of the goals and indicators along each dimension** of the city portrait as viewed through the four lenses. Looking through the local-social lens, for example, 16 social dimensions for a city's goals can be categorised. Targets are reviewed in terms of their feasibility in local contexts and are worked on further if necessary. If a city doesn't yet have sufficient targets or indicators, these are redefined as part of the process (cf. Figure 8)<sup>20</sup>. Creating the doughnut should involve coming up with a recipe integrated into the strategy process as it affects the entire city – in other words, generating strategies for the city should align with the doughnut conception (see part 2.2.1.2). Existing sets of indicators, such as the SDGs in particular, can and should be integrated – the approach doesn't by itself provide a comprehensive methodology for devising doughnut (see part 2.2.1.3).

The result is a **holistic snapshot of the city** and its four lenses: social, ecological, local and global. The defined targets and indicators not only allow hoped-for results to be compared with current performance, they also enable progress to be measured via monitoring or updating, hence paving the way to enhancing over the long term how a municipality is performing in relation to the four lenses.

<sup>20</sup> Authors' own visualisation (PD).



As a system of management and strategy creation, the city portrait carries huge potential for the **impact-oriented transformation** of a city. When a city follows this portrait approach, this takes account of the particularities of each urban area and also shines a light on the influence of the municipality on – and its responsibility for – supra-regional and global patterns. It lays the pillars for discussing a city's future and opens up the chance to map existing ideas, strategies and initiatives. The **multidimensional perspective encourages more nuanced approaches and fosters awareness of interrelationships and structures**. In the words of DEAL's Andrew Fanning: "The doughnut offers a really strong framework that also leaves room for local adaptations. The biggest advantage is that the doughnut allows you to think about the most diverse perspectives.. It brings different players together to work on challenges as a collective and in this way it can make use of synergies in a completely new way."

This approach envisages a collaboration across sectors, departments and organisations in an urban landscape as well as a combining of development-oriented initiatives and actors in one broad network. This conception can allow competencies to be bundled, can mobilise stakeholders and so-called change-makers and can set in motion an impulse for iterative processes. This opens the door to fresh possibilities for development. The city portrait in this view **isn't a one-off event but rather a vital part of a municipality's strategic and administrative management cycle** (see figure 9)<sup>21</sup>.



Figure 9:  
Processes and actors in the  
city portrait method

To summarise, **the instrument of the city portrait doesn't pretend to offer one-size-fits-all solutions. It instead supports the process of identifying strategies and goals for sustainable development appropriate in a city-wide context**. By defining objectives and indicators, it increases the chances that impact-oriented policies will be measurable, traceable and transparent.

<sup>21</sup> Authors' own visualisation (PD).

### 2.1.3. Doughnut economics and related notions

From a German perspective, the methods of doughnut economics belong to a family of approaches, especially in terms of their holistic, impact-oriented claims. Here, the “new management model” devised by the Municipal Joint Office for Administrative Management – the Kommunale Gemeinschaftsstelle für Verwaltungsmanagement (KGSt) – in the early 1990s and its further development into the “municipal management model” – the Kommunale Steuerungsmodelle (KSM) – are highly relevant tools. This gave rise in municipalities to a much more strategic and impact-oriented mode of thinking. These approaches were expanded and deepened – especially as these policy developments focused on impact – with the report “Pathways to a Common Municipal Strategy”<sup>22</sup>. This report emphasises the **importance of a holistic, impact-oriented perspective**, recommends that municipal bodies be **included in strategy development and calls for the strategy to be linked to the municipal budget as well as for regular monitoring of its effects**.

Doughnut methods, in particular the city portrait approach, are ideally suited for this purpose: they aim at a **city-wide, impact-oriented transformation with the involvement of civil society**. They hence offer municipal strategists the possibility of integrating what has been built up so far. At the same time the doughnut, especially in terms of its global view, invites even more comprehensive impact thinking, whereby conflicts of interest between local and global perspectives are made apparent. Against this backdrop, doughnut economics allows municipal strategists to integrate existing strategic approaches and, if necessary, to develop them further with a fresh impetus.

Doughnut economics also **overlaps with debates around sustainability** (for more details and a comparative analysis, see section 3.3). Many cities have been dealing with sustainability issues for years. The climate crisis and movements like Fridays for Future have added fuel to this discourse, bringing it to the attention of large parts of the populace. A host of cities have for some time been using the SDGs (Sustainable Development Goals) for their sustainability management. Alongside Raworth’s doughnut economics approach, a further idea, first formulated in 2017, addresses how to achieve sustainable economic activity within ecological boundaries.

There are also approaches focusing on the “Economy for the Common Good”, climate neutrality, the United Nations’ Agenda 2030 and its associated SDGs, the circular economy and a method known as the “precautionary post-growth position”, which can be used to operationalise sustainability for various stakeholders, including municipalities. In view of this conceptual diversity, decision-makers in German cities are also faced with the central question: What can doughnut economics contribute to realising the overarching paradigm of “sustainable development”, in particular to delivering integrated urban and economic development, and what added value does this method offer compared to other approaches?

The idea behind doughnut economics – as with other notions of sustainability – has not primarily been developed with the municipal level in mind. **This calls for endeavours to transform and adapt, efforts that can be put into place and whose efficacy can be measured for municipalities**. This relies particularly on the necessary demarcation of administrative areas of competence – a logic that doesn’t do justice to many social and ecological challenges. Putting doughnut economics into practice in municipalities thus raises fundamental questions like: Where does the respective municipal authority begin and where does it end? How can global challenges be scaled down to the municipal level? Do concepts like the doughnut perhaps increase inequalities between individual urban districts instead of reducing them?

<sup>22</sup> “Wege zur kommunalen Gesamtstrategie” [Pathways to a Common Municipal Strategy]. See the June 2015 report from the Municipal Joint Office for Administrative Management (Kommunale Gemeinschaftsstelle für Verwaltungsmanagement, or KGSt), Wilken (2015).

Moreover, implementing ideas like the doughnut approach always depends on different actors, especially in municipalities, so **interdisciplinary and cross-city processes** have to be set up. The great strength of the model is undoubtedly its capacity to be connected up with other initiatives. Talking about the SDGs, Andrew Fanning from DEAL says, “The concepts have a shared history, with the original 2012 Doughnut serving as an input to the SDG negotiations, and in turn, the final SDGs served as the basis for revising the social indicators in the updated 2017 Doughnut. In terms of visuals, we have heard that many people find the Doughnut provides a more holistic picture than the SDG's individual squares, which can help to break down silos.”

When the broad brushstrokes of doughnut economics and the city portrait method are presented, the question arises: What contribution can doughnut economics make to German municipal authorities, and what do municipal strategists need to be aware of when introducing the system? This subsection summarises key project findings in this regard. For a deeper understanding, we recommend you to read the international examples and the two case studies. Where appropriate, this part of the report refers to other relevant subsections or parts.

## The doughnut and the city – impact-oriented management with doughnut economics

### 2.2.1 The contribution that doughnut economics can make

#### 2.2.1.1 The doughnut is a powerful instrument of communication and has an activating effect

Perhaps the greatest strength of the doughnut is its communicative power. Kate Raworth's image of planetary boundaries and the social foundation in the shape of a doughnut presents complex interrelationships at a glance. Even though developing a doughnut economy on the local scale is anything but straightforward – because municipal realities are, and always will be, complex – the doughnut is a powerful tool of communication, a point stressed by the developers of the “Cornwall Development and Decision Wheel” (CDDW) initiative (see subsection 3.1.4) and more recently by participants of the case studies in Bad Nauheim and Krefeld (see parts 3.2.1.3 and 3.2.2.3).

Raworth has also helped set in motion, with the Doughnut Economics Action Lab (DEAL), an active international community that develops ideas for applying doughnut economics. This dynamic, coupled with the attraction of the concept as a whole, is also exerting a powerful influence on civil society initiatives (see section 3.1). The international stakeholder community is an equally fertile source for municipal strategists who are increasingly finding it a rich source of methods and ideas to apply to their areas and as a space for exchange of know-how and best practice.

“The science-based and broad principle is important but it needs target group-based communication strategies to ensure that everyone is on the same page. The doughnut is ideal for illustrating the holistic approach and for visualising interplays between dimensions that may seem independent at first glance”.

Klaus Kreß,  
mayor of Bad Nauheim,  
see p. 54

“We’re using the doughnut model to make strategy more coherent and effective. Of course, you can also pursue a circular economy strategy without the doughnut model. But that’s a bit like only doing the easy stuff and taking your eye off the bigger picture.”

Marieke van Doorninck,  
deputy mayor of Amsterdam,  
see p. 32

“Mit dem Donut-Modell können die vielfältigen Ziele der kommunalen Verwaltungen bildlich zusammengeführt und dadurch das ganzheitliche Denken gefördert werden.”

Dr. Hannah Finke,  
sustainability representative  
for Krefeld, see p. 66

“There are so many possibilities for categorising. But the model helps in integrating all the different pieces and bringing into view a clear direction, a focus and a target governing how the city uses its resources. In this way, it enables more effective and efficient communication.”

Ben Geselbracht,  
member of Nanaimo City Council,  
see p. 45

### 2.2.1.2 The doughnut encourages holistic and impact-oriented thinking

The strategic directions taken by German municipalities are many and varied. Although a few municipal authorities are already putting into practice city-wide strategies, in many places this cross-disciplinary perspective is lacking. Strategies are compartmentalised, an integrated approach and the setting of overarching priorities are neglected, different administrative units stay in their specialised silos. Even the system of municipal budgeting – as a unifying element – is often not up to achieving this purpose.

Doughnut economics offers the chance to apply a new, fresh and internationally tried and tested concept at the municipal scale. In the way it combines ecological and social ingredients, the **doughnut encourages holistic and impact-oriented thinking and breaks down specialised silos**. Theme-based approaches, focusing for example on protecting the environment to achieve climate neutrality within a given timeframe, can be formulated in a holistic way (see part 3.2.2.3). The doughnut is thus ideal as an encompassing framework for integrating various strategies based on different action fields and professionalisms (see for example subsection 3.1.6 and part 3.2.2.3). For this to have an impact, **the municipal budget is aligned** to the local-scale doughnut strategy. There are initial approaches in place in Cornwall, for instance, where the effects of consolidation measures are holistically evaluated with the aid of the ‘Cornwall Development and Decision Wheel’ and further revised on this basis (see subsection 3.1.4).

At the same time, the doughnut expands the view of the administration to take in the **global impacts of local decisions**, for example when it comes to sourcing and procuring building materials or in setting up IT infrastructures, or by taking into account working conditions in the supply chain of certain types of goods. This broadening of perspectives raises new questions and can lead to city administrations also taking on global responsibility.

### 2.2.1.3 The doughnut fosters a culture of participation in cities

**Broad participation among a diverse cast of municipal players** is a central component of the city portrait method (see subsection 2.1.2). Targets, measures and indicators – as viewed through the four lenses – are discussed in workshops with participants from the city’s administrative bodies and businesses as well as with citizens, civil society organisations and financial stakeholders. Activating civil society and joint municipal creations fosters the local culture of participation and offers the possibility of authorities and communities in an urban area to come much closer together. Of the municipalities considered here as international examples, Amsterdam, Nanaimo and Brussels in particular are focusing on involving civil society entities (see section 3.1), and one of our case studies – Bad Nauheim – is currently planning the next steps in this direction (see subsection 3.2.1).

### 2.2.1.4 The doughnut strengthens evidence-based management

In the context of impact-oriented approaches, there has been intense debate in recent years around **the need for more robust systems of evidence-based management** – systems of performance indicators included in municipal budgets, for example. In practice, municipal authorities often lack appropriate indicators or up-to-date information on suitable indicators. At the same time, input data rather than output or outcome statistics are still being used for management purposes.

The doughnut also offers municipal strategists an approach to this data issue. On the national level, protagonists from DEAL are gathering data from around the world and making this available for a host of cities for comparison purposes – this tool is known as the “**National Doughnuts Data Explorer**”<sup>23</sup>. There is as yet **no overarching, internationally applied set of doughnut indicators** for the municipal scale. The city portrait methods leaves extensive scope for action when it comes to making adaptations for local contexts (see subsection 2.1.2) and can only be used for direct comparison in a limited way.

Having said that, there are examples of doughnut indicator sets at the local scale, which German municipal bodies can opt for as a jumping-off point – for example the Brussels area (3.1.3), the county of Cornwall (3.1.4) and Copenhagen (3.1.5). **Devising indicators and defining goal values supports higher-level monitoring**, and presenting the generated data in the doughnut format can help communicate findings. The “Cornwall Development and Decision Wheel”, for instance, is an invaluable instrument when it comes to evidence-based decision-making.

Overall it becomes apparent, by means of the doughnut visualisation, which **gaps in data and knowledge** still exist. These gaps can then be addressed, perhaps by recourse to research studies or other sources of information, in order for decisions to be made on the basis of evidence. Digitalisation makes it easier to use and apply data to support effective decision-making and monitoring: a lot more data is now available, partly in real time (for instance, via smart city arrays of sensors), with less need to resort to time-consuming and cost-intensive surveys. In many fields of action, the doughnut can at the same time build up information from indicators that municipalities are already using, like the United Nations’ SDGs.

### 2.2.1.5 The doughnut leaps the bounds of classical macroeconomics

Doughnut economics isn’t based on classic macroeconomic recipes. It doesn’t reduce complexities or simplify assumptions – just the opposite, in fact. Raworth in her book sets out the limits of classical economic models and ways of thinking. She throws out questions and invites economists and citizens to find ways to address the challenges of the 21st century. The cornerstone for this is a **new pattern of economic thought** that doesn’t put economic growth centre stage but strives – via the image of the doughnut – for a fresh economic approach based on the balance between social and ecological forces.

Classic economic indicators and assumptions also play their part in municipal policies (see chapter 2). Doughnut economics allows strategists – in the context of their local economies – to widen their perspectives and consider the effects that the local business landscape has on the various dimensions of the doughnut.<sup>24</sup> Ideally, and built on participatory approaches, this can bear fruit when local business owners, staff and stakeholders contribute to the process. ‘Doughnut thinking’ can thus help, for instance, relevant actors to set new priorities and areas of focus to nurture local business environments.

“If we really want to have a society worth living in and want at the same time to reduce our CO2 emissions... to reach the goal of zero emissions, we need to find tools that combine both these goals. Which brings me to doughnut economics.”

*Kyle Diesner,  
climate programme coordinator  
at BPS, Portland City Council’s  
Bureau of Planning and Sustainability,  
see p. 48*

“All decisions have positive and negative impacts, and the Decision Wheel makes these really transparent. Decision-makers can be more convincing in their arguments that they’ve taken these negative outcomes into account, but that the advantages outweigh the downsides. That makes the political debate more dispassionate.”

*Alex Rainbow,  
advisor on climate neutrality  
for Cornwall County Council,  
see p. 37*

<sup>23</sup> Further information can be found at: <https://doughnuteconomics.org/tools-and-stories/22>

<sup>24</sup> The role played a city’s businesses for individual dimensions of the doughnut is highlighted in the Bad Nauheim case study (see part 3.2.1.3).

## 2.2.2 What you need to be aware of when applying this model

### 2.2.2.1 The model doesn't decide

**“The model doesn't enable responsibility to be handed over, but the doughnut can perhaps help to map out the status quo and the possible effects this is having, thereby making the decision-making trail more transparent.”**

Markus Lewitzki,  
advisor on smart city and  
digitalisation initiatives and  
Krefeld City Council's chief  
digital officer (CDO), see p. 66

**“The doughnut doesn't provide answers,”** says Marieke van Doorninck, Amsterdam's deputy mayor<sup>25</sup>. “It enables you to look at things in a certain way and to question existing structures.” The **city portrait method** can be a driver – especially with the involvement of civil society actors – for viewing the city as a holistic whole and for weaving strategies together. It also **helps to ask the right questions. Deciding in favour of or against specific measures, in contrast, isn't part of the recipe.** This method reveals conflicting aims; it doesn't resolve them. That remains a task for policymakers.<sup>26</sup> The Cornwall Development and Decision Wheel (see part 3.1.4.2), for example, is at the end of the day a tool to guide and support decisions (though its name may suggest otherwise). It paints a holistic and more transparent picture, though the choice to go ahead with or pull the plug on a project ultimately lies with decision-makers.

### 2.2.2.2 Introducing the doughnut at the local level takes up resources

Rolling out and adopting **doughnut economics takes up resources.** This is particularly true for municipalities hoping to use the city portrait method with the involvement of civil society actors. But preparing and integrating the doughnut, even just as a purely internal administrative exercise, also takes up time. If it's to back up its claims and lead to the breaking down of vocational silos, an internal administrative engagement and presentation – that crosses disciplines, agencies and competences – is required at the very least (see for example subsections 3.2.1 and 3.2.2). But the costs of this effort will be more than made up for by the added value it brings, because painstaking adjustments in the early phases of a project can be discussed and resolved much earlier and more effectively with the doughnut serving as the model (see the findings from the Krefeld study in part 3.2.2.3). In addition, making the local doughnut should not be a one-off – it needs to be baked into strategic management planning, budget setting and participation management, as is already being planned for example in Bad Nauheim (see part 3.2.1.3).

### 2.2.2.3 The doughnut does not allow intermunicipal comparison

**“The local dimensions for Bad Nauheim illustrate the local scale of our activities, but global impacts should also be considered and taken into account. The terms of reference we use need to be formulated precisely and to be understood by everyone. Grouping together thematic fields can allow for a clearer overall view.”**

Yuge Lei,  
sustainability advisor to the city  
of Bad Nauheim, see p. 55

Unlike at the national level, there's no uniform doughnut indicator set on the local scale. Each of the municipal doughnuts featured in this study looks different, and they all develop along different lines. At the same time the doughnut, made to local recipes, makes it possible to evaluate and steer local development over time. Making the doughnut – whether it's a small or a large one – generates a dynamic by encouraging holistic thinking. Even if comparing between urban areas isn't the goal, indicators – a basic set of ingredients for the doughnut – would be a useful way to kick-start the process (see part 3.2.2.3). This could be done by adapting related global measurements (like SDG indicators) to the municipal scale, either by localising national approaches or by standardising existing doughnut indicator sets that cities like Copenhagen or Brussels have devised. A draft manual for a data-based city portrait produced by DEAL – the “Data Portrait of Place” – is available from spring 2022.

Municipal strategists can base their recommendations for action on the overall classification system of doughnut economics. International examples and case studies can also serve as references for these recommendations.

<sup>25</sup> Marieke van Doorninck (quoted in The Guardian 2020).

<sup>26</sup> Both case studies – Bad Nauheim and Krefeld – stress the importance of this notion of added value. This arises when administrations, with the help of the doughnut, start making decisions in a more interdisciplinary and cross-agency fashion (see parts 3.2.1.3 and 3.2.2.3).

## 2.2.3 Implementation – tips for municipal strategists

### 2.2.3.1 Establishing doughnut thinking in administrations

The doughnut recipe invites us to rethink municipal administrations along a variety of dimensions. It has two main ingredients. First, the doughnut encourages a **holistic view** and thus offers the chance to mix in other flavours like digitalisation strategies, climate protection measures and mobility and transport policies into the overall recipe. Second, it allows conflicting goals to become visible, which then have to be resolved through debates around policy. Individual departments can't create this overarching, integration-oriented and strategic view on their own; this perspective needs **to be supported by the higher administrative echelons** (see for example subsection 3.1.4 and section 3.2). To facilitate this, the teams tasked with rolling out the doughnut should be centrally located, ideally in a dedicated unit, as part of the administration's management level. If the doughnut is used as a strategic framework to be applied to a whole city, the doughnut indicators should also contribute to the perspectives of **budget** departments and of staff working on **participatory initiatives**.

On the other hand, for instance when dealing with the doughnut's global lenses, it becomes clear that **the city doesn't end at the doors of the town hall – it starts there**. An example: if a municipality wants to reduce its negative influence on working conditions in global supply chains, this will only succeed when citizens and the business community become involved. As in Amsterdam, a city authority can set up repair cafés<sup>27</sup>. But whether people actually make use of these services and change their patterns of consumption is **beyond the municipality's sphere of influence**. In addition, **civil society doughnut initiatives** have already been set up in various German cities with signs of more to come. So the city's administrative authorities can take on **different roles – facilitator, enabler, initiator or manager** – and these roles will probably change over time. But if policymakers or administrative bodies are considering applying doughnut thinking to their entire city, they must throw open their doors, invite collaboration and show flexibility. In the words of Kate Raworth, "Go where the energy is"<sup>28</sup> (see figure 10<sup>29</sup>).

! "You have to bear in mind that these questions are dealing with major issues. You need to think carefully about who you're bringing to the table."

Laure Malchair,  
director, Confluence  
collaboration tool, Brussels,  
see p. 35

! "If the people working in administration don't take these ideas on board, then [...] the idea can disappear. [...] It has to be embedded in the organisation."

Marieke van Doorninck,  
deputy mayor of Amsterdam,  
see p. 30

<sup>27</sup> There's more information in an online seminar with Kate Raworth, Barbara Trachte and Marieke van Doorninck (Oikos thinktank [YouTube] 2021).

<sup>28</sup> Cited by Kate Raworth (Pioneers Post 2021).

<sup>29</sup> Authors' own visualisation (PD).

## 2.2

### Doughnut Economics as a Strategic Compass

2 Doughnut economics – applications, findings and recommended courses of action / 2.2 The doughnut and the city – impact-oriented management with doughnut economics

**Figure 10:**  
Typical roles played by civil society, policy and administrative bodies in the doughnut process



If municipal strategists want to use the doughnut as a long-term, overarching management instrument, it's vital to make this **resilient to political change**. Even if doughnut methods such as the city portrait are politically neutral in themselves, it became clear during our interviews with experts from around the world that doughnut economics resonates with critics of classical economic models. If there's a lack of balance here, other actors might feel unacknowledged or even excluded, meaning that not everyone's interests are being equally accounted for in the doughnut.

Various interviewees saw this as a risk for the model as a long-term instrument. So, for the doughnut to work, it's crucial to design it to be politically neutral from the beginning. DEAL's Andrew Fanning comments on this point: **"The doughnut isn't 'left' or 'right'; the doughnut's dimensions reflect fundamental boundaries and the foundation of our society. Administration plays a key role in shaping the necessary social change in a bipartisan and therefore sustainable way."** In other words, by mediating conflicts of interest between different stakeholders, the administration takes on an important role (see for example section 3.1.4).

#### 2.2.3.2 The doughnut recipe: small beginnings, big outcomes

How can municipal strategists take a practical approach to doughnut economics, and how can this be kick-started locally? Kate Raworth gives a simple answer: **"Start by starting"**<sup>30</sup>. Looking at the cities around the world that have followed this method shows that varying approaches have been chosen depending on initial conditions. Mostly, however, the doughnut was **conceived by a small team**. Cornish authorities, for example, gave a staff member two months to adapt the method to the county (see subsection 3.1.4). In Copenhagen, the policy mandated the city council's economic department to develop a proposal for implementation. (see part 3.1.5.1). In Nanaimo, the department responsible for urban planning was the first to provide an impetus for integrating the various urban strategies on the basis of the doughnut, with the initiative also coming from the political level (see subsection 3.1.6). This approach has also been pursued in Bad Nauheim and is the path preferred in Krefeld (see parts 3.2.1.1 and 3.2.2.3).

**"An important basis for adjusting the dimensions and focusing them through the lenses appropriate for Bad Nauheim is the open and interdisciplinary cooperation across organisational boundaries that we have experience of from previous processes."**

Matthias Wieliki,  
head of central management  
and PR in the Bad Nauheim  
municipal administration,  
see p. 53

<sup>30</sup> Kate Raworth quote from the second online seminar in Smultring, Oslo; see: <https://www.facebook.com/oslo-metropolitanarea/videos/300736338123742/> (Oslo Metropolitan Area [Facebook] 2021).



But though it can make sense to start working on it in a smaller group, the doughnut (as presented in part 2.2.1.2) will only have a genuine impact if it's used as a unifying strategic instrument and **discussed in a broader team**. Only then can it break down silo thinking and set up collaborative, interdisciplinary and impact-oriented working practices. For example in the Bad Nauheim case study, it took just three workshops to come up with key conceptual foundations, with the focus on involving actors from the relevant administrative areas as well as from the city's utilities sector and the city marketing department.

What's also clear: if doughnut thinking ends at the city's limits, management dysfunction will be inevitable. For example, land use in the city can be reduced by sequestering areas in neighbouring districts, which would increase commuter volume. So municipal strategists should either **take into account potential impacts on adjacent areas** or involve decision-makers there, at least on a case-by-case basis. Overarching approaches, like those chosen by the markedly rural county of Cornwall but also by the densely populated Brussels region, also counter parochial thinking or bunker mentalities.

### 2.2.3.3 Evidence-based managing and deciding with the doughnut

Doughnuts and data aren't a trivial issue. Not just because **no standardised set of indicators exists**, but because measurable goals buttressed by a method for selecting indicators and by pertinent data (and reliable data sources) are not yet day-to-day realities in every department or municipality. How can municipal bodies get closer to the notion of **strategy-oriented monitoring**?

Due to this present lack of established indicators for the doughnut approach at the municipal level, **an indicator system should be designed on the basis of existing sets of indicators**. The following approaches are suitable for this:

1. adapting municipal-level indicators from related sustainability concepts (for example, SDG indicators for municipalities; see the Bertelsmann Foundation 2020);
2. scaling up or firming up overarching or conceptual approaches to make them more specific (like the country comparisons drawn up by a team from Leeds University);
3. transferring existing doughnut indicator sets (like those from Amsterdam or Brussels) to locally specific conditions

The advantage of existing indicator systems is that these **have already undergone a participatory and scientific process of evaluation**. This makes it more likely that the criteria for measurement will be accepted and reduces the effort needed to set up monitoring systems. Combined with quality-based surveys, reviews and stocktaking, the result is an all-encompassing snapshot of a city taken through the four lenses of the social, ecological, local, and global view.

In the Krefeld and Bad Nauheim case studies, in individual workshops the participants came up with examples of **indicators for each of the four lenses as these applied to the city portrait method and evaluated the available data corresponding** to these perspectives. The doughnut's lack of specific and standardised indicators was also seen as an advantage of the model, with the participants wanting to exploit the potential of how they devised criteria and selected indicators to mix the municipal goals into the doughnut using the indicators as ingredients. They wanted to keep the door open for tweaking the indicators over time – for example, in the event of policy change or strategic reorientation or in terms of emerging possibilities to add in real-time data from new sensor-based technologies (see the Krefeld case study in part 3.2.2.3). In Copenhagen, the economic department coordinated the cross-departmental drawing up of indicators (see subsection 3.1.5).

**"There was a certain randomness to the selection process, and this was partly politically motivated."**

Jelle van der Kamp,  
advisor in the economic  
department of Copenhagen City  
Council, see p. 40

**"We tried to use the model not so much in a partisan or political way, but much more pragmatically."**

Bill Corsan,  
department head of business  
development, Nanaimo City  
Council, see p. 46

**"The doughnut concept draws attention to the significance of indicators and data for managing and monitoring sustainable urban development."**

Markus Lewitzki,  
advisor on smart city and  
digitalisation initiatives and  
Krefeld City Council's chief  
digital officer (CDO),  
see p. 67

## 2.3 Doughnut Economics as a Strategic Compass

2 Doughnut economics – applications, findings and recommended courses of action / 2.3 Outlook

**“Instead of optimising each individual thematic area on its own, optimisation should ideally happen across thematic fields, administrative units and strategies.”**

*Thomas Tranekær,  
head of the Economics  
Department at Copenhagen  
City Council, see p. 42*

Indicators should provide as broad a basis of information as possible and findings shouldn't be presented in a distorted way – for example, by selecting too narrow a range of indicators. At the same time, this process of indicator selection can run the risk of getting bogged down in small details. Municipalities should therefore find a **balance between a pragmatic approach** (using data that's already available – integrating the SDGs, for instance) **and ensuring the broadest possible foundation**. In doing so, the task of generating indicators should be underpinned by tried and tested frameworks<sup>31</sup> and evaluation criteria (like the SMART approach<sup>32</sup>). As mentioned above, an invaluable future resource for this will be the “Data Portrait of Place” manual, published by DEAL in spring 2022.

In line with the city portrait method, a sensible approach would be to generate indicators **in tandem with civil society entities**. These should be involved particularly when the doughnut not only concerns the administration but aspires to being a city-wide initiative, whereby achieving targets can only succeed through close alliances between administrative and civil society bodies.

With the increasing availability of data provided by “smart city” tools, data collection should be easier and in some cases even reviewable in **real time**. The Canadian city of Nanaimo is working on initial ideas in this direction in the form of a **“doughnut dashboard”**, which is not yet publicly available.

As well as strategic monitoring, the Cornwall Development and Decision Wheel in particular can help with more **evidence-based and impact-oriented decision-making**. The CDDW has the great advantage that it can turn into a day-to-day tool for administrative and policy bodies, so that impact orientation is not only embedded in larger strategic processes but exerts effects on a daily basis. Municipal strategists are therefore strongly advised to use this tool – whether they intend to create a comprehensive city portrait or to use it for other purposes.

## Outlook

The results of this study show that the methods of doughnut economics enable municipal strategists **to align their activities in an impact-oriented way**. The holistic view of the municipality – its use of environmental resources and its societal underpinnings – can help break down silo thinking and kick-start more cooperation between specialist fields as well as among all denizens of the urban landscape. Doughnut economics has strong links to existing initiatives such as the Sustainable Development Goals as well as to notions of strategic impact-oriented management and indicator-based oversight. The international doughnut community activates civil society and ensures that methods are continually being devised and fine-tuned. An invaluable future resource will be the “Community Portrait of Place”, a collection of workshop methods and templates, published by DEAL in spring 2022.

<sup>31</sup> Further information on the development of indicators can be found, for example, in an article by Püzl et al. (2011).

<sup>32</sup> SMART stands for specific, measurable, achievable, realistic and timely.

The challenges in applying the doughnut recipe especially relate to how to choose appropriate impact-oriented ingredients – the sets of indicators – and how to collect the necessary data. Although some exemplary municipal indicator sets are now available, a further useful step (for example under the auspices of DEAL) would be to create a **pool of indicators** tailored to the **municipal scale**. Even if a wide-ranging comparison between cities is not yet one of the method's objectives, an indicator pool would at least allow certain point-to-point comparisons to be made. A pool would in any case make it easier for municipalities to identify and select suitable indicators.

But the recipe isn't just about choosing the right ingredients in the form of indicators; **gathering data also poses major challenges for municipalities**. Against the backdrop of the digitalising of public services (in the context of smart cities and smart regions) more and more data is being generated, some of it in real time, while an overview of data resources is generally lacking – a culture of widespread sharing has not yet arisen. This picture is changing, however: larger cities and innovation-promoting regions are currently building data infrastructures that should help to break down data silos and enable data sharing, not just within administrative authorities but also with their subsidiary agencies as well as with civil society bodies.<sup>33</sup>

This is also a valuable opportunity for wielding doughnut economics as an impact-oriented management tool: it should be easier to gather data and the data available will be much more fine-grained. This would help in designing a doughnut dashboard fed at least in part with real-time data – Nanaimo in Canada is developing just such a dashboard, which can be used **both internally for steering and management and externally for communication**.

Another desirable further development would be to mix the **doughnut indicators into impact-oriented budget management**. These doughnut ingredients would have to be integrated into the statistical bases and accounting systems of budget departments – only then will the doughnut have an effect on the direction and control of policy.

**Introducing the doughnut as an overarching management instrument requires a cultural change.** Looking at the doughnut from a larger perspective, for example in terms of reducing an entire city's global footprint, this will only succeed when many urban actors are working side by side. Municipal administrations must find and inhabit their role in this cast of actors. Activating this diverse cast provides more dynamic and far-reaching opportunities to transform a city into one that's sustainable and a pleasure to live in. Ultimately, it doesn't really matter whether the doughnut recipe is prepared by administrative or civil society bodies – either can play the role of initiator.

With doughnut economics, traditional issues of municipal governance are back on the table. What's new is that the impulse – and impetus – is coming not from German academia or institutional purveyors of administrative theory, but from local-scale and global (or 'glocal') civil society. Generation Greta is demanding answers. Which is a huge opportunity for municipal strategists.

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<sup>33</sup> See: <https://www.staedtetag.de/publikationen/weitere-publikationen/stadt-der-zukunft-mit-daten-gestalten-2021>.

# The model in practice

In Germany at the moment, doughnut economics is being **initiated almost exclusively by civil society organisations**, for example in Berlin (Donut4Berlin<sup>34</sup>), Frankfurt am Main (Frankfurt Doughnut Coalition<sup>35</sup>) or Hamburg (Doughnut Coalition Hamburg<sup>36</sup>). An exception is Bad Nauheim, where the process was kick-started by the city authority (see subsection 3.2.1).

The initiatives in Germany are still very young (having started in 2020 or 2021) and their specific goals vary. In **Berlin**, the aim is to create a city portrait. The **Frankfurt Doughnut Coalition** is working on building exchanges and networks of relevant actors from the civil society, politics, business and science communities to develop Frankfurt into a city where social and ecological needs are in harmony.

The **Doughnut Coalition Hamburg** is an alliance of around 30 activists from various civil society organisations and interested citizens. It cooperates with the federal government, GWÖ (Gemeinwohl-Ökonomie or Economy for the Common Good), the Green New Deal for Hamburg, Zukunftsrat (the Future Council), ZMÖ (Zentrum für Mission und Ökumene der Nordkirche, the Centre for Global Ministry and Ecumenical Relations) and other bodies. The aim is to promote social and ecological change in Hamburg by disseminating and applying the core principles of doughnut economics in politics and society. In December 2021, the Future Council, in concert with the Doughnut Coalition Hamburg, designed a doughnut prototype for the Hanseatic city of Hamburg based on the Cambridge Doughnut Tool<sup>37</sup> and merged it into the existing model based on an annual review of sustainable development in the city.

If German municipalities want to follow the doughnut economics recipe, it's worth looking abroad. The following pages presents a selection of doughnut pioneers at the international level. **One criterion for our selection was transferability to Germany.**<sup>38</sup> Before presenting the procedures, results and key findings in detail, we will give a brief tour of the cities.

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<sup>34</sup> For their page on the portal of the NGO 'WeChange', see: <https://wechange.de/group/donut-berlin/> (Donut Berlin [wechange] 2021).

<sup>35</sup> For their LinkedIn profile, see: <https://de.linkedin.com/company/frankfurt-doughnut-coalition> (Frankfurt Doughnut Coalition [LinkedIn] 2022).

<sup>36</sup> Their website is at: <https://www.doughnut.hamburg/>.

<sup>37</sup> You can access a "Doughnut Creator" tool and create your own personalised doughnut on the following website: <https://flodskum.github.io/doughnut-economics-graph/doughnut.html>.

<sup>38</sup> A wealth of further application examples can be found on DEAL's website under: <https://doughnuteconomics.org/tools-and-stories?theme%5B%5D=1>.

# International application – example cases

These international examples show the wealth and **variety of possibilities** for adapting the doughnut model to individual cities. These diverse possibilities feature different scales of participation and ambition. The locally tailored doughnut can create broadly based collaborations and can be anchored as an instrument for further strategic development or as a set of criteria for evaluating the efficacy of other approaches (for example in Amsterdam).

It can also be produced within administrations and viewed as “merely” an internal management tool (for instance in Copenhagen). A comparative, qualitative assessment of varying processes isn’t feasible in this case as each city starts out from a different point so they follow different recipes for meeting their targets. **Every city must find its own path and make its own doughnut, with its own participatory landscape and often its own customised set of indicators.** This is where international examples can help. While scientific can help to calculate thresholds for the planetary boundaries, the political and policymaking aspect of this seemingly more number-crunching and methodological part of the doughnut approach is apparent when it comes to selecting indicators along the social dimensions. This notably occurred even in the neutral, model-evaluating approach followed in Copenhagen. The doughnut isn’t political in itself, but the choice of which ingredients to include is always a political one.

## 3.1.1 Overview: Strategy application using individual city goals and indicators

There are many routes to go down when it comes to generating targets and indicators: from goals to indicators (as in Nanaimo) or the other way round, like Brussels’ use of indicators to define goals. The various portraits and embeddings of the doughnut in other projects show the range of possibilities for paving the way to doughnut economics. However, one experience that all cities have learnt is that **the doughnut combines setting targets with measuring them** – and both these activities comprise many steps along the policymaking path (dimensions, data, current state of affairs, indicators, target values). In addition, the doughnut gives visual form to interrelationships and sheds light on conflicting goals. For the doughnut to have a true impact requires action at policy and administrative levels as well as on the part of the city’s communities. Finally, the doughnut can both increase the complexity of the urban picture by its holistic approach and at the same time narrow the bandwidth by visualising and selecting dimensions.

# 3.1

## Doughnut Economics as a Strategic Compass

### 3 The model in practice / 3.1 International application – example cases

**Table 1:**  
*Overview of cities around the world*

The following table presents an overview of cities around the world. It features drivers of particular applications of the doughnut and shows the degrees of participation involved. The third row – showing the relationship between data and goals – illustrates the paths along which the various city portraits were initiated and established.

	Amsterdam	Portland	Nanaimo	Cornwall	Brussels	Copenhagen
<b>Drivers/Actors</b>	Municipal authority	Bureau of Planning and Sustainability (BSP)	City Council and municipal authority	Municipality	Regional authority and project team (incl. advisors)	Citizen representatives/ City Council → Economics Department
<b>Application</b>	Strategy Check: instrument for establishing strategy (e.g. circular economy)	Orientation and guidance (system- and consumption-critical) as a Bureau of Planning and Sustainability sub-step	Help with sorting and prioritising urban development strategies	Comprehensive decision-making checks and project planning tools	Devising indicators on the basis of the current picture	City-wide management instrument
<b>Data/goals relationship</b>	Strategy → Data; use of prior data suitable for each lens	Data → Strategy	City Strategy → Goals → Data	Goals → Data	Data → Goals	Data → benchmarks → threshold values (governance aspect in foreground) with a sober assessment of data and product figures
<b>Degree of participation</b>	Middle. Extensive participation for the local-social lens	Low. Workshops with various admin units, mainly via the DEAL community and the BSP	Very high levels of participation by all stakeholders over the entire strategizing process. Not a doughnut-specific phenomenon	Low. Tool used by admin and policy bodies	High. (especially with creating the city portrait)	Low. No citizen participation; exchange with diverse NGOs, internal admin exchanges at the working level

### 3.1.2 Amsterdam

The “Amsterdam City Doughnut” is the first of its kind in the world, and hence the most prominent example of how doughnut economics can be manifested in a city. It was drawn up as an element in the creation of a set of methodological guidelines for applying the doughnut model for urban areas and published in early 2020. The doughnut’s creation was based on an **extensive participatory process** and was prompted by a design for a circular economy strategy for Amsterdam, which was published at the same time.<sup>39</sup>

#### 3.1.2.1 Overview

The city doughnut was prepared against the background of Amsterdam’s involvement in the Thriving Cities Initiative (TCI). As part of a pilot programme, the TCI brought out a set of method-related guidelines for creating city portraits that was conceived by Kate Raworth and the Doughnut Economics Action Lab (DEAL) and then developed and rolled out in Philadelphia, Portland and Amsterdam.<sup>40</sup> The idea was grounded in a **so-called place-based methodology** whose outcome would be a portrait tailored to each individual city. The decision to adapt the doughnut model for Amsterdam was linked to the city’s development of a circular economy strategy and to its climate-related goals. Members of the city’s administrative authorities were aware that structural change was necessary for a genuinely circular economy to arise. **In the words of Marieke van Doorninck, deputy mayor of Amsterdam: “We can’t bring about the transformation to a circular-oriented and climate-neutral world without calling into question the system we’re living in, because it’s the system itself, which makes us a city, that’s leading to so much pollution.”**<sup>41</sup>

The Amsterdam City Doughnut is geared towards Raworth’s **“doughnut of social foundations and planetary boundaries”** as a compass for the 21st century. A basic ingredient of Raworth’s recipe for a broad-ranging participatory process is a city portrait, like the one being developed by Amsterdam. The original doughnut can then be viewed as a way of tackling the question: **“How can this city be a place that respects both the well-being of people and the health of the whole planet?”**<sup>42</sup>

#### 3.1.2.2 Procedure and findings

To address this, four “lenses” were designed, through which the city was viewed and whose shape derived from the question posed above (see subsection 2.1.2). The lenses correspond to four quadrants that clarify the **interrelationships between global, local, ecological and social fundamentals** (see figure 11).<sup>43</sup>

<sup>39</sup> Further information can be found in an interview with Marieke van Doorninck (Green European Journal 2020).

<sup>40</sup> Doughnut Economics Action Lab 2020a, p. 3 and p. 41.

<sup>41</sup> Quote from Marieke van Doorninck from the online seminar “Doughnut Economy” run by the Oikos thinktank ([YouTube] 2021): <https://www.youtube.com/watch?v=74apj3blfKA>

<sup>42</sup> For more on the “Amsterdam City Doughnut” report, see: Doughnut Economics Action Lab 2020b, p. 5.

<sup>43</sup> Authors’ own presentation (PD), based on work by the Doughnut Economics Action Lab 2020b, p. 5.

# 3.1

## Doughnut Economics as a Strategic Compass

### 3 The model in practice / 3.1 International application – example cases

Figure 11:  
Amsterdam's city portrait,  
viewed through  
the four lenses

	Social	Ecological
Local	Welfare benefits all equally	Urban development in its natural environment
Global	Impact on global living standards	Resource use in the context of global sustainability

The local-social lens was polished in a series of workshops with employees of the City Council and local actors. These helped to bring out the experiences, visions and priorities of Amsterdam residents. Alongside this, existing city targets that related to these lenses were cross-checked with official data. This didn't produce an all-encompassing picture but rather a **snapshot of local and social conditions** in Amsterdam. [Marieke van Doorninck points to the importance of involving council employees in these workshops: "If the people working for the administration don't take the idea on board, then \[...\] the idea disappears. \[...\] It has to be embedded within the organisation."](#)<sup>44</sup>

The **notion of "biomimicry"** underpinned the local-ecological lens. This refers to innovations inspired by nature and is about taking inspiration, when you're coming up with sustainable designs and solutions, from the forms, processes, patterns and ecosystems to be found in the natural world.<sup>45</sup> Amsterdam was seen as threaded with ecosystems contributing to people's health and well-being, such as systems for air filtration, temperature regulation and water supply. The questions along the selected dimensions related to how the city can adapt and support these natural processes.

Targets were also drawn up. Looking through the global-ecological lens, how the city contributed to exceeding planetary boundaries was compared with the share of resources available to the city if these resources were more equally distributed around the planet. Through the global-social lens, participants in the project looked at working conditions in the supply chain of various types of product (like foodstuffs, textiles and electrical appliances). **Publicly available data also helped** in focusing these two global lenses.

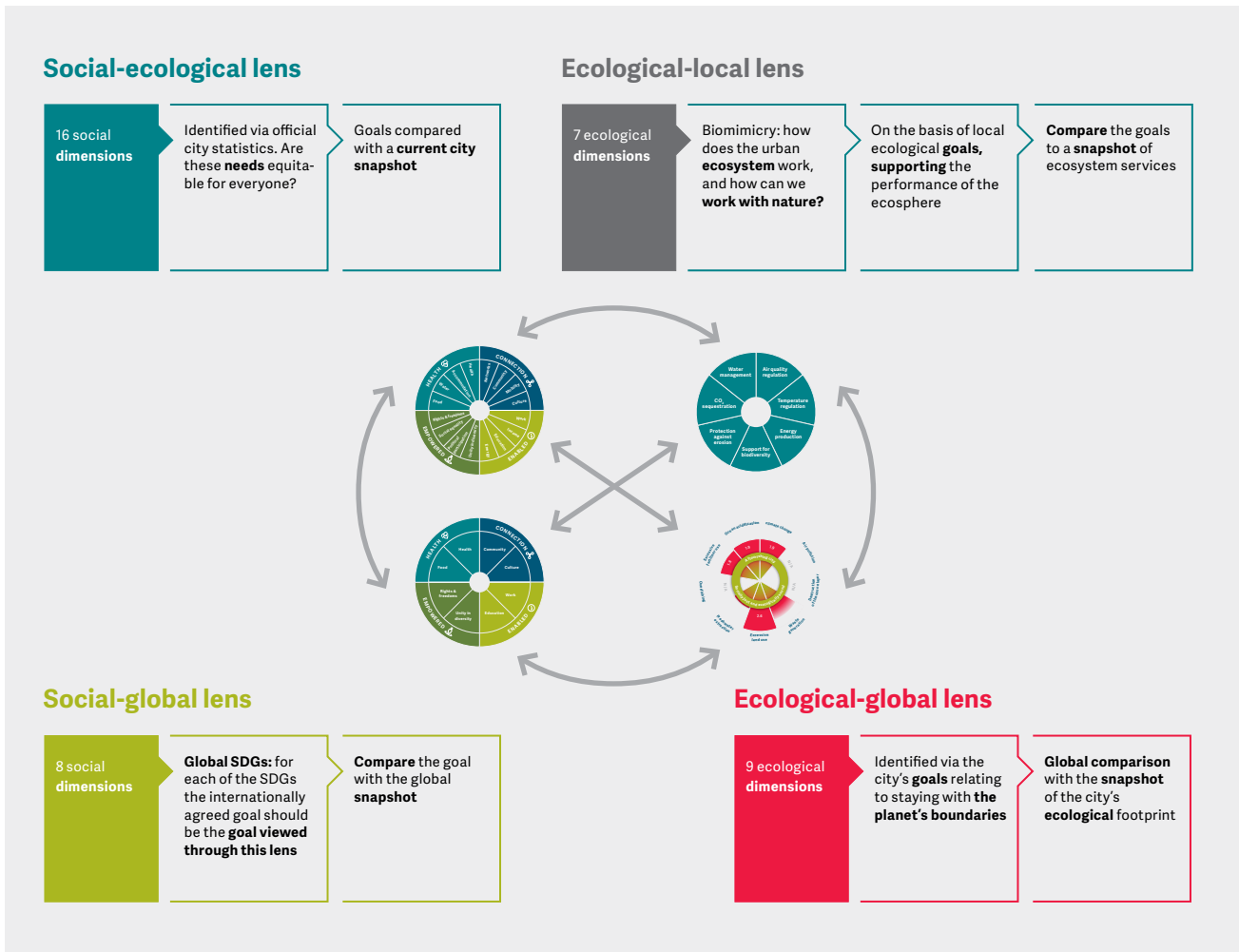
<sup>44</sup> Quoted from Marieke van Doorninck in the online seminar "Doughnut Economy" (the Oikos thinktank [YouTube] 2021).

<sup>45</sup> More details can be found at: <https://biomimicry.net/what-is-biomimicry/> and in the presentation of the Amsterdam Doughnut by the Doughnut Economics Action Lab 2020b, p. 8.



The outcome of these endeavours is a “self portrait” of the city, where the global doughnut is broken down into these four lenses on the local scale to portray specific questions and goals that can be buttressed by existing data. Figure 12<sup>46</sup> gives a graphic overview of the various stages of this mapping of targets and snapshots. The lenses in the middle are the building blocks of the city portrait outlined in more detail in subsection 2.1.2. The full portrait<sup>47</sup> shows the goals and the current data situation in each of the dimensions.

Figure 12: The Amsterdam city portrait – working steps for each lens



The city's authorities don't view the doughnut as an end result but rather as an instrument and starting point for further development. It should be used as a tool for turning into a circular city – a city with a circular economy. Amsterdam built its 2020–2050 circular economy strategy and designed the “Amsterdam Circular Monitor” – depicting the city's development towards a circular economy – on the basis of the doughnut's four lenses.<sup>48</sup> The doughnut was thus itself used as a **tool for developing a strategy and its attendant monitoring processes.**

<sup>46</sup> Authors' own presentation (PD), based on work by the Doughnut Economics Action Lab 2020a, pp. 14–38.

<sup>47</sup> The complete city portrait can be found on Kate Raworth's website at: <https://www.kateraworth.com/wp-content/uploads/2020/04/20200406-AMS-portrait-EN-Single-page-web420x210mm.pdf>.

<sup>48</sup> For further details about Amsterdam's circular economy, see: City of Amsterdam 2020.

Preparing the doughnut for Amsterdam was based on a broad-ranging participatory **process** which was further fine-tuned **by the city's authorities**. The resulting portrait is largely based on **data from publicly available sources**. The next step in the design was to take a selfie – “from a public portrait to a city selfie”<sup>49</sup> – whereby protagonists recorded their diverse activities to help bring the doughnut to life and to achieve the targets. One of these key actors is the *Amsterdam Doughnut Coalition*<sup>50</sup>, an open network of different Amsterdam-based initiatives, NGOs and citizens – supported by the city – who work in various ways as “change agents” to add various goals to the doughnut.<sup>51</sup> Marieke van Doorninck stresses how vital these initiatives are for bringing doughnut thinking into their respective communities and hence into the overall landscape of the city.<sup>52</sup>

### 3.1.2.3 Findings

The doughnut was prepared in combination with existing processes and goals – more specifically, climate neutrality targets and the aim of creating a circular economy. These two processes – creating a circular economy strategy and making the doughnut – were conceived of and brought together by the City Council, with the **doughnut serving as an instrument to put into place a comprehensive circular economy**.

In creating the doughnut, it was definitely helpful to know what its specific purpose is and what role it should play in the administration's activities. The circular economy strategy was developed in the context of the doughnut and **viewed through the different lenses**, with more to follow.<sup>53</sup>

During its preparation, it became evident – and this was emphasised by the ‘chefs’ who helped create it – that making the doughnut had to be a process sustained and supported by administrative as well as by civil society bodies. Only by working together can the goals contained in the doughnut be achieved. The doughnut can help in devising strategies and their associated monitoring, as it offers a shift in perspectives and the whole to be perceived: **“We're using the doughnut model to make strategy more coherent and effective. Of course, you can also pursue a circular economy strategy without the doughnut model. But that's a bit like only doing the easy stuff without having an eye on the big picture,”** says deputy mayor van Doorninck.<sup>54</sup> Also, Amsterdam's doughnut process shows that there's often extensive and publicly available data to hand which can be used to paint the portrait and can also be factored into monitoring. The Amsterdam example makes it clear how it's possible, **with existing data, a committed administration and an active civil society**, to come up with a city portrait that can lay the groundwork for creating strategies that have tangible effects and that can be evaluated in terms of social foundations and planetary boundaries.

<sup>49</sup> See: Doughnut Economics Action Lab 2020b, p. 16.

<sup>50</sup> Their website can be found at: <https://amsterdamdonutcoalitie.nl/>.

<sup>51</sup> This interview with Marieke van Doorninck can be found at: Green European Journal 2020.

<sup>52</sup> The Oikos thinktank [YouTube] 2021.

<sup>53</sup> Green European Journal 2020

<sup>54</sup> Quote from an interview with Marieke van Doorninck: Green European Journal 2020.

### 3.1.3 The Brussels region

#### 3.1.3.1 Overview

In Brussels, a six-person project team was commissioned by the Brussels regional Administration and funded for ten months. The implementation was also supported by the State Secretary for Economic Development and Research, Barbara Trachte.<sup>55</sup> The project team – consisting of the consultancy firm Confluence ASBL, the Brussels School of Management, and DEAL – wanted to investigate whether the model could be useful for citizens and serve as a guiding principle for future development in the Brussels region.<sup>56</sup> This encompasses 19 districts whose institutional particularities ensure that its starting conditions differ from those of many other cities.

One aspect of the procedure specific to Brussels are the **four levels of analysis** applied to the doughnut. Each level allows different perspectives to be brought in: on the macro level **the regional perspective**; on the meso (or intermediate) level **the city and town strategies**; on the micro level **the views from individual businesses and social organisations**; and on the nano level **the view regarding specific places and issues**. In this way local actors were addressed and involved: the Brussels government and parliament, members of regional administrations, businesses owners and other representatives from civil society organisations and, of course, citizens.<sup>57</sup>

Extensive participation was enabled by means of five workshops attended by people from the administration, the business community and civil society bodies and by a six-week long, public feedback phase that was conducted online. A feature of this approach – as in Copenhagen – was that future goals and strategy for the city portrait weren't developed until **after initial data had been gathered and collated** (see part 3.1.3.2).

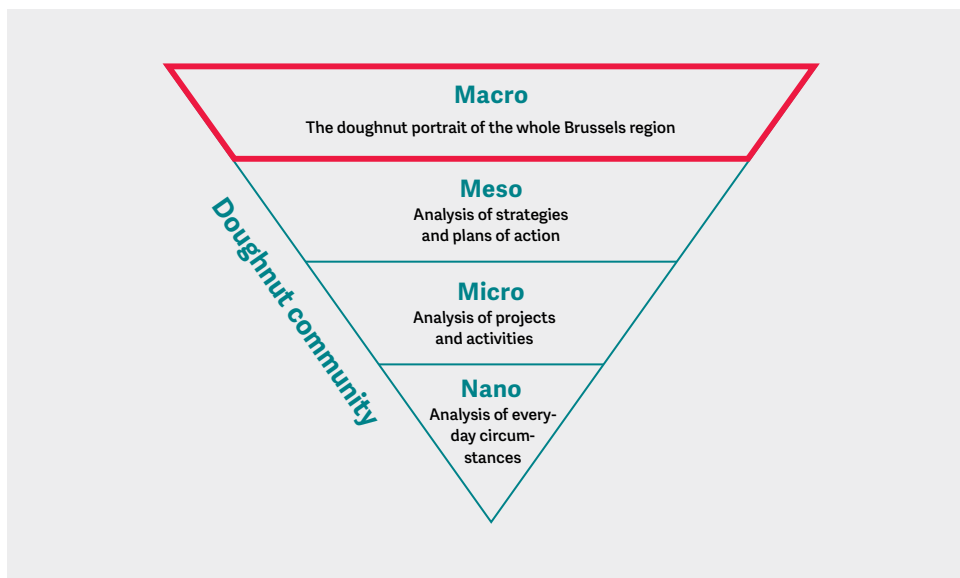


Figure 13:  
Levels of analysis in the  
Brussels approach

<sup>55</sup> Further information on the Brussels approach can be found in an article by Tristan Dissaux on the DEAL website: <https://doughnuteconomics.org/stories/83> (Confluences [Stories] 2020).

<sup>56</sup> For a short film about the Brussels doughnut, see: [https://www.youtube.com/watch?app=desktop&v=ZbO-Seldrjw&feature=emb\\_logo](https://www.youtube.com/watch?app=desktop&v=ZbO-Seldrjw&feature=emb_logo) (Confluences ASBL [YouTube] 2021).

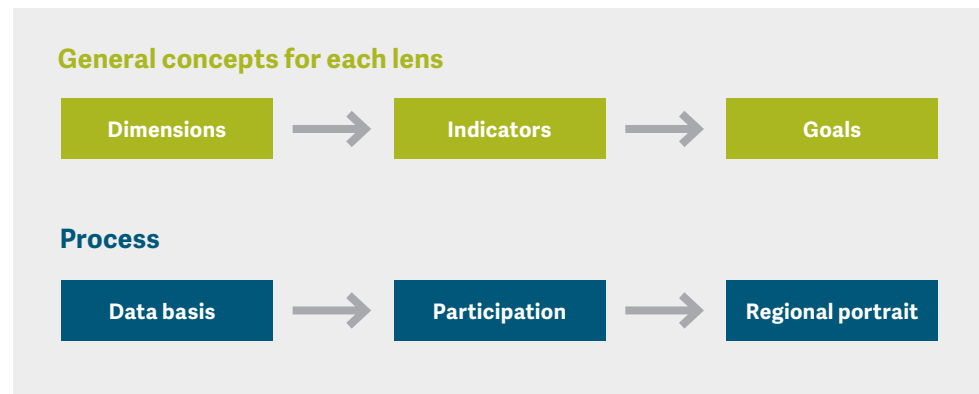
<sup>57</sup> Confluences [Stories] 2020.

### 3.1.3.2 Procedure and findings

The doughnut was designed and the lenses polished along the lines of the **four levels of analysis – the macro, meso, micro, and nano**. These were combined to produce the **doughnut community** in Brussels (see figure 13).<sup>58</sup>

The overriding aim was to paint a contemporary picture of policy goals as they applied to the whole Brussels region (**the macro level**). To generate the city portrait, the project team (in collaboration with the Institute of Statistics and with the environment agency for the Brussels region) collected pre-existing data and gathered information from scientific sources and civil society organisations.<sup>59</sup> This was by no means unproblematic because the project team was being funded by the regional authority and was supported by elements in the regional administration that were associated with the Green Party. “So we had to be careful that this wasn’t perceived as a political project,” says Laure Malchair, director of Confluence. “We wanted to develop the portrait together with the people.” After initial research and preparation of data, a range of stakeholders (administrators from the 19 districts, businesses, NGOs) were brought together in a co-creative and collaborative feedback process. Over the course of five workshops with 90 participants in all, as well as the six-week-long online participation, these generated 143 indicators and a further 109 suggested recommendations<sup>60</sup> (see figure 14).<sup>61</sup>

Figure 14:  
The Brussels concept  
and procedure



For the **meso level**, and together with the Thriving Cities Initiative, workshops were organised with various representatives from the local councils in the region to discuss different feasible sub-strategies by way of the four lenses with the aid of the “doughnut canvas”.<sup>62</sup> These helped to bring out the diversity of interrelationships and to identify how strategies could be adapted to enhance their positive impact in all the dimensions. The plan is to repeat this approach and apply it to strategies that are currently in the planning stage.<sup>63</sup>

<sup>58</sup> Authors’ own presentation, based on work by Tristan Dissaux, PowerPoint presentation at the third sounding-board meeting.

<sup>59</sup> For a more detailed outline of the four levels of analysis, see: Confluences [Stories] 2020.

<sup>60</sup> The reports and indicator set (at the moment only available in French) can be downloaded at: <https://donut.brussels/les-rapports/>.

<sup>61</sup> Authors’ own presentation, based on work by Tristan Dissaux, PowerPoint presentation at the third sounding-board meeting.

<sup>62</sup> The canvas is a graphic tool for visualising and evaluating strategies via the four lenses of the city portrait. See the Thriving Cities Initiative [Stories] 2021 and: <https://doughnuteconomics.org/tools-and-stories/76>

<sup>63</sup> Confluences [Stories] 2020.

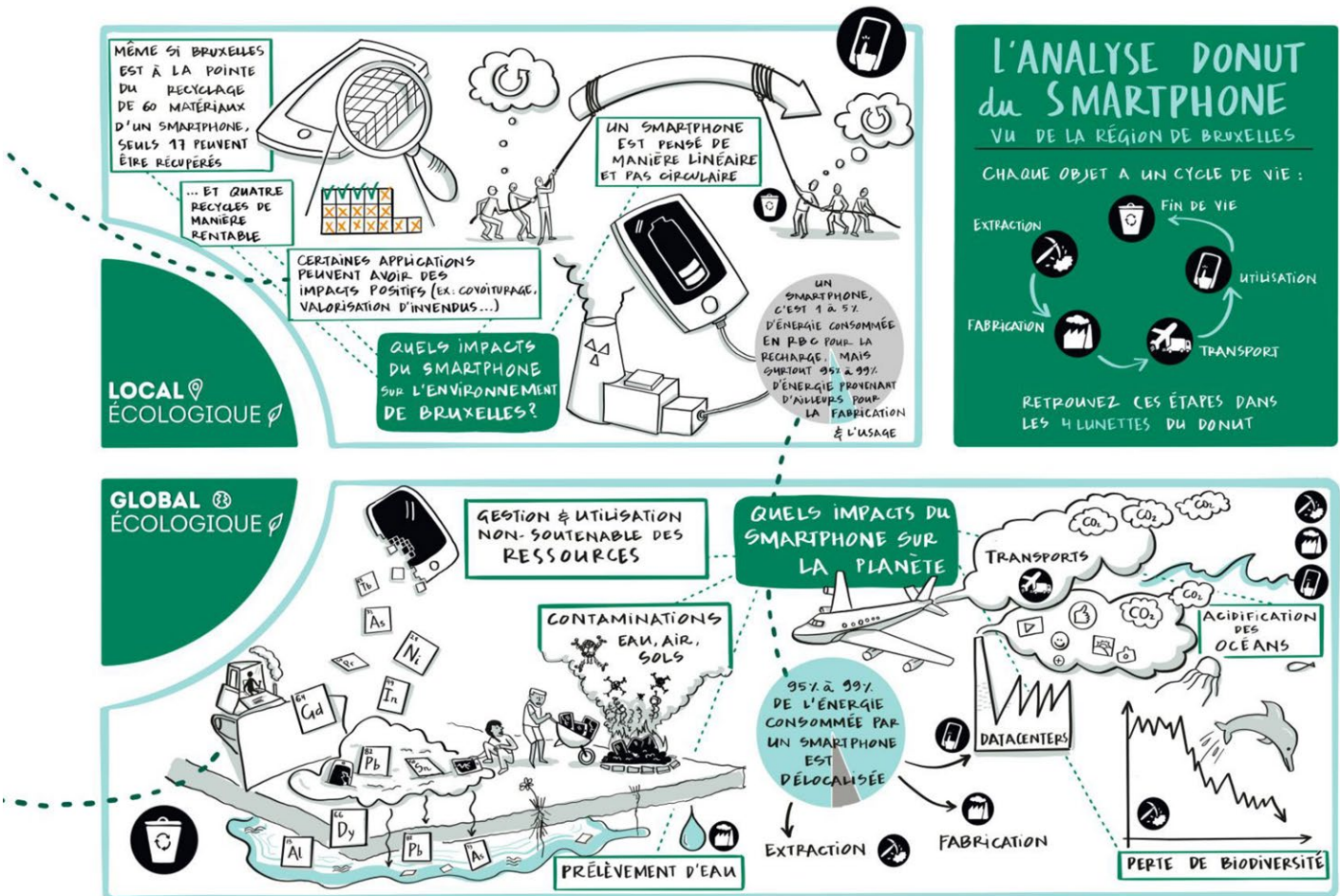


Figure 15: Doughnut analysis of a smartphone

Discussing the doughnut on the **micro level** was a key provider of added value. It helped the individual protagonists, such as local businesses and social organisations, to identify ways to think about transformations to the economy. “It’s a vital step towards CO<sub>2</sub>-neutral production methods and better working conditions in the region,” explains Malchair. When it came to administrative decision-making, the workshops also had the effect of shedding light on external obstacles. This is a crucial element of the findings that can be shared with contracting authorities.<sup>64</sup> The doughnut also had a **nano flavour**: using the example of a smartphone, the consequences of an individual’s consumption patterns were illustrated from the viewpoint of each of the four lenses (see figure 15).<sup>65</sup>

It’s still too early to judge the doughnut’s effects in Brussels. But the many discussions made it clear that many of these lenses’ angles could only be adjusted at the national and regional policy levels and not via the area’s local administrations and town councils. **As Malchair says:** “You have to bear in mind that these questions are dealing with major issues. You need to think carefully about who you’re bringing to the table.” The doughnut method on the whole helped actors in a variety of ways to take on board new ways of thinking about economic issues and to transfer these approaches to their own activities.

<sup>64</sup> Ibid.

<sup>65</sup> The doughnut analysis of a smartphone is on pp. 34–35 of the first summary overview of findings from the Brussels doughnut (Confluences 2021).

### 3.1.3.3 Findings

The Brussels doughnut isn't a precise statistical inventory of the region but serves rather as a **tool for collective reflecting, sensitising and mobilising**. It's a two-tier picture, and the layers – vision and instrument – are inseparable. To use the model only for presenting a vision is as fruitless as using it merely as a tool that you wield with no vision in mind. The doughnut is a **preliminary recipe for an iterative process of transformation towards more sustainable ways of living**<sup>66</sup> as in the way, for instance, that it complements the SDGs. Whereas SDGs focus on the attainment of specific individual targets, the doughnut concentrates on looking at strategies and activities through the (related) perspectives of the four lenses. Consequently, it helps to take a holistic approach.

The model illuminates the issue of whether we as individuals and as a society are respecting, in terms of our actions, the boundaries of nature and the well-being of our neighbours and fellow humans at the local and global level.<sup>67</sup> To address these pressing questions more closely, the Brussels project team recommends using the DEAL methodology and starting, for example, with the four-lens "canvas". But the model doesn't just raise the crucial and appropriate questions. As Malchair says: "We'll be using the doughnut to find new responses." However, a particular challenge will be putting it into practice – a task for which the project team in Brussels has not yet received official approval. Finally, the administration plays an essential role in creating these prerequisites for implementation. In terms of the project, the initial results can only serve as the basis for further discussions, because **communities would have to be involved even more intensively**.

## 3.1.4 Cornwall

### 3.1.4.1 Overview

The rural county and administrative whole of Cornwall is a doughnut pioneer. In response to a reaction to the climate emergency, Cornwall adapted the doughnut model to local needs by devising the "**Cornwall Development and Decision Wheel**" (CDDW). The tool, which is now app-based, helps decision makers analyze policy decisions in terms of their impact on the various donut areas. The instrument is also used for budget-related issues.

The CDDW is a guiding thread developed by Cornwall's regional (or county) authority. Even though there were local doughnut initiatives in place, the administration chose not to engage in a participatory process.

Alongside the CDDW, a team from **Exeter University came up with a report entitled "State of the Doughnut"**.<sup>68</sup> This assesses the current situation in the county **with the help of a comprehensive set of indicators**.

<sup>66</sup> Details from Tristan Dissaux's PowerPoint presentation at the third sounding-board meeting.

<sup>67</sup> Confluences ASBL [YouTube] 2021.

<sup>68</sup> For more information on the Exeter University report, see: University of Exeter 2020.

### 3.1.4.2 Procedure and findings

Cornwall County Council's efforts to deal with the climate crisis led to the rolling out of doughnut economics. Alex Rainbow, who has been working for many years on the issue of climate neutrality, was tasked with **tailoring the doughnut model to Cornish conditions**. The challenge, as for Amsterdam and other cities who were designing a city portrait, was that no template exists for either following the procedure or for laying out the findings, which is why Cornwall's CDDW was generated as an entirely new instrument. But a participatory design – for example with local initiatives like “Cornwall Neighbourhoods for Change” – did not initially taken place baked in from the beginning.

In the words of Peter Lefort, erstwhile colleague of Rainbow and now a researcher at Exeter University: “A broader participation of the local community when developing the CDDW could have improved transparency and broader application of the model. But assigning it to one person and giving the person the necessary time meant that it could be developed in a way that was aimed directly at supporting the Council's governance processes.” According to Alex Rainbow, the task took him two months.

The decision wheel – based on the original doughnut by Kate Raworth – features an outer ring with environmental criteria such as land use and air quality, and an inner ring with societal criteria like health and well-being. For each of the more important policy decisions, as Rainbow and Lefort mention, a decision wheel was created during the early stage of the decision-making. The wheel had to be made available to the council as a template for each **draft decision** submitted – between three and ten wheels were presented to the council every month. Whereas the first took the form of a straightforward Excel spreadsheet, the Cornish administration then started to use a more user-friendly, web-based version that will also be made publicly accessible as an open source tool in the future.

As Rainbow says, decision-making will be made much **more impact-oriented and transparent** as a result of the CDDW. “The impacts of the project ideas are definitely tested at a very early stage with the CDDW. In this way, negative outcomes of the decisions can be rectified – as far as that's possible – in a timely manner.” For example, this is how the town development project known as the “Hayle Growth Area” was fine-tuned on the basis of the CDDW, **to minimise negative impacts and at least partially strengthen the positive ones** (see figure 16)<sup>69</sup>. At the moment the CDDW is being used to evaluate the effects of cost-saving measures introduced as a response to the Covid-19 pandemic.

On top of this, as Lefort explains, the wheel reveals at an early stage where data is still insufficient. This “**transparency of ignorance**” helps, for instance, in reducing the effects of air pollution so that decisions can be made based on evidence. The CDDW has also proven its worth in discussions around policy: “**All decisions have positive and negative outcomes, and these are made really transparent by the decision wheel. Decision-makers can make a more effective argument that they've taken negative impacts into account because they've weighed the pros and cons. This makes policy discussions less partisan,**” he says. Another encouraging aspect is that the CDDW as a policy instrument has survived a recent change in the county council from a Liberal Democrat/Green coalition to a Conservative majority. For Rainbow, “After initial scepticism, our new councillors have taken on board the CDDW and are making intensive use of it.”

<sup>69</sup> Internal document, Cornwall County Council.





### 3.1.4.3 Insights

The CDDW devised by the Cornwall region is a relatively straightforward concept that could augment a more all-encompassing city portrait method. The wheel helps (and indeed compels) its users **to evaluate the impacts of their decisions from a broad perspective, to discuss these in a transparent way and to amend policies on the basis of a precise use of data.** Clarity in visual presentation can also help in enhancing communication and encouraging acceptance.

According to Rainbow and Lefort, there are a few key success factors for adoption and use:

- / **Definitive support from the top levels of administration:** a sense of obligation and commitment on the part of leaders in the administration enabled the necessary resources to be secured and led to a consensus across departments.
- / **Starting small:** Because of relatively low initial funding, the project only gathered momentum once an initial version had been devised. This allowed the development phase to be completed very efficiently.
- / **Value administration-internal work:** Putting in place broad-based participatory processes isn't advisable. Diverse interest groups can be involved much more smoothly once the first version of the wheel has been fashioned. Alongside this, other organisations – with the help of the doughnut created by the administration – can prepare their own, 'mini' ones. Not every doughnut needs to taste the same.
- / **Involve early in the decision-making process:** this timely use opens up opportunities to make evidence-based decisions as a result of additional data as well as, when it comes to refining policies, reducing possible negative effects in specific areas.

## 3.1.5 Copenhagen

### 3.1.5.1 Overview

As a result of a resolution from its citizens' representatives, the economics department of Copenhagen City Council was tasked in 2020 with assessing how the city could use the doughnut model as an overarching management instrument.<sup>72</sup>

The department subsequently worked on preparing the doughnut and had continuing exchanges with the DEAL community and with Amsterdam's city council. Other participants were brought in from agencies and units throughout the administration to discuss the model and determine indicators.<sup>73</sup> The plan was **to test the methodological possibilities of the model as a management instrument and not just to use it as a catalyst for dialogue.** In Copenhagen the procedure focused mainly on devising a methodology for selecting indicators and target values.

<sup>72</sup> See: Economics Department of Copenhagen City Council 2021, p. 3; see also footnote 75 below.

<sup>73</sup> The tables with the provisional societal and global/planetary indicators can be found in annexe 1 (p. 16) of the report "The Doughnut Model in Copenhagen City Council" at: <https://www.kk.dk/sites/default/files/agenda/3373c9f8-a4c4-4336-838f-3c884534bbb4/10525ddd-bcc3-4510-899c-0167b8139692bilag-1.pdf>.

The citizens' representatives, on the recommendation of the economics department, made resources available in the 2020 budget for setting up a dedicated unit with two full-time employees. These devoted themselves to putting into practice the doughnut model over the following two years.<sup>74</sup>

### 3.1.5.2 Procedure and findings

The driver in Copenhagen was the body of citizens' representatives (or councillors) that – following a suggestion from an employee of the economics department – was tasked with examining how the doughnut model could be used as a management instrument. The department spoke with a range of national and international organisations and, as pointed out previously, was **in continual dialogue with DEAL and Amsterdam City Council**.<sup>75</sup> However, as a result of its strong focus on the methodological possibilities for being used as a governance tool, no comprehensive citizen participation initiatives were planned into this process.

Central to the exchanges within the administration were the developing of **methods and indicators for each of the doughnut's dimensions**. Representatives from various ministries and departments were invited to share the ways they devised criteria and were asked to make decisions together regarding which of these should be chosen for preparing the doughnut. **“There was a certain randomness to the selection process, and this was partly politically motivated,” says Jelle van der Kamp, advisor in the economic department** of Copenhagen City Council. “At the end it all comes down to choices.” Especially in the inner ring of the doughnut – the dimensions making up the social foundation – the benchmarks are relative and the thresholds and targets relating to the planetary boundaries (the “ceiling”) difficult to ascertain. In the judgement of the economics department, the threshold values for the social dimensions additionally reflect policy goals or political ambitions.<sup>76</sup> The department collected further statistical data for the provisional preparation of the Copenhagen doughnut (see figure 17)<sup>77</sup> and proposed initial goals and threshold values for each indicator.<sup>78</sup>

**The process in Copenhagen has by no means reached its end.** The economics department's testing procedure has confirmed that more work is needed on and with the doughnut model before it can be used as a functioning city-wide management instrument. How it interrelates with the range of other management tools in the sphere of sustainable development and implementation of climate-related policies, including the SDGs, also needs to be clarified.<sup>79</sup>

<sup>74</sup> For more information in the agenda of a meeting of the committee for economics, currency affairs and industrial policy on the item “Doughnut Model in Copenhagen City”, see the committee minutes 2021.

<sup>75</sup> See: Ministry of Industry, Business and Financial Affairs, Copenhagen 2021 p. 7.

<sup>76</sup> Ibid., p. 8.

<sup>77</sup> Authors' own presentation, based on ibid, p. 10.

<sup>78</sup> Ibid., p. 17.

<sup>79</sup> Committee for economics, currency affairs and industrial policy 2021.

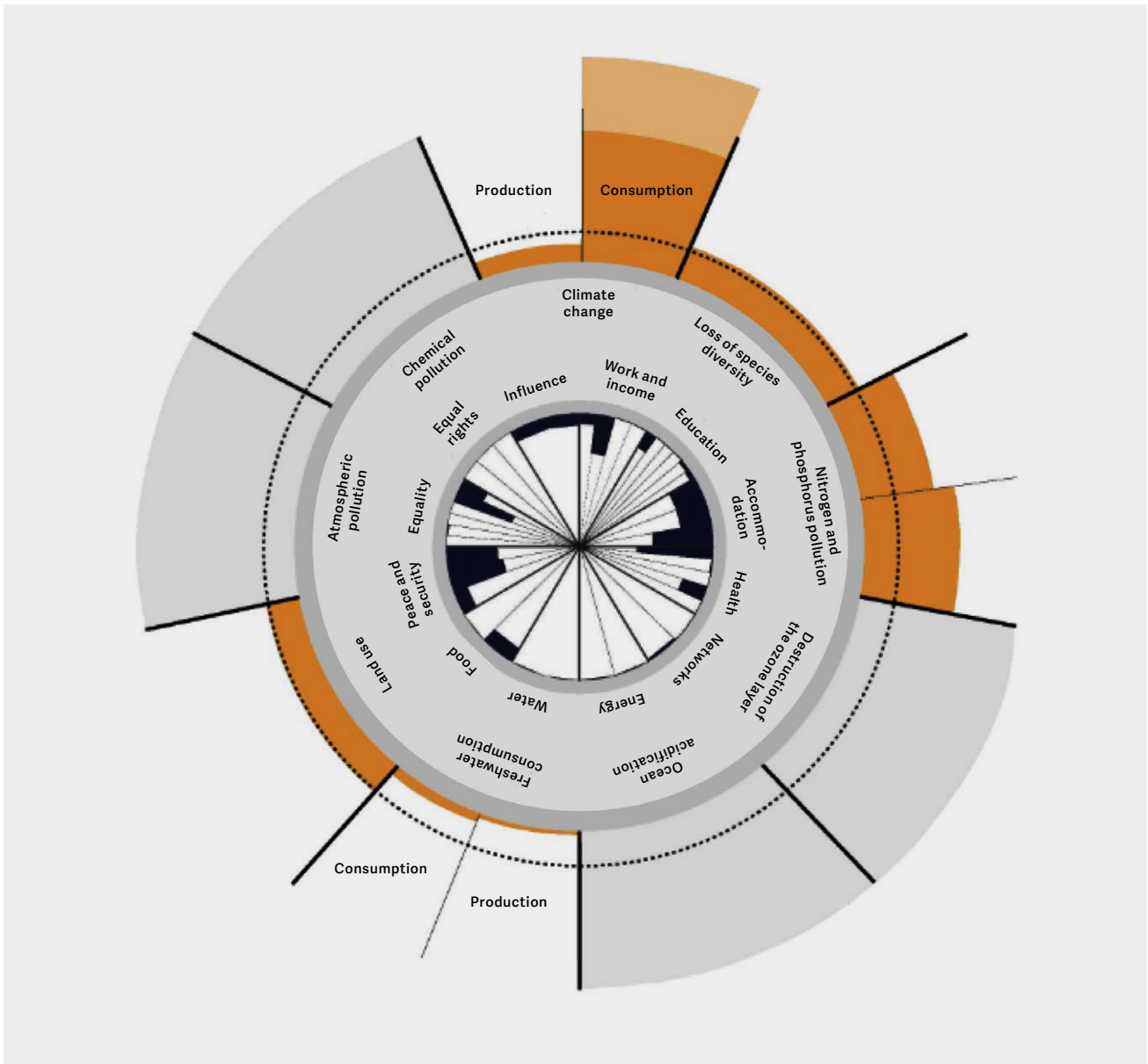


Figure 17: The Copenhagen doughnut

To this end, the city council’s economics department recommended that the work be continued and proposed **setting up a staff unit with two full-time positions**. This is tasked with addressing still unresolved questions over a two-year period, continuing the exchange with various interest groups and to research and put into practice the model. Because of elections that were held in November 2021, this unit has not yet been established at the time of writing. As such, the work on preparing the doughnut is currently (at the beginning of 2022) on hold.

It’s also envisaged that the dedicated unit will use the model to carry out a qualitative assessment of the CO<sub>2</sub> impacts of policy measures. In this way it can work to narrow the previously identified gaps in Copenhagen’s administrative landscape in terms of a timely and consistent evaluation of CO<sub>2</sub> emissions when it comes to policy decision-making.<sup>80</sup>

<sup>80</sup> More details of this meeting can be found at: <https://www.kk.dk/dagsordener-og-referater/Borgerrepr%C3%A6sentationen/m%C3%B8de-24062021/referat/punkt-5> (Committee for economics, currency affairs and industrial policy 2021).

### 3.1.5.3 Insights

Copenhagen's experience shows that a **clear policy remit and coordination from the centre make the task of cross-agency cooperation much easier**. By focusing on fitness and suitability testing as a management instrument and sidelining citizen participation in the entire development process, Copenhagen managed within one year to come up with indicators and targets for the four flavours – the global-social, global-ecological, local-ecological and local-social dimensions – of the doughnut. In the economic department's eyes, the doughnut **doesn't offer solutions or sufficiently effective methods for devising indicators and targets**, but mainly provides a **recipe for a holistic approach**. But this also has an upside, says department head **Thomas Tranekær**: **"Instead of optimising each individual thematic area on its own, optimisation should ideally happen across thematic fields, administrative units and strategies."** Compared to other cities, the economics department's rational and sober-minded approach highlights the inherently political aspects of the doughnut model and the way indicators are developed. Departmental advisor Jelle van der Kamp says that attempts were made, when indicators were being tried out, to anticipate and balance competing interests so that everyone would ultimately be able to agree on the chosen indicators. At the moment there's still a political majority in favour of the doughnut model. To make it **more resilient in the face of possible changes in the political landscape** it would, according to Tranekær, be a sensible idea to introduce more quantitative measurements into the model and to use it less as a tool for dialogue.

## 3.1.6 Nanaimo

### 3.1.6.1 Overview

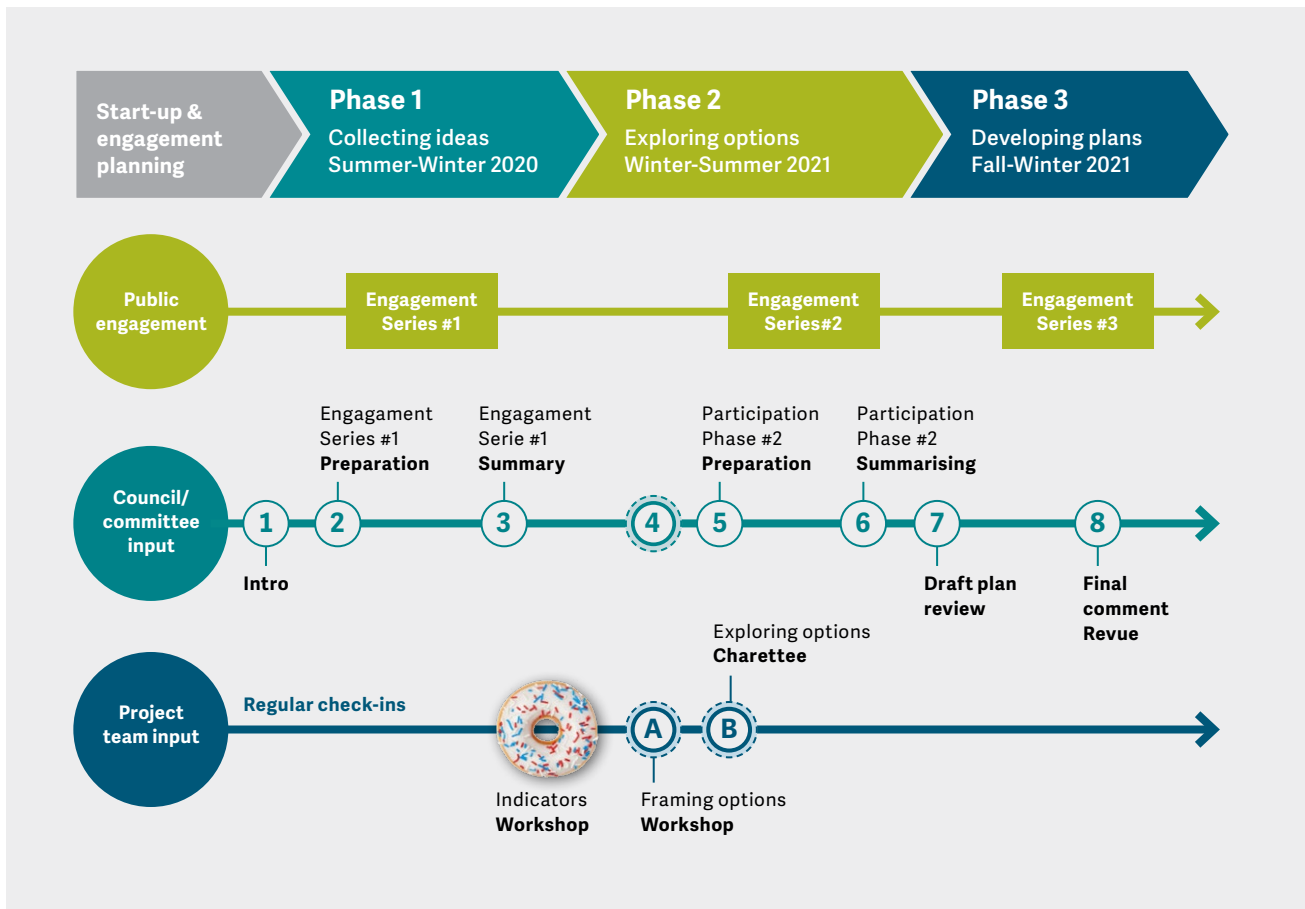
Nanaimo City Council integrated the doughnut model into its **large-scale participatory process known as "Reimagine Nanaimo"**. This aimed to develop a new strategy for the Canadian city and to coordinate sub-strategies with one another. This initiative helped to bring together results from the participation process and the vision of council representatives, as well as bringing in the SDGs.

On the initiative of the City Council, the **process took on a new direction with the help of the doughnut model**. The doughnut economics recipe offers a framework, a methodological approach and, visually, a model to help arrange, focus and coordinate these different sources into a new vision for the city. With the involvement of strategy-directing and participatory processes that were already underway, the doughnut's dimensions were modified to include the overarching thematic areas and objectives that had been specifically generated by actors in Nanaimo. The city portrait provided support for these goals by helping to identify indicators and offering a way to think about future monitoring efforts. In this way Nanaimo considers only those indicators on which the protagonists exert a direct influence. The doughnut therefore constitutes **practical support for strategy creation and especially monitoring**.

### 3.1.6.2 Procedure and findings

The strategy process, mixed into the doughnut by the city's council representatives, aims to bring together centrally prepared strategy papers and to rework these to introduce fresh fields of strategic themes also devised by the council. This has ultimately led to the building of a framework for putting into place and measuring these revised policy goals. This was organised into three phases – **collecting ideas, developing scenarios and devising measures**. An inclusive participatory process with diverse stakeholders accompanied each of these phases (see figure 18)<sup>81</sup>.

<sup>81</sup> Authors' own visualisation based on work by the Reimagine Nanaimo initiative; graphic derived from an interview with representatives from Nanaimo City Council.



As part of this procedure, a variety of formats were used for informing, involving and consulting with citizens and stakeholders so that collaboration was baked into all phases of the strategy creation (for example, through workshops, committees, meetings with and presentations to citizens, online calls, telephone conferences and meetings with stakeholders and focus groups, as well as the use of digital platforms, advertising, reports, surveys and videos).<sup>82</sup> **The doughnut merged with a process of overall strategic development that had been planned and organised previously.** After the initial workshops and surveys had been carried out, the doughnut was blended into the first phase and this gave structure to the following steps by

**Figure 18:**  
*Phases of the procedure for creating strategy in Nanaimo*

- / acting as a lens to help focus on the selection of goals
- / putting together the city portrait
- / identifying target values and indicators
- / validating these, and
- / evaluating scenarios and visions with the aid of the portrait.

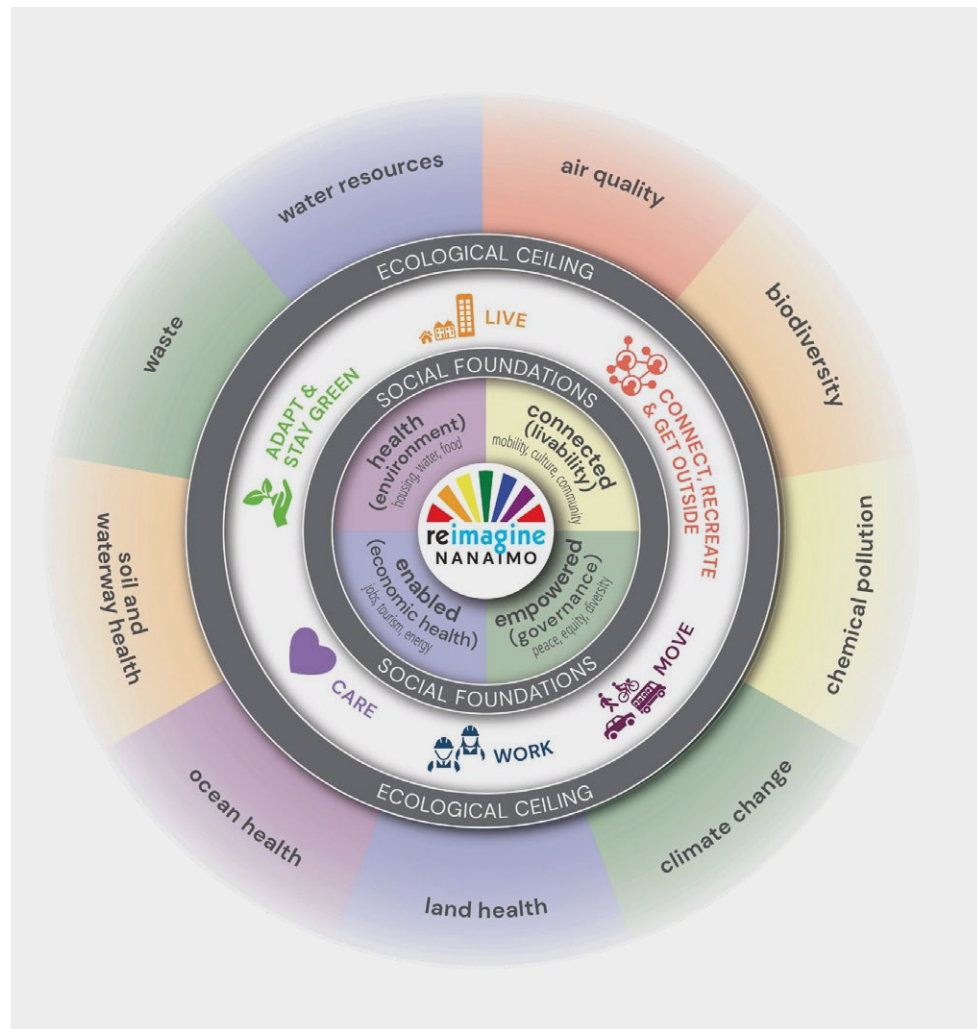
<sup>82</sup> The comprehensive report on the different phases is a vital source, as it publishes in great detail the results and contributions of participants broken down by demographics. This can be accessed via: [https://www.nanaimo.ca/your-government/projects/projects-detail/reimagine-nanaimo-\(2020-2021\)](https://www.nanaimo.ca/your-government/projects/projects-detail/reimagine-nanaimo-(2020-2021)).

## 3.1 Doughnut Economics as a Strategic Compass

### 3 The model in practice / 3.1 International application – example cases

The second phase<sup>83</sup> of the project is characterised by the issue of what living together ought to look like over the next 25 years, which path Nanaimo could follow to reach this and what strategic direction needs to be adopted to fulfil this goal. The doughnut helped to set out and focus on the dimensions, at the same time drawing attention to the relationship of equilibrium that underlies them. No single target can be considered in isolation in such a complex fabric or organism as a city.<sup>84</sup> Figures 19<sup>85</sup> and 20<sup>86</sup> portray how the **results of the participations flow back into the doughnut recipe**. The six city goals (see figure 20) embedded in the Nanaimo doughnut's ring, represent the key focus areas for Nanaimo's future and are the results of the City Council's strategic goals as they have been 'mixed in' by means of the participatory process. In **applying the original doughnut recipe** (see subsection 2.1.1), the responsibilities and strategies already in place in Nanaimo were baked in, and the strategic aims and desires of the city's communities were similarly integrated into the mix.

**Figure 19:**  
**The Nanaimo**  
**doughnut**<sup>87</sup>



<sup>83</sup> A detailed account can be found in the background report to phase two (Nanaimo City Council 2021b, p. 19).

<sup>84</sup> Ibid., p. 3.

<sup>85</sup> Authors' own visualisation, based on an internal document from an interview with representatives from Nanaimo's municipal administration.

<sup>86</sup> Authors' own visualisation, based on ibid.



The doughnut was drawn up from the findings generated in the participatory process and offered a model for visualising efforts towards sustainability that were already set out in the strategy policies that had been devised independent of this model. **Ben Geselbracht, member of the city's council, explains: "There are so many possibilities for categorising. But the model helps in integrating all the different pieces and bringing into view a clear direction, a focus and a target governing how the city uses its resources. In this way, it enables more effective and efficient communication."** Looking at the first sketch for the portrait, it's easy to see **Nanaimo's approach of adapting the doughnut to the existing strategy process and not the other way round.** Nanaimo combines the dimensions of Raworth's classic doughnut with the results from the participations in Phase 1 and the thematic areas of strategy that the City Council has laid out by allocating these to the core. The goals that emerged during exchanges with residents also feature in the inner ring.

**Figure 20:**  
**Results from Nanaimo's participation process – first phase**

The initial indicators and the values assigned to the targets associated with them were developed in **collaboration with the City Council, administration staff and finally with other stakeholders.** As these were not yet complete, they had to be worked on further in the context of the strategy-creation process. The key objective of 'Reimagine Nanaimo' is ultimately to put in place a system of **ongoing annual monitoring to review the progress of these newly devised goals.**

For Lisa Bhopalsingh, head of the department for community development, one of the main challenges with the previous key performance indicators (KPIs) is how to measure those many small details that are perhaps necessary for monitoring the day-to-day activities of individual departments, and separating these out from the indicators for the whole city. "We need to identify overarching indicators that can measure local ecological as well as global progress." The lack of such indicators has prevented municipalities from conducting up-to-date and continuous monitoring in recent decades because there was too much small-scale and overly specific data. The idea in Nanaimo was to integrate real-time data in the shape of a "doughnut dashboard" that provided a bridge to smart city concepts and to Nanaimo's information technology (IT) working group. "Linking up these two fields is an exciting development," she says. At the time of writing, however, the dashboard has not yet come into operation.

Nanaimo's participatory process encouraged a wealth of feedback on findings relating to all the individual areas of concern. Because of this, opting for the doughnut concept was viewed as a successful outcome when it came to selecting indicators and presenting them as a torus. In a survey of those who took part in the participatory process, 74% responded that they thought the doughnut was a good concept for Nanaimo, and the notion was also well understood by 74%. Nonetheless, 26% stated that they saw room for improvement. There was widespread agreement on the goals chosen for the doughnut's inner ring. Between 72 and 83% of respondents thought that the six goals reflected what's essential for Nanaimo's future.<sup>87</sup> For respondents, the doughnut was also clearly seen as a tool to help evaluate the scenarios generated by the strategy-creating process known as Reimagine Nanaimo. In fact, the assessment of one scenario was criticised for its superficial approach precisely because it hadn't aligned itself with the doughnut model.<sup>88</sup>

At the time of writing this report, in **developing their overall strategic plan**, the Nanaimo city stakeholders are in the third and final phase of the process. This strategic plan will eventually replace the previous official city development plan, fully integrating the subsidiary goals and adding action plans to the mix.<sup>89</sup> The indicators will be further revised and finalised. The plan is to publish the whole approach in mid-February 2022 and invite comments and feedback from the public. For implementing the strategic plan in the future, the doughnut will also be **considered in terms of its effect on decision-making procedures**. The idea is to regularly compile a memorandum as a basis for decision-making that details the extent to which its recommendations for action are oriented towards the goals manifested in the Nanaimo doughnut. In addition, a sustainability manager has been hired to oversee the monitoring of indicators and targets.

### 3.1.6.3 Insights

The example of Nanaimo shows how the doughnut can be integrated into a large-scale process of strategy creation that's already underway. The city generally takes a very pragmatic approach, whereby the doughnut provides support particularly for **aggregating the sub-strategies and envisioned goals, as well as for devising indicators for developing a continual process of monitoring** as a result of its comprehensive and holistic approach and its value as a visualising tool. The SDGs can also be brought into this project. The doughnut's application as a measuring instrument also has the upside of making it resilient to changes in policy or in political leadership. **Bill Corsan, head of the department for business development, comments on this: "We tried to use the model not so much in a partisan or political way, but much more pragmatically."** The key recommendation is to select only those indicators and set only those goals over which you can exert influence. "Otherwise," explains Lisa Bhopalsingh, head of the department for community development, "you run the risk of frustrating people because you can't point to any progress." She believes it helps to start off with small steps, to choose a limited and manageable number of indicators and to **allow the doughnut to grow over time**. For Bhopalsingh, it's crucial to follow the principle of initially **starting with already available data and then to build from there**.

<sup>87</sup> An overview, including findings and results from the feedback procedure, can be found in the report produced in Phase 2 that summarises engagement with the public (City of Nanaimo 2021a, p. 5).

<sup>88</sup> Ibid, p. 45.

<sup>89</sup> Ibid.



## 3.1.7 Portland

### 3.1.7.1 Overview

Portland, together with Amsterdam, Philadelphia and Pennsylvania, is one of the pilot cities in the Thriving Cities Initiative (TCI). Its application of the doughnut methodology alongside the creation of a city portrait is a component of its Sustainable Consumption Strategy – part of its plans to tackle the climate challenge. The main driver of both projects is the city's Bureau of Planning and Sustainability (BPS). Fundamental aspects of doughnut economics, especially those critical of unfettered economic growth, underlie the bureau's sustainable consumption strategy.<sup>90</sup> The BPS, by including doughnut methods, correlated 92 data points – concerning CO<sub>2</sub>-producing consumption collected as part of its 2015 climate action plan – with the city's social and ecological goals.

Not only was the city portrait devised and worked up in the context of the TCI pilot project, the activities of the BPS were also a major influence.<sup>91</sup> Despite Portland's active engagement with the doughnut methods, the term 'doughnut' tended to be used defensively on the part of the bureau's initiators rather than being prominently positioned. This led to a certain insouciance when it came to possible caveats in the method. This is in contrast to the experience of Nanaimo and Cornwall, where knowledge of the concept was viewed as a particular advantage and a factor in the doughnut being chosen as a method for clarifying policy.

### 3.1.7.2 Procedure and findings

Against the backdrop of its 2015 sustainable consumption strategy, Portland, more specifically the Bureau of Planning and Sustainability, pushed for the take-up of Kate Raworth's doughnut economics approach. To achieve the city's target of zero emissions by 2050, the focus lay on aspects of consumption, derived from analysing the life cycles of certain products.<sup>92</sup> The climate action plan – built on the "Consumption-based Emissions Inventory"<sup>93</sup> – includes data covering consumption by households, businesses and the city's administration.<sup>94</sup> But BPS's climate programme coordinator, Kyle Diesner, thinks

<sup>90</sup> More general information on the Sustainable Consumption Strategy can be found at: <https://www.portland.gov/sites/default/files/2021/sustainable-consumption-and-production-report-and-two-year-workplan.pdf> (Portland's Bureau of Planning and Sustainability 2021a).

<sup>91</sup> More details on collaboration with the Thriving Cities Initiative can be found on p. 10 of the annexe to the "Sustainable Production and Consumption Report 2021", available at: <https://www.portland.gov/sites/default/files/2021/sustainable-consumption-and-production-report-appendix-methodology-andmultnomah-county-consumption-based-emissions-inventory.pdf> (Portland's Bureau of Planning and Sustainability 2021b).

<sup>92</sup> For more on the notion of the life cycle inventory (LCI), see: <https://www.lifecyclecenter.se/?s=Life%20Cycle%20Assessment>.

<sup>93</sup> Portland's Consumption-based Emissions Inventory (CBEI) evaluates global emissions produced by local users. It's based on data from the reference years 2005 and 2010, compiled by the State of Oregon's Department of Environmental Quality (DEQ). The most recent CBEI for Portland is based on estimates of emissions-related consumption patterns in Multnomah County for 2015 – these figures have been collated from various sources, including the U.S. Bureau of Economic Analysis and the U.S. Bureau of Labor Statistics. The information comes from the "final demand", another term for consumption. It encompasses only the goods, food items, materials and services sold to all the consumers and end users in an area. By "consumers", these include households and official authorities. In certain cases, businesses are also counted as consumers (Portland's Bureau of Planning and Sustainability 2021b, p. 12).

<sup>94</sup> City of Portland and Multnomah County 2015.

that at that time it was difficult to embed the data in a larger context and to address the issue of what meaningful measures could be derived from this information. This led him to the doughnut model: “At that time we of course publicised the data, but we didn’t know what we ought to do with it. So I’ve spent the last six years figuring out how to put the data into a meaningful context. If we really want a society worth living in and at the same time reduce our CO<sub>2</sub> emissions, we need to find the tools that will help unite these two goals. That’s what led me to doughnut economics.”

To work more deeply with the doughnut methods, building up know-how and competencies was a crucial step. Portland joined the Thriving Cities Initiative as a pilot city, alongside Amsterdam and Philadelphia, with the aim of testing methods and procedures for applying the doughnut on a city-wide scale (for more on the city portrait method, see subsection 2.1.2).

To this end, BPS staff met up with Kate Raworth and planned a process of **co-creation with the city’s communities and stakeholders from the business world** to work together towards the goal of a city worth living in within planetary limits.<sup>95</sup> The first workshop was held in 2019. However, the procedure was disrupted by the Covid-19 pandemic and by social unrest. The second workshop, in 2020, consequently focused on the pressing question of how to deal with the pandemic’s impact. **The complete city portrait<sup>96</sup> was painted together with the TCI team** and this drew a picture similar to the one from Amsterdam (see part 3.1.2.2).<sup>97</sup>

The first **cross-sector workshop** took place in 2019 with members from 19 different departments and organisations working for the city. This resulted in the main drivers of unsustainable consumption being identified, among which were social inequality and the chase for short-term profit.<sup>98</sup> The second workshop – held in September 2020 – happened in the midst of the Covid-19 pandemic. With representatives from an array of official bodies, issues related to designing a city worth living in were combined with questions about the measures contained in the overall Covid recovery plan.<sup>99</sup> The consensus landed on “green and fair” measures for merging the goal of swift economic recovery with the sustainability targets featured in Portland’s city portrait – especially by supporting sustainability-oriented businesses in the area.

Alongside the series of workshops and the creation of the city portrait, the BPS also used doughnut economics in its own work. With the development of the Sustainable Consumption Strategy, the department provided impetus for **applying the doughnut recipe in its own field** of activities, because this framework was viewed as a **good starting point for conceptualising the key principles of sustainable consumption:**

- / who profits,
- / who bears the burden,
- / what should the measures focus on, and
- / in what places should opportunities be used?<sup>100</sup>

<sup>95</sup> See Portland’s Bureau of Planning and Sustainability 2019c.

<sup>96</sup> The Portland city portrait with the detailed components of its lens can be accessed on the official website at: <https://www.portland.gov/sites/default/files/2021/20191204-tci-workshop-portland-lenses-web-compressed.pdf>

<sup>97</sup> See Portland’s Bureau of Planning and Sustainability 2019a.

<sup>98</sup> For more details on the results of the first workshop, see Portland’s Bureau of Planning and Sustainability 2019b.

<sup>99</sup> For more details on the results of the second workshop, see Portland’s Bureau of Planning and Sustainability 2020.

<sup>100</sup> For more on the thinking behind the notion of sustainable consumption, see p. 20 in the “Sustainable Consumption and Production Report 2021” (Portland’s Bureau of Planning and Sustainability 2021a).

This framework helped with the devising and preparing of the “Sustainable Consumption and Production Report 2021”. Even when the silo-like structure of Portland City Council – combined with the pandemic crisis and the differences of opinion about what constituted the doughnut concept – led to a certain defensiveness among BPS staff about the term “doughnut”, its key ideas are threaded throughout the report. For Diesner, coordinator of the administration’s climate programme, one outcome above all others was crucial: “It’s not about whether we’re calling it doughnut economics – what matters is whether we achieve our goals or we don’t.”

The solutions set out in the report aren’t, for instance, just geared towards direct ways of reducing emissions, they also take account of the social dimensions and particularly how these **interrelate with the ecological ones**. Examples of this are decisions on measures for those who consume too much (“overshoot”) and interventions to help less prosperous consumers (‘shortfall’). The table below<sup>101</sup> gives an overview of the differing activities with respect to both groups.

**Figure 21:**  
Interventions for “overshoot” and “shortfall” consumers in Portland

	Supply-Side/Production Interventions	Demand-Side/Consumption Interventions
<b>Overshoot Consumers</b> <sup>102</sup>	<p>Clean energy investments for local product producers</p> <p>Funding for circular economy and local supply chain development</p>	<p>Campaigns to reduce purchase of new goods by participating in the community-based sharing economy</p> <p>Investments in home repair and material reuse and preservation</p>
<b>Shortfall Consumers</b> <sup>103</sup>	<p>Job opportunities and hiring requirements for low-carbon industries</p> <p>Funding to scale up local reuse and repair businesses and community-based organisations to create new economic opportunities</p>	<p>Expanding access to free and community-based repair and reuse opportunities</p> <p>Programme to widen and support farm ownership by minority and immigrant communities, like the “Mudbone Grown” initiative, set up to strengthen community solidarity and resilience while supporting low-carbon agricultural practices</p>

In the context of doughnut economics, the report also serves as a promotional tool for a design to regenerate the local economy (see subsection 2.1.1). The municipal administration can play a key role in establishing this. But to do this would require active planning for a circular economy that minimises consumption, pollution and waste, a path that is already being followed in places like Amsterdam and Charlotte (in North Carolina).<sup>104</sup> Alongside its zero emissions target, the report also stipulated that strategies for enhancing quality of life

<sup>101</sup> Adapted from the table on p. 8 of the “Sustainable Consumption and Production Report 2021”, accessible at: <https://www.portland.gov/sites/default/files/2021/sustainable-consumption-and-production-report-appendix-methodology-and-multnomah-county-consumption-based-emissions-inventory.pdf>.

<sup>102</sup> This category includes high-income households, businesses and official authorities.

<sup>103</sup> This category includes, for example, non-whites, members of First Nation indigenous groups and others who identify themselves as “people of colour”, homeless communities, service sector employees, low-income households, and “frontline communities” – in other words, those who are facing the most immediate and serious impacts of climate change and who again are more likely to be people of colour, First Nation groups and low-income communities (Gundry 2021), as well as older people and those with disabilities.

<sup>104</sup> Further information can be found in the “Sustainable Consumption and Production Report 2021” from Portland’s Bureau of Planning and Sustainability (2021a, p. 24).

should especially target the poorest.<sup>105</sup> Future measures, again according to the report, could be evaluated on the basis of fresh questions as they arise and with the help of the city portrait.<sup>106</sup>

- / Do the measures also enhance the quality of life in the Portland area for people of colour and First Nation groups, who are most affected by social inequalities?
- / Do the measures lower CO<sub>2</sub> emissions?
- / Do the measures lessen exploitation of labour in different parts of the world?
- / Do the measures reduce CO<sub>2</sub> emissions that are the result of the consumption patterns of businesses, government bodies and high-income households?

The BPS also hopes to integrate the doughnut and its key ingredients into the Economic Recovery Strategic Plan so that an **impetus (or “impulse”) towards transformation** informs all the criteria that underpin administrative decision-making.<sup>107</sup>

### 3.1.7.3 Insights

From the viewpoint of the city’s Bureau of Planning and Sustainability, the doughnut represents an effective starting point but it’s not the only important aspect of the overall framework of doughnut economics. With its ability to aid visualisation, it offers a recipe for rethinking **basic questions about living together and doing business, especially as these relate to consumption**. In the eyes of the BPS, the doughnut economics approach isn’t a radical one. Rather, it makes it clear that the department’s “embedded economy” perspective allows the administration to play a **key role in shaping** a sustainable urban realm.

The initial engagement with the doughnut economics method entailed interpreting the data of the Consumption-based Emissions Inventory and working out how to use this data to minimise future emissions. However, the doughnut recipe has not only allowed the data regarding climate-related policies to be placed in a **broader societal context**, it has also laid the **groundwork for a more comprehensive sustainability strategy**. The current “Sustainable Consumption and Production Report 2021” includes a host of suggestions and ideas for transformation following the doughnut economics recipe that cover virtually all urban activities.

The BPS is moving Portland into a doughnut realm that is secure and fair for everyone.<sup>108</sup> But there’s one caveat: It’s unclear whether the doughnut methods as a concept and signpost to solutions are widely accepted across Portland’s administrative landscape and whether the methods will underpin a joined-up, sustainable urban strategy – though it’s worth highlighting that **despite this proviso, key principles have already been put into practice**. For the Covid-19 recovery plan, for instance, support services were distributed according to the criteria generated by the doughnut approach. At the time of writing, the principles of doughnut economics are clearly being put into action in selected policy fields in Portland.

<sup>105</sup> See Portland’s Bureau of Planning and Sustainability 2021b.

<sup>106</sup> Ibid, p. 11.

<sup>107</sup> See Portland’s Bureau of Planning and Sustainability 2021a.

<sup>108</sup> See the annexe to the “Sustainable Consumption and Production Report 2021” (Portland’s Bureau of Planning and Sustainability 2021b, p. 11).

# Case studies in Germany

Case studies, or practical trials, are needed to assess the possibilities and limits of applying the doughnut model at the municipal level in Germany. Initial approaches and formulations were discussed with experts in each administrative district (called a “Kommune” or “commune” in Germany). After a call for participants via a “sounding board”, two communes were chosen to be case studies. The learning experiences and reviews that came out of Bad Nauheim and Krefeld provide a valuable impulse for a further application of the model. Three workshops were held in each city, attended by staff members from the respective municipal administrations. **The findings from the case studies have been merged into the recommendations for action** (see subsection 2.3.3).

## 3.2.1 Bad Nauheim

The historic spa town of Bad Nauheim (“Bad” here meaning “baths”) in the Wetteraukreis district of Hesse and north of Frankfurt am Main, lies on the edge of a region that includes stretches of the Rhine and Main rivers. The traditional spa has now become a modern place for health cures and recuperative therapy and its thermal baths and 14 clinics make it a proud ‘City of Health’. As the one-time official spa of the Land of Hesse, its treatment facilities, art nouveau buildings and parks make an imposing and elegant whole. Mayor Klaus Kreß as well as treasurer and first councillor Peter Krank do not represent particular parties and both have long experience as departmental heads in the municipal administration. The administration views itself, together with businesses operating in the municipality, as a “Konzern” or group enterprise that manifests itself in jointly agreed overall and sub-strategies as well as coordinated collaboration. Bad Nauheim sees itself as a **contemporary, forward-looking city offering a great quality of life with a heavily engaged civic society**.

An “Agenda 21” process was kick-started in 2000 – this emphasised the topic of sustainability for the city’s population and also took over and adapted previous themes. This led to Bad Nauheim being designated a “fair trade town”<sup>109</sup> in 2014, with around 50 firms, shops, restaurants and cafés, community associations, schools and religious institutions committing themselves to selling a high proportion of certified fair-trade products.<sup>110</sup> A new Office of Sustainability and Climate Protection was set up in May 2021 with the aim of according greater relevance to this combination of themes and to ensure more effective implementation of measures associated with it. Bad Nauheim intends to approach **sustainability as a holistic concept that can only have a durable impact in concert with social, economic and ecological interests**. The strategic thread will run through local-scale initiatives against the backdrop of the city’s status as a healthcare hub.

### 3.2.1.1 Starting point: The administration learns about the doughnut

Bad Nauheim’s smart city strategy meant that there was already a process up and running that focused on measures to bring added value to citizens across all the city’s essential services. Digitalisation entailed creating networks for the urban community in the form of a digital essential service that simplified access to the city’s administrative resources and enabled data from sensors to be collated to create measurable indicators for more effective management and decision-making in the city’s activities. This allows municipal strategy to

<sup>109</sup> Fair-trade towns foster fair-trade practices on the commune level. To be designated a fair-trade town, the municipality had to pass a council resolution in support of fair trade and fulfil other conditions that gave substance to the municipality’s commitment to fair trade. More information (in German) can be found at: <https://www.fairtrade-towns.de/aktuelles>.

<sup>110</sup> For a city presentation, see: [www.bad-nauheim.de/de](http://www.bad-nauheim.de/de).

## 3.2 Doughnut Economics as a Strategic Compass

### 3 The model in practice / 3.2 Case studies in Germany

flow into the sustainability goals: preserving the city as a space full of vitality and worth living in; fulfilling climate goals and commitments; proactively setting in place climate protection measures; and exploiting smart technologies for a future-oriented and sustainable city. The core of the strategy is to enable healthy, connected, strengthened and empowered lives, not just for residents of the city but for its visitors as well (for more on terminology common to the city portrait method, see subsection 2.1.2). This is to be accomplished using the natural resources available in a climatically acceptable and socially conscious way. **The goal is to be an urban space that takes responsibility – through the city’s community – for respecting the local ecosystem, the world’s populace and thereby our planet’s boundaries.**<sup>111</sup>

The Office of Sustainability and Climate Protection – now managed more systematically – helped **to anchor this theme in the heart of the administration**. The new sustainability advisor<sup>112</sup> was familiar with the doughnut model and worked closely together with DEAL, the international doughnut economics network. A climate protection concept for the municipal level needed to be worked on as part of Germany’s overall climate protection initiative. Efforts were made for a time to revive the locally managed Agenda 21 process and to transfer it into a fresh concept for the long term. In terms of further city development, a culture of openness as well as experience with participatory processes were reflected in the city making a policy decision to involve the civic community in a “Workshop for the Future 2022”.<sup>113</sup> The administration staff who participated were familiar with the doughnut model as a set of methodologies for a holistic approach that municipalities could follow to achieve sustainability goals.

#### Core assumptions:

- / A participatory format in the shape of a Workshop for the Future is planned. The doughnut model can provide the basic recipe.
- / This will result in a doughnut that Bad Nauheim can apply at the local level.
- / The doughnut will be used as a management instrument in the city’s Konzern (group enterprise)
- / The model can and should be suitable for the conditions and circumstances applying in Bad Nauheim.

The model was presented within the administration and in policy meetings and the theme of sustainability was integrated into the city’s strategic management procedures. Interviews were carried out in 2019 with staff from all the administration’s departments to help generate concepts and measures relating to the topic of sustainability. These form part of the review of current practice that was blended into the painting of the city portrait and used in subsequent workshops. This method of building theory via the city portrait method was then channelled into the administration and put in place **as the basic recipe for creating a structured and goal-oriented process of civil society participation in the form of the Workshop for the Future**.

The Bad Nauheim case study benefitted from a widespread culture – among the city’s administrative bodies and participants from the city – of transparency and an awareness of the need to take action, as well as a general understanding of the topic of sustainability. There was a desire **for a goal-oriented and consensual approach – not just within the group enterprise members but among those outside the Konzern**. The challenges faced by the administration lie in the extent of the changes that need to be made, which shouldn’t paralyse decision-making processes when these are integrated into management structures. **How to apply the model practically is hence the key ingredient of the whole process.**

<sup>111</sup> See: <https://www.bad-nauheim.de/nachhaltigkeit>.

<sup>112</sup> See: [www.bad-nauheim.de/de/aktuelles-bad-nauheim/buergernah/2021/2021-05-04-einstellung-referentin-fuer-nachhaltigkeit-und-klimaschutz](http://www.bad-nauheim.de/de/aktuelles-bad-nauheim/buergernah/2021/2021-05-04-einstellung-referentin-fuer-nachhaltigkeit-und-klimaschutz).

<sup>113</sup> See (in German): Draft resolution of Nauheim City Council MV/119/2021.

3.2.1.2 Procedure and participants

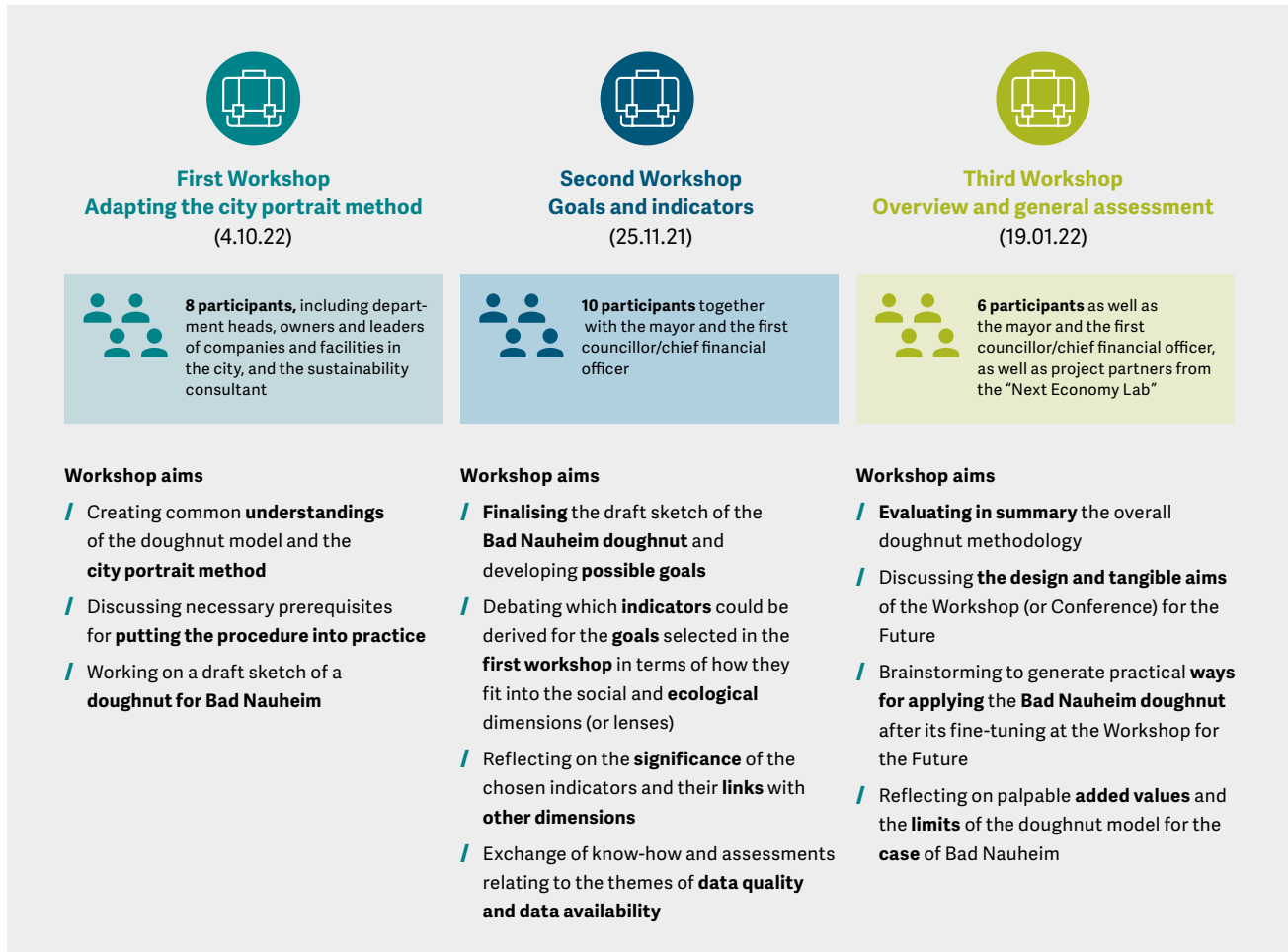


Figure 22: Participants and goals for the workshops – Bad Nauheim

Internally in the administration, the doughnut model and its positioning by way of the city portrait method (see subsection 2.1.2) was discussed and evaluated over a series of three workshops (see figure 22).<sup>114</sup> The first workshop was dedicated to enhancing the basic understanding of the doughnut model and coming up with an initial sketch of a doughnut tailored for Bad Nauheim. **For Matthias Wieliki, head of the department of central management and public relations in Bad Nauheim's city council: "An important basis for adjusting the dimensions and focusing them through the lenses appropriate for Bad Nauheim is the open and interdisciplinary cooperation across organisational boundaries that we have experience of from previous processes."**

Further work on the doughnut was facilitated by extensive preliminary activities such as the interviews held with senior departmental staff, with employees of city authorities and utilities and those working in city-related marketing fields – this helped in building up a first concept for Bad Nauheim. **By matching the doughnut's dimensions to the realities of the city**, putting the model into place was intended to be an achievable aim for all the participants within their respective levels and fields of competence. In the second workshop, the ten participants (including some from the first workshop) discussed, with the city's mayor and treasurer (or chief financial officer), the first design of the Bad Nauheim doughnut with the focus on data and a methodology for devising indicators.

<sup>114</sup> Authors' own visualisation.

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Using the finding from the first workshop as a foundation, the draft doughnut idea was translated in the second workshop to a matrix or grid of dimensions and goals – featuring potential steps, actions, measures and indicators – which was shared with partners and stakeholders both within and outside the administration. To give an example, in the thematic area of water provision and water management, possible indicators were derived from ideas about what actions could be taken that would also be sensitive to whether measurable indicators were available. From the previously prepared goals relating to the dimension “water”, the publicised indicators from the SDG website were then discussed in terms of their applicability to Bad Nauheim, which led to suitable indicators being devised.

The third workshop concentrated on preparing the Workshop for the Future, with the participation of representatives from civil society bodies, and on the question of how to make use of the doughnut in the administration’s practical activities. Participating in this workshop were the mayor, the treasurer, the advisor on sustainability and climate protection, and the head of the department of central management and public relations. With the help of guiding questions and the draft doughnut design for Bad Nauheim, the participants discussed:

- a) how to blend the doughnut in a methodical way into the design of the participatory format,
- b) how to feed the findings generated by the Workshop for the Future – that is, the results as seen from the administration’s viewpoint – into future policy decisions and actions, and
- c) how to successfully spur the city’s residents and other players into action.

Finally, the various possibilities for applying the Bad Nauheim doughnut were debated and assessed.

#### 3.2.1.3 Insights: A workable doughnut, effective participation, robust administration

Bad Nauheim, in concert with its civic community, intends to use the city portrait method in order to develop and adopt a **holistic sustainability agenda as an overarching strategy**. The Workshop for the Future helped devise practical ideas that could be applied to the first draft of the doughnut – with each dimension (or lens) delineating core issues to address and implement together with civil society actors.

**Participation: Using the doughnut as a template, a participatory process was designed that focused on the assorted themes.**

The aim of the participatory Workshop for the Future is to develop an overarching vision for Bad Nauheim.. Mayor Klaus Kreß summarises the interactions and exchanges in the second workshop: **“Having a science-based and comprehensive foundation is important, but dialogue has to mean communicating with the appropriate bodies in a relationship of equals. The doughnut is an ideal tool for presenting the integrated nature of the approach, and for visualising the interrelationships between dimensions that at first sight seem separate.”** Taking its lead from the doughnut’s dimensions, this dialogue with the city’s community players should underpin the procedure of defining goals.

The project’s movers should also be careful to avoid overly technical and detailed discussions that aren’t task-focused in terms of specific measures. The **catalogue of indicators** would have to align with, and be included as part of, the central indicators devised by the managers in the administration so they can be measured against the appropriate resource costs. To gauge their importance and urgency, the civic participatory process focuses on approaches to the city’s climate-related themes. For Bad Nauheim, for example, a suitable path would be to link the local–ecological lens with the selected social dimensions around the inner ring of the doughnut to generate dialogue among civic communities about how best to achieve a climate protection-oriented city that’s prepared for the future.



### Devising goals: The doughnut as a recipe for civil society, policy and administration

The city with its cast of actors – civil society bodies, policy-setters and administrative authorities – can look back on a **long-term, activist and local-scale Agenda 21 project** that was marked by extensive civil society engagement. Lessons learned from this previous initiative have resulted in an approach characterised by clear delineation of tasks and precise goal-setting processes as crucial for success. If it's prepared and arranged so that at least some participatory processes are baked into the recipe, the doughnut can create a framework that can combine existing measures and initiatives and include these as ingredients in a holistically designed sustainability strategy.

A vital step is to bring into the procedure a diverse array of target groups and stakeholders – for example the city's residents, local associations and businesses – and to take into consideration the various ways to engage with stakeholder groups with their differing needs. "A vision needs to be created for the city that really portrays Bad Nauheim in all its diversity," says Yuge Lei, sustainability advisor to the city. In devising the goals for the various parts of the Bad Nauheim doughnut, it is therefore crucial to involve representatives from civil society bodies. This also includes transparent and up-front communication about **decision-making steps and the dynamics underlying them**. The task of proactive administration is to assess ideas relating to goals in terms of how realistically they can be put into practice as well as to suggest new ideas.

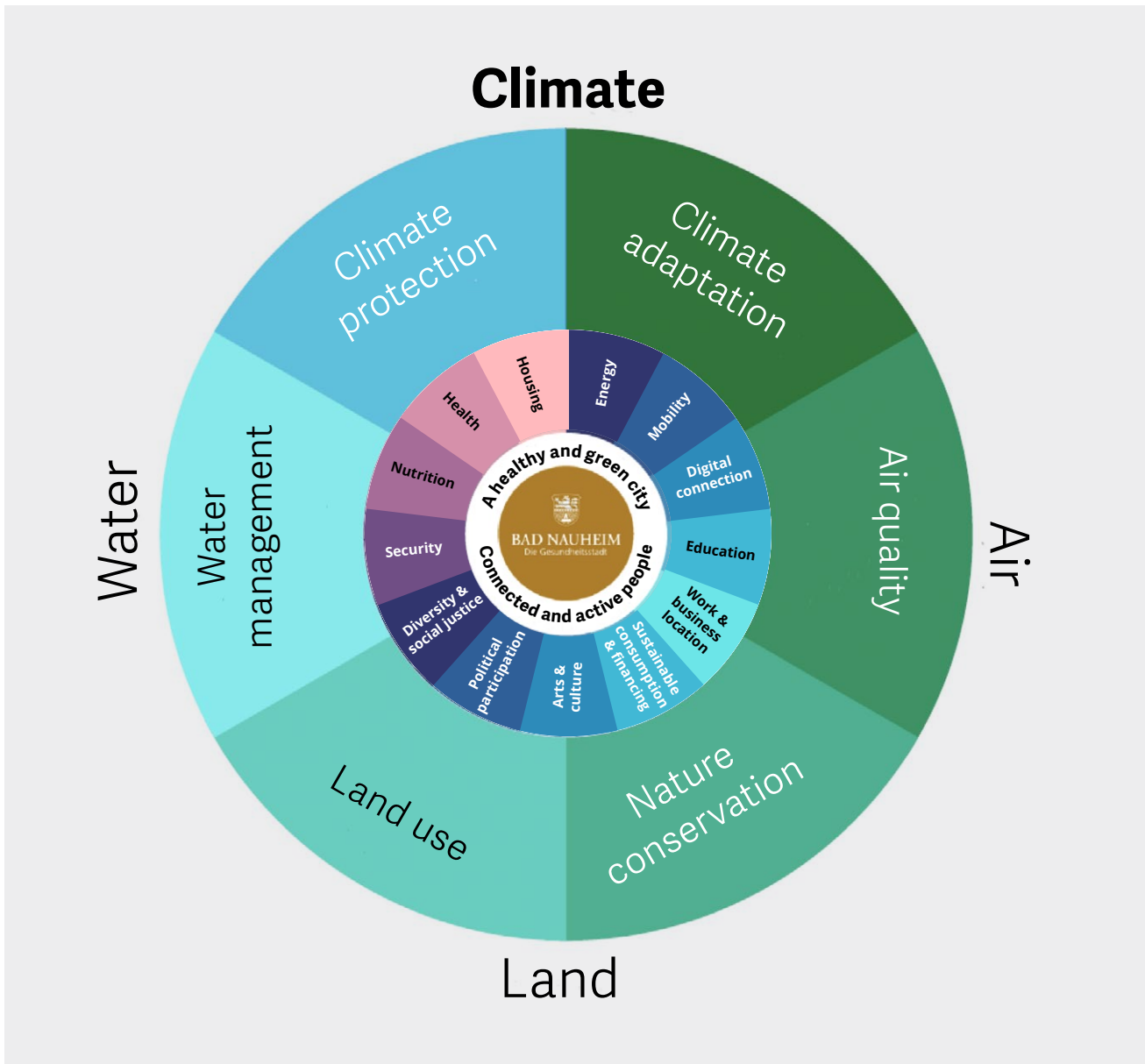
### The doughnut model: The Bad Nauheim doughnut is a focused and appropriate recipe for the city

The similarity of Bad Nauheim's doughnut (see figure 23)<sup>115</sup> with that of other municipalities is definitely useful, but even more important is the **common ground achieved in the city when it comes to pertinent topics**. Yuge Lei summarises the debates around the pros and cons of a custom-made doughnut, as well as a more general version that can serve as a basis for comparing communes, as well as the possibilities for combining thematic areas: "The local dimensions for Bad Nauheim illustrate the local scale of our activities, but global impacts should also be considered and taken into account. The terms of reference we use need to be formulated precisely and to be understood by everyone. Grouping together thematic fields can allow for a clearer overall view."

While some terms have been modified to more closely suit the interventions and wording used in the respective municipal field of action, others have been added or fine-tuned. Already when the draft version was being sketched out, emphasis was put on the need to consider the viewpoints of various groups and communities in the city when choosing and designating the dimensions. This should occur at the beginning of the participatory process in order to reduce possible bones of contention or to create incentives to participate.

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<sup>115</sup> The most up-to-date version of the Bad Nauheim doughnut, from an internal council document.



**Figure 23:**  
 Draft version of the  
 Bad Nauheim doughnut

The overall approach and summarising picture of the goals were discussed with regard to the depiction. This resulted in the image being interpreted not in terms of dimensions but as a vision and as a core element placed at the heart of the doughnut: **“A healthy and green city” with “Connected and active people”.**

To put the doughnut into practice as a management instrument, goals would need to be developed for the municipal scale. The city’s Konzern generated a grid – or matrix – featuring dimensions and goals which brought together existing and, in the view of staff from the individual departments’, feasibly achievable goals and measures. Using this grid as a template, **findings from the participatory process were combined and linked up with indicators.**

**In selecting indicators appropriate for accomplishing goals, collect real-time sensor data (derived as part of the smart city infrastructure) and identify requirements for action**

As the **indicators were being devised**, it was important to take into **account the particular characteristics of the city** as a spa town – for example along the dimension of water

management. SDG indicators don't cover all aspects of the local conditions that need to be considered for Bad Nauheim to be effectively managed. In other words, indicators for a city of 32,000 residents are only suitable when water use is calculated by factoring in the many visitors and patients that leads to a total of around 50,000. A well-established tool that covers the region is a "water traffic light"<sup>116</sup> system, already used by the city's main water suppliers. It therefore seemed a sensible measure to align the "responsible water use" target with the volume of water potentially available for Bad Nauheim.

### **Formulating suitable goals and indicators in a positive way**

In terms of a **communication** strategy, **goals and indicators** need to be formulated in a positive light. Questions relating to which goals and indicators would be appropriate should be generally addressed not in a restrictive but in a creative fashion. The defined goals should reflect an attractive vision of a future-oriented city with a high quality of life – a vision that the whole municipal community can rally around and one that influences how the city is managed. The measures should be geared towards tangibly achieving these goals and chosen in such a way that they're realistic, financially viable and able to be tested and evaluated on the basis of measurable criteria. What plays a role in this context is how to effectively portray the indicators to the public and how to present the achievement of objectives as transparently as possible. This could give rise to a tension between managing expectations and the ambitious demands of internal and external actors.

### **Differentiating the indicators helps to bring out the complexity of dimensions**

The grid of goals and dimensions should bring to light the **interrelationships and interactions between the different dimensions**, ensuring that decisions can be made with the holistic overview in mind. For example, the water management theme can be linked with those of water climate, extreme weather adaptation, land use, business location, sustainable consumption and nutrition. From the point of view of method, visualising (in the doughnut workshops) how dimensions abutted and interacted with one another encouraged people to become aware of and therefore think about these connections.

This search for goals and clearly measurable indicators suitable for the local and regional scale quickly showed that, for each definition, the **varying impacts of management initiatives in terms of any of the interventions have to be taken into account**. As a way of resolving this, for each goal a set of indicators was devised on the basis of the actions or steps that need to be taken to achieve that goal – a "measures-indicator set". As well as putting an increased emphasis on monitoring and assessment, this broader approach allow the complexity of the existing state of affairs to become more evident. Looking at water management, for instance, differentiated indicators were proposed in order to gauge and prioritise the impact of individual measures, and at the same time to take into account how major consumers of this resource affected water supply, demand and availability. These more nuanced indicators included, for example, calculating the number of cisterns and water tanks, the use of rainwater and rainwater retention in cubic metres as well as the allocation of drinking water to residents and visitors. Within the administration, with regard to specific indicators it was agreed that the catalogue of indicators relevant for Bad Nauheim should be designed to be comparable with those devised by other municipalities and that there should be a flexible approach to adapting indicators dynamically over time.

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<sup>116</sup> The water traffic-light system means that suppliers and utilities in the region have access to a commune-wide tool that gives them information about the expected availability of drinking water, both currently and for the following three months. The municipalities are informed in advance of the volume that is expected to be delivered, so that they can deal efficiently with supplying drinking water in their area. The availability of drinking water at the local level depends on the availability of groundwater as well as on other requirements relating to environmental and nature conservation as stipulated by law. The traffic light's colours signal good, average or critical availability. For more information, see <https://www.ovag.de/wasser/wasserampel.html>.

### The doughnut model reveals conflicts between goals

A further key effect arising from how the goals and indicators were depicted was the increase in **transparency regarding existing conflicts between goals**. The goal to create more housing in the Rhine-Main region, for example, can't be considered without bearing in mind, in the case of water consumption, adjustments that would need to be made to the water volumes available for any given area, which can be calculated from the water traffic light data. Competing goals can be revealed by applying the doughnut method, where targets and indicators are given equal value and are often adjacent or near to one another and – as in the layout of a 'round table' – do not presuppose priority: the model is not there to mediate between the distribution of water as governed by the traffic light system and the need to create housing. It's the protagonists' job to look for solutions and negotiate compromises.

Indicators are only as good as the available data by which they can be measured. When workshop participants were asked about the general **availability of data**, it became clear that it was not yet possible to make assertions along each of the dimensions. Further questions relating to data time series and quality revealed that some of it was to hand and could be made available while, in other thematic areas, fresh data sources would have to be developed or existing data blended with each other to see whether impacts captured by data from one source were echoed in the effects recorded by another, for instance when using survey data in comparing time series.

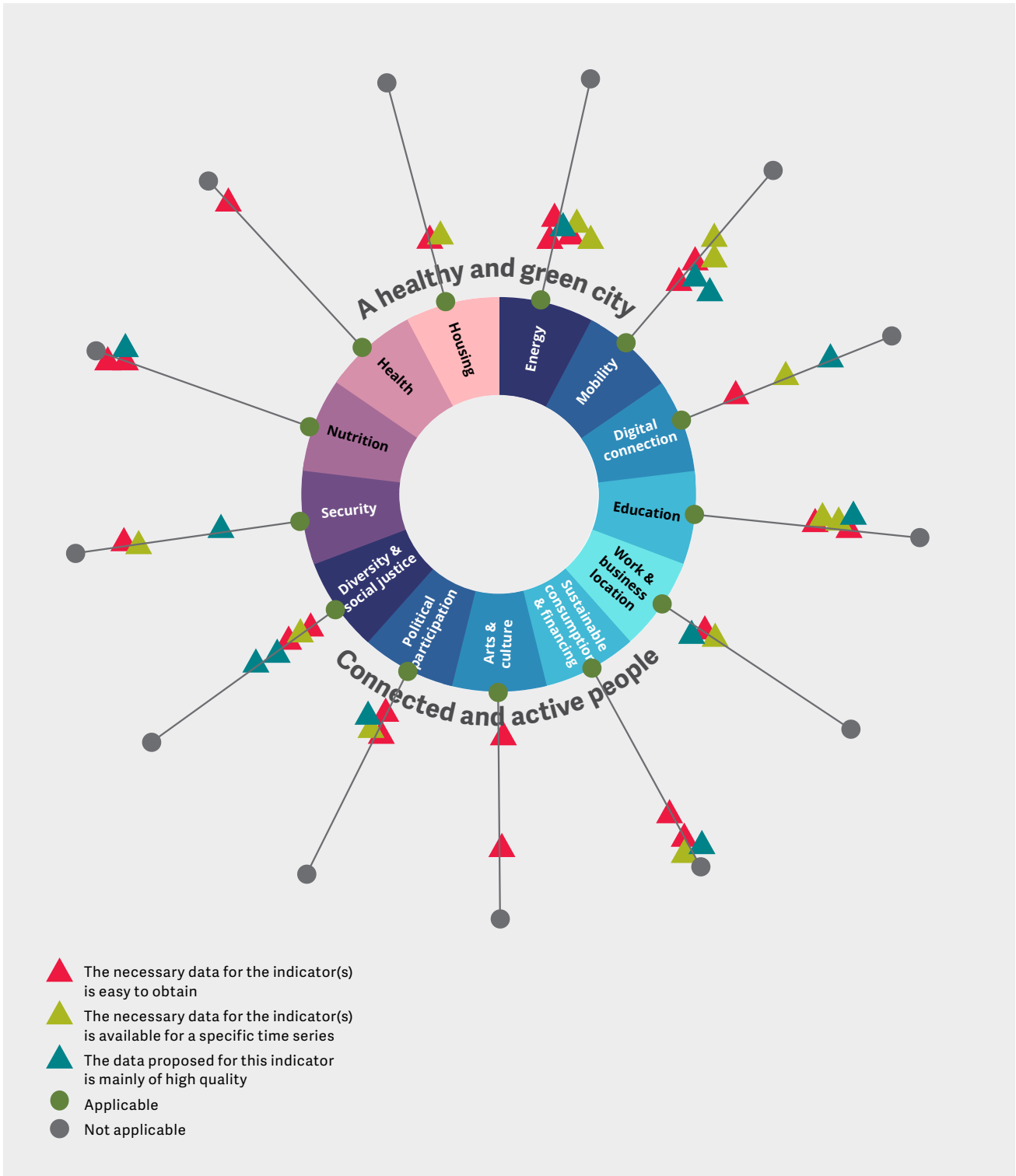
The data covering other thematic areas, on the other hand, is precise, of high quality and available over very long time series. Mainly because of the link to Bad Nauheim's smart city strategy, the issue of data collection and utilisation is a priority for the coming years within the municipality's administrative sphere. In this context, by measuring the microclimate, small-particle pollution, temperature, rainfall, soil moisture, traffic and transport patterns, real-time data from sensors contributing to the smart city infrastructure is – by fine-tuning the indicators – adding more and more flavour to the doughnut (see figure 24<sup>117</sup> and figure 25<sup>118</sup>).

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<sup>117</sup> Authors' own presentation, based on the design worked up on the "concept board" from the second workshop, on the theme of drawing up goals and indicator sets.

<sup>118</sup> Ibid.

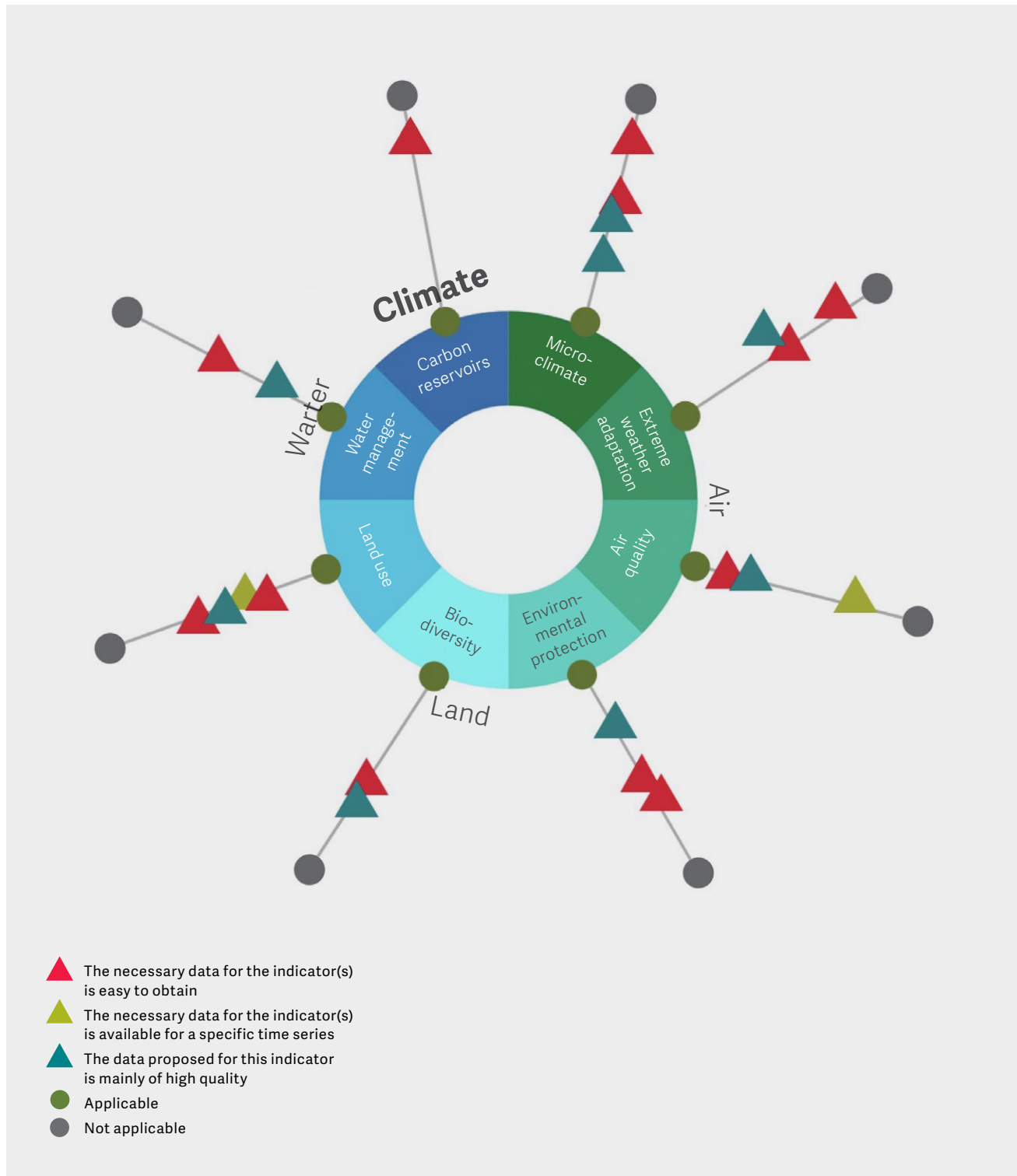
Figure 24:  
 Flashlight diagram showing data availability and data quality for the themes around the inner ring of the doughnut



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**Figure 25:**  
Flashlight diagram showing data availability and data quality for the themes around the outer ring of the doughnut



### Approaches to using the doughnut in the administration's activities

There was a broad consensus within Bad Nauheim's administrative entities that the doughnut is ideal for shedding light on the connections between different themes and hence for painting a full-length picture. In this respect, it works as a medium for communication within the administration and can lead to coordinated action across departmental boundaries. It was also agreed that **two different versions** of the recipe should be created: a detailed one to be used within the administration and one for external **communication**.

A simplified version for presenting externally is needed anyway for bringing in civic society actors and to avoid becoming lost in debates over small details. The doughnut could work as **a basic recipe for creating a common vision for Bad Nauheim**. Applying the doughnut principles by addressing their constituent quadrants would also make sense, because each quadrant has its own specific areas of interest and potential action and yet these can be aggregated to enable effective implementation across the city. In building up and then applying the doughnut recipe, there should be a certain maturity in the existing competencies when it comes to how the procedure is managed. The relevant municipal authorities must provide the resources to ensure central management of the process, exchange of know-how across and between departments and, of course, the means to gather and regularly assess data for the necessary sets of indicators.

It's also clear that applying doughnut economics on a city-wide scale calls for administrative bodies to be in **principle open to participatory processes**. The main takeaway from the workshops was that a huge advantage of the doughnut lies in its ability to make connections visible and to facilitate exchange relating to the issues of sustainable urban development.

### Evaluating the model: Added value for Bad Nauheim but more work needs to be done on the details

Senior administration staff working in Bad Nauheim rated the doughnut model as extremely suitable for deploying in their city because, **due to the way its operating principles were based on the idea of integration, it brought together different themes and could help to clarify connections when used as an internal management instrument**. The doughnut was also seen as ideal in the way it visualises these connections as part of the debate between policymakers and administrative authorities. Matthias Wieliki also points out the significance of linking the doughnut to key objectives in the city's budgeting framework. In this way, outcome-oriented or 'product' goals could be supplemented with doughnut ingredients, or indicators taken from the doughnut could be used to ascertain whether certain product goals had been achieved. Both types of management instrument could work in tandem. Other management tools – like the system for agreeing on targets and the criteria by which these are deemed to have been reached – would then be integrated into this process.

However, when it comes to external communication, as well as its ability to offer effective visualisation and the need to involve civil society, there were also concerns expressed about how extensively to use the doughnut on particular projects, which could lead to further delays in planning processes that are in any case already laborious. At this point it is worth reiterating that the doughnut clarifies interrelationships and conflicting goals, but it **doesn't make the decisions. These still have to be made by policymakers** who are accountable for them. So, for instance, the conflicting objectives between the (desirable) creation of living space and the (undesirable) paving over of natural ground surfaces could be resolved in such a way that planted roofs and green façades could compensate for the reduced water absorbency of the new surface.

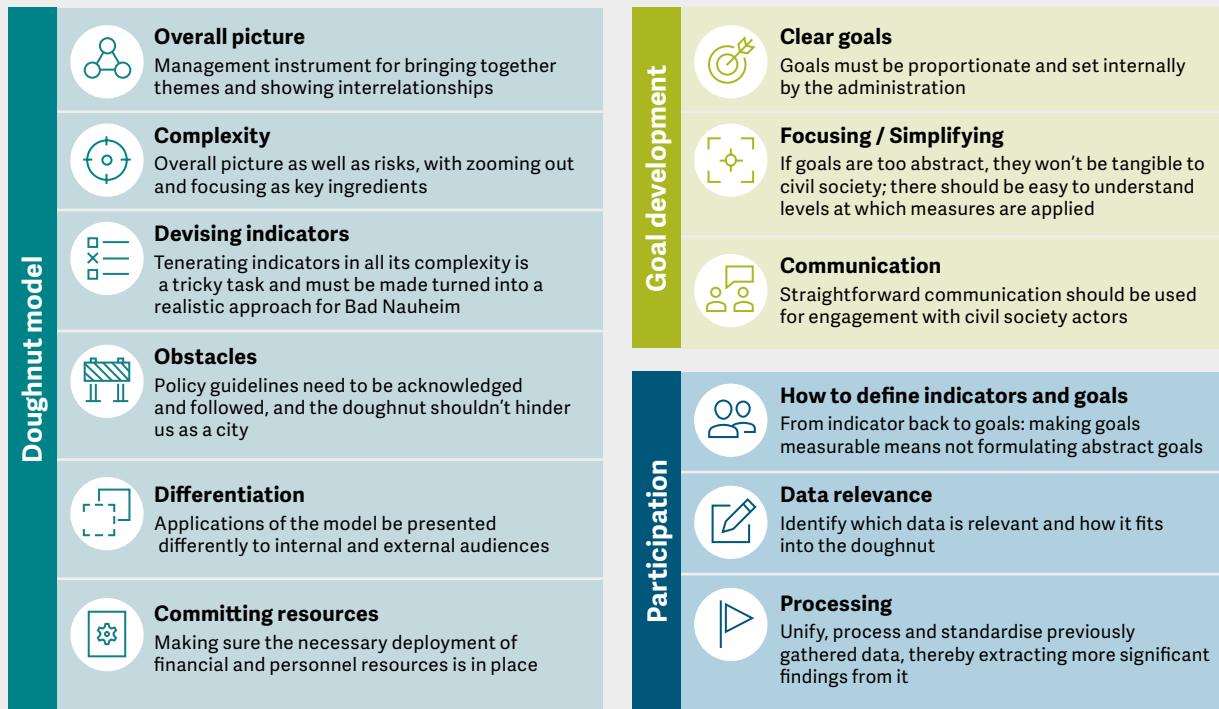
The following figure gives an overview of the main findings from the three workshops held in Bad Nauheim.

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#### Main findings from the three workshops

Case study: Bad Nauheim



**Figure 26:**  
Main findings from the  
Bad Nauheim workshops

The next step will involve introducing and presenting the doughnut to civic actors as part of a Workshop for the Future, to collaborate in generating and collating potential measures and interventions that could be put in place. The aim is to motivate and inspire the largest number of people as possible to take part, and to sort and arrange their wishes and ideas in terms of the feasible and the realistic (see figure 26<sup>119</sup>).

### 3.2.2 Krefeld

Krefeld, in the German state of North Rhine-Westphalia, has 233,541 residents<sup>120</sup> and lies within the administrative district of Düsseldorf, which itself is part of the wider metropolitan region of Rhein-Ruhr and the Rhineland.

Once known as the "City of Silk and Velvet", many of the businesses based there now are connected with the chemicals and metallurgy industries as well as with engineering and vehicle manufacture. The city area is divided into nine municipal districts with 19 sub-districts and its mayor is Frank Meyer of the Social Democratic Party. Its many art nouveau and late-19th century buildings make it North Rhine-Westphalia's premier Bauhaus-influenced city.<sup>121</sup>

<sup>119</sup> Authors' own presentation (PD).

<sup>120</sup> See: <https://www.krefeld.de/de/buergerservice/allgemeine-daten/>.

<sup>121</sup> More information about Krefeld can be found on the city's website at: [www.krefeld.de/de/allg/krefeld-im-profil/](http://www.krefeld.de/de/allg/krefeld-im-profil/).



The urban development strategy is characterised by a wealth of concepts relating to several fields that, taken together, describe particular theme-based strategies. Krefeld is also building up a smart city approach from existing ideas and strategies, including those relating to climate protection, parking, transportation, mobility, traffic management, a digitalisation strategy for the city's administration, and integrated, district- and neighbourhood-oriented concepts. Some smart city projects have been signposted and are ready to be put in place, like an on-demand electric car-hire service, an e-scooter sharing initiative covering Krefeld's public utilities, a school for computer coding as well as "TreeMania", a project for better maintenance of the city's natural spaces. Work on **preparing a smart city strategy** lies at the heart of other innovative schemes. As with other separate concepts regarding urban development, priority is being given to crucial aspects of the doughnut, like participation and connecting up innovation, economics and climate-related topics.<sup>122</sup>

**The theme of sustainability plays a major role in Krefeld.** The city decided in 2020 to integrate the climate protection concept "KrefeldKlima 2030" into its overall strategic framework. This compiled a CO<sub>2</sub> and energy "balance sheet" and, with the involvement of the city's communities, developed a catalogue of measures and drew up a prioritisation plan covering the most important measures. The climate protection concept has since been put into place. As an accompaniment to these activities, the City Council decided in early 2021 that Krefeld would be climate-neutral by 2035. The city's "KrefeldKlimaNeutral 2035"<sup>123</sup> policy then worked up an ambitious programme of initiatives for attaining this goal. This revision of the concept aimed to update the data landscape relating to ecological limits by drawing up an energy and CO<sub>2</sub> balance sheet for the municipality, and to come up with ways to save energy and reduce CO<sub>2</sub> emissions by 2035.

In terms of the impacts when viewed through the doughnut's local-ecological lens, the climate protection framework known as KrefeldKlima 2030 set out a series of actions that could be taken for adapting to climate change, outlining a range of measures for preventing or mitigating the negative effects of climate change on the city and its people. Since summer 2021, and in the wake of a council resolution earlier that year, the city has been developing – by way of a participatory process – a system of quality management and certification procedures for adaptation to climate change with the aim of being a candidate city for the European Climate Adaptation Award<sup>124</sup>. Krefeld has also been an official 'fair-trade town' since 2018, with its engagement focusing heavily on using fair-trade products in the administration, in shops, cafés and restaurants as well as a high school using only sustainably sourced products. These are all measures that can play a role in the context of the doughnut's social-global lens.<sup>125</sup>

### 3.2.2.1 Starting point: The doughnut as a fresh and holistic approach for the administration

The doughnut model was mostly unfamiliar to people at the beginning of the case study, but active participation in the workshops (see part 3.2.2.2) testified to an extensive interest and openness on the part of administrative staff when it came to testing out the new methods. As mentioned before, in recent years Krefeld had been developing and adopting a series of sub-strategies. Alongside the benefits and the need to devise strategies, the case study participants saw the challenge in this particular approach to encompassing an overall strategic

<sup>122</sup> For more on the Krefeld's smart city concept, see: <https://www.innenstadt-nrw.de/netzwerk-vor-ort-smart-city/smart-city-kommunen-1/beckum-1-1-1> and <https://www.krefeld.de/de/wirtschaft-digitales/smartcityprozess/>. The smart city core team is made up of staff from the council's Department of the Economy, Digitalisation and International Affairs (known by its German acronym WDI) and the city's department for economic development, and representatives from public utilities.

<sup>123</sup> The city's integrated climate protection concept, "KrefeldKlima 2030", can be found at: <https://www.krefeld.de/de/umwelt/klimaschutzkonzept/>.

<sup>124</sup> See also: <https://www.krefeld.de/de/umwelt/european-climate-adaptation-award/>.

<sup>125</sup> For more on the certification procedure for designation as a fair-trade town, see: <https://kaoa-krefeld.de/de/inhalt/krefeld-ist-weiterhin-fairtrade-town/>.

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orientation for the city. One advantage seen was the potential to make use of the doughnut's holistic approach. Because of the city's size and its division into 19 districts, many participants thought defining the city as a whole would be a demanding task. Circumstances in the region were constantly evolving and there were also dissimilar contexts and conditions within districts and neighbourhoods. The administration saw the necessity – as important as it was challenging – to devise strategy-creating processes in conjunction with civic organisations and to convert these into tangible findings that could be put into practice. At that time, the administration had no template for creating a participatory process.

The desire within the administration was for **collaboration across departments** and for a comprehensive approach with a focus on setting strategic goals. In many cases goals relating to particular issues had already been defined and these needed to be made operational, and practical steps for reaching these goals had to be worked on. Staff realised that they had the chance to create the doughnut not on the basis of individual subject areas but along dimensions, or through lenses, denoted by theme. This approach led to common starting points and possible conflicts with the city's existing goals – issues that may have otherwise remained hidden – to be made visible. City-scale targets, now more transparent, could then be prioritised and potential conflicts between goals could be resolved in a proactive way.

**Figure 27:**  
Participants and goals for the workshops – Krefeld

#### 3.2.2.2 Procedure and participants



All interested parties within the Krefeld administration were invited to participate in a series of three workshops (see figure 27<sup>126</sup>). The procedure was steered by the council’s Department of the Economy, Digitalisation and International Affairs and the staff unit covering climate protection and sustainability (part of a division overseeing consumer protection, social services, senior care, housing and health), and the virtual workshops were open to department heads as well as to experts and consultants. The open and exclusively digital format of the workshop sequence was perceived as an innovative and rewarding experience.

In the first workshop, the 13 participants familiarised themselves with the doughnut model, and discussed in two groups the usability of the city portrait method. They then considered, for each of the local–social and local–ecological lenses, the viability of a doughnut for Krefeld, arranging the existing strategies, measures and activities to fit the thematic dimensions generated by the city portrait method.

The second workshop, titled “Goals and indicators”, also took place in two groups, with one group building up indicators for the social foundation and the second devising indicators for the ecological ceiling of the doughnut depiction. The groups were then presented with two proposed dimensions and asked to come up with initial example indicators with the help of goals that had been elaborated in the first workshop. The participants could also use the SDGs as they related to the municipality as a basis for working up thematically appropriate themes.<sup>127</sup> The workshop wasn’t aimed at devising sets of indicators but rather at encouraging discussions around the pros and cons of the method.

For the third workshop, the 15 participants contributed to evaluating in summary the overall doughnut methodology as it could apply to Krefeld. With the help of specific examples and existing problem areas, they discussed whether to use – and, if so, how to use – the doughnut method. Two possible applications seemed to be immediately apparent: using the doughnut recipe as a methodological building block for devising an overarching city strategy and applying it as a classification scheme for structuring and upgrading strategically relevant pools of data. There were also debates about the possibility of scaling it to different levels, down to districts and individual neighbourhoods, for instance.

### 3.2.2.3 Findings: A holistic approach that throws open departmental silos and which needs to be built on a robust data foundation

The Krefeld administration sees the doughnut’s value in potentially **creating transparency by encouraging interdisciplinary exchange and its worth as a strategy-oriented and holistic approach**. Painting a city portrait with its four component lenses made links, especially between social and ecological aspects, particularly clear. The participants found it easier thereby to take a local perspective than a global one. Viewed through the four lenses, possible conflicts between goals, for example, became visible.

If every dimension of the doughnut were measurable and backed up with goals, indicators and data, this could at the very least lead to cross-agency collaboration in terms of furthering climate adaptation at the municipal level which, in the eyes of the participants, could offer opportunities. They also agreed that a system of evidence-based management required a culture of complete transparency within the administration, an integrated and comprehensive review of all data available for the area, decisions on completion of work to be made on the basis of indicator- and target-based criteria, and a continuous updating of the data pools available.

<sup>126</sup> Authors’ own presentation.

<sup>127</sup> SDG-related data for Krefeld can be found at the dedicated portal for SDGs at: [https://sdg-portal.de/de/sdg-indikatoren/krefeldstadt?goals\[0\]=1&goals\[1\]=2&goals\[2\]=3&goals\[3\]=4&goals\[4\]=5&goals\[5\]=6&goals\[6\]=7&goals\[7\]=8&goals\[8\]=9&goals\[9\]=10&goals\[10\]=11&goals\[11\]=12&goals\[12\]=13&goals\[13\]=14&goals\[14\]=15&goals\[15\]=16&goals\[16\]=17&showAverage=1&longTermComparison=1](https://sdg-portal.de/de/sdg-indikatoren/krefeldstadt?goals[0]=1&goals[1]=2&goals[2]=3&goals[3]=4&goals[4]=5&goals[5]=6&goals[6]=7&goals[7]=8&goals[8]=9&goals[9]=10&goals[10]=11&goals[11]=12&goals[12]=13&goals[13]=14&goals[14]=15&goals[15]=16&goals[16]=17&showAverage=1&longTermComparison=1).

### Strategy: The donut model as a city-wide strategic approach and management tool

Krefeld's municipal administration sees in the doughnut model a **concept, particularly along the ecological axis, for pursuing a holistic and sustainable strategy for the city.** "The doughnut model allows you to bring together in a visual form the diverse goals of the municipality's administrative bodies, which encourages you to think holistically," says Dr Hannah Finke, sustainability advisor to the city.

The doughnut model can **spur collaboration across departments** and agencies and so can bracket together teams and expert advisors in the administration. As a visually clear and vivid way to depict current circumstances, the doughnut can sort and assemble the different strategies a city follows in terms of the goals and varying impacts (sometimes across dimensions) of these strategies. It makes them visible and embeds them with each other in a context. Krefeld's city development seems to be strongly characterised by the conceiving and putting into practice of sub-strategies, which can lead to conflicting goals and diverging orientations. Visualising and identifying synergies and possible goal conflicts as they relate to sustainability could help to encourage the setting of priorities and emphases.

Decisions about areas to focus on and how to resolve goal conflicts can't, however, be made by recourse to the doughnut. They need to come as a result of decision-makers being prepared to set out priorities and to put measures into place. But mutual dialogue about possible **synergies and conflicting targets** encourages understanding of opposing viewpoints, which can help to address silo thinking and can pave the way to innovative solutions.

### By creating transparency, the doughnut bolsters decisions based on evidence and supported by argument

As a result of its graphic approach and of its acceptance as a model around the world, the doughnut is expected to unleash innovative energies in the city context. It acts as a **medium of communication for depicting complex interrelationships.** It can also be viewed as a "model for transparency that encourages understanding of opposing viewpoints and identifies interdependencies," says Markus Lewitzki, smart city advisor and consultant on digitalisation as well as Krefeld's chief digital officer (CDO). **He goes on to say that the model "doesn't enable responsibility to be handed over, but the doughnut can perhaps help to map out the status quo and the possible effects this is having, thereby making the decision-making trail more transparent."** The doughnut model can also provide increased transparency when it comes to the global dimensions. The global impacts that business at the municipal level can have are often difficult to estimate and are not necessarily tangible on this smaller scale. National and global targets that are carried down to the municipal level (for instance, recording of nitrogen use and its effects, CO<sub>2</sub> emissions or the promoting of fair trade practices) can be bundled together with targets set for the local level and can therefore bring greater attention to these issues.

### Pros and cons of scaling the doughnut model to the district and neighbourhood level

**Tailoring the doughnut recipe to neighbourhood tastes** represented for Krefeld an interesting variant for putting policy into place, as many smaller projects are run at the district and neighbourhood scales. Depending on the particular urban unit, different directions and solutions were favoured which could be captured by an even more fine-grained doughnut. There were reservations about the risk of aggregating these for the entire city in such a way that some detail regarding differences could be lost, because a solution for one part of the city may not work for another. **The doughnut had to include indicators and data** that had hitherto not been used by the administration, relating to, for example, citizens' consumption patterns, which again could differ across districts. Some data is already available on a small scale and the current goal is to produce more data on as small a scale as possible.

But **data availability continues to be a challenge, especially at the hyperlocal level.** Another aspect discussed for a possible future application was the spatial representation of data, for example in the form of a map, or other multi-dimensional resolutions. These representations could serve as a basis for revising objectives, allowing for smaller units to be assessed in a fine-grained way, and could be a decision-making aid for specific measures such as adapting buildings. **Scaling the doughnut model to the level of districts and neighbourhoods** could enable differing goals to be set and pursued within these residential and administrative units, with the caveat that aggregating these goals to a broader urban level would not be possible without further work.

### **For the doughnut model, measurable indicators are a prerequisite for assessing whether targets have been reached**

Using potential indicators as a basis for analysing the doughnut puts a high value on data and indicator assessment. For [Markus Lewitzki, "The doughnut approach focuses on what the combined indicators and data mean for impact assessment and managing sustainable development at the municipal level."](#)

A notable finding from the discussion in this second workshop was that developing an **appropriate method for identifying indicators for the defined goals was viewed as an extremely complex** and certainly costly task. The indicators based on SDGs were also perceived as not always adequate or fit for purpose. It's rarely the case that one indicator will suit one goal (or even a particular dimension) – it always needs to be viewed in connection with other indicators and to focus on those aspects that predominantly relate to possible actions at the municipal scale. It's also likely that there will be key goals that can't be realistically quantified by means of data. Indicators have to be – at least in part – able to adapt to evolving circumstances, even if this entails the loss of time series and lessens the validity of information when it comes to identifying trends. The data catalogue should be continually updated, meaning that it contains the best available current indicators instead of being a long-term repository, in order to capture the dynamics in the many thematic fields. Because determining indicators and the associated targets or benchmarks for each one is a key part of urban planning, it's important that decisions on policy play a leading role in this context.

A big advantage of the practical engagement with target indicators on the part of the administration and its policymaking representatives related to what the **goals could appropriately reflect.** As the issue of methodology regarding how to devise indicators then quickly becomes one of how to measure when and whether a target has been reached, goals should be formulated as concretely as possible. "It helps to deal with questions of methodology when identifying indicators because it makes you think about goals even more concretely – like, what precisely is a 'goal', after all? What is measurable?" says Markus Lewitzki. The establishing of goals and appropriate indicators, as well as defining the data that needs to be evaluated, leads to fundamental decisions being made, and this in turn allows conclusions to be drawn about the impact of administrative activities. Another outcome could be that setting goals might be easier with the help of current thinking with respect to attaining possible objectives. The doughnut can be a valuable tool to help reflection in this regard.

In the process of determining indicators suitable for Krefeld, a potentially **German-wide catalogue of possible indicators could be a worthwhile support.** This could enable creative leeway for authorities operating at the municipal level, while at the same time allowing for a certain degree of simplification and streamlining as well as being a tool for comparing municipalities. Exchange of know-how and best practice when it comes to methods and regionally oriented data is another strong argument for devising a general indicator catalogue as a common guide that could be used by any municipal or communal body. This guide should include existing and potential data sources that would prevent each municipality, when it came to researching possibilities, from having to reinvent the wheel. The city of Krefeld, for example, could have used such a catalogue as a guide for an inventory of the current situation regarding doughnut-relevant goals and indicators.

The **complexity of the reality the doughnut presented was also seen by participants in the workshops to offer a chance to build up a heuristic** – or rule of thumb – approach. To start with, **a step-by-step approach was envisaged**. Planners could begin with selected dimensions and then gradually add the ingredients to the doughnut recipe. This staggered approach was also acknowledged as valuable in the context of bringing in other actors and stakeholders. There was a consensus that, after working up a set of fundamental indicators with the help of experts and consultants, there should be a binding decision on the part of policymakers, council representatives and senior administration staff to give legitimacy to the ensuing tasks that this work eventually generates. Civil society bodies should also be brought in via a participatory process.

### **Data portal: The doughnut's dimensions as an aid to structuring the collection of municipal data**

The doughnut model was seen as offering the possibility **for existing collections of data to be blended together in a new way**, organised by way of the visual appeal of the torus form. This also enables gaps in data for measuring the many aspects of sustainability to be revealed. With this gathering of publicly available data, **the doughnut could be used to structure how the data is assessed**. The data would be available in a clearly arranged and visual format, and the data platform could be used as an invitation for more communication around creating further references between the theme-based dimensions and existing data.

According to the head of the statistics and elections department, Jürgen Neuhausen, the city has already compiled a great deal of data. Current information is published in a statistical report that comes out every year and which can be accessed via a website.<sup>128</sup> At the same time, Krefeld is an exemplary case that shows the challenges inherent in combining data with methods for devising indicators. The doughnut offers the chance, but also the risks, of **more strongly coupling together the various social and ecological themes in one context**. To prepare a doughnut that included data that could be used for measuring indicators, the entire data landscape of the municipality would have to be taken into account. This is because on the one hand, a great deal of data is sitting in bunkers and is therefore not available to be used as an overarching information resource and, on the other, because the data that would need to be combined to elicit convincing indicators doesn't yet exist in a unified and standard format.

Ultimately, the doughnut can be a trigger for extending statistics relating to municipal conditions that emphasise social data as well as a driver for combining societal and ecological information as part of a holistic approach – hence bringing into focus an interdisciplinary picture of impacts on the city. For this to happen, a comprehensive stocktaking of existing data, its availability and quality needs to be carried out and gaps in the data identified. Not every gap needs closing in principle or straight away: personal data is especially protected, and real-time data as well as information from sensors calls for a technical infrastructure to be built up. It would also be necessary to analyse data that hasn't been produced by administrative authorities. Finally, the data should be in a standardised format as far as possible so that crucial intersections with the doughnut can be identified and links to its lenses or dimensions can be made evident and visualised (see figures 28<sup>129</sup> and 29<sup>130</sup>).

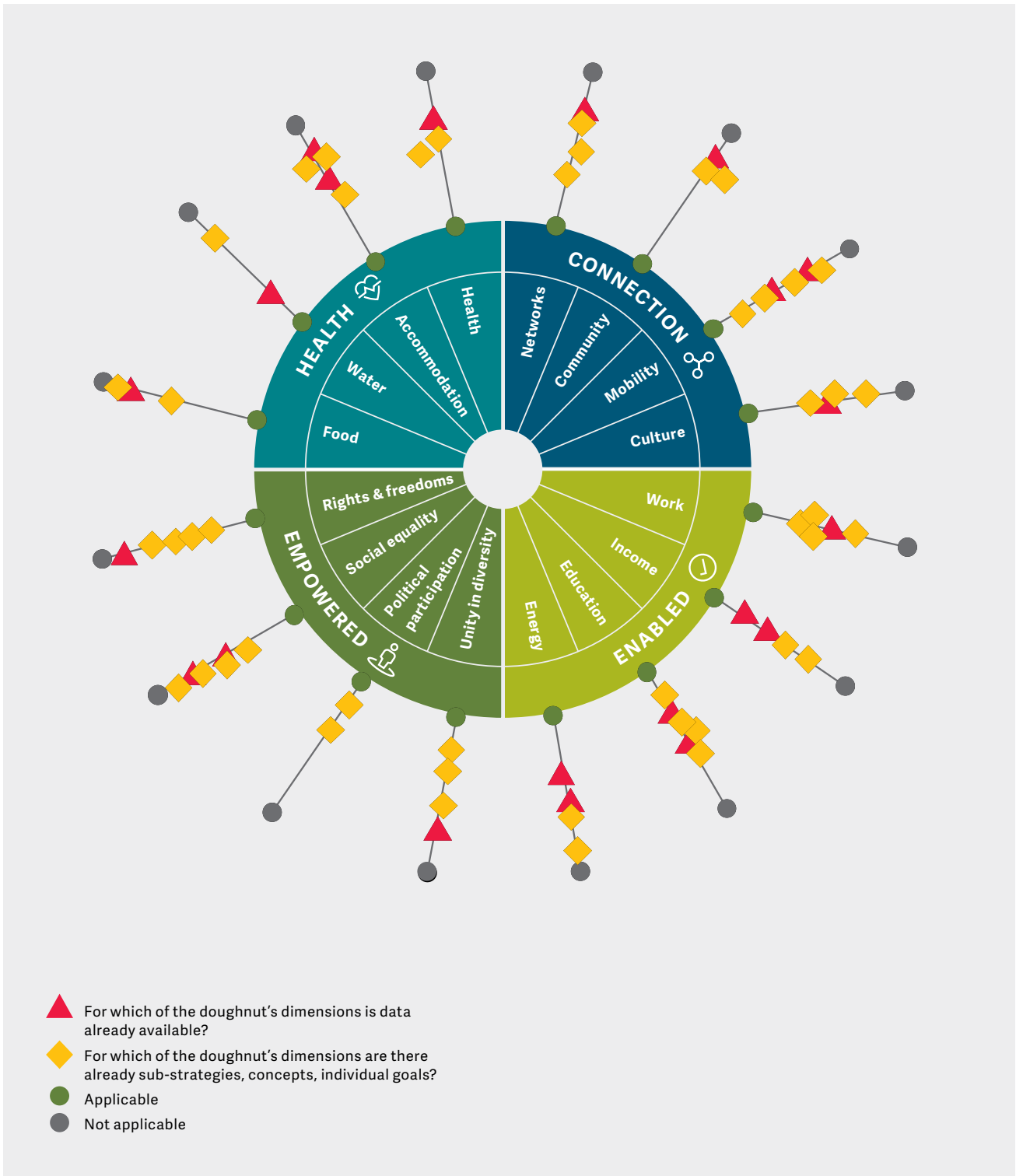
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<sup>128</sup> For more on the statistical yearbook and other data published about Krefeld, see: [www.krefeld.de/de/buergerservice/daten-fakten/](http://www.krefeld.de/de/buergerservice/daten-fakten/).

<sup>129</sup> Authors' own visualisation, based on a figure from the concept board in the second workshop (on the theme "Goals and indicators").

<sup>130</sup> Ibid.

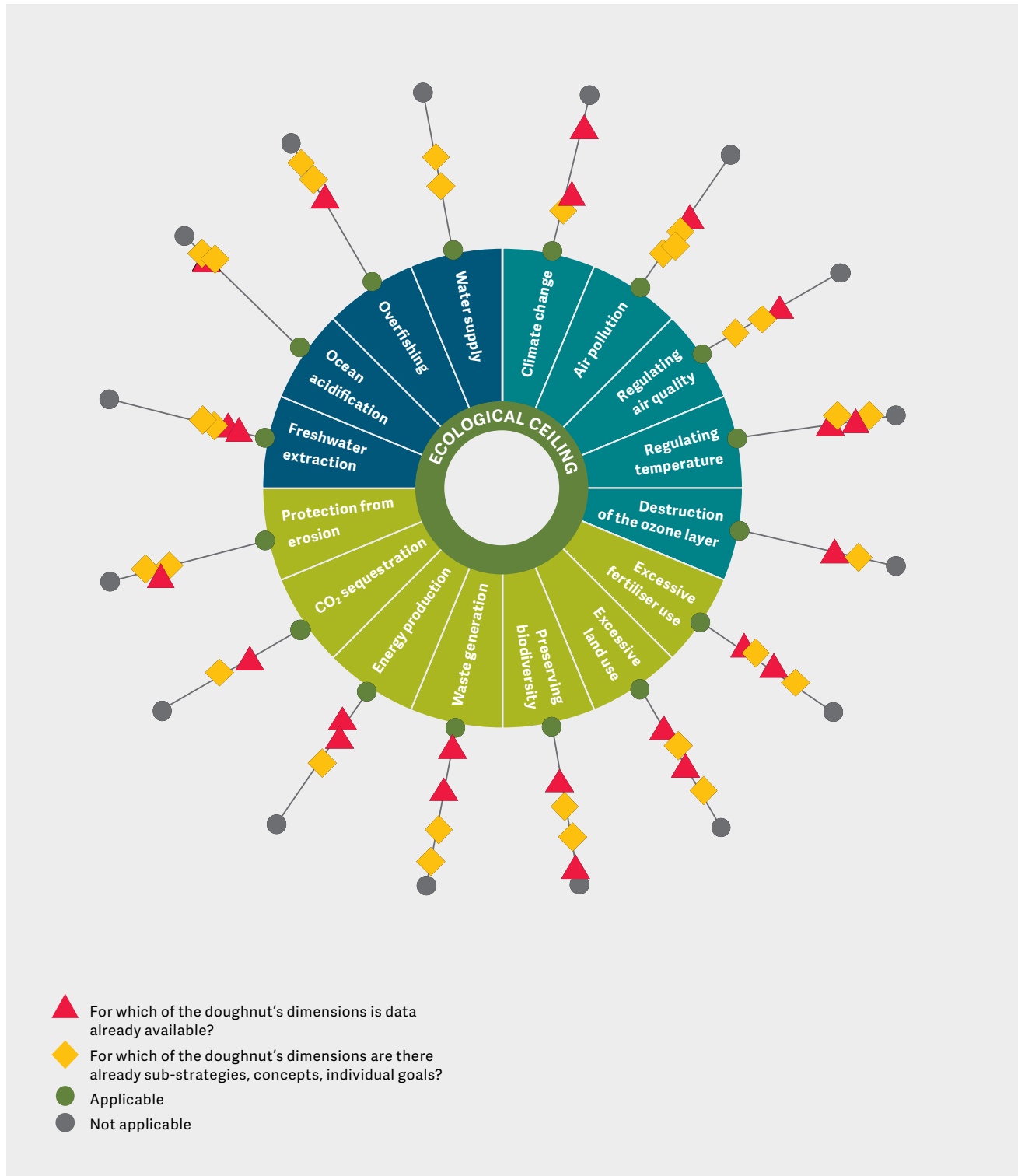
Figure 28:  
Flashlight diagram – the status  
of the doughnut’s dimensions  
in Krefeld today



## 3.2 Doughnut Economics as a Strategic Compass

3 The model in practice / 3.2 Case studies in Germany

Figure 29:  
Flashlight diagram –  
the status of the doughnut’s  
dimensions in Krefeld today  
(the outer ring of the doughnut)





Presenting the relevant data in a doughnut form built on internal and external data platforms could herald a **paradigm shift within the administration when it comes to handling data**. Each specialist administrative field could structure its statistical and (where necessary) real-time data and deploy findings in a way that visualises them in the framework of the doughnut; it goes without saying that the data will always be handled in conformity with legal and data-protection regulations. In this fashion, representatives of other departments in the administration would also be able to make use of the information, as could (at a later stage) the wider public.

But in the long term, this data would need to be linked up to the collectively agreed binding targets and their indicators, and would initially only show currently available data. This depiction, but also the preparation phase, would represent significant added value for the city as it can be adopted as a **tool for reflecting on the data situation** and on issues surrounding the city's data governance policies. The data foundation for supporting decision-making could be strengthened and information gathered and formatted in a more standardised way. This enhances the transparency of municipality-related data and its use as a management-relevant body of knowledge for the sustainable transformation of urban spaces.

#### **Evaluating the model: Creating added value for Krefeld's decision-makers**

The doughnut model can lead to a paradigm shift within municipalities in the way they deal with goals, data and indicators. It can be an effective instrument of transparency and reflection when data is being gathered and processed. It also offers a visually appealing depiction of the many dimensions of sustainability that can give insight into the tasks the city needs to undertake to reach this, as well as depicting targets for achievement and the limits that have to be respected. Working with the dimensions of the doughnut entails that the whole range of municipal administrative activity should be based on an overarching system of targets, measurable indicators and high-quality data, which has not yet been put in place at a cross-departmental level. The initial data collection and its processing by the administration requires a cultural change within the organisation that will involve major efforts, which will be compensated for by the added value generated by creating an excellent municipal resource of unified and standardised data. This is also currently the focus of discussion in the field of smart city development.

At a later stage, **data from non-municipal sources would also have to be integrated, for example from sub-authorities, municipal companies and other potential data providers**. This could in future be automated, gradually leading to the building up of an information platform – internal to the administration at first, but later to be extended along the path of open access. The ideas and deliberations developed in the workshops will be taken up in the next stage of the procedure in order to point out options and possibilities for decision-makers and whether (and if so, how) the doughnut model can be used in Krefeld. It will be their task to evaluate the potentials and limitations of the model for Krefeld and to advise the administration on the paths they need to follow. Lastly, the very fact of working with the doughnut model – even without specific measures being applied – encourages continuing reflection on sustainable urban development (see Figure 30<sup>131</sup>).

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<sup>131</sup> Authors' own presentation.

## 3.2 Doughnut Economics as a Strategic Compass

### 3 The model in practice / 3.2 Case studies in Germany

#### Main findings from the three workshops

Case study: Krefeld

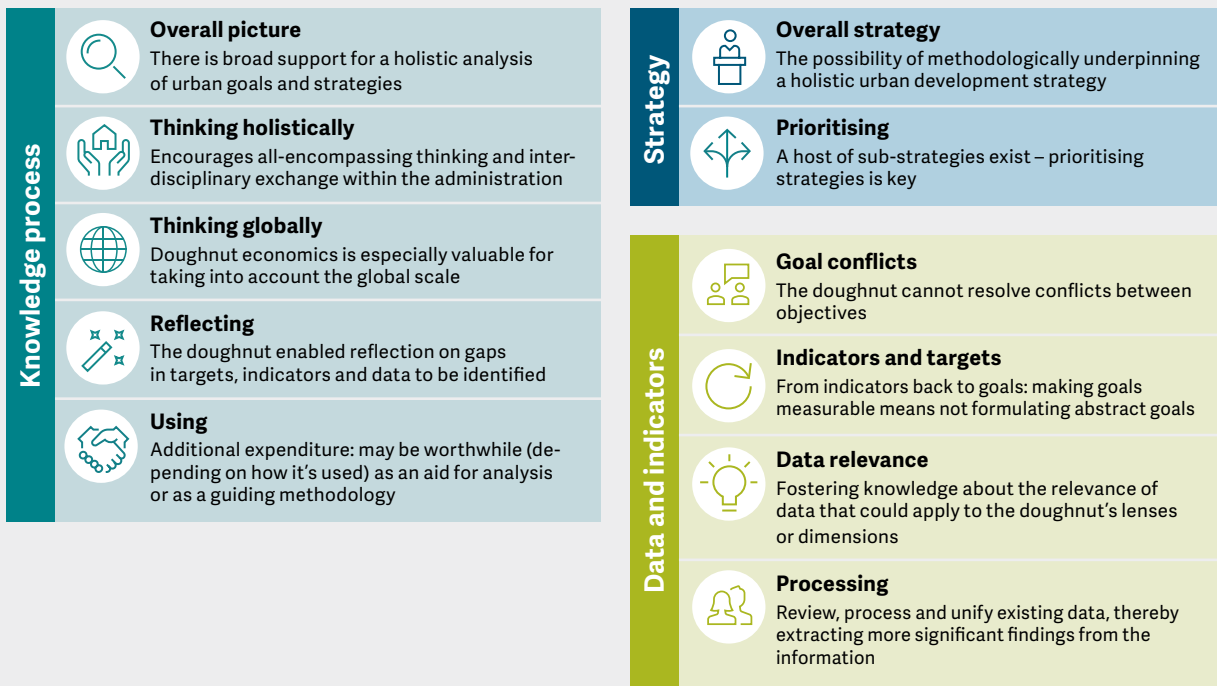


Figure 30:  
Main findings from the  
Krefeld workshops

# A deeper dive – doughnut economics in the context of other sustainability concepts

Many urban areas have been working for years on questions of sustainability. The climate crisis is growing, and so too are critical mass movements like Fridays for Future. As a result, many cities are adopting Sustainable Development Goals (SDGs). Doughnut economics – still a relatively novel concept in German policymaking circles – poses key questions, one of which is: “Is this just the next new ‘flavour of the month’?” Or does doughnut economics offer added value beyond other approaches? Can it perhaps even complement other approaches?

Alongside the doughnut model, other notions are available for bringing to fruition the overarching paradigm of sustainable development. These can be useful for stakeholders (municipalities for instance) in operationalising sustainability – in other words, making it a reality. Five further socio-economic models are the focus of consideration here. These also aim to put in place economic conditions that stay below the ecological ceiling and are in some respects more well-known than doughnut economics: Sustainable Development Goals or SDGs (developed as part of the UN’s Agenda 2030), the Economy for the Common Good, climate neutrality, the circular economy and precautionary post-growth management. Although these six approaches differ in many respects and use different methods in pursuing the common goal of sustainable development, they nevertheless have several overlapping aspects and can complement one another. Figure 31 brings to light these intersections and the possibilities for exploiting them at the municipal level. The following remarks give a brief outline of the concepts and their underlying principles.

## Agenda 2030 / Sustainable Development Goals (SDGs)

Agenda 2030, lying at the heart of the Sustainable Development Goals, constitutes perhaps the most well-known sustainability concept and the most comprehensive set of goals so far. Its 17 goals were drawn up by the United Nations in 2015 in connection with its agendas both for sustainability and for development, and the programme has been ratified by all 193 member states. It tasks decision-makers at all levels to push forward sustainable development on the ‘no-one left behind’ principle. The 17 goals are broken down into 169 sub-goals and strategies and feature a built-in review mechanism in the form of 230 global indicators so that progress can be measured up to 2030. At the national scale, reporting takes place via the UN’s High-Level Political Forum (HLPF). Although Agenda 2030 is primarily an agreement between states, it also addresses municipalities by way of targets for each of the 17 goals that eventually need to be put in place on the local scale. This is the case especially with the eleventh goal (SDG 11), “Sustainable cities and communities – making cities inclusive, safe, resilient and sustainable”. In Germany over 190 cities, community associations and administrative districts are members of the “Club der Agenda 2030-Kommunen”, which passed a resolution to adopt the SDGs and is now integrating these in agreements on targets at the local scale.<sup>132</sup>

<sup>132</sup> See DST, RGRE 2015; SKEW 2021.

### The Economy for the Common Good

As a model for an alternative way of running an economy, the notion of the Economy of the Common Good (also known by its German acronym, GWÖ, for 'Gemeinwohl-Ökonomie) is diametrically opposed to the prevailing idea of maximising profit for individuals and companies. The concept's ethical focus – putting the well-being of people and the health of the environment as the highest aim of economic life – should be brought about above all at the political and societal level. A "common good balance sheet", whose effects can be laid out in the form of a matrix, offers its users a tangible instrument for measuring and reporting on issues relating to common public interests. Relevant themes and values are evaluated within 20 main action fields, such as "Human rights in the supply chain" or "Responsibility for ecological impacts" and scored via a points system whose outcome expresses how far the measure contributes to a common good in equilibrium – a balancing of accounts, as it were. After this accounting and reporting process, a report is published that includes data regarding certifications and audits. Originally intended as a tool for businesses, the model and its instruments have been available since 2013 to municipalities in the shape of the "GWÖ-Bilanz 2.0". The first administrative authorities in Germany – among them those covering Wielenbach, Klixbüll, Breklum and Bordelum – have now been GWÖ-certified.<sup>133</sup>

### Climate neutrality

The idea of climate neutrality refers to the transition to more climate-friendly economic practices. In principle, no greenhouse gases should be emitted that exceed the amount that nature and other 'sinks' can absorb. To reach so-called "net zero", all greenhouse gas emissions worldwide must be balanced by carbon sequestration. The term "climate neutrality" – and the many effects that have to be taken into account – goes beyond greenhouse gas neutrality and can give rise to some ambiguity because as a term it's often used but seldom explicitly defined. It has frequently been used as a pointer or signpost but less so as a viable model with guidelines that illustrate how this goal ought to be achieved. In tandem with legal measures on protecting the environment drawn up at the national or even supranational level, many municipalities are already taking steps along the path to climate neutrality.<sup>134</sup>

### The circular economy

The circular economy works in opposition to the predominant linear economic system that follows the "take-make-waste" principle. It is therefore centred on the economics of waste and an emphasis on the end of the life cycles of products and services. The circular economy is a system that represents a paradigm shift in terms of how people and societies interact with the natural world. It aims at preventing resources from being exhausted, to ensure material and energy use take place within a closed circle and to encourage sustainable development to be put into practice at the micro scale (firms and consumers), the "meso" or intermediate level (business players working in symbiosis) and the macro scale (countries, regions and governments).

Attaining this circulatory system requires environmental innovations that focus on the cyclical and regenerative in the context of altering how societies legislate, produce and consume.<sup>135</sup> Against the backdrop of this definition, the circular economy concept clearly embraces more than just the environmental and sustainability aspects of conserving resources. In other words, putting the circular economy into operation isn't just a matter of recycling but calls for changes in behaviour and product design much earlier in the production chain. Theoretical approaches and objectives of the circular economy have been around for decades but,

<sup>133</sup> See International Federation for the Economy for the Common Good e.V. 2022.

<sup>134</sup> See Sieck/Purr 2021.

<sup>135</sup> See Prieto-Sandoval et al. 2018.

because the necessary preconditions need to be in place first, have rarely moved away from the conceptual level. Circular economy ideas and zero-waste notions are already part of the toolbox in several municipalities, but the reality of the ‘circular city’ is still a long way off.<sup>136</sup>

### The precautionary post-growth position

Precautionary post-growth occupies an area of tension between debates around ‘green growth’ and ‘de-growth’. The two latter positions are based on assumptions that are not entirely backed up by science. The idea of precautionary post-growth occupies a third position that is open-minded about its findings: it’s unclear how economic performance will evolve when economic systems in richer countries change to meet global ecological goals. But it’s probable that economic output as a result of this transformation wouldn’t increase and could even shrink significantly. The central questions remain: how to wean oneself off dependence on economic growth and how to maintain societal well-being within planetary boundaries?<sup>137</sup> Such visionary conceptions, rooted in the principles of foresight (or precaution) and resilience, are taking material shape in only a few municipal areas, based on agreed policies around land use, for instance.<sup>138</sup>

The concepts and approaches to sustainable development outlined here are as diverse as their origins – whether in science, politics or society – as well as in their proposed planning and implementation periods – or “lead times” – which can range from two to 30 years. Devising tools and use cases is a crucial task in this respect. The concepts in part follow very different logics based, for example, on evaluations of targets, guidelines or policy limits and depending on whether timespans are defined or left open.

For a deeper comparative analysis of the above concepts, three approaches are required:

- / Criterion-based comparison based on the drawing up of a catalogue of criteria and matrices<sup>139</sup>
- / Graphic-based comparison by means of which concepts can be visualised depending on whether they’re subsumed within or adjacent to other ideas<sup>140</sup>
- / Mathematical comparison to enable the conditions that underlie development avenues to be quantified<sup>141</sup>

The comparison carried out here, because of its potential value at the municipal level, is the one based on criteria. From the range of potential criteria, the following were chosen for comparison in order to present the similarities and differences between the concepts as clearly as possible.

136 Dhawan / Beckmann 2019.

137 See Petschow et al. 2018.

138 See Böcker et al. 2021.

139 See Felber / Raworth 2018.

140 See Gericke 2021.

141 See Luukkanen et al. 2021.

# 3.3

## Doughnut Economics as a Strategic Compass

3 The model in practice / 3.3 A deeper dive – doughnut economics in the context of other sustainability concepts

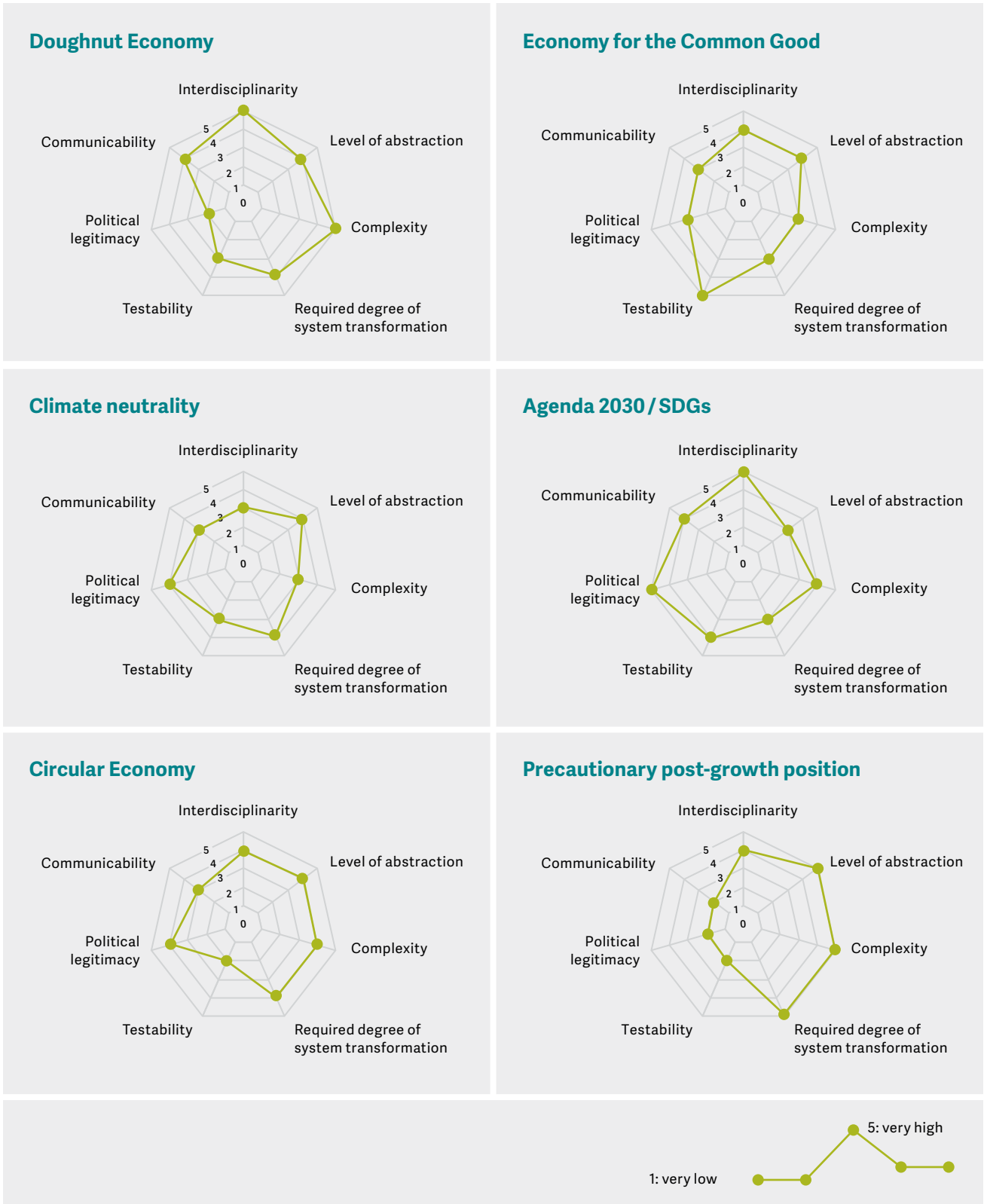
**Table 2:**  
Comparison criteria

Criterion	Question
Interdisciplinarity	How many schools of thought and methods does the concept combine?
Level of abstraction	How high is the degree of generalisation (“altitude”) in the concept?
Complexity	How many scales, targets and parameters does the concept help to define?
Required degree of system transformation	How far do you have to deviate from current economic and social conditions to put the concept into practice?
Testability	What possibilities for measuring are built into the concept?
Political legitimacy	How great is the political will for implementing the concept?
Communicability	Apart from in specialist and scientific discourse, how well can the concept be explained and presented in a visual way?

The results of the criterion-based evaluation show how the approaches diverge in terms of their origins and lead times, their political legitimacy, their testability and communicability. Whereas the political consensus around SDGs, the circular economy and climate-friendly economies and business practices, all of which have long lead times, means that they’ve long been part of policymaking agendas, newer concepts (from academic and societal sources) like doughnut economics and the Economy for the Common Good have not so far attained as much political legitimacy. But the last two notions, springing as they do from the same mould, are just as communicable and testable. These criteria don’t, however, apply to the concepts of climate neutrality, the circular economy or the precautionary post-growth position, whose diverse origins can be traced back to decades of debate and ongoing development.

What all the concepts have in common is a certain level of abstraction and complexity, which in many cases reflects the complexity of the sustainable development topic. Only the SDGs and the Economy for the Common Good are less abstract or complex, though they also assume fewer preconditions regarding the required degree of system change. The highest values for communicability are attained by doughnut economics and SDGs, because their focus on visualisation and transfer of know-how are baked in from the start. Comparing the two, the SDGs are presented in an appealing visual form but, unlike in the case of doughnut economics, these don’t follow an outcome-oriented design. Doughnut economics enables the ideas of staying within or exceeding limits to be portrayed in all their aspects in an eye-catching way, whereas the conditions for target achievement with the SDGs need to be depicted in a separate format. On one side this can be an advantage when it comes to reporting but, on the other, it can lead to a “cherry-picking” tendency that informs decision-making processes (see figure 31).<sup>142</sup>

<sup>142</sup> Authors’ own visualisations.



**Figure 31:** Comparative assessment of the sustainability concepts presented here

The range of criteria considered here has a direct influence on their potential to be applied to and implemented in municipalities. The notion of the Economy for the Common Good has a strong potential in this regard because the previously mentioned well-being grid or common-good matrix enables authorities to carry out auditing on the basis of this criterion, and this undertaking would also include the elements of communicability and testability. The steadily growing number of administrative authorities moving towards accounting policies relating to a common-good balance sheet testify to its ease of use as a tool. This applies similarly to Agenda 2030 and the Sustainable Development Goals, which enjoy the advantage of having gained legitimacy at many levels. With its accompanying system of Voluntary Local Reviews (VLRs), or local-scale sustainability reports, municipalities can make public their contributions to implementing the 17 sustainability goals. At the moment, when it comes to doughnut economics these foundations are not yet in place. Localised and tailor-made approaches like the city portrait could lead to a greater degree of legitimation and acceptance in future but will need to be further developed and matured before they gain more widespread recognition.

It should also be noted in closing that none of the concepts presented here was primarily developed for the municipal level. They require a great deal of transferring and adapting before cities and other municipal areas can implement and measure them. They of course come up against administrative and spatial constraints that govern a landscape – a situation that doesn't do justice to the many social and ecological challenges we face. This is clear to see with the concepts of climate neutrality, whose contingencies and impacts need to be addressed in a global context, and the circular economy, which must take into account forward and backward supply chains beyond any particular region. Predefined system limits and model approaches can, however, enable these concepts to be applied in the municipal sphere. Some examples could be: adapting to targets for reducing greenhouse gas emissions that focuses on administrative territories rather than just penalising polluters; a circular economy-oriented restriction on private companies extracting value from materials contained in a city's waste products, particularly electronic and electrical equipment (in a process known as "urban mining"), and taking over this task via municipal waste disposal enterprises.

No less challenging is how sustainable municipal development can be measured and assessed by means of this range of concepts. Whereas a template for a well-being or common-good matrix is available for administrations to use as part of the Economy for the Common Good approach – a matrix originally developed with businesses in mind – for the frequently applied "SDG Indicators for Municipalities"<sup>143</sup>, this is preceded by a whole host of relevance checks and selection processes on the superordinate level. As of now, the precautionary post-growth position hasn't advanced any measurement or evaluation ideas that could be applied on the municipal scale. Doughnut economics, along with the SDGs, lies in the middle of this spectrum of approaches: by means of the complex yet worthwhile methods of the city portrait and the decision wheel, for example, they can be transferred and applied to local-scale conditions and circumstances. The huge variety of ways in which sustainability concepts can be transferred and adapted for municipalities consequently require many and diverse resources as well as in-depth competence – a key prerequisite for the comprehensibility and therefore the ultimate success of these concepts. Or, to formulate this observation the other way around: the greater the necessity for transferral and adaptation and the smaller the resources available for this to happen, the less likely it will be that municipal actors view the approach as manageable and appealing.

There are other novel ideas that focus on sustainable development specifically on the urban scale. The "Territorial Agenda", the "New Leipzig Charter" and the "New Urban Agenda" are all built on the foundation of sustainable development but their recommendations also go beyond issues exclusively relating to urban development. Notions of sustainable urban and economic development need to be meshed together much more tightly if we want to drive forward an all-encompassing, holistic and attainable development for municipalities.

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<sup>143</sup> See Bertelsmann Foundation et al. 2020.



In summary, a closer inspection of the sustainability concepts outlined here shows how much they require a whole range of actors working at a variety of levels to implement them. This gives rise to a wealth of fresh issues that the approaches need to address if the concepts are to be put into practice on municipal scales. These include questions like “Are growth and sustainability compatible?”, “How do we make global challenges scalable at the local level?” and “Will inequalities just be relocated rather than reduced as a result of using these concepts?”

Because there’s still scope for many aspects of these models to be worked on further, they could complement each other and in this way perhaps address still outstanding issues. One possibility could be to combine doughnut economics with the SDGs, as the 17 sustainability goals could be situated in the inner (social foundation) ring and the outer (ecological ceiling) ring of the doughnut, thus depicting the benchmarks for designing a sustainable and distributive doughnut economics strategy. Combining the doughnut’s focus on boundaries and the SDGs’ focus on measurable goals would lead to progress reports that enhance decision-making transparency and lead to tailored solutions that would meet the differing needs of individual municipal areas. While the Economy for the Common Good offers a useful entry into the concept of sustainability, the ideas behind the precautionary post-growth position invite sophisticated and even longer-term thinking. In the course of putting these concepts into practical effect, notions underlying the circular economy and the principle of climate neutrality are likely to provide a further impulse. Depending on the existing conditions in any municipality, these concepts could also be suitable entry paths because they initially focus on subsidiary aspects of sustainable development.

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## **List of abbreviations**

<b>BPS</b>	Bureau of Planning and Sustainability
<b>CBEI</b>	Consumption-based Emissions Inventory
<b>CDDW</b>	Cornwall Development and Decision Wheel
<b>CO<sub>2</sub></b>	carbon dioxide
<b>DEAL</b>	Doughnut Economics Action Lab
<b>Difu</b>	The German Institute of Urban Affairs (Deutsches Institut für Urbanistik gGmbH)
<b>GDP</b>	gross domestic product (in German, BIP – Bruttoinlandsprodukt)
<b>GWÖ</b>	Economy for the Common Good (Gemeinwohl-Ökonomie)
<b>HLPF</b>	High Level Political Forum
<b>KGSt</b>	Municipal Joint Office for Administrative Management (Kommunale Gemeinschaftsstelle für Verwaltungsmanagement)
<b>KPI</b>	key performance indicator
<b>KSM</b>	municipal management model (Kommunales Steuerungsmodell)
<b>LCI</b>	life cycle inventory
<b>NGO</b>	non-governmental organisation
<b>SDG</b>	Sustainable Development Goal
<b>TCI</b>	Thriving Cities Initiative
<b>UN</b>	United Nations
<b>VLR</b>	Voluntary Local Reviews
<b>ZMÖ</b>	The Centre for Global Ministry and Ecumenical Relations (Zentrum für Mission und Ökumene der Nordkirche)



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