Driving Urban Transitions

EUROPEAN PARTNERSHIP

DUT Roadmap Update – First Draft

dutpartnership.eu
Driving Urban Transitions to a sustainable future

Co-funded by the European Union

Driving Urban Transitions

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Executive Summary

To be written at a later stage when other texts are finalised.

Reading Guide

To be written at a later stage when other texts are finalised.

Introduction

The Driving Urban Transitions Partnership

A public-public partnership to facilitate an innovation ecosystem for urban transitions

The Driving Urban Transitions (DUT) Partnership is an intergovernmental research and innovation programme addressing key challenges of urban transitions. Our vision is a sustainable future with a high quality of life in cities for all. Our mission is to fund research and innovation to build capacities of the public and private sectors, as well as civil society, enabling them to drive urban transitions. To achieve this, DUT operates through three interconnected Transition Pathways: the Positive Energy Districts (PED) Pathway, the 15-Minute City (15mC) Pathway, and the Circular Urban Economies (CUE) Pathway. These pathways provide a structured approach to tackling systemic urban challenges, fostering innovation, and enabling cities to implement sustainable solutions.

The DUT Partnership is a co-funded European Partnership within the European Research and Innovation (R&I) Framework Programme, Horizon Europe. The DUT Partnership started in 2022, building upon and stepping up the ambition and efforts of the Joint Programming Initiative (JPI) Urban Europe. By developing and implementing a transformative (R&I) programme, DUT is contributing to the European Mission of Climate-Neutral and Smart cities, the European Green Deal, and the Urban Agenda for the EU.

DUT brings together 67 partners from 29 countries, involving national and regional policy makers, funders and urban-related policy agencies, to invest in urban (R&I) and strengthen the innovation eco-system for urban transitions in Europe and beyond. With our partners, DUT connects and aligns European and national strategies, fostering impactful urban innovation.

DUT is a catalyst for transformational change that engages stakeholders in the strategic agenda setting, development and implementation of annual calls, and synthesises, communicates, and translates the results of funded projects into practice. By emphasising co-creation and collaboration, we aim to build a strong community around urban transitions.

Through our calls and activities, we are creating a critical mass of knowledge and action for urban transitions. To achieve our mission, we have put in place comprehensive measures that will be explained further in this roadmap.

OUR VISION: a sustainable future with a high quality of life in cities for all.

OUR MISSION: to fund research and innovation to build capacities of the public and private sectors, as well as civil society, enabling them to drive urban transitions.

Our first achievements

Figure 1: Will be an infographic that illustrates the achievements / progress from DUT so far. It will be inspired by, and incorporate elements from, the image below.

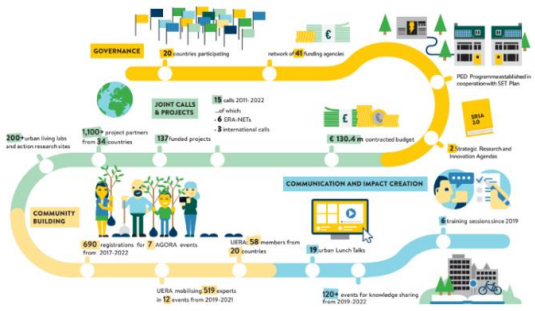


Figure 1: JPI UE Facts & Figures

The following information will be included/visualised in the infographic. Some parts might also be described in text.

- *The DUT Partnership builds upon and steps up the ambition and efforts of the Joint Programming Initiative (JPI) Urban Europe. JPI Urban Europe was created in 2010 to address the global urban challenges of today with the ambition to develop a European research and innovation hub on urban matters and create European solutions by means of coordinated research.*
- *At the start of the DUT partnership, in 2022, a strategic roadmap was developed.*
- *We used this roadmap to mobilise 47 European funding agencies from 29 countries during the first two transnational calls, DUT Call 2022 and DUT Call 2023.*
- *This approach has enabled us to build a diverse and comprehensive portfolio of R&I projects. In the first two calls 90 projects were funded. They bring together 1193 project partners from 32 countries.*
- *(60+ urban living labs)*
- *We launched a community of 20 urban doers*
- *(We altered our call and project conditions to revised needs, i.e. KH experts)*

We have supported the R&I activities of our projects by providing:

- *X number of trainings,*
- *Y number of deep dives and webinars,*

We have facilitated peer-to-peer learning within the DUT ecosystem of actors and projects in

- *X number of AGORA workshops,*
- *Z number of City Panel events, (with x number of cities represented)*
- *Å number of POP-C events*
- *Ä number of Urban Arenas*

We have (cooperated with international stakeholders, initiatives and organisations) and ensured external learning beyond our programme in:

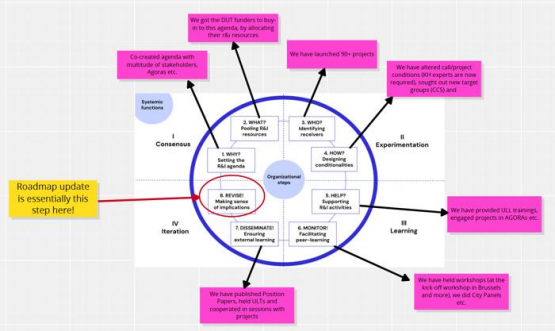
- *11 Urban Lunch Talks*
- *Y number of position and policy papers*
- *Z number of conference sessions*

Why an updated roadmap?

At the start of the DUT Partnership in 2022, a strategic roadmap was developed in an extensive and inclusive process engaging DUT partners and a wider stakeholder community. The roadmap outlined the conceptual framework and its implementation as well as the thematic scope of the DUT Transition Pathways and identified key principles and measures to enhance their impact. Its purpose was to provide a long-term framework for DUT partners to coordinate actions, align priorities and join forces to drive urban transitions.

Since the launch of the DUT Partnership, emerging urban challenges have reshaped the landscape. Urban areas remain critical for driving transitions towards sustainable, regenerative, liveable and just societies, offering opportunities to contribute to global sustainability and robustness. However, progress towards the Sustainable Development Goals (SDGs) and climate targets has been insufficient, indicating that the road to the necessary sustainability transitions remains uncertain. Against a backdrop of global environmental, social, economic, and political shifts, urban policies and priorities must evolve to remain responsive to pressing urban challenges and forthcoming opportunities. Likewise, research and innovation programmes must adapt in parallel, ensuring that cities have the knowledge and capacities needed to drive transformation.

This updated roadmap reflects the current state of the world and our achievements and learnings from the first years of DUT. While the core themes and focus areas of the partnership remain, it recognises the need for ongoing reassessment of our methods and longstanding assumptions in response to emerging knowledge and changing environments. The roadmap has been co-created through a series of workshops with DUT member countries and consultations with key external stakeholders, ensuring a broad and inclusive perspective on future priorities and actions.



Kommentiert [OK1]: *Image text: The revision of the DUT Roadmap relies on an iterative approach (see figure 1) that helps DUT align its tools and methods toward fostering systemic change and experimentalism. It builds upon experiences gained and reflections made over the partnership's initial three years. Essentially, the revised roadmap encapsulates insights gathered from completing the initial "cycle" of consensus-building, experimentation, learning, and adaptation. These insights are derived from internal DUT operations and the alignment measures necessary to navigate an increasingly volatile international political landscape.*

Developments in European and global (urban) policies

As we move into the second half of the 2020s, European cities are navigating a rapidly shifting policy landscape. The question is no longer *why* urban transitions are necessary, but rather *how* we can drive them forward in an increasingly complex and interconnected world. In 2025, we are now in a pivotal moment for global and European sustainability efforts. The UN Agenda 2030 has entered its final five-year phase, yet progress towards the Sustainable Development Goals (SDGs) remains insufficient. The Decade of Action[1], meant to accelerate transformative change, has yet to deliver the systemic shifts needed to

[1] https://www.un.org/sustainabledevelopment/decade-of-action/

achieve these global targets. With only five years remaining, the urgency to align policies, investments, and innovations for sustainable urban transitions has never been greater.

At the global level, discussions about what comes after 2030 are also gaining momentum. The UN's Post-2030 Pact for the Future[2] is shaping the next phase of international cooperation, raising important questions about the role of urbanisation in global sustainability goals. Cities have long been recognised as engines of economic growth and hubs of innovation, but their role in addressing climate resilience, social equity, and economic stability will need to be further embedded in global frameworks.

Meanwhile, the EU is refining its own vision for climate action, with a key focus on COP30 in Brazil (2025). The European Commission is expected to reinforce its global climate leadership, setting clear expectations for urban sustainability in the years leading up to 2030.

The political priorities of the European Commission for 2024-2029 set the overarching direction for sustainability and innovation in Europe. President von der Leyen's guidelines reaffirm the European Green Deal as the foundation of the EU's climate and environmental policy. However, the focus has now shifted from legislation to implementation and delivery, ensuring that the Green Deal translates into tangible impact on the ground.

At the same time, economic resilience and competitiveness have taken centre stage. The Competitiveness Compass[3] and the newly introduced Clean Industrial Deal[4] outline a bold strategy to support European industry, securing manufacturing while accelerating decarbonisation. This shift reflects a broader EU ambition: sustainability must go hand in hand with economic strength, innovation, and industrial leadership.

In the urban dimension, the urgency for coordinated efforts to transform urban areas into inclusive, safe, resilient, and sustainable environments has been reflected in key strategic frameworks such as the New Leipzig Charter[5] and the Urban Agenda for the EU, which emphasise integrated urban development, multi-level governance, and participatory approaches. Thematic Partnerships have been established to act as a key delivery mechanism within the Urban Agenda for the EU.

The EU Mission on Climate-Neutral and Smart Cities ("Cities Mission") is at its halfway point, with only five years left to meet its target of 100 climate-neutral cities by 2030. While key advances have been made in local climate action planning (CCCs), the next phase must focus on scaling up solutions, securing long-term funding, and embedding structural change across governance levels. The DUT Partnership plays a complementary role, supporting this agenda through research, experimentation, and broader replication of urban innovations. Similarly, the Mission on Climate Adaptation, which has gained increasing relevance due to the rise in extreme weather events, further reinforces the need for integrated and systemic urban resilience strategies.

In this context, the New European Bauhaus (NEB) provides an important cross-cutting dimension, ensuring that urban transitions are not only climate-neutral and resilient but also inclusive, aesthetically innovative, and people-centred. The NEB's emphasis on quality of life, cultural heritage, and citizen engagement complements both the Cities Mission and the Climate Adaptation Mission, fostering holistic approaches to urban transitions. These evolving frameworks set new expectations for DUT, guiding its priorities in urban research and innovation.

[2] https://unsdg.un.org/latest/stories/pact-future-world-leaders-pledge-action-peace-sustainable-development
[3] https://commission.europa.eu/document/download/10017eb1-4722-4333-add2-e0ed18105a34_en
[4] https://commission.europa.eu/topics/eu-competitiveness/clean-industrial-deal_en
[5] https://ec.europa.eu/regional_policy/whats-new/newsroom/12-08-2020-new-leipzig-charter-the-transformative-power-of-cities-for-the-common-good_en

DUT operates at the intersection of urban/climate-neutrality policies and research policies, making the future of European R&I policy critical to its work. The Draghi Report on EU competitiveness[6] and the Heitor Report on the future EU programmes for research and innovation[7] highlight Europe's lagging competitiveness and stress the need for stronger investments in innovation, digitalisation, and industrial transformation. For urban transitions, this means ensuring that research agendas align with real-world implementation, bridging the gap between knowledge creation and applied solutions.

In this evolving policy landscape, DUT plays a crucial role in bridging research, innovation, and urban action. By facilitating coordinated efforts across cities, national governments, and European institutions, DUT ensures that urban transitions are ambitious, practical, and scalable, while remaining aligned with broader policy goals. Knowledge exchange and collaboration are key to this approach, ensuring that cities can benefit from and contribute to cutting-edge research and innovation.

Learnings from the first years of DUT

The first years of DUT has generated insights on a strategic programme level on the effectiveness of some of the DUT core approaches and instruments, and how to prioritise them in the coming years.

Urbanisation processes are highly complex, with challenges so deeply embedded in the broader system that addressing them inevitably affects related policies, strategies, and urban dynamics. To navigate these complexities, DUT's predecessor programme, JPI Urban Europe, introduced an urban dilemma-driven approach, which recognises that urban dilemmas arise when two or more competing goals – such as stakeholder interests and related strategies – conflict, potentially hindering each other's success. While urban priorities have evolved, and new challenges have emerged since the launch of DUT, this approach remains a valuable framework for tackling urban complexities. Insights from funded projects confirm the value of the urban dilemma-driven approach in addressing systemic urban challenges, particularly through co-creation processes like living labs.

In line with Horizon Europe, DUT has adopted a mission-oriented approach from the start. Complementary to the urban dilemma-driven approach, it has proven effective in maintaining a strong focus on impact and driving system innovation.

The DUT Transition Pathways (TPs) has proven to be effective lenses for breaking down urban complexities into manageable components. These pathways balance city-wide system innovation with community-driven niche solutions, offering a holistic framework for tackling urban challenges. Moreover, the TPs maintain a strong multi- and interdisciplinary foundation, reinforcing DUT's commitment to holistic and innovative urban transitions. At the same time, there has been a growing focus on cross-cutting issues in DUT calls, along with a desire to strengthen connections between projects across the TPs.

To further strengthen its transformative capacity, DUT has expanded its international engagement by co-leading the Urban Transition Mission of Mission Innovation and through engaging in the Belmont Forum, a global network of funding agencies. These efforts reinforce DUT's ambition to mobilise resources and expertise beyond Europe, fostering global collaboration on urban transitions. In the next phase of DUT, international engagement will be even more emphasised.

Creating and implementing a transformative R&I programme requires continuous refinement. To support this effort, the DUT Management Board conducted an in-depth analysis of the barriers and challenges hindering the programme's full transformative potential, resulting in the white paper *Transformative Research and Innovations*. This paper outlines key obstacles, offers insights for DUT Governing Bodies, and underscores DUT's role as a "laboratory of and for funders," enabling experimentation with new approaches

[6] https://commission.europa.eu/topics/eu-competitiveness/draghi-report_en
[7] https://op.europa.eu/en/publication-detail/-/publication/2f9fc221-86bb-11ef-a67d-01aa75ed71a1/language-en

and tools. By embedding learning loops, DUT ensures that its activities and investments drive urban transitions in the most effective and impactful way. This white paper serves as both a call to action, reinforcing DUT's commitment to pioneering research and innovation in urban transitions. Some of its recommendations have already been piloted in DUT's early years – for example, the Urban Doers initiative, which creates opportunities for niche innovators. Meanwhile, other recommendations, such as increasing the emphasis on innovation, experimentation, and the arts in future calls, will shape the programme's evolution in the years to come.

Mapping emerging urban research and innovation topics

European Partnerships aim to remain flexible to address emerging challenges that cities need to tackle when navigating a volatile world of global environmental, social, economic, and political rapid shifts and disruptions. Building on insights from the first years of DUT, reflections on policy developments, and continuous exchanges with DUT partners and key stakeholders, we have identified key emerging urban research and innovation topics. These topics have the potential to broaden and/or deepen our focus, ensuring that DUT remains responsive to evolving urban challenges and policy frameworks. Ahead of the Roadmap update, the following key topics and issues were identified:

The Russian invasion of Ukraine has disrupted European urban policies, highlighting the fragility of global stability with cascading effects on energy security, food supply chains, and migration patterns of those forcefully displaced. With global disruptions in political and economic relations, European cities are preparing to ensure **security in these turbulent times**. Urban sustainability, and the three Transition Pathways of DUT offer entry points for cities to build resilience against these disruptions, while also contributing to rebuilding affected areas sustainably.

As the urban R&I landscape evolves, the urgency of addressing the anthropogenic polycrisis of climate change and biodiversity loss intensifies. While climate-neutrality and carbon reduction remains central, **adapting urban areas to climate realities** – through resilience to heatwaves, floods, and storms – becomes critical. Preparing cities for a future beyond the 1.5-degree target requires robust strategies to protect vulnerable communities, reinforce infrastructures, and integrate nature-based solutions.

Sustainability and design are increasingly seen as complementary forces in urban transformation. Integrating ecological responsibility with aesthetics helps cities foster innovative and liveable environments, from creative hubs to housing that supports biodiversity. Digital tools, including AI, are transforming urban planning, enabling experimentation with ideas before they are built.

In the face of slowing economic growth, European cities must **embrace technological change and rethink their local economies**. Focusing on circular urban economies can increase resilience, revitalize outdated infrastructures, and strengthen local value chains, creating jobs, attracting talent, and fostering skills development. By equipping local workforces with the necessary expertise, cities can enhance innovation capacity, support new business models, and minimize dependence on global supply chains.

In recent years, the **housing affordability crisis** has significantly counteracted ambitions for just urban transformations. Many urban areas across Europe are suffering from an accelerated increase in housing prices due to a variety of reasons: increased demand for housing in cities, speculation, overtourism, and the rise of platform urbanism, among others – resulting in super-gentrification. In order to revitalise the urban economies across Europe, addressing the housing crisis is essential to enhance competitiveness, attract talent, and ensure just transitions for all.

Demographic shifts towards older societies and increasing health challenges caused by the climate crisis demand a fresh perspective on **urban health and well-being**. Cities must promote active living, resilience to climate-related health risks, and enhanced social interaction through walkable neighbourhoods, green

spaces, and cycling infrastructure. With increased accessibility and safety in public spaces, outdoor activities can foster social connections. Incorporating creative approaches to urban design and integrating nature-based solutions not only improves air quality and biodiversity but supports mental health, creating cities that prioritize both sustainability and well-being.

As urban transitions accelerate, new challenges and opportunities emerge, calling for systemic change, industrial competitiveness, and socially inclusive solutions. DUT will continue to refine its approach through ongoing dialogue, ensuring its strategies remain agile in tackling these complex urban issues. Through its thematic priorities, DUT contributes significantly to achieving urban sustainability goals, offering research, innovation, and capacity-building solutions to navigate the evolving landscape of urban challenges.

The DUT Approach – Theory of Change

Why the Theory of Change?

To guide its activities, explain its strategic approach, and align interventions, the DUT Partnership has developed a Theory of Change (ToC). This structured framework outlines our long-term vision and impact, illustrates how we aim to achieve them, and clarifies how our activities contribute to systemic urban transitions. It also helps identify key assumptions, external factors, and risks that influence our success.

As the term "theory" suggests, the ToC is based on assumptions about causal links between our actions – such as launching annual calls – their direct outputs (e.g., number of funded projects), the outcomes these efforts generate (e.g., strengthened urban innovation ecosystems), and the ultimate societal, environmental and economic impact aligned with DUT's vision.

DUT's ToC integrates key objectives and impacts outlined in the first DUT Roadmap, while reinforcing our commitment to transformative research and innovation programming. Methodologically, it follows a backcasting approach, drawing from EIT Climate-KIC's MOTION project, which developed a Transformative Theory of Change handbook[8]. By defining the desired impact first and working backward, we ensure that our activities are designed to maximise transformative potential. However, recognising that large-scale societal, environmental and economic change - especially in urban systems - depends on external factors beyond DUT's direct control, we introduce an "accountability line" to distinguish between elements within DUT's influence and broader systemic conditions.

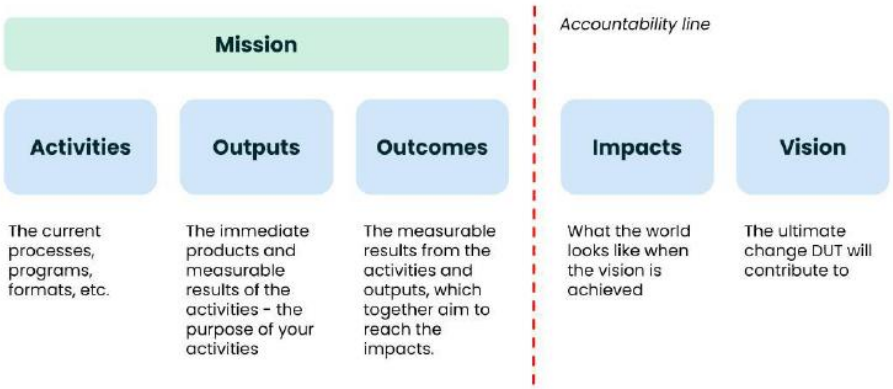


**Figure will be slightly adapted*

How the Theory of Change Shapes DUT's Programme Implementation

Rather than detailing every component here, this section sets the framework, with specific aspects of the Mission (1) and Activities and instruments (3) further explored throughout the document.

[8] https://transitionshub.climate-kic.org/publications/motion-handbook-developing-a-transformative-theory-of-change/

Vision, Mission and Impact

DUT's vision is a **sustainable future with a high quality of life in cities for all**. We envision cities that are resilient, inclusive, and climate-neutral, where urban development is driven by sustainable innovation and co-created solutions.

To achieve this, DUT's mission is to fund research and innovation, build capacities, and foster collaboration across sectors and disciplines. By empowering the public and private sectors, as well as civil society, DUT enables them to drive urban transitions through transformative action and systemic change.

DUT aims to deliver impact through a **holistic, cross-cutting approach** that is structured around the three Transition Pathways (TPs):

- **15-Minute City (15mC)**: Promoting sustainable mobility, people-centred public spaces, and diverse, connected neighbourhoods.
- **Circular Urban Economies (CUE)**: Advancing regenerative urbanism, circular resource flows, and resilient communities.
- **Positive Energy Districts (PED)**: Creating energy-efficient, flexible neighbourhoods contributing to net-zero emissions and surplus renewable energy production.

Together, these elements provide a structured yet flexible framework to guide DUT's research and innovation activities, ensuring that urban transitions are comprehensive, inclusive, and impactful. DUT fosters equitable urban transitions that accelerate innovation, translate research into practice, and influence policy. The overarching impact is to create scalable and transferable solutions that drive systemic transformation and position Europe as a leader in sustainable urban development.

Outcomes

The overall success of DUT can be measured against four qualitative outcomes and accompanying quantitative goals in terms of outputs. *See list X in Annex X for a full description of outcomes and related outputs.*

Kommentiert [OK2]: *To be included in the next version.*

1. **A widely accessible DUT Innovation Portfolio**
   Focus on outcomes of DUT-funded project. DUT strengthens the knowledge base through funding transnational projects, where different actors test co-created answers to local challenges, develop context-sensitive practices and tools. These outcomes are documented and synthesised to be applied and taken further.

2. **Targeted community and capacity building**
   Focus on individual stakeholders engaged in DUT-funded activities. DUT promotes community and capacity building, thus providing opportunities for new multi-stakeholder collaborations across disciplines and countries through projects or other DUT instruments and formats. It is central to DUT to increase their capacities, both as individuals and organisations, and as an ecosystem to address the complex challenges of urban transitions.

3. **DUT as a laboratory for transformative R&I funding**
   Focus on capacity building with DUT Partners and improved instruments for transformative research and innovation programming (TRIP). DUT continuously improves its own instruments, lowers the complexity of joint programming in partnerships under Horizon Europe and experiments with new funding tools to push for transformative action implementing urban transitions. By fostering a learning environment for its partner organisations and by refining transformative funding instruments, DUT strengthens its capacity to support urban transitions and inspires reimagining R&I programmes for greater impact.

4. **Connecting R&I results to urban policymaking**
   Focus on valorisation of DUT-funded project outcomes and influencing national to European policymaking. DUT sets out to translate and scale its Innovation Portfolio to more cases and varying contexts and to link local, national and European policymaking with evidence-based urban-focused R&I results. Thus, it aims to create a significant influence on urban policy procedures and frameworks for transformative change.

Activities and instruments

DUT implements a portfolio of measures to build a dynamic innovation ecosystem involving all relevant stakeholder groups and maximise impact. These measures and activities are key to achieve our mission and expected outcomes, and can be aggregated into five activity clusters (explored in detail in later chapters):

1. Implement research and innovation calls (linked to Outcome 1, 3)
2. Build DUT communities and improve their capacities (linked to Outcome 2)
3. Synthesise and disseminate results (linked to Outcome 1, 4)
4. Support uptake of results and scale out (linked to Outcome 2, 4)
5. Align with key urban policy initiatives and scale up (linked to Outcome 4)

These activities ensure DUT's mission translates effectively into action while driving systemic urban transitions through strategic collaboration, knowledge exchange, and policy integration.

From Strategy to Action: Implementing the DUT Mission

A holistic approach to urban transitions

DUT's approach is guided by overarching perspectives that shape urban transition processes, ensuring that activities, discussions, and funded projects align with systemic, inclusive, and impactful transitions. These cross-cutting elements are embedded within the three Transition Pathways (TPs), reinforcing the interconnections between urban challenges.

A key feature of DUT's holistic approach is the emphasis on **inter- and transdisciplinarity**. We understand that urban transitions require solutions that integrate diverse knowledge, expertise, and perspectives. Through collaboration across scientific disciplines, industry sectors, and local communities, DUT promotes the co-creation of knowledge. This enables us to address complex urban challenges from multiple angles, ensuring that the solutions we support are not only scientifically robust but also socially relevant, locally applicable, and feasible in practice. By fostering such collaborative efforts, DUT ensures that urban transformation is driven by comprehensive, context-specific insights.

Transdisciplinarity for experimentalist R&I

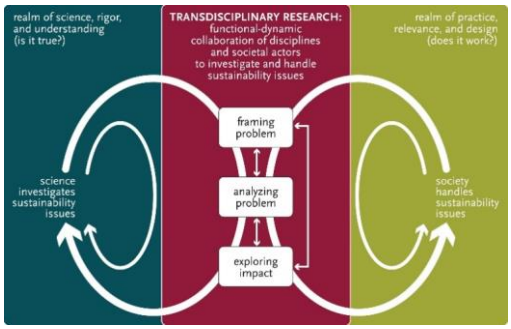


Figure Z. A transdisciplinary project connects scientific knowledge production and societal problem handling[9]

Operating on the understanding that transformative impact stems from system innovations, DUT emphasises the **systemic nature of urban transitions**. Cities function as interconnected, complex systems composed of social, environmental, economic, and technological dynamics. Identifying leverage points for scalable solutions is crucial to altering the structural conditions that shape urban development.

[9] (Environmental Science & Policy Volume 118, April 2021, Pages 18-26, Environmental Science & Policy, Conceptualising transdisciplinary integration as a multidimensional interactive process (Christian Pohl a, Julie Thompson Klein a b, Sabine Hoffmann c, Cynthia Mitchell d, Dena Fam d).

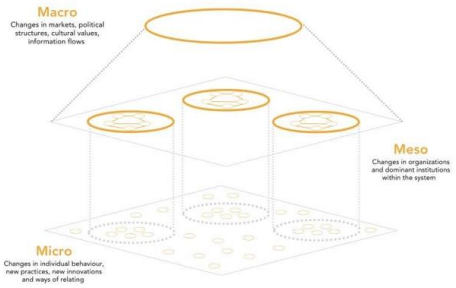


Figure X. This classic Geels (2014) depicts how macro changes are interconnected with actors and processes at the meso- and micro-scales. While the resolution can be adjusted to fit a certain case, the importance is the layered and interconnected systemic thinking across scales and at multiple governance levels.

To translate this systemic approach into practice, DUT defines urban impact through four interdependent dimensions:

- The **Cultural and Values** dimension focuses on how norms, behaviours, and attitudes shape and are shaped by urban transitions. It examines how changes in cities influence people's lifestyles, values, and social relationships and vice versa, and addresses issues such as social equity, public engagement, community cohesion, and cultural resilience. A proper understanding of sociocultural dynamics is crucial to ensure that transitions meet the diverse needs of all inhabitants, fostering a sense of ownership and participation in these processes.
- The **Governance and Policy** dimension focuses on the structures, processes, and strategies that guide urban change. It encompasses the role of government, local authorities, and institutions in setting policies, making decisions, and coordinating actions that drive systemic change. It also addresses regulatory frameworks and the balance between top-down and bottom-up approaches, ensuring that policies are adaptable, forward-thinking, and responsive to emerging challenges.
- The **Technologies and Infrastructure** dimension involves the technological artefacts and systems that support urban life and enable transformation. It explores how technological advancements can promote efficiency, reduce environmental impact, and enhance the quality of life for urban residents by fostering connectivity and equitable access to urban functions and services.
- The **Business Models and Tools** dimension explores the economic frameworks, business models, and tools that facilitate the development, implementation and monitoring of urban transition strategies. It encompasses the creation of sustainable business models and scalable financing solutions for urban transition projects, as well as tools and methodologies that support effective project management, data analysis, and informed decision-making.

These dimensions provide a foundation for systemic urban change, ensuring that transitions are not only sustainable but also inclusive and just. DUT employs a **challenge-driven approach** to urban transitions, rooted in the understanding that cities are dynamic systems shaped by multifaceted challenges. As DUT translates these principles into practice, a key challenge is how cities balance innovation and governance, competitiveness and equity, and technological advancement with social and ecological resilience. By focusing on real-world problems, DUT ensures that the projects we support address the most pressing needs of urban societies while fostering cooperation among the four dimensions.

A **place-based approach** is central to DUT's vision, ensuring that urban transformation is rooted in local identities, social needs and ecological benefits. Placemaking, a core principle, promoting bottom-up democratic strategies that empower local actors to shape both their environments and broader systemic structures. DUT operates with the conviction that transformative change must be locally driven to be

effective.[10] Through strong science-policy-society cooperation, DUT ensures that research and innovation generate practical, scalable, and systemic urban solutions.

DUT views **cities as the core engines of Europe's competitiveness**, where new markets, technologies, and economic opportunities are generated. Cities are not only the centres of economic activity but also the spaces where innovation is tested, refined, and scaled up. Urban environments provide fertile ground for the development of new technologies, business models, and social innovations, which can enhance the quality of life for residents while driving economic growth and job creation.

Urban transitions, guided by the principles of sustainability and inclusivity, offer the opportunity for cities to become competitive hubs for innovation. By fostering environments where technology, business, and culture intersect, DUT enables cities to create new markets that are not only economically viable but also socially responsible and environmentally sound.

The transformation of urban areas can lead to the emergence of green economies, innovative public-private partnerships, and technologies that improve energy efficiency, mobility, and resource management. This, in turn, contributes to the overall economic resilience of cities, making them not just places to live but also hubs of global innovation, strengthening Europe’s position in the international market.

[10] https://www.uclg.org/sites/default/files/uclg_thedurbanpoliticaldeclaration_en_rv.pdf

DUT builds upon 3 Transition Pathways

Building on these overarching perspectives, the DUT Partnership accelerates urban transitions through three thematic priorities - the Transition Pathways (TPs):

- **15-minute City (15mC)** boosting sustainable urban mobility options and people-centred public spaces for all in diverse and connected neighbourhoods.
- **Circular Urban Economies (CUE)** focusing on regenerative urbanism in green neighbourhoods sustained by circular resource flows.
- **Positive Energy Districts (PED)** characterised by energy-efficient and -flexible neighbourhoods contributing to net-zero greenhouse gas emissions and producing surplus renewable energy.

The three TPs aim to generate knowledge that can be translated into real-world solutions valuable for urban practitioners. While each TP has its distinct thematic focus, they are interconnected sub-programmes that tackle urban challenges in a holistic and systemic way. The TPs should not be understood as isolated silos; rather, they are mutually reinforcing and operate within a shared vision of creating more sustainable, liveable, and resilient cities.

Ultimately, the interconnectedness of these pathways ensures that urban transitions are approached comprehensively in DUT, addressing multiple dimensions of urban living, from mobility and energy to resource management, while fostering positive environmental, social, and economic outcomes. Given how all the TPs make use of the same set of dimensions to understand impact, there are also cross-sectoral issues that connect them.

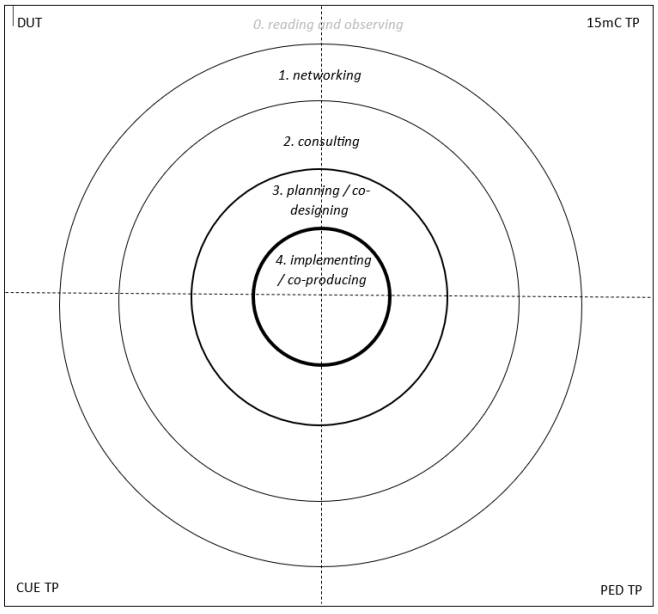
In their strategic and thematic activities, the TPs inform, align, collaborate with a wide array of stakeholders and initiatives on European and national level. While most of the alignment with national actors is organised through internal processes in the DUT Partnership, the TPs mutually cooperate with central external partners to exchange and disseminate information, co-create events and workshops or have continuous coordination channels to work on achieving shared goals. The next graph indicates a small selection of the most relevant collaborations within our stakeholder ecosystem in DUT. It describes overall DUT-focused and TP-specific cooperations, according to the depth and intensity of exchange and collaboration.

Relationship	Description	DUT (TP cross-cutting)	15mC TP	CUE TP	PED TP
1. Networking	Exchanging information (e.g. newsletters, reports)		2Zero Partnership, Sorbonne University (Chaire ETI)	EIT Culture and Creativity, New European Bauhaus Facility	COST PED-EU-NET, IEA EBC Annex 83, TCP Cities EERA JPSC, ETIP RHC,
2. Consulting	Attending events, offering information and advice for activities	Eurocities	POLIS, C40, ERTRAC	Water4All, SBEP and Biodiversa+ Partnerships	CET-P, COST PED-EU-NET, IEA EBC Annex 83, MI UTM, TCP Cities
3. Planning / co-designing	Mutual information about intentions and	CapaCITIES, Urban Transitions Mission	UA EU Cities of Equality Partnership	UE EU Greening Cities Partnership	CET-P, MI UTM, UA EU Building Decarbonisation Partnership

	plans, participation in working groups				
4. Implementing / co-producing	Continuous information and coordination, utilisation of complementary resources (or pooling of resources) to achieve common goals, direct thematic collaboration (MoUs)	NetZeroCities, New European Bauhaus	CIVITAS, EIT Urban Mobility		SET Plan

**To be implemented as a graphic*

Option for graphics (based on another activity that we have done in ATE)



The 15-minute City Transition Pathway

The 15-minute City Transition Pathway (15mC TP) aligns with the ambition of the 15-minute City concept, fostering a diverse mosaic of innovations and approaches to advance urban mobility transitions. It embraces an open-ended, explorative approach, encouraging experimentation and testing at a neighbourhood level. At its core, it prioritises sustainable mobility and logistics systems, addressing the challenges of integrating these elements into urban planning to create liveable cities, people-centred public spaces and proximity-oriented policies that enhance opportunities within neighbourhoods.

While the current mobility system enables city dwellers to essentially meet their daily needs, it also generates significant negative externalities, including high CO_2 emissions, congestion traffic accidents, and air and noise pollution, particularly concentrated in urban areas. Additionally, transport systems do not serve all citizens equally, often disadvantaging vulnerable groups. Transforming urban mobility is therefore crucial, not only to achieving climate targets in cities but also to ensure equitable access to opportunities and improving overall urban quality of life.

The 15-minute City concept offers a fresh take on existing urban and mobility planning paradigms. Coined by the urbanist Carlos Moreno and popularised during Paris' 2016 election campaign, the idea gained global attention during the COVID-19 pandemic. At its core, it envisions a future of liveable neighbourhoods, advocating for an ambitious social infrastructure agenda in which city dwellers can meet most of their essential needs within a 15-minute[11] walk or bike ride, while relying on sustainable transport for longer distances. Thus, it hopes to reduce the need to own a car and to increase urban health and quality of life.

The 15mC TP builds on this vision and its compelling narrative by promoting the qualities of a mixed-use, polycentric city and facilitating and showcasing the integration of mobility and logistics into urban planning. It emphasises the "Avoid" and "Shift" strategies to mobility policy, recognising technology as a key enabler but focusing primarily on institutional, regulatory and social innovations. Viewing urban mobility and logistics holistically across all scales of urban policy, from streets and squares to entire city regions, the 15mC TP aims to develop a comprehensive portfolio of innovations, tools, and approaches. These will be informed by DUT-funded projects, tested in local case studies and living labs and ultimately serve as practical models showcasing feasible ways to achieving just urban mobility transitions.

15mC in a changing European environment

The 15mC TP aligns closely with Europe's ambition as outlined in the EU Green Deal and further implemented through the Sustainable and Smart Mobility Strategy and Urban Mobility Framework. These EU policies set high-reaching climate targets, requiring the transport sector to adopt measure such as local strategic plans for sustainable transport and logistics, urban traffic decarbonisation and the promotion of public transport, cycling, walking and multimodal solutions. The overarching goal is to make European cities more sustainable, inclusive and liveable.

Since DUT's launch, transport of passengers and goods has faced significant external shocks and large-scale transformations. The COVID-19 pandemic led to lockdowns, travel restrictions and supply chain disruptions, with particularly severe effects in urban areas between 2020 to 2022. In early 2022, Russia's invasion of Ukraine triggered a surge in energy prices and initiated a new era of uncertainty in Europe[12]. Today, the transport sector accounts for one-fourth of Europe's greenhouse gas emissions, making it the only sector still exceeding 1990 emission levels. It is also responsible for one-third of Europe's final energy

[11] It is important to note that the pursued principles behind the concept matter much more than the number of minutes in the title. Which temporal aim is set will greatly depend on local context and ambition.
[12] IFT Transport Outlook 2023

consumption, remaining overwhelmingly dependent on fossil fuels[13]. As transport demand continues to rise, especially in urban mobility, with projections indicating that 80% of Europeans will live in cities by 2050, the sector's transition to net-zero emissions becomes increasingly urgent. Even more drastic growth is expected in freight transport, making it a priority sector for Europe's green transition. [14]

Transport and mobility are crucial drivers of economic prosperity, underpinning well-functioning institutions, workplaces and educational systems, e-commerce and tourism. The transport sector contributes 5% of Europe's GDP and employs 10 million people.[15] Efficient transport networks and services are therefore vital to maintaining Europe's economic competitiveness. However, achieving this will require massive investments in infrastructure maintenance and modernisation as well as in resilience and adaptability to counter the growing impacts of the climate crisis.[16]

Current status of the 15mC TP

At international level, the 15-minute City concept and related proximity-based policies have reached maturity. Global organisations such as UN-Habitat and C40 are actively working to operationalise the concept[17], while many cities worldwide have adopted its narrative and principles to guide their efforts in sustainable mobility, urban design, neighbourhood infrastructure and local economic development. The DUT Mapping of 15-minute City Practices identified 94 cities globally that align with the concept, implementing over 400 policies and measures.

While the 15-minute City is an urban planning approach with strong social and environmental foundations, it is not a concrete replicable formula. Instead, it lacks in concreteness and requires local adaptation to fit specific urban contexts. As implementation progresses, the 15-minute City should be prepared to navigate the evolving political and economic landscape, where climate neutrality and social justice may become less prioritised in European policy agendas. To remain relevant, it should adapt by integrating narratives, focusing on health, land use or economic benefits, while continuing to promote proximity-based urban development.

To advance these discussions and address key implementation challenges, six Critical Issues were co-created with the DUT community as part of the 15-minute City Position Paper. These issues will shape related activities of the 15mC TP in the coming years and highlight urgent and complex challenges that must be addressed to unlock the full potential of 15-minute City principles:

- **Context is everything**: What do we refer to when we talk about the 15-minute City?
- **Social justice**: How might we ensure that the 15-minute City promotes a just urban mobility transition where nobody is left behind?
- **Involvement of people**: How might we ensure that the 15-minute City embraces the variety of urban lifestyles and offers people an active role in the urban mobility transition?
- **From local to big picture**: How might the 15-minute City look in low-density and suburban neighbourhoods and what is needed for implementation?
- **Organising the transition**: What might the 15-minute City contribute to organising and speeding up the urban mobility transition, tackling the essential and most urgent issues?
- **Role of logistics**: How might the sustainable transport of goods be ensured when people should move less (far) in the 15-minute City?

The scale of the mobility transition challenges is immense, particularly in dense and diverse urban areas, where solutions must address decarbonisation, data gaps, funding shortages and administrative capacity building, all while ensuring a just transition that guarantees equal access and affordability. While

[13] EC Sustainable & Smart Mobility Strategy
[14] Draghi Report
[15] EC Sustainable & Smart Mobility Strategy
[16] Draghi Report
[17] UN Habitat World Cities Report 2024

technological innovation will be a key driver of urban transformation, it alone will not solve mobility challenges. Instead, organisational, policy and social innovation will be crucial to overcome institutional inertia and user-based barriers.[18] A holistic approach to innovation, acknowledging urban complexity, will enable deeper transformation – such as redefining urban lifestyles, exploring alternative economic rationales and fostering new social configurations. This is precisely where the strengths of DUT's 15-minute City Transition Pathway come into play.

Key Areas of action

The 15mC TP aims to tackle the challenges of urban car-dependency, unequal access to opportunities and services and the negative externalities of mobility in cities. Through co-creative projects that engage a wide range of urban stakeholders, the 15mC TP generates and shares knowledge and data to substantiate aspects of the 15-minute City concept, while also developing and testing tools and practices for effective implementation. Although the 15mC TP primarily focuses on urban mobility transitions, it takes a holistic approach, integrating mobility and transport of goods with urban planning, uses of public space, neighbourhood economies and access to essential services. Its overarching goal is to drive actions that enhance local well-being, quality of life and health benefits, ultimately accelerating the transition toward sustainable urban mobility.

As a challenge-oriented transnational research and innovation programme, the first version of the 15mC TP's Key Areas (KA) were co-created in 2020 in collaboration with the community of city experts and national partners in DUT. These KAs define the thematic focus and scope of the 15mC TP, serving as a foundation for the call scoping process, a guide for strategic activities and an analytical framework for both DUT-internal and external work. Rather than being treated as isolated categories, the KAs intersect with each other and are addressed through DUT's four Impact Dimensions.

Three years into the DUT Partnership, a review and update of the 15mC Key Areas was undertaken to reflect on progress and refine strategic priorities. The revised KAs are presented in the following section.

[18] Frank Geels Report 2024

Figure X: 15-minute City Key Areas of Action

Key Area 1 – Mobility flow and access

KA 1 focuses on key aspects of mobility flows, from personal mobility to transport of goods, addressing issues related to transport modes, infrastructure, social behaviour and the role of technology. It takes a systemic approach on mobility networks, aiming to promote and connect sustainable mobility modes. A strong foundation of KA 1 lies in improving an understanding of travel patterns and mobility data, with particular attention to vulnerable groups. KA 1 seeks to create better synergies between mobility, logistics and delivery, while exploring the potential and impact of new transport technologies in urban areas.

Themes

- **Make active mobility the default in neighbourhoods**: Promote active urban lifestyles; connected networks and amenities; improve quality and safety of trips; focus on societal co-benefits
- **Strengthen multi-modality**: Integrate transport modes with high digital and physical accessibility; test ”new” concepts for shared and last mile mobility; co-create responses to issues of mobility poverty
- **Build on mobility routines and users' perspectives**: Enhance understanding and evidence of changing mobility patterns; highlight needs and capacities of vulnerable groups; co-create engaging narratives and participatory approaches
- **Transform urban delivery and logistics**: Work on better integration of mobility, planning and logistics; improve understanding of impacts and steering of urban logistic flows; explore ”new” concepts for local delivery and logistic hubs; further learnings on fleet management
- **Explore new transport technologies, services and data**: Explore application and effects of new transport technologies on urban users and systems; create new ways to access mobility data

Key Area 2 - Public space and urban planning

KA 2 rethinks the use of public squares and streets, addressing their link to mobility and parking and urban policies while exploring the tools needed for effective management. It considers resilience in mobility systems and infrastructure, along with implementation of mobility and proximity policies across different urban scales – from neighbourhoods to entire city regions. Special attention is given to challenges in different contexts, e.g. in small and mid-sized cities.

Themes

- **Promote people-centred public space**: Re-allocate urban space strengthening social functions; implement sustainable, safe and inclusive design; understand urban car dominance and public space as contested arena systemically
- **Manage mobility's spatial needs and impact**: Manage curb-side space, mobility access and speed actively; balance implementation of e-mobility charging infrastructure
- **Improve resilience and safety of mobility systems**: Foster safe and resilient transport infrastructure; support climate change adaptation; promote unsealing and greening in mobility policies; build on social justice, community needs and perspectives
- **Boost sustainable transport on all levels and contexts**: Address challenges of small and mid-sized cities; think mobility from neighbourhood to city region; further implementation in low-density urban areas

Key Area 3 – Built environment and opportunities

KA 3 concentrates on central principles and social functions of the 15-minute City concept, emphasising the importance of proximity and mixed-use urban environments. While the first two KAs lean toward the "Shift" strategy of mobility policy, KA3 highlights the "Avoid" approach, taking a place-based perspective at the neighbourhood scale. It promotes frameworks for healthy neighbourhood economies, building on principles of the foundational economy and the productive city. Additionally, KA 3 explores ways to activate underused spaces and multi-functional uses of social infrastructure, while ensuring high-quality, accessible services to create compact, low-emission neighbourhoods with vibrant communities.

Themes

- **Support striving neighbourhood economies**: Strengthen neighbourhood-based service provision, manufacturing and business; implement principles of foundational economy and productive city; anchor social infrastructure for local activities
- **Improve the local mix of functions**: Promote mix of uses; explore activating underused lots and ground-floor spaces; manage multi-functional use of spaces
- **Make clean mobility the default close to homes**: Promote building-based multi-modal mobility offers; integrate active mobility in housing development; explore alternative use of building-related parking
- **Decarbonise commuting to work and education**: Promote sustainable commutes; implement corporate mobility management; further understanding of models and impact of new work; ensure children-friendly access to education
- **Improve access to places of care and supply**: Strengthen local social infrastructure; improve access to local services
- **Lower the footprint of mobility for leisure and tourism**: Push for sustainable mobility options for leisure and tourism; explore impact of tourism; improve access to and quality of recreational areas

The Circular Urban Economies Transition Pathway

The Circular Urban Economies Transition Pathway (CUE TP) aims to foster urban places, communities and neighbourhoods that are sustained by circular resource flows and enhance the wellbeing of their inhabitants and ecosystems. It encourages urban planning and design characterised by regenerative urbanism, favouring the combination of circular principles, urban greening, and equal access to urban spaces and resources.

To foster socio-ecologically rich places, CUE relies on a broad understanding of urban resources, which transcends techno-economic views found in, for example, circular economy discourses.

Material resources are not only understood as commodities to be extracted, but as elements embedded in social and environmental systems, where their flows are shaped by human practices, values, and relationships. As such, these resource flows should be characterised by collaboration and responsibility to minimise waste, and ensure materials are repurposed and redistributed in ways that reflect both societal needs and ecological sustainability.

Natural resources, such as land and water, are not only understood for their inherent scarcity but also for their interconnectedness with both human and ecological systems. These resources play a critical role in sustaining biodiversity, improving people's livelihoods, and ensuring climate resilience. Their availability and management are shaped by social choices, cultural values and governance systems, influencing how they contribute to the ecological balance and well-being in urban environments.

Human resources, too, are understood in a broader sense. Beyond workforce capacity, they encompass the creativity, knowledge and social capital that drive innovation and facilitate collaboration. When used well, this can ensure the equitable distribution of benefits in the transition to urban sustainability.

In short, CUE moves past the separation between humans and nature, supporting ideas that reflect a sustainable and restorative view of the world and cities. With the help of such a holistic understanding of the world, CUE supports R&I that addresses urban transition issues related urban nature and greening, the circular built environment, and urban metabolism.

> *The aim of the CUE TP is to support the development of holistic, people oriented, and challenge-driven approaches and tools that collectively address the need to improve urban resource efficiency and protect planetary and human health. Via the projects funded by DUT, the CUE TP showcases what regenerative neighbourhoods sustained by circular resource flows might look and feel like.*

CUE in a changing European environment

Since DUT was launched and the thematic focus of the CUE TP was first formulated, the European Union's sustainability and climate agenda has evolved and is now increasingly driven by a heightened urgency for cutting-edge innovation, strategic investment in high growth sectors, and a concerted effort to reduce Europe's dependency on external resources.[19] Within this revised European strategic direction, circularity is prioritised in the Clean Industrial Deal[20], bringing together climate action and competitiveness. It emphasises recycling, reuse and sustainable production to ensure a competitive and resilient market, and it facilitates the implementation of the Ecodesign for Sustainable Product Regulation.

TBC if to Add quote:

Cities are the world's economic hubs, contributing 80% of global gross domestic product (GDP).[1] Yet close to half (44%) of that contribution is at risk due to nature loss. This global economic threat underscores the significance of

[19] Draghi, 2024; Von der Leyen, 2025
[20] COM(2025) 85

safeguarding cities and their inhabitants from nature-related risks through preserving and enhancing biodiversity and natural ecosystems. [21]

The CUE TP operates along the lines of this strategic shift, acknowledging that cities are key to securing European competitiveness, as they generate 80% of global GDP and drive innovation growth, and economic vitality. However, close to half (44%) of that GDP contribution is at risk due to nature loss.[22] This presents a significant opportunity to invest in nature positive and circular solutions within cities, tackling both biodiversity loss and resource depletion. The restoration of ecosystems, habitats and species is crucial to achieve climate mitigation and adaptation objectives, secure necessary ecosystem services, and to increase resilience and strategic autonomy. Ultimately, the transition to more circular urban economies is closely tied to addressing these environmental challenges.

The CUE Transition Pathway ensures that the call for competitiveness is underlined by social and environmental justice–making certain that urban transitions benefit all. Furthermore, it acknowledges the complexity of the interlinked urban challenges and cherishes the value brought by different urban actors, including those from the design, arts, cultural and creative sectors, for finding new solutions. In doing so, it mitigates the growing inequality identified as a challenge to Europe's competitiveness (Draghi, 2024) and fosters social stability and economic participation based on the shared cultural European value of cooperation in a knowledge- and design-driven economy.

Current status of the CUE TP

Urban areas and economies need approaches that sustain the health of people, animals and ecosystems; build resilience towards the effects of climate change; and address increasing social inequalities. Solutions to improve resource efficiency exist, however, these are often sector specific or focus only on materials or recycling practices, not responding to the specific conditions of urban economies, nature, communities and places.

Urban green for health, wellbeing and resilience

Urban greening is a major lever to improve cities' resilience and sustain the health of people, animals and ecosystems. In recent years, there has been an increased valorisation of the health, wellbeing, and cultural benefits of urban greening and ecosystem services. Current policy, such as the EU Nature Restoration Law (2024), recognises the need for biodiversity protection and restoration of urban ecosystems. It requires a maintained and increased total national area of urban green space (including urban green canopy, buildings, and infrastructure), increasingly transitioning from *No Net Loss* and towards *NaturePositive* concepts.

Although investment in urban greening (including tree canopies, and green infrastructure and buildings) is growing, insufficient funds and underdeveloped financing and business models are still seen as one of the main barriers for NaturePositive urban areas (Greening cities UAEU Position paper, forthcoming). Economic policy development in relation to urban greening, such as tax incentives, subsidies, technical support for public-private partnerships, green bonds, and carbon trading schemes, are lacking. Additionally, public participation and collaborative governance are rarely considered an integral part of urban greening plans in cities across Europe.[23]

Multi-stakeholder R&I can further develop investment frameworks for green infrastructure (e.g. innovative market-based financing), schemes for payment for ecosystem services (PES), and business cases for multi-actor maintenance of urban green areas. Additionally, collaborative governance processes for urban

[21] WEF, nature positive: financing the transition in Cities, 2025
[22] Nature Positive: Financing the Transition in Cities, WEF, 2025
[23] Mahmoud et al., 2024

development planning, implementation and maintenance, could boost the quality of urban green areas and reduce vulnerability to climate change by socially marginalised groups.

Status of the circular urban economy

The circular economy is still widely viewed as an environmental policy or research subject, and its potential for economic growth, strategic autonomy and climate mitigation is underexploited.[24] Circular practices are part of the EU Competitiveness Plan, with a focus on improved resource flows to reduce environmental impact and increase material autonomy, and the economic and social impact related to new job creation and just job transition.

Current policies and regulatory developments are directing investments towards more resource efficient use of the built environment and day-to-day urban life by private and public actors, e.g. through the circular economy action plan, critical raw material acts, and ecodesign regulation. Similarly, emerging urban metabolism models and digital tracking tools (e.g. AI-powered material flow analysis, material passports, circular procurement platforms) can drive system wide efficiencies but are not integrated into urban planning.

From a societal perspective, awareness and acceptance of circularity, resource sharing, and modular design are growing. However, to achieve a full cultural shift, more demonstrative projects, capacity building and community engagement are needed.

There is a need for R&I to address new funding mechanisms, public-private partnerships, and business models for circular construction models that push scaling beyond niche applications. Additionally, value chains and business models for local circular economies (e.g. urban food loops and circular business incubators) and mining are needed. Simultaneously, the circular economy could be boosted through an increased focus on the demand side through regulatory frameworks and taxonomy on resources and waste, and strategies for promoting reduce, reuse and repair.[25] Through ambassador programmes, education in schools, skills and capacity raising programmes, and consumer behaviour change campaigns, circular use of resources can be broken down into practical aspects that are relatable to citizens and inhabitants and highlight the benefits that circularity brings.[26]

Just access to urban resources

To achieve regenerative urbanism, urban leadership, governance and regulatory frameworks must consider matters like diversity, equity and democracy when they address exclusionary urbanisation processes such as gentrification and segregation, regardless of whether these are based on ethnicity, religion, or other factors. Urban liveability and social sustainability can only be guaranteed by socially cohesive planning efforts that leaves no group of urban dwellers behind.

Urban green spaces can lead to an increase in community wellbeing and social cohesion and can address socio-economic disparities in urban settings. However, it can also lead to higher living costs, thereby displacing lower income residents[27] - also known as green gentrification. Sharing and circularity initiatives, such as sustainable food networks and sharing stations often stay in piloting phases, remaining isolated and without the capacity to scale up - thereby failing to reach a wider and more diverse group of urban dwellers.

R&I is needed for participatory and multi-actor approaches in policy cycles to avoid reinforcing existing patterns of inequality or exclusion and favour a just green transition. By engaging communities in initial planning stages of NBS implementation, establishing continuous monitoring and feedback mechanisms to assess the social impacts of NBS projects, and creating policy frameworks that incentivise the inclusion of

[24] Baldassarre, B. and Saveyn, H, 2023
[25] Baldassarre, B. and Saveyn, H, 2023
[26] EEA Report Accelerating the circular economy in Europe, 2023
[27] Bressane, Pedro da Cunha Pinto, Cesar de Castro Mederios, 2024

diverse demographics in urban planning, we can ensure that urban green spaces remains accessible and beneficial for all.[28] Additionally, initiatives that ensure access to ecosystem services for marginalised and vulnerable communities that live in disproportionately less safe, resilient, and green neighbourhoods are encouraged. The creation of scalable urban economic models that question the primacy of GDP growth and embrace concepts such as regeneration, cooperation, care, solidarity, wellbeing, prosperity, and wealth creation within urban communities are needed.

Key areas of action

The CUE TP addresses the urgent issues related to degradation of ecosystems, unsustainable resource flows and increasing social inequality in cities. Encouraging co-creative approaches with representation of a variety of urban actors, the CUE TP focuses on three complementary fields, representing the layers that a city is built on: the natural environment (KA 1), the built environment (KA 2), and how cities function and are dependent on these environments–the flows of products and services, as well as people (KA 3).

To thematically cluster CUE interventions and define new funding priorities around targeted research and innovation, CUE focuses on three interlinked Key Areas of action: Urban Nature, Circular Built Environment, and the Urban Metabolism[29]. Each Key Area will be addressed through DUT's four Impact Dimensions. Naturally, there will be topics and challenges that are cross-cutting across the different Key Areas.

KA 1 – Urban Nature

Key Area (KA) 1 focuses on the natural layer in urban environments and building inclusive climate resilience of urban populations and ecosystems. KA 1 includes different multifunctional urban greening approaches across urban scales and neighbourhoods. These approaches address ecosystem services, blue-green infrastructure, ecosystem restoration and issues related to greywater and stormwater runoff collection, treatment and reuse. Through the means of, for example, nature-based solutions, these approaches can mitigate emissions, regenerate urban soil, increase urban biodiversity and reduce energy demands in ways that also increase the attractiveness and quality of life in urban communities. This will improve cities' resilience and protect livelihoods across the continent for years to come.

Sub-KAs:

- Inclusive climate adaptation & resilience: water and heat stress management
- Biodiversity: protecting and regenerating urban biodiversity and local ecosystems including soil quality and nutrient cycles
- Human-nature connections: ensuring equal and inclusive access to green spaces and promoting social wellbeing through nature-inclusive design

KA 2 – Circular Built Environment

Key Area (KA) 2 aims to transform urban construction and spatial planning through adaptive reuse, sustainable urban design and circular material streams. It supports innovation that creates more flexible, multifunctional urban spaces and buildings, while reducing construction waste and increasing material reuse. It includes urban mining approaches that strive towards increased circulation of inorganic materials from the built environment, like solid waste such as metals, glass and concrete structures. These approaches acknowledge how the handling and planning of urban waste is connected to landscape

[28] Bressane, Pedro da Cunha Pinto, Cesar de Castro Mederios, 2024
[29] *For further context, the previous CUE roadmap focused on four process-oriented Key Areas, addressing aspects of the transition to circular and regenerative urban economies, areas, and communities*

democracy issues, for example concerning exposure to landfill sites, sound pollution, hazardous materials, toxic aerosols, and smells. As increased circularity requires a different type of labour, innovation focused on job transition, reskilling and capacity building, and green job creation, are also supported.

Sub-KAs:

- Flexible, adaptive use of buildings, public and open spaces: Finding new ways to use, share and repurpose urban spaces, such as encouraging the temporary and multifunctional use of buildings. Integrating circular economy principles into urban planning and procurement.
- Cultural heritage value: Ensure the preservation and reuse of historic buildings as well as protection of cultural landscapes and immaterial cultural heritage
- Circular building materials & zero waste construction: promoting the use of recycled and bio-based materials, material passports, and circular design and deconstruction principles, capacity building and green job creation

KA 3 – Urban Metabolism

Key Area (KA) 3 focuses on how the flows of materials and natural resources such as water and organic waste, can be better circulated in urban and metropolitan regions (including peri-urban areas and the urban-rural continuum). Critical scrutiny of current planning processes, business models, and urban design methods are encouraged to address how resource use could be planned differently to increase resource efficiency and use material in ways that are not derogatory in terms of nature and biodiversity loss. This KA stretches from sharing and circular economy principles (such as the R-ladder) to the urban food system. It emphasises the reduction, regeneration and redistribution of resources while stimulating social cohesion.

Sub-KAs:

- Sharing and access economy: developing multi-actor approaches that facilitate the sharing of goods in cities, addressing both technology required (e.g. digital tools) and social acceptance and motivations.
- Urban food systems: finding innovative approaches for reduction and recovery of food waste, food waste minimisation, shortening farm to fork distance through innovative, collaborative urban agriculture approaches.
- Resource circulation: social acceptance, logistics, technologies and business models for waste-to-resource systems.

The Positive Energy Districts Transition Pathway

The Positive Energy Districts Transition Pathway (PED TP) aims to develop innovative solutions for planning, large-scale implementation, and replication of PEDs across Europe. By combining energy efficiency, renewable energy production, and energy flexibility at the local level, PEDs offer and contribute to affordable energy systems, affordable quality housing, and competitive and inclusive local economies for cities through energy communities, contributing to European goals such as the SET Plan and the EU on climate-neutral and smart cities.

Europe aims to deliver more than 100 climate-neutral and smart cities by 2030 and become the world's first climate-neutral continent by 2050. With up to 80% of the EU's energy consumption from urban activity[30] [31] and a growing urban footprint of over 100 million residential and commercial buildings[32], achieving this goal would bring transformational impact for European society. It is an imperative for the DUT Partnership as a transnational R&I funding programme to support the identification and promotion of feasible pathways, aiming at maximising benefits for all people living in Europe. Supporting this European ambition, Positive Energy Districts (PEDs) represent key infrastructural elements in realising this transition, helping to transform Europe's cities into inclusive, sustainable, and economically thriving urban zones.

> *Positive Energy Districts are energy-efficient and energy-flexible urban areas, which produce local renewable energy, achieve net zero greenhouse gas emissions and play an active role in the energy system for achieving overall climate neutrality*. (According to the updated PED Framework[33])
>
> [*Insert updated PED Framework Illustration*]

By addressing the energy consumption and energy costs of cities, PEDs contribute to Europe's sustainable transition while also supporting economic prosperity and social thriving. Energy is one of the largest expenses for many European households, each spending on average €1,350 per year[34] on electricity and heating[34]. Since low-income households spend a higher percentage of their income on energy, PED development provides evidence for reducing energy bills, helping to mitigate Europe's ongoing cost-of-living crisis and promote social equality. Furthermore, PED development stimulates system transformation at local level through local community-building, not least by promoting energy communities, and new regional economies, facilitating the urgent refurbishment of existing neighbourhoods and urban regeneration.

DUT supports impact-driven PEDs

The DUT Partnership supports Europe's mission on climate-neutral and smart cities through a targeted R&I programme that fosters PED innovations at the city and city district levels. As the energy system becomes increasingly decentralised, the PED TP supports the strategic framework, as well as the tools, collaborations, and capacities needed by local authorities, financiers, and project developers to manage new investments, energy resources, infrastructure and energy market transformation.

Ultimately, the DUT Partnership aims to demonstrate PEDs as a viable and even obvious opportunity to realising Europe's sustainability goals, offering clear added value to policy makers, local authorities, citizens and businesses. For DUT, the primary dimensions for PED impact include:

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[30] [1] https://api.solarpowereurope.org/uploads/1423_SPE_Energy_Cities_report_03_6c81e208b0.pdf?updated_at=2023-06-14T10:36:50.951Z
[31] [2] https://research-and-innovation.ec.europa.eu/funding/funding-opportunities/funding-programmes-and-open-calls/horizon-europe/eu-missions-horizon-europe/climate-neutral-and-smart-cities_en
[32] https://www.rics.org/news-insights/energy-efficiency-of-the-building-stock-in-the-eu
[33] Link to updated PED Framework
[34] https://www.odyssee-mure.eu/publications/efficiency-by-sector/households/household-eu.pdf

Environmental impact: PEDs combine energy efficiency of buildings, infrastructure and urban structure with maximal use of available and local energy resources. This reduces problems related to grid congestion and the need for complex and costly energy distribution systems that transports energy from vast offshore wind parks or solar PV fields in rural areas, while also supporting regional energy autonomy.

Economic impact: The energy produced in PEDs has the lowest consumer cost per unit, at around half that of the average consumer electricity price in Europe, which, accounting for costs and taxes, is €0,28/kWh, and trending upwards. By reducing energy consumption while increasing the self-generated energy, PEDs offer an energy bill reduction with the perspective of a positive ROI, reducing currently €100bns in energy spending for cities and communities. For most homeowners, rooftop PV is the cheapest long-term option for meeting base consumption, with enormous yet untapped potential while V2X and stationary battery systems has yet to prove their economic viability for the homeowners in a broader sense.

Social impact: PEDs support community-building, energy inclusivity and local wealth creation based on local ownership of small-scale renewable and heating systems. They facilitate urban regeneration and enhance quality of life in urban neighbourhoods. Additionally, PEDs support the creation of local jobs in building renovation and the management, installation, and maintenance of local energy systems.

PED in a changing European environment

European strategic priorities have significantly shifted since the launch of the first PED programme in 2018, delivered through a joint initiative of the *European Strategic Energy Technology (SET) Plan* and *JPI Urban Europe*. Alongside a greater territorial focus on industrial self-sufficiency, decarbonised industrial strategy, and European energy autonomy (detailed in the overall DUT chapter), city and local authorities are increasingly positioned as key players in addressing the climate crisis, exemplified in the launch of the EU Mission on Climate-neutral and Smart Cities.

[Energy-focused quote from Draghi/EC report]

Amidst these emerging priorities, PEDs represent a clear and strategic transformative opportunity, paving the way for cities and communities to achieve true energy autonomy and resilience. As learned through recent geopolitical events, an energy supply not controlled by foreign powers is critical for European energy autonomy, advancing environmental sustainability, and stabilising household cost of living for the most vulnerable.

Current status of the PED TP

In 2025, PEDs have reached the ´proof of concept´ phase, technical viability demonstrated through experiments within controlled environments. European programmes have supported bottom-up initiatives piloting a wide range of innovations, including the **PED Mission 2025**, which has established over 100 initiator sites across Europe and created a PED ecosystem with thousands of innovators. Since 2020, through JPI Urban Europe and DUT Calls alone, 37 PED projects with more than 70 case studies and pilots have been funded.

Thanks to the findings and advocacy generated by European demonstrators, the key **regulatory PED building blocks** are now in place:

- The latest Energy Building Performance Directive (EPBD, 2024/1275) requires all new public buildings to be zero-emission from 2028 (and by 2030 for other buildings).
- The latest Renewable Energy Directive (2023/2413) provisions unmet energy needs to be covered by local renewable energy sources, through "solar-ready rooftops" and district heating.
- The Clean Energy for All Europeans package (2019) formally recognises energy communities and collective self-consumption, empowering local stakeholders to generate, consume, store, and sell on-site renewable energy.

- Finally, the Internal Electricity Market Directive (2019/944) unlocks new opportunities for citizen-centric energy systems through tax-exempt energy sharing and reduced system costs.

The necessary PED technologies are increasingly available and affordable:

Innovative renovation materials and construction techniques now enable zero-emission buildings, integrating high-performance building components, off-site prefabrication, and single-day retrofitting for small dwellings. These architectural preconditions are essential for PEDs, paving the way for cities and communities to achieve energy autonomy.

Small-scale renewables are becoming the cheapest and most reliable source of energy for homes and businesses over the long-term.

Depending on local conditions, achieving a positive local energy surplus remains a challenge in R&I and urban practice, especially considering existing urban structures. This needs to be addressed by integrating new digital tools and technologies that optimise energy production and consumption across multiple buildings. Overall, for mainstreaming the PED concept, a greater focus is needed on demonstrating the positive impact on the overall energy system.[35]

Building Europe's positive energy future

The DUT PED Transition Pathway contributes to the goals of the SET Plan and to delivering 100 climate-neutral cities in Europe. Through this updated 2025 roadmap, we encourage bold initiatives and partnerships, with realistic impact and able to be rolled out at the vast scale required for lasting urban transitions able to ensure climate-neutral and resilient cities and communities.

The PED vision (renewed for 2025)

The PED vision is to establish PEDs and PED components[36] both as an effective infrastructural concept and a holistic neighbourhood-oriented urbanistic approach for delivering Europe's climate and energy transition, by demonstrating:

The viability of fulfilling Europe's Directives of meeting 100% onsite energy demand, integrating energy technologies to support local energy resilience and autonomy.

The need for a just transition, including new roles of city authority-led urban regeneration and city management by integrating bottom-up energy governance approaches and fostering neighbourhood-focused community aspects

Compelling new economic opportunities supporting social sustainability to address energy poverty and affordability for homes and businesses, including the exploration of new market roles and enhanced collaboration with finance industry

A realistic pathway for operational PEDs in Europe by 2040, by aligning PED policy across the relevant regional, national, and local governance levels.

[35] This shift is being accounted for in the updated PED Framework [LINK] and in the updated PED Framework Definition (see above).
[36] PED components refers to the individual elements or features that make up a PED. These components include various infrastructural elements like renewable energy generation systems, energy storage solutions, energy-efficient building designs, and smart grid technologies. Essentially, it's about the parts or building blocks that collectively contribute to the functioning of a PED.

From innovation results to societal outcomes

To achieve these broader societal outcomes, the DUT programme will build on its project achievements and results. Aiming to add 10+ solutions per year until 2032/33 through a PED Innovation Portfolio, the PED TP has the dual ambition to:

1. Advance the maturity and societal impact of Positive Energy Districts systems, based on synthesising and advancing the results of the project portfolio through:
    - Concrete policy recommendations to policy makers and regulators, based on validated solutions and impact assessments for scaling up, and
    - Replicating proven solutions (AKA "scaling out") to cities ready to develop PEDs
2. To advance the maturity of individual ideas or concepts across the impact dimensions of Policy, Economy, Societal and Technology (PEST), through project pilots and innovative solutions, to significantly enhance the attractiveness and viability of PEDs at scale.

The path ahead – integrating and scaling PEDs

As PEDs transition over the coming 2-3 years from proven concepts to demonstrated market, societal, and organisational viability, supported by strong multilevel stakeholder engagement and effective governance structures, there will be a growing need to integrate solutions within policies, business models, social structures and legacy technology systems. Viable innovations will be tested for true scalability, validated against existing or planned regulations and markets where change is outside PED practitioners' sphere of influence.

Beyond that, successful demonstrations should leverage opportunities to upscale PEDs from individual projects to typical city practice – by embedding the PED approach as standard within transnational European policy (the "macro" level" of governance), regional urban planning strategy (the "meso" level), and local project and market design (the "micro" level). The multi-level perspective of PED development therefore needs to be strengthened. To achieve climate-neutral cities, PEDs are crucial in the context of multi-level urban policies and need to be increasingly embedded in this context. PED development also needs to be embedded in the multi-level governance of energy policies, addressing not only the integration of PEDs in the energy system and the role of collective self-consumption and energy communities to achieve energy security goals but also the potential that PEDs seem to have to contribute to the implementation of the new strategy for the reindustrialisation of Europe. PEDs can play a key role in developing new industries without increasing overall energy consumption at the national level, while also ensuring that energy security and climate neutrality goals are not compromised.

Key Areas of action

The PED Key Areas of Action thematically cluster PED innovations and define new funding priorities. They are informed by creative and innovative PED solutions demonstrated within DUT projects so far and by identified gaps in knowledge, policy and practice, and focus on progressing solutions from initial demonstrations towards commercial scalability (i.e. from RL4 to maximum RL7). Whilst structured thematically, calls for proposals will actively explore valuable interconnections between KAs.

KA 1: **PEDs within the urban energy system**	**KA 2:** **Commercially viable PEDS**	**KA 3:** **PEDs for urban regeneration**	**KA 4:** **PEDs within new urban planning**

KA1 - PEDs within the energy system

Key Area (KA) 1 focuses on the functional integration of mature distributed energy and digital technologies to enhance regional energy system resilience and autonomy. While local generation and storage technologies are becoming increasingly competitive and affordable, system integration and grid balancing remain key challenges. The KA demonstrates how PEDs can optimise localised clean energy generation and matching.

- Local energy demand, production and energy flexibility
- System integration (district-level energy management)
- Multi-level perspective for PEDs (wider energy grid)
- Resilience and robustness (territorial energy security)

Expected outcomes could include:

- Energy management strategy
- Digital twin model outputs and recommendations
- Technical feasibility assessments
- Territorial energy security report
- Multiple-benefits analysis on flexibility

KA2 - Commercially viable PEDs

Key Area (KA) 2 explores how innovative business, financing, and ownership models can support new local energy markets - reframing PEDs from costly investments to cost-effective alternatives to traditional grid energy supply. The KA demonstrates how PEDs can realistically deliver more affordable energy for end-users while creating compelling value propositions for a wide range of local economic actors.

- Integrating energy communities, district, and regional energy markets
- Energy affordability and poverty for homes and businesses
- Viable business, financing, and energy ownership models
- PEDs are catalysts for local economies

Expected outcomes could include:

- Energy affordability analysis and energy cost reduction report
- Business case assessment and finance models
- Economic impact assessment
- Local energy market strategy
- Value creation models for energy communities.

KA3 - PEDs for urban regeneration

Key Area (KA) 3 focuses on PEDs in the context of local neighbourhood development, exploring PED strategies as drivers for local community-building and engagement, and neighbourhood revitalisation in general. It builds on the latest research in energy communities and social innovation to explore scalable and effective stakeholder engagement models for PEDs. Recognising that participation remains a major barrier to scaling local and community energy projects, it tests alternative approaches balancing inclusivity and social benefits with true commercial viability and rapid diffusion. Particular focus is given to the organisation of refurbishment process, including energy efficiency and circularity aspects.

- Engagement mechanisms for neighbourhood development
- Viable delivery models for community energy solutions

- Energy efficiency and refurbishment processes
- Energy sharing within and between communities
- Embedding energy communities within urban strategy
- Urban circularity

Expected outcomes could include:

- Neighbourhood engagement analysis
- A framework & a toolkit for energy communities
- Delivery models for energy communities
- Urban policy brief for integrating PEDs within city strategy
- Energy efficiency refurbishment and circularity framework.

KA4: PEDs within mission-oriented urban planning

Key Area (KA) 4 explores the integration of PEDs into mainstream urban planning processes, strengthening local authority capacity within the energy system and energy market design. With PEDs yet lacking formal European recognition, this KA identifies mainstreaming strategies through greater public sector adoption, enabling replication and scaling from local initiatives and contributing to broader policy frameworks.

- Investigating PED viability and impact across different urban contexts/zones
- Integrated PED governance approaches (bottom-up and top-down)
- Embedding PEDs into urban climate and energy policy and planning
- Standardising PEDs within national frameworks

Expected outcomes could include:

- Urban PED viability and impact assessment report
- Governance framework for integrated PED planning
- Policy briefs on new roles for municipalities and private energy stakeholders
- National standardisation roadmap for PEDs.

Engagement – working with industry uptakers for large-scale impact

DUT at its core is an R&I funding programme focusing on ideation and early-stage piloting. Its purpose, however, is to deliver that knowledge to stakeholders with replication in mind, driven by quantifiable impacts on the PED status quo and by identifying viable pathways for large scale uptake.

The future Calls of the PED TP will explore enhanced participation from new practitioners across several industries, sectors, and governance domains, to ensure viable uptake of DUT-enabled innovations:

- Affordable and social housing
- Energy system operators and utilities
- Urban planning and regional governance
- Private finance, public banks, and infrastructure
- Sustainable mobility and transport providers
- Digitalisation and smart cities developers
- Circular economy and waste management innovators
- Public health and well-being advocates
- Community-based organisations and local cooperatives

DUT Activities to Enable Impact

DUT will implement a portfolio of accompanying measures to create and manage a wider innovation ecosystem involving all relevant stakeholder groups and strengthen impact creation. These measures and activities are key to realise the Mission of DUT. Activities beyond joint calls ensure that the knowledge, approaches, and solutions developed by DUT-funded projects address the most pressing urban issues and build a critical mass to accelerate urban transitions. The entire DUT portfolio aims to generate a global impact greater than the sum of its parts, while continuously informing the strategic development of DUT. With these measures, DUT ensures that its ambition of being a transformative research and innovation programme is met. Activities are aggregated into five clusters.

Include an overall visualisation of all our activities.

1. Implement research and innovation calls
2. Build DUT communities and improve their capacities
3. Synthesise and disseminate results
4. Support uptake of results and scale out
5. Align with key urban policy initiatives and scale up

Implement research and innovation calls

At the core of its activities, the DUT Partnership funds transnational research and innovation projects co-creating approaches, learnings and practices to drive urban transitions, running along the three thematic Transition Pathways. An essential part is to continuously strive to improve framework conditions for funding, opening up to new partners, stakeholders underrepresented in R&I programmes and funding instruments that support the mission of DUT.

Include a typical timeline to illustrate the call implementation core process.

In addition to the activities described below related to the Multi-annual call agenda we will implement further rounds of the Urban Doers Community and continue to experiment with new R&I mechanisms and funding formats.

Multi-annual call agenda (MACA)

Kommentiert [OK3]: *Note to reader: the below sections on MACA is a place-holder and will be elaborated, revised by the TPs in the following weeks. For further info please reach out to the TP coordinators and/or discuss this in the TP Steering Groups.*

The scoping for call topics in DUT is a co-created process which involves a multitude of stakeholders. The multi-annual call agenda of DUT serve as a baseline for that process, in providing entry points and a direction in which the calls will develop over time. In this revised version, they visualise how already launched calls relate topically to what is expected for the remaining calls of DUT. The multi-annual call agendas are organised according to four principles to facilitate the continuous chiselling out of relevant themes:

The Key Area-oriented principle is pathway-specific and ensures that the updated key areas are reflected and addressed. In the multi-annual call agendas, items from the pathways' key areas are ordered in a timeline that gives an indication of how they will be covered over the next years, as well as what has already been covered in the calls launched so far.

The Co-creation principle ensures that the DUT partners' agendas and priorities are considered also in multi-annual call agendas. For this roadmap, this principle has been applied to update the items of the multi-annual call agendas through the format and activities of the Steering Groups, in which the DUT partners participate.

The Internal Portfolio principle applies a project portfolio principle to ensure that certain topics and cross-cutting themes are not over- or under-covered. This relies on assessment of topics, themes and approaches used in the funded DUT projects and comparing these to the desired output. The principle does help to chisel out call topics, but suggestions of new cross-cutting themes and strategic priorities might also be derived from work done according to this principle.

The External Portfolio principle ensures that activities in the DUT are related but not superfluous to other calls, partnership programme initiatives, and activities within Horizon Europe. It also considers and builds upon the legacy of JPI UE ERA-NETs. The portfolio principle is used to design calls and initiatives that are aligned with, and complementary to, those in other EU contexts. It ensures that the timing, thematic orientation, call specifics, and other key aspects are sufficiently distinct to prevent one initiative from overshadowing another. To achieve these overlaps, participation and overhearing is continuously sought after and encouraged.

From CUE key areas to multi-annual call agenda

The Circular Urban Economies Transition Pathway's (CUE TP) call topics aim to contribute to the transnational learning process on circular economy and regenerative greening practices in urban settings, by encouraging experimentation and implementation of approaches within co-creative environments. Between 2024 and 2032, approximately 50 projects will explore, analyse, co-create, and pilot innovations and policies related to circular urban economies and urban greening as indicated in the multi-annual call agenda for the CUE TP. The call topics decided thus far have been co-created together with our partners and urban stakeholders. The next such process will occur for the calls 2027 and 2028, following similar proceedings and building on the indications outlined in the multi-annual call agenda for the CUE TP.

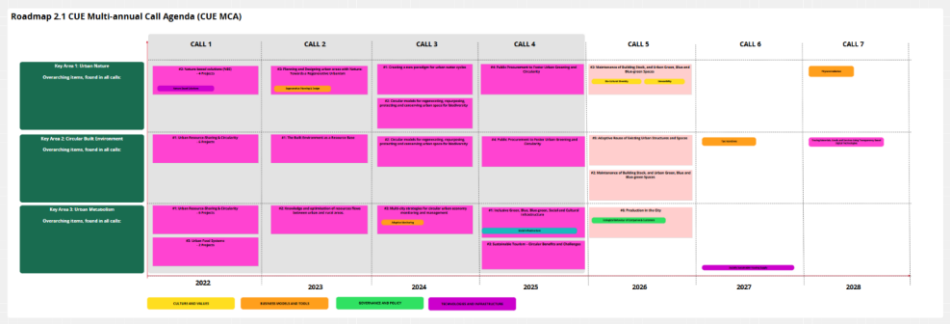

Figure Z. The Multi-Annual Call Agenda for the CUE Transition Pathway. Note to reader: this image is merely a place-holder and will be discussed/revised at the CUE Steering Group-meeting on March 27th.

From 15mC key areas to multi-annual call agenda

So far, four annual calls have been programmed within DUT, with two funded project cohorts currently in progress (calls from 2022 and 2023). Between 2024 and 2032, more than 100 funded projects will explore, analyse, co-create and pilot new approaches, practices and tools for urban mobility transitions. These projects aim to demonstrate multiple, possibly diverging pathways towards sustainable, feasible and inclusive neighbourhoods, recognising different urban contexts and emphasising the transferability of insights.

Through these, the 15mC TP seeks to promote and contribute to the transnational learning on urban mobility transitions. The following graphic provides an overview of past call topics, highlighting which focus

areas have already been covered in DUT calls and which challenges are anticipated to be discussed for the next four calls between 2025 and 2028. At this stage, the calls 2026 to 2028 should be viewed as initial inputs for the broader, co-created annual call scoping process, conducted with DUT Partners and the wider DUT community.

Call topics – short titles	Call 2022	Call 2023	Call 2024	Call 2025	Call 2026	Call 2027	Call 2028
Key Area 1 – Mobility flow and access	#2 Foster sustainable mobility and logistics in urban outskirts	#3 Empower people for the urban mobility transition	#1 Inclusive and youth-centric mobility systems #3 Data and indicators for decision-making	#1 Next steps to integrate urban mobility	#2 Corporate mobility and fleet management		
Key Area 2 - Public space and urban planning	#3 (Re)imagine public spaces and streets	#1 Policies and evidence to reduce car-dependency	#2 System innovation and sustainable city regions	#2 Leverage parking for the 15-minute City	#1 Prepare urban mobility for the challenges ahead		
Key Area 3 – Built environment and opportunities	#1 Strengthen mix of functions and services	#2 Policies for proximity-oriented development		#3 Decision-making and contestation of mobility policies	#3 Nurture the urban foundational economy		

Dominant Impact Dimension
- Governance and policy
- Culture and values
- Business models (and tools)
- Technologies and infrastructure

Figure X: 15-minute City Multi-Annual Call Agenda (1st draft, Calls 2027 and 2028 still missing)

From PED key areas to multi-annual call agenda

Build DUT communities and improve their capacities

This activity cluster focuses on bringing relevant stakeholders together, responding to the needs of urban problem owners, and co-creating thematic outputs with them. Through workshops, trainings, and interactive formats, DUT fosters knowledge exchange, strengthens communities of practice, and builds capacities to enable the uptake of innovative and transformative approaches.

DUT has established several engagement formats to connect its diverse stakeholder community, with a particular emphasis on mobilising new and currently underrepresented stakeholders. By actively supporting and co-creating with DUT-funded projects, organising dedicated events, and providing training on Urban Living Labs and other methodologies, DUT ensures that project outcomes are not only developed but also effectively implemented. Exchange and peer-learning are facilitated through the DUT City Panel and the Public Officer & Practitioner Community, where city administrations share insights and experiences. The AGORA Dialogues provide further opportunities for co-creation, ensuring that stakeholders actively shape urban transition pathways.

A key milestone in DUT's engagement strategy is the biannual DUT conference, a large-scale event usually held in Brussels, which brings together the broader community to discuss policy developments and urban innovation. By combining collaborative engagement, peer learning, and capacity-building, DUT ensures that stakeholders across sectors and governance levels are equipped to drive urban transformation, reinforcing the partnership's mission to create sustainable, inclusive, and climate-resilient cities.

Synthesise and disseminate results

To amplify impact and drive urban transitions, DUT systematically organises, synthesises, and disseminates results from DUT-funded projects and related activities. By refining and curating knowledge outputs, DUT ensures that research findings, innovative solutions, and best practices are accessible, actionable, and widely shared, supporting evidence-based decision-making and policy development.

The Knowledge Hub plays a central role in this effort, serving as a key driver for the systematic organisation, synthesis, and valorisation of project outcomes. It consolidates insights from funded projects, thematic workshops, and expert mappings, transforming them into accessible knowledge products that inform urban policy and practice.

The Innovation Portfolio featuring selected learning cases will be prominently showcased on the DUT website, offering a structured overview of key findings and success stories. Additionally, all project results will be published, searchable, and openly accessible, ensuring broad availability for urban practitioners, researchers, and policymakers. To enhance outreach and engagement, selected projects will be highlighted through targeted dissemination activities, including:

- Articles and features on the DUT website
- Contributions to Urban Lunch Talks, DUT seminars, and workshops
- Participation in key external events to strengthen knowledge transfer and cross-sector dialogue.

Support uptake of results and scale out

To maximise impact, DUT actively supports the uptake, mainstreaming, and valorisation of results from DUT-funded projects, ensuring that research and innovation (R&I) outcomes reach target groups beyond individual projects. By fostering knowledge exchange, skills development, and capacity building, DUT enables urban practitioners, policymakers, and other stakeholders to apply and scale successful approaches, learnings, and best practices in diverse urban contexts.

DUT explores and develops new formats and funding schemes that support real transformative action, making applied R&I results tangible and visible at local, regional, and national levels. This includes scaling

out (and down) to urban policy practice, particularly through formats that engage city administrations, urban practitioners, and policymakers.

In the coming years, DUT will pilot innovative knowledge valorisation formats such as the Urban Challenge and Urban Arenas - matchmaking and micro-funding initiatives originally developed in the Netherlands and Germany - now adapted to the DUT context. These formats will ensure a stronger focus on the needs of problem owners, facilitating direct connections between R&I actors and urban stakeholders. Additionally, Urban Pilots, structured as workshop series on funding strategies and policy learning, will be explored to enhance knowledge transfer and capacity building.

In parallel, DUT will develop a structured impact assessment framework for projects, alongside mainstreaming and replication guidelines to facilitate the widespread adoption of successful R&I results. Through these efforts, DUT strengthens skills development, evidence-based policymaking, and the practical application of urban transition research, ensuring that transformative solutions are effectively integrated into policy and practice.

Align with key urban policy initiatives and scale up

DUT harnesses synergies with the most relevant European urban initiatives, ensuring that evidence and insights from DUT-funded projects inform urban policy discussions, drive policy uptake, and contribute to broader policy frameworks. The DUT Partnership applies its co-funded transnational governance structure to support the alignment of regional, national, and European policies, bridging the gap between research and innovation (R&I) results and policy practice. Furthermore, DUT aims to establish itself globally as a leading knowledge hub on urban transitions.

We cooperate closely with EU urban flagship initiatives (e.g., NetZeroCities, New European Bauhaus, SET Plan, and CIVITAS) through joint workshops, publications, conference sessions, and policy briefs. In parallel, we maintain close collaboration with thematically relevant partnerships (e.g., Clean Energy Transition, Water4All, Biodiversa+ and 2ZERO Partnerships) to build synergies, enhance complementarities in our actions, and jointly influence policy discussions.

DUT actively engages in EU urban policy discussions (e.g., Urban Agenda for the EU Partnerships, EU Council Presidencies, European Urban Initiative, and URBACT) by participating in conferences and other policy-related activities. We also expand the international outreach of DUT-funded calls, fostering new partnerships within Mission Innovation's Urban Transitions Mission and the Belmont Forum.

To ensure that urban sustainability transitions are firmly grounded in the latest research and innovation, DUT contributes to global frameworks such as the Global Research and Action Agenda on Cities and Climate Change (GRAA)[37]. Recently updated by the Global Covenant of Mayors (GCoM) and UN-Habitat following the Innovate4Cities Conference in Montreal, the GRAA serves as a key reference for the IPCC Special Report on Climate Change and Cities. By integrating our research into this evolving framework, DUT strengthens its role as a bridge between European and global urban sustainability efforts, ensuring that cities across Europe both benefit from and contribute to the latest innovations in climate-resilient development.

DUT advances these objectives through its co-leadership in the Urban Transitions Mission (UTM) under Mission Innovation, collaborating closely with partners such as the Global Covenant of Mayors (GCoM) to drive evidence-based policymaking and ensure that research and innovation directly shape urban policies at multiple governance levels.

We are to change this overview so that is aligns with DUT activity clusters

[37] https://www.globalcovenantofmayors.org/press/accelerating-next-generation-city-climate-action-findings-from-the-2024-innovate4cities-conference-and-update-to-the-global-research-and-action-agenda/

Overview e.g. 15mC Position Paper --> https://dutpartnership.eu/wp-content/uploads/2024/04/DUT_Partnership_15-minute_City_PositionPaper.pdf#page=53

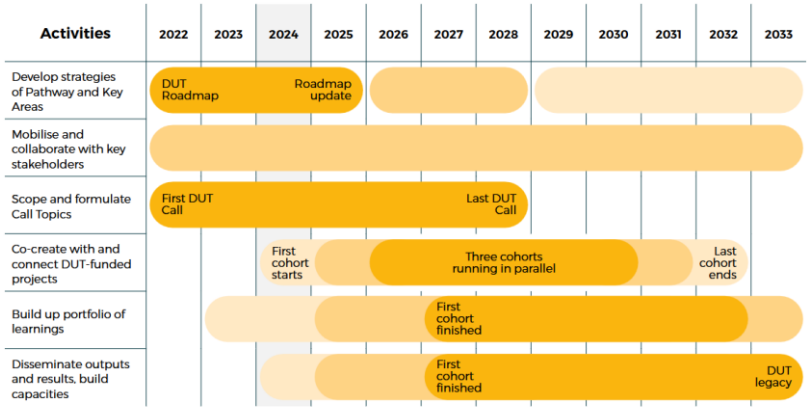

Figure 15: *Focus areas of action in DUT and important milestones for the partnership 2022-2033; phases of high, medium, and low intensity*

Flagship instruments

In the DUT portfolio of instruments there are handful of instruments and activities that are piloted in the first and second phase of DUT that goes beyond already well-established formats. These activities play a key role in ensuring the success of DUT.

Knowledge Hub

The DUT Knowledge Hub is an expert format launched in 2025 to aggregate the main results of the projects funded in DUT, draw conclusions on a thematic level and chisel out key learnings to implement in capacity building for practitioners and bring to relevant policy arenas.

There are three knowledge hubs, one for each TP, each with its own coordinator and dedicated expert facility, as well as appointed representatives from each funded project.

The work of the knowledge hubs is closely linked to the strategic development of the DUT Partnership and its Transition Pathways and contributes to the creation of impact. The innovation portfolio (described below) is one of the concrete outputs from work done in the knowledge hubs.

Innovation Portfolio

Due to the magnitude of results produced by projects funded in DUT calls, a structured and selective approach in the form of portfolio management is necessary to enable impact. The innovation portfolio will highlight innovations that drive urban transitions, using cross-cutting and TP-specific criteria to evaluate diverse impacts (technical, social, systemic). A defined workflow will guide case selection and integration into broader DUT activities, ensuring dynamic use beyond just showcasing. Selected cases are planned to be communicated via a dedicated dashboard on the DUT website, using various media formats. The first edition of the innovation portfolio will be ready by the launch of the new website end of 2025.

Urban Doers Community

Urban doers are typically urban niche innovators, be it urban community associations, NGOs, micro enterprises, neighbourhood initiatives, social entrepreneurs, activist groups, civil society organisations, designers and other actors from the cultural and creative sectors with a high ambition to drive change in cities but with limited capacities to join consortiums and apply for funding in transnational calls. In 2023 DUT launched the Urban Doers Community to capitalise on the transformative impact of hyperlocal knowledge and community driven experimentation and to bridge the gap between neighbourhood-level actions and European policy, proving that meaningful connections can drive substantial change. The DUT Urban Doers community offers financial means in competition to urban niche innovators.

Engaging Urban Authorities

DUT has developed several dedicated formats to engage public authorities and municipalities, fostering strategic alignment, experience exchange, co-creation of solutions, and capacity building. These initiatives ensure that urban policymakers and practitioners play an active role in shaping and implementing urban transition strategies.

The DUT City Panel brings together over 50 European cities through onsite and hybrid meetings. Cities participating in DUT-funded projects are invited to join, enabling close collaboration with Mission Cities and UTM cities to create synergies and avoid duplication of efforts. The focus is on fostering meaningful cooperation and strengthening the link between research, policy, and practice.

The Public Officer and Practitioner (PoP) Community complements this effort by organising seminars on implementation-related challenges, providing a platform for municipal experts to exchange insights and practical solutions. In 2025, DUT will pilot the Urban Arenas, a new forum where public utility companies can pitch real-world challenges to teams of researchers, facilitating direct engagement between local authorities and the scientific community.

Through these initiatives, DUT ensures that urban authorities are not just beneficiaries of research and innovation but also active co-creators in developing and scaling transformative solutions for sustainable urban development.

Final Reflections – Priorities in the Next Phase

To be written.

Driving Urban Transitions

Annexes

Table of outcomes and measurable goals