NET ZERO CITIES
SGA2-NZC

Design of Non-Mission City Portal UX and Customer Journey

Deliverable D1.5

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Executive summary

This report is a deliverable of Task T1.3.3 under *SGA2-NZC* of the project NetZeroCities. Its objective is to describe user experience and customer journey of new services for cities beyond the 112 Mission Cities, referred to as Mission-minded cities. This deliverable specifically provides the design of UX and customer journeys of the portal, while recommendations for portal improvements will be discussed extensively in SGA2-NZC D1.8 “Non-Mission City Portal Usage and User Satisfaction Report” (M24).

The main contribution within the Portal redesign concerns the reorganisation of the Portal menu, co-designed and tested with partners to better reflect user needs and the value proposition of the platform. The revised menu, structured around the pillars *Learn*, *Connect*, and *Act*, was made available in October 2024 and provides a clearer entry point to the wide range of tools, resources, and services available.

The deliverable also presents the co-design and UX development of the *Learning Hub*, a dedicated Portal space for hybrid learning opportunities, combining self-paced content and live formats developed across NetZeroCities’ three grant agreements. Drawing on interviews, personas, journey maps and collaborative prototyping, the Learning Hub was designed to reflect city practitioners’ real-world needs and learning patterns. Its implementation is planned for summer 2025, with continuous improvement led by T1.3.2 and supported by user feedback.

Looking ahead, this work will support the continued development of the Portal through the integration of new content and services, in alignment with parallel work packages across NZC. Future efforts will expand peer learning opportunities, improve tool interoperability, and introduce more dynamic and tailored user experiences. All improvements will continue to follow a user-centred design approach and will be tracked and reported in upcoming deliverables, including usage and satisfaction reports in 2025 and 2027.

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Abbreviations and acronyms

Acronym	Description
CCC	Climate City Contract
CTA	Call to Action
CTM	Climate Transition Map
KR	Knowledge Repository
LH	Learning Hub
MCs	Mission Cities
MMCs	Mission-Minded Cities
NMCs	Non-Mission Cities
NZC	NetZeroCities
R&I	Research and Innovation
Single Sign On	SSO
UI	User Interface
UX	User Experience

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1 Introduction

This report, developed for internal coordination and Portal development, addresses the following questions:

- How can we integrate new services and pathways into the Portal to serve as a supportive touchpoint for MMCs as well?
- How can we create a meaningful navigation and learning experience for all cities that brings together insights from across the project?

Although the deliverable title refers to "Non-Mission Cities", throughout the deliverable cities beyond Mission cities are referred to as Mission-minded cities.

Designing a user experience that allows Mission-minded cities to easily explore the Portal is essential to ensure they can access, navigate, and benefit from the wealth of knowledge, tools, and learning opportunities developed through the NetZeroCities initiative—empowering them to advance their own climate action journeys alongside Mission Cities. This deliverable, mainly based on SGA2-NZC T1.3.3, reflects a city-focused approach intentionally adopted in Task 1.3, prioritizing integration across cities and topics rather than structuring content by the project's work packages that produced the content. This vision defined at the beginning of the project (SGA2-NZC) supports a more cohesive and user-friendly Portal.

Throughout this document, we highlight the collaborative efforts of these two main areas of work:

- (I) A comprehensive redesign of the Portal menu aimed at improving usability, structure, and access to services.
- (II) The UX and UI research supporting the development of the Learning Hub, with a particular focus on curating and integrating the new services developed under SGA-NZC WP4.

(I) Firstly, in **Section 2** of this deliverable, *"Towards a unified Portal experience,"*, an in-depth review of the Portal's existing content and navigation structure was conducted, followed by a collaborative redesign of the main navigation system (menu and key pages). This work aimed to enhance the user experience for all cities, ensuring seamless access to tools and content developed across parallel Work Packages and Tasks.

(II) Secondly, in **Section 3** of this deliverable, *"UX Portal Learning Hub "* a specific focus is given to developing the design for the learning experience of all cities to support their understanding of the breadth of learning offers provided by NZC. This part of the Portal focused on learning is named Learning Hub and will be found under the menu item "Learn" of the Portal. The design of this section establishes the foundation for the offerings to Mission-Minded cities, enabling them to engage with NetZeroCities (NZC) materials and gain insights into the implementation of systemic approaches to climate transitions within their local contexts based on the content developed in NZC WP6, WP7, WP8, WP9, WP10 and SGA-NZC WP2, WP7, as well as SGA2-NZC WP1 tasks 1.2, 1.3.2, 1.4, 1.5 and 1.6. **Section 4** describes the usability testing for the Learning Hub.

Finally, in **Section 5** and **6**, in addition to providing an outlook and final remarks, we present a plan for future activities that are scheduled for the future (SGA2- NZC RP2 and RP3), which will focus on further integration of the navigation, visualization and new services for the topic of Finance (SGA-NZC *WP7 and SGA2-NZC WP2*), Partnerships (SGA-NZC *WP6*) and an enhancement of the learning from Mission Cities as the implementation phase takes off and the learning material becomes available (SGA-NZC WP2).

This deliverable focuses on providing the UX design and customer journeys; information on usage, satisfaction and portal metrics as well as recommendations for portal improvements will be discussed extensively in SGA2-NZC D1.8 "Non-Mission City Portal Usage and User Satisfaction Report".

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2 Towards a unified Portal experience

NetZeroCities is the platform of the EU Cities Mission, and its **Portal** (https://netzerocities.app/), represents a **comprehensive resource hub and one-stop-shop.** Its homepage and menu, launched in October 2024, was improved and redeveloped under SGA-NZC T5.2 and SGA2 T1.3. This section presents the broader context of the Portal menu rehaul (resourced under SGA-NZC T5.2) and details the UX/UI work dedicated to the development of the new Portal menu (resourced under SGA2-NZC T1.3.2) as well as early insights from evaluation work.

2.1 Enhancing the homepage and menu: a clearer entry point

As the Portal matured from an initial pilot into a **key operational portal**, **the homepage required a redesign to better serve both new and returning users**. The previous version (until spring 2024) offered limited context, assuming a level of familiarity that many users — particularly those new to the Mission — did not yet possess.

It also lacked visibility for new core tools and support resources, contributing to user uncertainty and over reliance of city adjacent support functions to complete tasks which should have been easily executed independently on the Portal.

The revised homepage (work done in SGA-NZC T5.2) and menu (created in this task SGA2-NZC T1.3.3) were designed to serve as a clearer and more purposeful entry point; articulating the Portal's role, outlining its main features, and directing users to relevant tools and resources based on their needs.

The development of an intentionally phased update to the homepage hinged on the synthesis of diverse insights, bringing together existing knowledge across the consortium with values-based user interviews and insights from Hotjar.

Hotjar[1] was implemented on the Portal on the 4th of June 2024. Insights gathered from the period between 4th June and handed over to developers on July 25th, 2024, were used alongside other insights and continue to support the monitoring of the design changes made on the Portal. The insights focused on highest click rates on the homepage, scrolling rates, most visited pages and pages with high bounce rates. These insights were used to prioritise elements of inclusion and define areas of further exploration.

Key Resources across the Consortium which fed into the development of the updated homepage and menu:

- D13.1 Report on City Needs, Drivers and Barriers Towards Climate Neutrality
- D1.1 Non-Mission City Needs & Pathways - First Report
- Non-Mission City User and Gap Analysis

[1] Hotjar is a product experience insights tool that helps product teams understand how users interact with digital products. It combines behavioural analytics (like heatmaps, session recordings, and click tracking) with user feedback tools (like surveys and in-the-moment feedback widgets), giving a clear picture of what users are doing, where they're getting stuck, and why.

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- D3.1 Design and Specification for the Portal and the Platform
- Portal analytics
- Menu exploration DIY Menu Activity
- Portal content overview, providing an analysis and classification of existing tool within the Knowledge Repository. (See Appendix 7.1)

Under SGA-NZC T5.2, user interviews and a collaborative session with the Covenant of Mayors gathered insights from over 40 participants, highlighting key pain points and opportunities in the portal experience and directly shaping the redesigned homepage launched in October 2024.

Ongoing collaboration within the Portal team and the wider consortium ensures that key spaces on the Portal remain responsive and open to iterate. These have thus far been ad hoc given the ongoing pipeline of new design and development work for the Portal. The continuous evaluation process in T1.3.1 is a significant partner to ensure consistent and comprehensive user feedback informs the progress monitoring of newly implemented Portal updates and highlights where further changes could be made.

2.2 Redesigning the Portal menu

2.2.1 Structure and clarity

Alongside the homepage redevelopment (carried out in spring 2024 in SGA-NZC T5.2), a complete reorganisation of the Portal's main navigation menu (in spring 2024 in SGA2-NZC T1.3) was undertaken. The previous menu structure had developed incrementally over time and lacked a clear information hierarchy, making it difficult for users to locate content efficiently — particularly as the number of tools and resources grew with the progression of the project.

Between April and June 2024, a detailed review of 22 core tools—including the Knowledge Repository, Climate Transition Map, and NetZeroPlanner—was conducted followed by this menu update, which also introduced new tools and restructured existing ones. As part of this effort, a new classification framework was introduced to organise content more effectively by theme, user group, expertise level, and stages of the climate transition process. This framework aligns with the Climate City Contract structure and the GHG Protocol for cities. (See Appendix 7.1)

The new navigation system (online since October 2024) is designed around how users interact with the Portal in practice. Pages are grouped into categories centring around **learning, connection and action**, with clear labelling and descriptive headings that improve usability. The sections *Learn, Connect, Act* were already in use when promoting the value proposition of the Portal and were present across several modules - including the Portal onboarding video, making it an aligned option to use as the key segmentation of the menu. To validate the integration of these core pillars into the menu structure the Covenant of Mayors session participants were consulted in SGA-NZC T5.2. Based on their overwhelming preference through A/B testing of the homepage wireframes rather than many detailed elements, the *Learn, Connect, Act* was embedded as the initial update for the menu. Consortium members were also consulted to ensure alignment with upcoming modules to be embedded in the Portal – balancing user, technical and consortium need.

This reorganisation was informed by a combination of qualitative feedback from cities and programme partners, quantitative user analytics, and a review of best practices in navigation design as well as the content focused review of menu elements conducted in T1.3. The goal was to support both experienced users as well as new users who may require more guidance in understanding the Portal's full breadth and depth.

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Figure 1: A snapshot of the new Portal menu.

2.2.2 Co-designing the new Portal menu

This section outlines the co-design process behind the development of the new portal menu, launched alongside the new homepage (carried out in spring 2024 in SGA-NZC T5.2). The menu definition drew on two key areas of work: the homepage redesign, which included a user experience review described above, and the efforts of SGA2-NZC Task 1.3.2, which involved mapping and reclassifying all existing portal content into a coherent structure.

Prior to this redesign (until spring 2024), the Portal menu consisted of a series of options without a hierarchical structure (Figure 2). It relied solely on standalone icons, making navigation unintuitive.

The main objective of this redesign was to ensure that all resources and functionalities of the Portal are clearly organised, easily accessible, and fully utilised.

A Card Sorting activity was used to **categorise the clusters of elements within the Portal** and the development of an **initial prototype of the main Portal menu**. This activity informed the development of a menu prototype, which was later refined and finalized for development and launch.

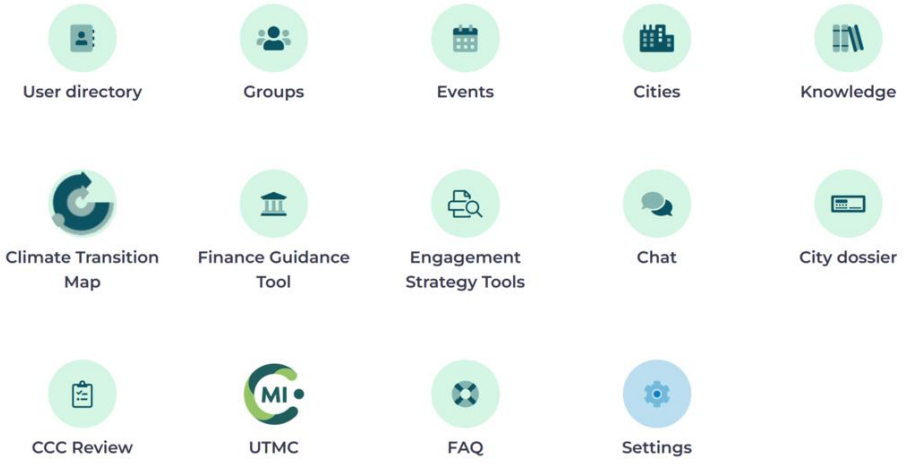

Figure 2: The Portal menu before its redesign (before spring 2024)

2.2.3 Mapping of the Portal sections

Within SGA2 T1.3.2, a series of co-design activities was conducted involving task members and NZC consortium partners. This collaborative effort has led to the development of an initial prototype featuring an improved, intuitive, and comprehensive menu structure and content categorisation.

To initiate the menu re-design, a comprehensive mapping of the Portal's elements and sections was conducted. This served as the foundation for a subsequent ***Card Sorting activity*** with partners of the task. Their understanding of the project allowed them to structure the information in a way that was both meaningful and aligned with the overall goals.

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Card Sorting (Spencer, 2009) is a user research method used to understand **how people structure information**. Participants are given a set of labelled cards and asked to group them in a way that makes sense to them. During the Card Sorting activity conducted with 16 NZC consortium partners, each participant was provided with 27 labelled cards representing different sections and elements of the Portal. The partners participating in the activity were asked to group these cards into clusters and to assign meaningful names to each cluster.

We listed all the 85 categories (names the users give to their different group of cards) created by the 16 usable boards. We grouped all the categories into 17 clusters, combining homogeneous ones.

Building on these outcomes and outputs, a co-design session called was conducted, again with partners from T1.3.2. This exercise allowed participants to **refine their menu** based on their own expertise and understanding of cities' needs and thematic priorities by reorganising, removing and adding sections to the proposal. This process became iterative co-design, refining the structure of the menu to ensure usability and relevance.

The outcome highlights how partners perceive the structure and usability of the platform, leading to the identification of 17 main thematic clusters (See Appendix 7.5 for details on this activity).

Subsequently, participants were invited to take part in an interactive activity focused on reshaping the Portal's menu structure: the ***DIY menu activity***. The activity began with each participant selecting a designated workspace and writing their name at the top. Within this space, they were asked to critically review the proposed sections and subsections with the freedom to rename, reorder, or remove items to better reflect their expectations for intuitive navigation.

Figure 3 shows a prototype of the menu after the review of the results of the collaborative activity, which includes *About, Who we support, CTM, Impact Pathways, Learning Hub* [2] *and Connect*.

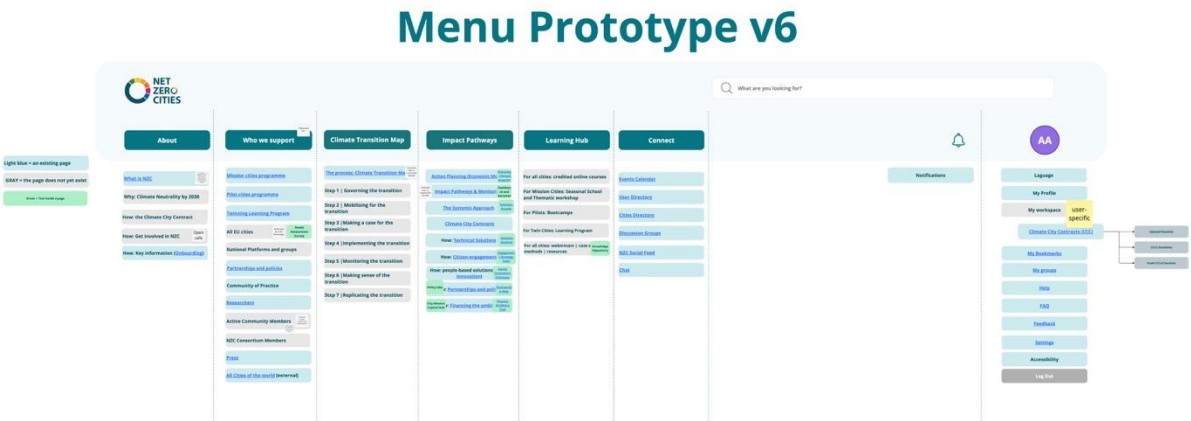

Figure 3: the last version of the Portal menu, after the analysis of results of the DIY menu activity. (See Appendix 7.6 for details on this activity).

The final step in the co-design of the menu was led by Metabolic under SGA1 T5.2 and included a joint UX review of both the updated Portal menu and the homepage (), ensuring a coherent and user-friendly experience across the interface. The design, development and deployment of the updated Portal menu

[2] The Learning Hub was still under development when the activity was conducted. A detailed description of the Learning Hub design process will follow in Section 3 and 4.

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and homepage were executed in accordance with the mandate to enhance all Portal modules. Ongoing work aimed at designing and implementing user-centric improvements across Portal modules are being taken on by several consortium partners through T5.2 in SGA1 and continue under SGA2 Task 1.2.2.

Prior to full deployment, the new homepage and navigation menu were soft launched in a staging environment to gather internal feedback and perform final adjustments per best practice design and development practices. The resulting interface offered a more intuitive, user-friendly experience that better supports cities' engagement with the Mission and improves the overall coherence of the Portal.

2.3 Evaluation of new Portal homepage and menu

Following the development and deployment of the homepage and menu, an evaluation has been undertaken to ensure optimal user experience. Regarding the menu integration, Hotjar analytics (available from implementation in June 2024) highlight patterns of engagement and insights which can inform ongoing and future UX work such as the development of the Learning Hub.

Homepage and menu engagement: The *Learn, Connect, Act* sections of the menu receive the highest engagement from users (see heatmap below showing aggregated mouse interaction data on the homepage since implementation Figure 4)

Figure 4: Screenshot of NetZeroCities homepage, including the Hotjar analytics.

The highest performing links in the menu (most clicked by users) are as of 27th February 2025:

- Knowledge Repository (521 total clicks)
- Cities (425 total clicks)

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- Groups (359 total clicks)
- Settings (355 total clicks)
- NetZeroPlanner (269 total clicks)

By contrast the lowest performing links (menu items clicked the least by users of the Portal) since implementation are:

- Make it The New Normal (6 total clicks)
- Learn & Reflect (9 total clicks)
- Act (12 total clicks) (within the Climate Transition Map, not the broader Act section)
- Understand the System (11 total clicks)
- Solution Bundles (19 total clicks)

Four of these links (*Make it The New Normal, Learn & Reflect, Act, & Understand the System*) belong to the broader section of the Climate Transition Map. Low tracked engagement of these sections should be explored in T1.3.1.

Increase in sessions and returning sessions: Post the release of the new menu in June 2024, a **positive trend** has been observed in the number of returning users' sessions and total sessions across all pages on the portal as captured on Hotjar analytics. The monthly average of the total number of sessions (calculated for the past 12 months) in May 2025 is 5,300, which is 65% higher compared to June 2024 (3,200 sessions). Similarly, there has been a sharp 91% rise in the average number of returning user sessions (at 3,600) since June 2024 (1,900 sessions). This data can indicate that the implementation of the homepage and menu has significantly improved the user experience allowing users to navigate the portal and find resources with ease.

Figure 5 illustrates the growth in the number of returning user sessions and total user sessions, indicating seasonal peaks in September 2024 (7,500 sessions), corresponding to an increased number of scheduled events and activities in this period (including the ECT Call Info Sessions, and CCC Submission Info Session).

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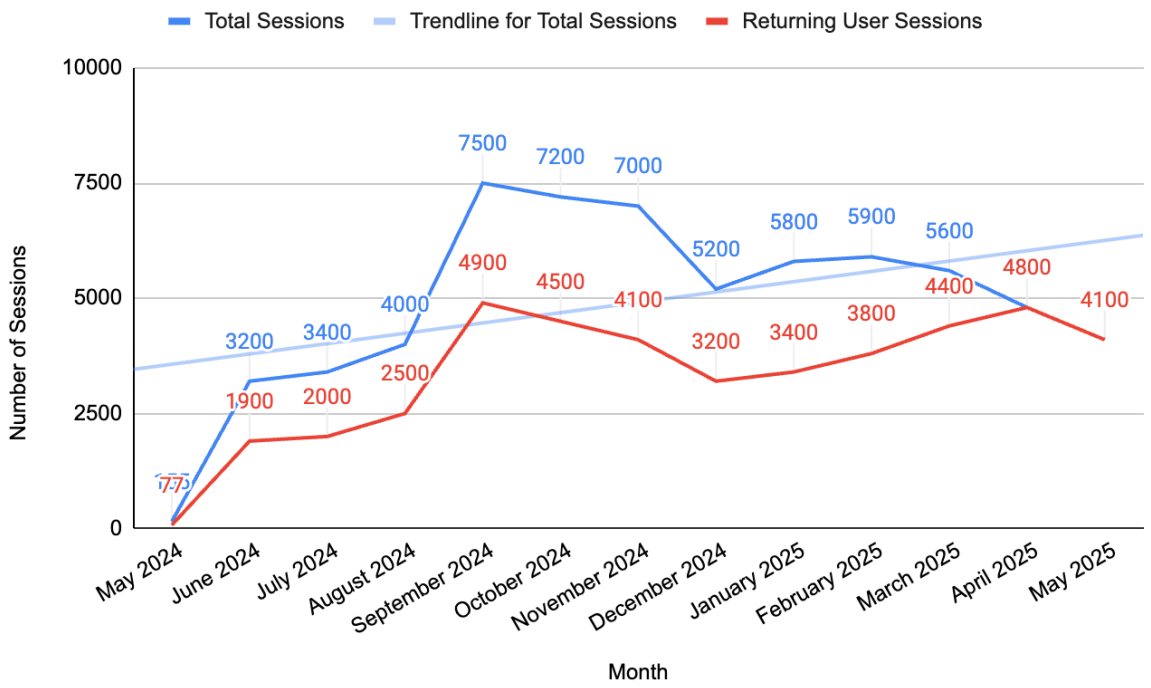

Figure 5: Portal evaluation indicators

2.4 Next steps

A more comprehensive review will be undertaken with the updated heuristic analysis in SGA2-NZC T1.3.1 in the future. We expect any changes identified through this review will be further explored and scoped within SGA2-NZC T1.2.2, creating a joined-up approach to Portal and user experience. Insights will trigger tailored research approaches which flow into concrete design and development, supporting user experience and shaping the channels of NetZeroCities as a viable partner for users along their climate neutrality journey.

3 UX Portal Learning Hub

Following the overhaul of the Portal homepage and menu, the next step in enhancing the user experience focused on developing the structure and content of the Learn section of the Portal, also referred to as the "Learning Hub". During the menu redesign process, it became clear that the Portal contained a vast amount of valuable material which could be more effectively organised and explored through structured learning paths. As a result, the Learning Hub emerged as a relevant and strategic element, both in response to user needs and as a central location to access educational content.

The development of the Learning Hub also aligned with the upcoming launch of the NetZeroCities learning program for Mission-minded cities (SGA2-NZC T1.4), reinforcing the need for a well-designed, accessible entry point to host curated educational content and support tools. It is closely linked to the work conducted and ongoing in parallel work on NZC (mostly WP6,7,8,9,10), SGA-NZC (WP4), SGA2-NZC (*T1.3* and *T1.4*).

The vision for the Learning Hub is to offer a combination of original content and curated materials linked to other sections of the Portal, positioning it as a central access point for educational and learning resources. Although primarily aimed at Mission-minded cities users, the Learning Hub is also open to a

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wide range of stakeholders (public administrators, researchers, civic organisations, policymakers, consultants, and change-makers).[3]

This section presents the **methodology behind the UX and UI for the Learning Hub**. The initial stages of the UX research were informed by findings from key deliverables:

- D1.10 Gap Analysis of Capability Building Programme, which identifies user needs and gap analysis for NMCs.
- D1.1 Non-Mission City Needs & Pathways - First Report, which focuses on defining initial archetypes of NMCs and associated support pathways.

The chapter is structured as follows, with the overall design process illustrated in Figure 6:

- Section 3.1 presents insights from the Gap Analysis (resourced under T1.1).
- Section 3.2 presents findings from the learning activities mapping (resourced under T1.4).
- Section 3.3 presents the Value Proposition design process.
- Section 3.4 introduces the user personas.
- Section 3.5 outlines the user journey.
- Section 3.6 describes the design of the sitemap.
- Section 3.7 presents the final Learning Hub prototype and wireframes.

Evaluation findings are included in Section 4.

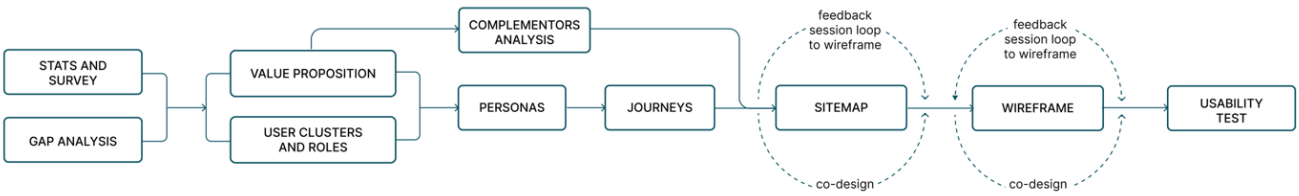

Figure 6: Learning Hub User Research process

3.1 Strategic framing and value proposition

3.1.1 Gap Analysis

To inform the Learning Hub and Learning Programme, a 2024 gap analysis drew from interviews with 16 cities and findings from deliverables D1.1 and D1.10. It identified six core support pathways needed by cities: building a strong mandate, understanding systems, embedding climate goals in daily operations, fostering collaboration and capacity, strengthening financing strategies, and improving learning and evaluation.

[3]ALH Resources are planned to be translated into multiple EU languages through AI to improve accessibility and inclusivity for a wider range of stakeholders, so that they can also benefit from the learning process.

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Deliverable D1.10 further outlined key skill areas for city practitioners, including systems thinking, multi-level governance, cross-departmental collaboration, citizen and public-private engagement, narrative building, financial planning, and applying technical solutions.

Cities also expressed a preference for **hybrid learning formats**, combining challenge-based, peer-to-peer exchanges and self-paced online formats (including case studies, webinars, multimedia resources, and workshops).

Cities also voiced challenges such as **language barrier** limiting their ability to access peer exchanges and learning materials, as well as **difficulty navigating the wealth of available content, and limited time and staffing**.

3.1.2 Learning activities map

In parallel to the UX research, work conducted under SGA2-NZC T1.4 and SGA2 T1.3.2 mapped existing and planned learning activities, creating a structured foundation that informed the design of the Learning Hub. This effort to organise and visualise the full scope of educational content provided critical input to the UX process by helping define the scope, categories, and structure of future learning pathways.

The main output of this work is the *Learning Map* (Figure 7), an interactive visual tool that offers a categorised overview of learning opportunities across formats and user groups. It includes links to diverse materials such as focus pages, digital tools, webinars, quick reads, and videos.

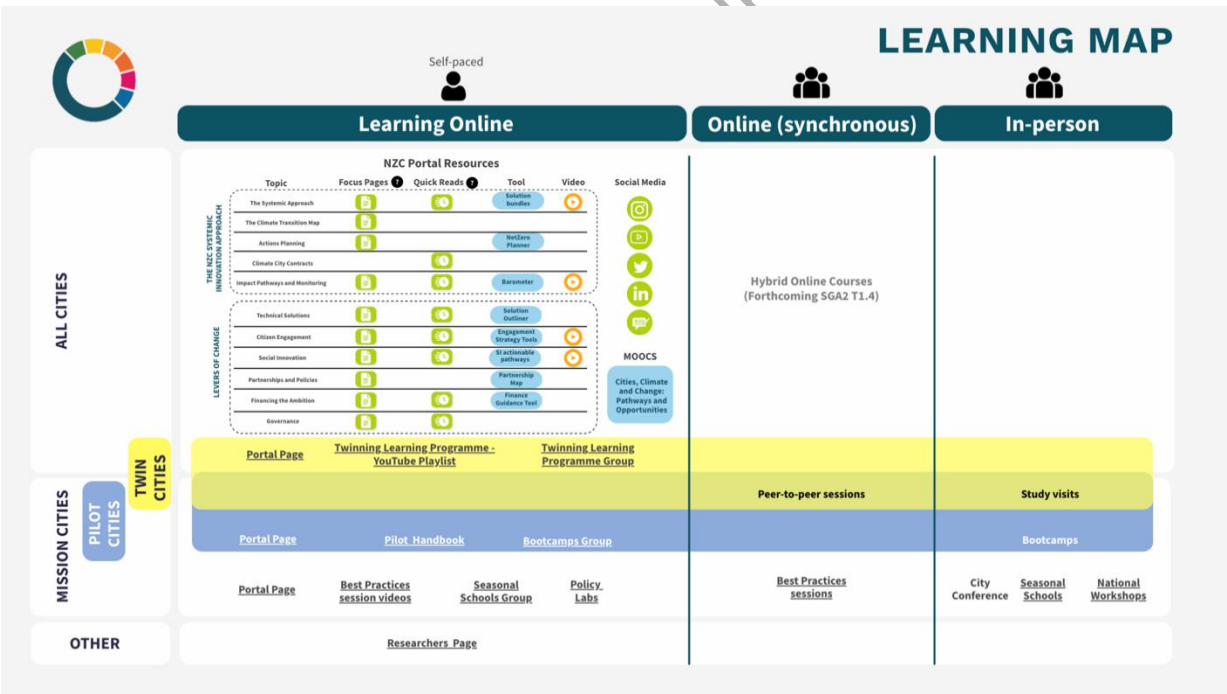

Figure 7: NetZeroCities Learning Map

3.1.3 The NetZeroCities Learning Offer Value Proposition

To guide the design of the Learning Hub, work was carried out across SGA2-NZC WP1 and SGA-NZC to define its unique value proposition. Through a structured co-design process using tools like the Sweet

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Spot Canvas[4] and Value Proposition Canvas[5], partners analysed existing NZC resources, city learning needs, and external offerings to define a focused, differentiated value proposition tailored to the challenges of Mission-Minded Cities.

3.1.3.1 Sweet spot analysis

The triple Venn Diagram orients the *organisation's capabilities* (the available resources and services) in the top section, *alternative offerings* (services and offerings which might be used instead of what the organisation can provide) in the right section, and *stakeholder needs* (the expectations or requirements of the user) in the left section. Within the overlap of the organisation's capabilities and stakeholder needs, the sweet spot offering can be identified as what is uniquely possible from this specific organisation's resources to meet the needs of stakeholders in a way that alternative products or services cannot. (See Appendix 7.1)

1. **Mission-minded cities (MMCs)** face capacity challenges, often lacking the support and staff available to Mission Cities. Project data revealed significant gaps and highlighted the value of peer learning and collaboration, informing tools like the Sweet Spot Canvas to align MMC needs with NZC offerings.
2. **NZC Capabilities**, developed since 2021—such as workshops, onboarding materials, and podcasts—remain underused by MMCs due to limited awareness, perceived inaccessibility, and difficulty navigating the Portal. This underscores the need to better match NZC's resources with the real needs of cities.
3. **Complementary Platforms** are seen not as competitors but as allies. Benchmarking studies and tools like the EU project dashboard and Theme 6 dataset reveal opportunities to integrate insights from external initiatives to enhance NZC services.

3.1.3.2 Benchmarking of the alternatives/complementors

To complement the gap analysis conducted to inform the development of the learning goals a detailed benchmarking was conducted to support the Learning Hub design. We examined the structure of current competing and alternative content providers' platforms to inform Learning Hub information architecture. The selected platforms are also shown in the "Alternative/Complementors" area of the Venn Diagram (see Appendix 7.3).

This process aimed to understand each competitor's platform characteristics and identify features and modules that could inspire and enhance the structure of NetZeroCities Learning Hub as well as provide some differentiating values (see Appendix 7.2).

Each platform has its strengths and focus areas, however there are a several aspects that might be underrepresented and can potentially be catered by NetZeroCities Learning Hub.

- **Interactivity**: NZC Learning Hub could, for example, integrate more interactive content, such as simulations, games experiences and interactive visualizations to engage users more deeply and overcome the complexity of the systemic approach.
- **Localised content**: While some platforms offer country-specific information, NetZeroCities can offer a unique pan-European resource hub of cities learning from each other within and across

[4] The Sweet Spot Canvas is a tool used to find where an organisation meets "customers' needs in a way that rivals can't, given the context in which it competes." (Collis & Rukstad, 2008; Sterwalder, Pigneur, Bernarda & Smith, 2015).
[5] based on the Value Proposition Design methodology developed by Osterwalder, Pigneur, Bernarda & Smith (2015)

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Europe. NetZeroCities Learning Hub could bring more country- and climate zone specific cases studies and other relevant content.

- **User community and networking**: Although some platforms have community engagement features, there could be more attractive networking opportunities for users provided to connect and share learning experiences.
- **Practical implementation courses**: NetZeroCities Learning Hub could provide more comprehensive deep-diving guides for implementing climate solutions in various sectors.

3.1.3.3 Co-designing the value proposition

The value proposition bridges the design and development process with the users' needs and expectations. The process of defining the value proposition for the Learning Hub was a comprehensive co-design activity focused on capturing its unique aspects. This involved determining the value that the Learning Hub aims to provide before crafting user-specific experiences. In our approach, we identified a "Sweet Spot" at the intersection of available resources and services from NetZeroCities, the needs of Mission-minded cities, and the offerings from other organisations that complement or supplement city services. This led us to engage our partners in a value proposition co-design process, working in subgroups to address specific needs and amplify the main characteristics of the work being done in the NZC's Learning Hub. The subgroups were organised as follows:

- **[GROUP 01]** Integrating national learning programs with the Learning Hub (and vice versa).
- **[GROUP 02]** Strategic visualization and integration of city learning solutions.
- **[GROUP 03]** Gaining evidence-based insights from Mission Cities for NMC.
- **[GROUP 04]** Focusing on financial insights from Mission Cities for NMC.

This structure allowed us to map out values and user profiles for each subgroup, providing a detailed and thorough analysis of user learning needs and a description of the service. We used a *Value Proposition Canvas*[6] *(Ostervalden et al., 2015)* to ask partners to map values according to Gain Creators, Pain Relievers, Products and Services and to describe a Customer Profile by identifying Gains, Needs and Pains: first starting from an overall map (Figure 8) and then following specific

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[6] https://www.strategyzer.com/library/the-value-proposition-canvas

objectives of each subgroup.

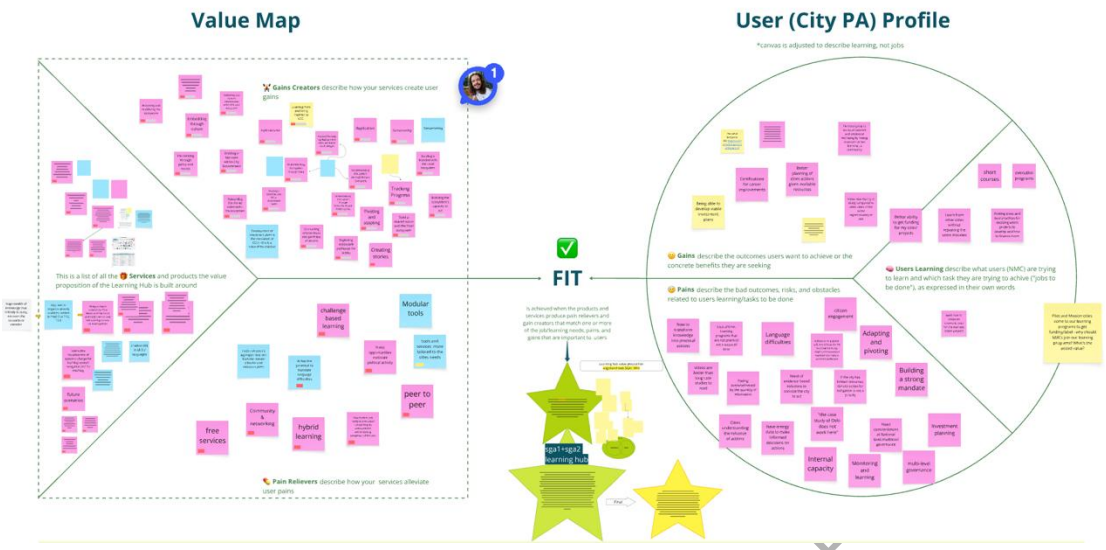

Figure 8: Example of Value proposition canvas

After some iterations, the best fitting among the value map and the customer profile produced a description of the Learning Hub as an EU-specific learning program designed to empower and legitimize public administrators, researchers, civic organisations, policymakers, consultants, and change-makers to reach climate neutrality in urban areas.

The resulting value proposition for the NZC Portal Learning Hub:

> ***NetZeroCities Learning Hub will offer: EU-specific learning programs designed to empower and legitimize public administrators, researchers, civic organisations, policymakers, consultants, and change-makers to reach climate neutrality in urban areas with a systemic, peer-to-peer, and collaborative approach, deploying visualizations to overcome the challenges of understand and implement complex systemic change offering practical tools, methods and cases grounded in shared knowledge and pan-European scientific evidence delivered in local languages and utilizing national platforms.***

Having defined our value proposition, it is essential to understand exactly who we are addressing. For this reason, the following subsection focuses on personas, which help us translate the value proposition into concrete actions in communication, design, and development.

3.2 User research

3.2.1 Personas

Creating personas and scenarios is a key step in designing an interaction experience that facilitates access to the wide range of content it offers. Personas are fictional yet research-based representations of different user profiles, capturing their distinct learning needs, capacities, motivations, and goals (Pruitt & Adlin, 2010). In this process, we also paired personas with scenarios and use cases that illustrate how various users might engage with the Portal. Their scenarios and use cases show how users navigate the Portal, access learning modules through the Learning Hub, collaborate through the Twinning Programme, or explore different levels of content, including case studies and Climate City Contracts.

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We designed two complementary types of personas: (I) Population size and role-based personas (Section 3.2.1.1) and (II) Challenge / goal-oriented persona (Section 3.2.1.2).

3.2.1.1 Population and roles-oriented personas

Given the diverse range of potential users for both the Portal and the Learning Hub, we initiated our approach by segmenting these users into distinct **clusters**. Our preliminary analysis identified various user clusters for the Portal as a whole, encompassing not only city groups such as Mission Cities**,** Pilot Cities, Twinning Cities**,** and NMCs, but also other key stakeholders. These include consultants, businesses, NGOs, citizens, universities, consortium members, and the European Commission. Given the relevance of NMCs for the Learning Hub, the have been further segmented into subclusters based on city population size.

To support this process, a survey (D1.10 – SGA2 T1.4.1) was launched back in August 2024, inviting city representatives to share their experiences with existing learning programs, modalities, and educational supports.

Respondents can be classified in the following:

- Cities with a population of 50K-100K (i.e., Cremona, Italy) – "**Small"**
- Cities with a population of 100K-200K (i.e., Jönköping, Sweden) – "**Medium"**
- Cities with a population of 200K-500K (i.e., Wiesbaden, Germany – Twin City) – "**Large"**
- Cities with a population of 500K-1M (i.e., Leeds, UK) – **"Very-large"**
- Cities within Turkey and Middle Eastern countries[7]

Among other questions, respondents were asked to identify which tools or services would be most valuable in building capability for transitioning towards climate neutrality, as well as the types of support from other government levels that would be most beneficial in achieving climate neutrality.

Sixteen interviews were conducted gathering **26 participants**. Based on the job titles provided by the participants, the different **role clusters** based on their areas of focus and responsibilities are:

- **Technical or specialist roles (11 participants):** These individuals work as Climate, Environmental, or Design Specialists and typically hold roles such as *Environmental Officer / Consultant, Technical Specialist* (e.g., engineer, data analyst), or *Urban Planner / Developer.* Their responsibilities include implementing climate-related policies, managing environmental projects, and ensuring alignment with sustainability targets.
- **Upper management roles (8 participants):** These participants include *Project Managers / Coordinators* and those in *Business Administration & Innovation* or *Finance & Fundraising* roles. They are responsible for managing and coordinating specific projects related to urban development, sustainability, and innovation. Their work often involves cross-departmental collaboration, building partnerships with external stakeholders, and integrating innovation into climate action strategies.

[7] Initially, the survey was launched with only the first four clusters, but Turkish cities emerged as significant outliers. This deviation was substantial enough that a separate category was specifically created to better address their unique responses and needs.

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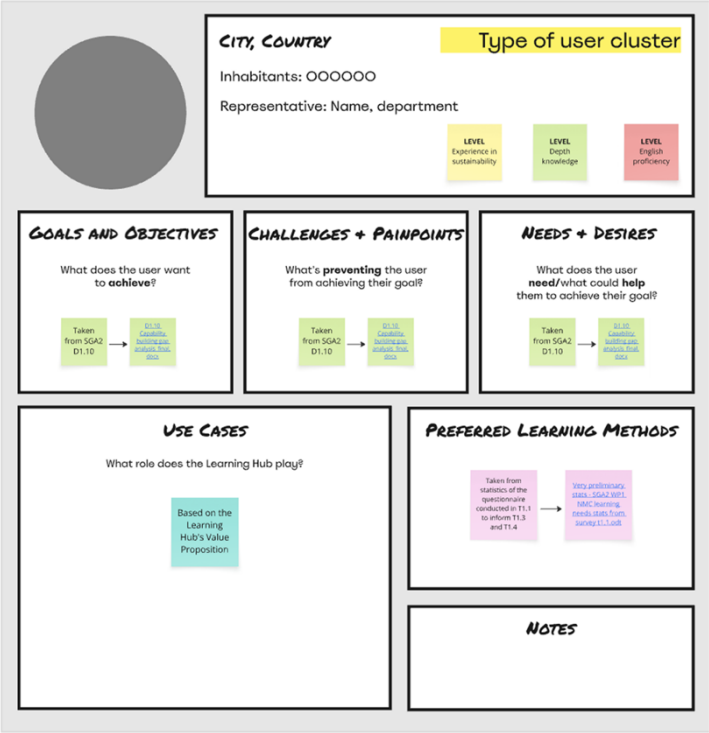
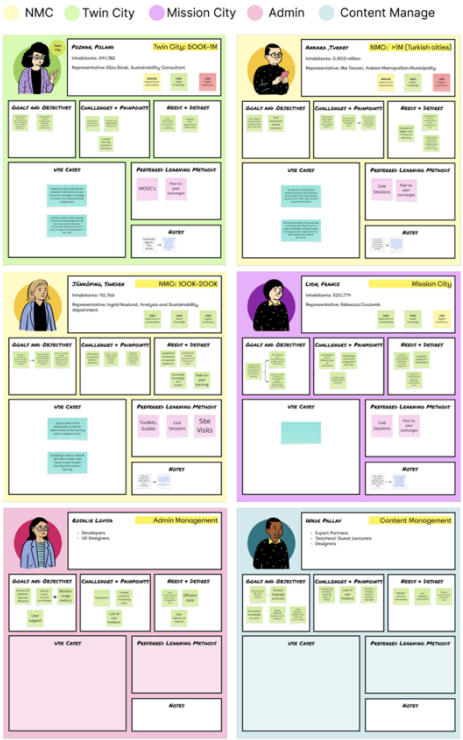
Personas' Card

Template



Personas Examples



- **Executive leadership roles (6 participants):** This group includes *Deputy Mayors*, *City Councillors*, and *Department Directors*, and may also involve Lawyers in leadership or strategic advisory capacities. These individuals focus on high-level leadership and decision-making within city governments, often providing strategic oversight, setting policy direction, and coordinating across various municipal departments.

- **External consultants (2 participants):** These individuals typically serve as *Environmental Officers / Consultants or Lawyers operating in an external advisory capacity.* They bring outside expertise and offer strategic guidance and specialized knowledge to support the implementation of climate neutrality at the municipal level.

By linking findings from the questionnaire (SGA2 T1.1) with interview insights, we observed a **clear correlation between the size and typology of the cities and their learning preferences and challenges**. Larger cities tend to prioritize topics such as governance, financing, and stakeholder coordination. They often prefer structured learning formats like MOOCs and policy-oriented case studies. In contrast, smaller cities face challenges in systematization, internal collaboration, and context-specific adaptation. These cities show a stronger preference for applied experiential learning formats such as site visits and practical toolkits.

The template (Figure 9) used for designing our personas within the collaborative digital space is structured into **seven key sections**. The structure has been informed by the interviews conducted as part of the Learning Gap Analysis (SGA2-NZC D1.10) and builds on the insights and gaps identified through the survey conducted in SGA2-NZC T1.1.

Figure 9: On the left, a persona card template. Further details on our population/roles-based personas, can be found in the Appendix 7.4

By analysing the resulting population and roles-oriented personas, the table below (Table 1) shows the emerging themes:

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Table 1: Insights emerging from population and roles-oriented personas.

Role Clusters	Insights and themes connected to city clusters
Technical or specialist roles	• Smaller cities face resource constraints and prefer **asynchronous formats** in local language. • **Extra-large cities** tackle complex procurement and funding systems, needing **detailed financial case studies** and **peer learning** from similarly scaled cities. • **Mid-size cities** (e.g., Wiesbaden) focus on **data literacy and integration** with EU peers.
Upper management roles	• **Mid-sized cities** (e.g., Poznań, Lyon) often act as hubs for policy innovation, balancing internal strategy and external engagement. • **Mission and Pilot cities** (e.g., Lyon) focus on **co-creation and local empowerment** but face multilingual coordination challenges. These users prioritize **interactive formats**, including **peer exchanges, site visits**, and **project-based learning**.
Executive leadership roles	• Elected officials of Mission-minded cities face limited actionable content and overlapping national initiatives. • Their work is network-focused, seeking **partnerships with universities or other cities**. • They value **curated toolkits**, and **examples from similar population contexts.**
External consultants	• Though not tied to a single city, external consultants often serve **cross-city and multi-role user bases**. • Their challenges scale with city diversity: more languages, more variability in feedback, and greater need for adaptable platforms. • They emphasize the need for **standardized tools, streamlined approval chains**, and **flexible content templates** to serve both small and large cities.

3.2.1.2 Challenge and goal-oriented persona

Based on the previous personas, as a further iteration we developed a unified persona that is centred around the core challenges and goals that city practitioners have. We called this **"The motivated but stretched city practitioner"**. This consolidation is designed to be more immediately actionable for the development of learning experiences centred around the general needs of city practitioners, working with their constraints and preferred learning methods. Variations in content and format will be required for different contexts, population sizes and roles, but this persona will serve as a general guidance (Figure 10).

Here are the categories and content included, based on the insights from the **16 city practitioners** we interviewed for the Gap Analysis, which corresponds to the roles clustering used for the role and population-oriented personas. (See Table 2)

From most to least common: *Project manager / coordinator, Environmental Officer / Consultant, Technical specialist e.g. engineer, data analyst, Urban planner / developer, City councillor, Lawyer, Business Administration & Innovation, Finance & Fundraising, Deputy Mayor*.

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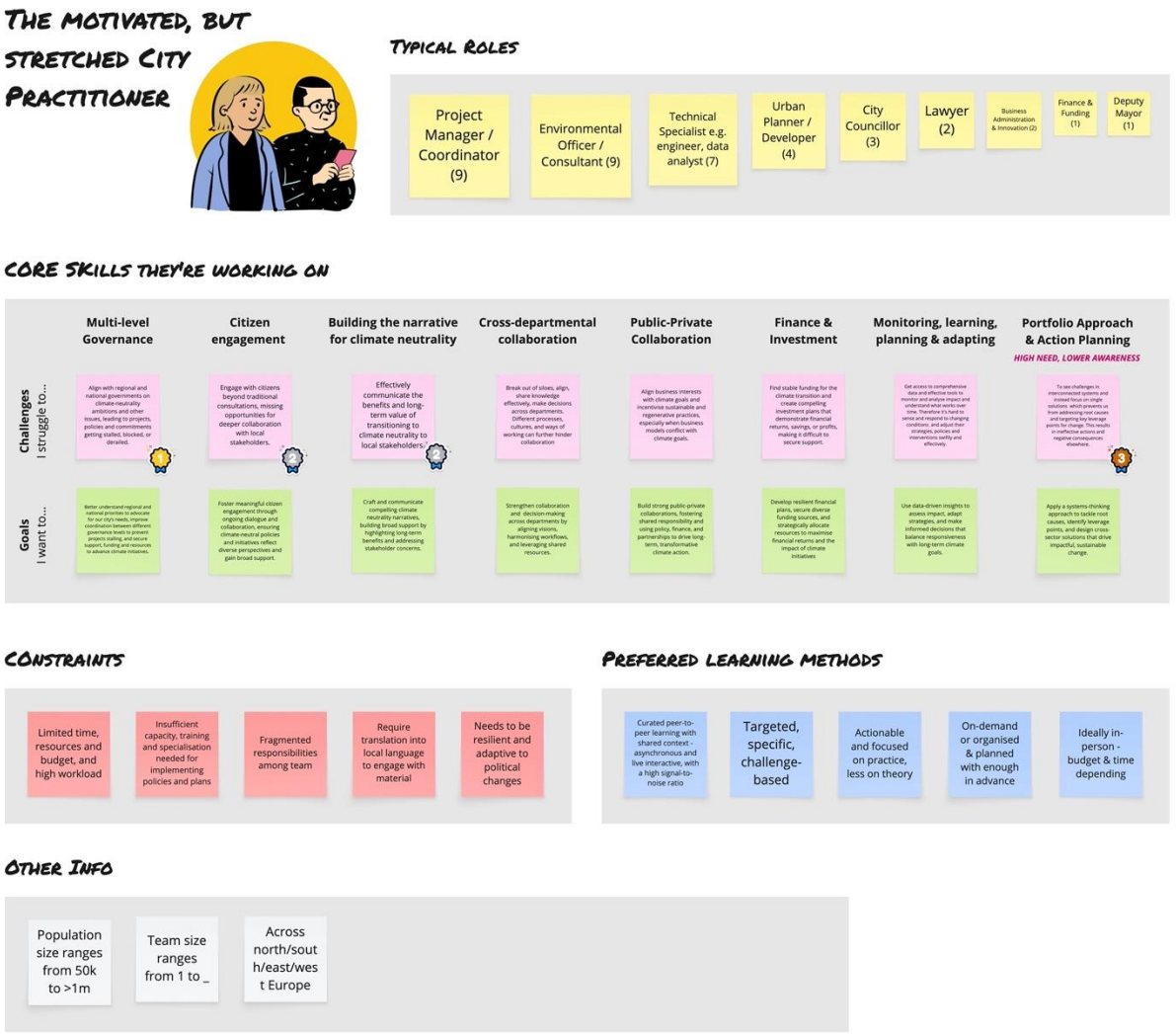

Figure 10: Challenge and goal-oriented persona card.

Table 2: Results of challenge/goal-based personas.

Core skills they're working on	Challenges *I struggle to...*	Goals *I want to...*
Multi-level Governance	Align with regional and national governments on climate-neutrality ambitions and other issues, leading to projects, policies and commitments getting stalled, blocked, or derailed.	Better understand regional and national priorities to advocate for our city's needs, improve coordination between different governance levels to prevent projects stalling, and secure support, funding and resources to advance climate initiatives.
Citizen engagement	Engage with citizens beyond traditional consultations, missing opportunities for deeper collaboration with local stakeholders.	Foster meaningful citizen engagement through ongoing dialogue and collaboration, ensuring climate-neutral policies and initiatives reflect diverse perspectives and gain broad support.

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Building the narrative for climate neutrality	Effectively communicate the benefits and long-term value of transitioning to climate neutrality to local stakeholders.	Craft and communicate compelling climate neutrality narratives, building broad support by highlighting long-term benefits and addressing stakeholder concerns.
Cross-departmental collaboration	Break out of siloes, align, share knowledge effectively, make decisions across departments. Different processes, cultures, and ways of working can further hinder collaboration	Strengthen collaboration and decision-making across departments by aligning visions, harmonising workflows, and leveraging shared resources.
Public-Private Collaboration	Align business interests with climate goals and incentivise sustainable and regenerative practices, especially when business models conflict with climate goals.	Build strong public-private collaborations, fostering shared responsibility and using policy, finance, and partnerships to drive long-term, transformative climate action.
Finance, Funding & Investment	Find stable funding for the climate transition and create compelling investment plans that demonstrate financial returns, savings, or profits, making it difficult to secure support.	Develop resilient financial plans, secure diverse funding sources, and strategically allocate resources to maximise financial returns and the impact of climate initiatives
Monitoring, learning, planning & adapting	Get access to comprehensive data and effective tools to monitor and analyse impact and understand what works overtime. Therefore, it's hard to sense and respond to changing conditions and adjust their strategies, policies and interventions swiftly and effectively.	Use data-driven insights to assess impact, adapt strategies, and make informed decisions that balance responsiveness with long-term climate goals.
Portfolio Approach & Action Planning	To see challenges in interconnected systems and instead focus on single solutions which prevents us from addressing root causes and targeting key leverage points for change. This results in ineffective actions and negative consequences elsewhere.	Apply a systems-thinking approach to tackle root causes, identify leverage points, and design cross-sector solutions that drive impactful, sustainable change.

3.2.1.3 Constraints

- Limited time, resources and budget, and high workload
- Insufficient capacity, training and specialisation needed for implementing policies and plans
- Fragmented responsibilities among team
- Require translation into local language to engage with material
- Needs to be resilient and adaptive to political changes

3.2.1.4 Preferred learning methods

- Curated peer-to-peer learning with shared context - asynchronous and live interactive, with a high signal-to-noise ratio
- Targeted, specific, challenge-based
- Actionable and focused on practice, less on theory
- On-demand or organised & planned with enough time in advance
- Ideally in-person - budget & time depending

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3.2.2 User Journey maps

User journey maps help uncover **pathways** taken by users—whether they are policymakers, platform managers, or climate specialists—as they discover, explore, engage with, and apply learning materials. Rather than relying on assumptions, user journey maps illustrate the **touchpoints, emotions, and barriers** that shape each phase of the user experience. The canvas used for this Journey Map (Figure 11) follows a structured framework to visualize the experience of archetypical users as they navigate the learning process.

The user journey is divided into four key phases:

- Discovery and Awareness – How personas initially encounter the learning platform.
- Exploration – How personas navigate available resources.
- Engagement – How persona interacts with the learning materials.
- Post-Engagement – The outcomes and actions she takes after completing the learning process.

Each step is analysed based on **actions** taken by the user (e.g., accessing the Portal, joining a private group), **touchpoints** (such as the website, social networks, or email communications), **barriers/alternate actions** (e.g., lack of clarity in navigation or external distractions), and the **emotional experience** (e.g., curiosity during discovery, confidence during engagement).

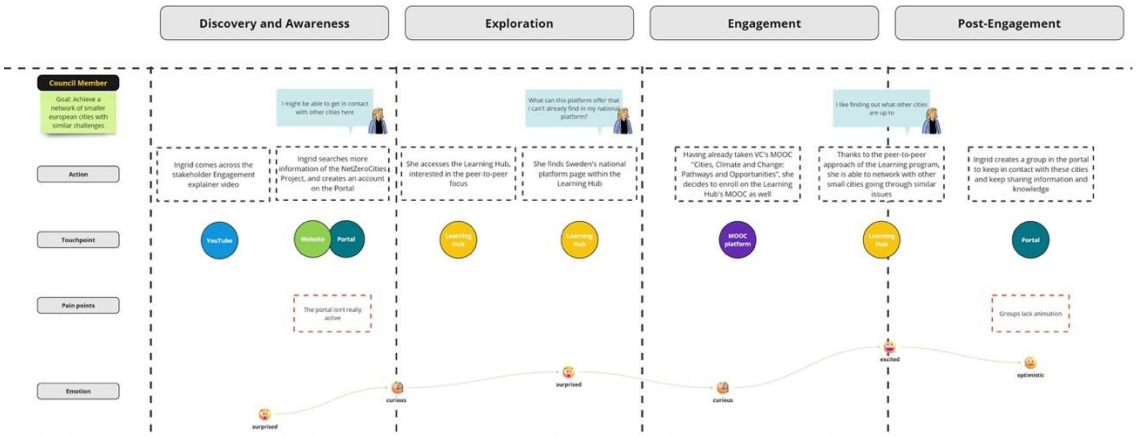

Figure 11: Example of a Journey Canvas.

Producing these user journeys allowed for collecting feedback and integrate them in the following steps of the UX Research.

3.2.2.1 Discovery and awareness

A range of external and internal channels are used by different user profiles to access the NZC platform and its learning opportunities. Externally, **social media platforms** such as LinkedIn, X, and YouTube are frequently used by Communications Managers, Consultants, and Policy Experts who can discover the platform through peer-generated posts. **Newsletters and email updates** are frequently used by city officials and sustainability leaders to stay informed about newly available resources. **Word of mouth** also plays an important role, particularly among senior officials and project coordinators, who rely on peer networks, informal recommendations, and stakeholder engagement discussions to identify relevant content. Internally, technically oriented users often access the platform directly through **municipal portals** or websites to locate structured knowledge. **NetZeroCities learning events** also serve as key opportunities for learning. Additionally, the **Knowledge Repository** is actively used by experts and policymakers seeking governance-related case studies and targeted resources.

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3.2.2.2 Exploration

Many users can experience **information overload**, making it difficult to efficiently locate relevant content. For example**, users seeking tools or local case studies often struggle** because these are mixed with unrelated global resources in the Knowledge Repository. Limitations in search and filtering functionality further hinder the user experience, as it is difficult to narrow down content by job role, policy area, or specific learning needs—particularly for those needing to distinguish technical data from policymaker-oriented materials. **Language barriers** also present challenges, especially for non-English speakers who are often limited to a narrow range of localized content with insufficient depth. Visual learning aids are particularly effective in simplifying complex topics, with structured overviews and visualizations significantly enhancing comprehension. Personalized recommendations—such as *MOOCs* and **curated learning paths**—help sustain user engagement by aligning content with individual needs. Additionally, **hands-on workshops** are especially valuable for users who find theoretical materials less accessible, offering an interactive alternative to traditional policy documents.

3.2.2.3 Engagement

MOOCs and **structured courses** are generally preferred by content-driven learners—such as educators, subject-matter experts, and technical policymakers—who seek in-depth, organised material. However, some users find these formats lacking in interactive elements and practical examples, particularly during early engagement phases. In contrast, peer-to-peer learning formats and workshops are more commonly used by policymakers, project coordinators, and city officials, who benefit from interactive discussions and knowledge exchange. These approaches tend to be especially valuable for those involved in stakeholder engagement, governance, and interdepartmental collaboration.

Best practice **case studies** and **real-world examples** are critical for roles such as sustainability directors, climate specialists, and finance consultants, who often **look for evidence from comparable urban contexts to inform climate project funding**. Yet a common concern is that many resources in the Knowledge Repository remain too generic and are not sufficiently **tailored** to local needs. Overall, users often favour **interactive, discussion-based learning** over passive content consumption; however, many current formats do not provide this level of engagement, reducing their effectiveness. Additionally, not all learning materials are seen as actionable policymakers, in particular, express a need for clearer implementation steps and practical guidance. Technical users, including developers and platform managers, also face barriers due to insufficient documentation and a lack of practical usability guidelines needed to support and manage learning platforms effectively.

3.2.2.4 Post-engagement

City officials and policy leaders—such as deputy mayors, council members, and project coordinators—often apply what they learn directly to **policy development and stakeholder engagement.** They are also more likely to **share their progress publicly**, using platforms like LinkedIn or contributing to internal knowledge repositories.

In contrast, individuals in technical and content management roles typically use learning to enhance platform functionality, scale systems, or improve content quality. While they are less likely to showcase their progress externally, their contributions often take the form of **internal reviews and iterative improvements** based on user feedback.

Communications and outreach professionals can promote certifications and learning participation as a means of **building credibility**. They are also key advocates for **encouraging broader use of learning resources across their organisations or cities**.

However, some users face challenges in applying strategies due to institutional resistance or a lack of coordination between departments. The absence of a clear framework to monitor long-term learning impact—such as changes in policies or processes following training—further limits effectiveness. Additionally, users often lack **post-training support**; many would benefit from structured mentorship or advisory follow-ups to help bridge the gap between learning and real-world implementation.

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3.3 Learning hub Sitemap and overall structure

An initial sitemap for the Learning Hub (Figure 12) was developed in spring 2025 to collect partner input and guide the co-design process. Through iterative feedback and prototyping, it evolved into a more refined structure, improving clarity, usability, and alignment with the Learning Hub's value proposition while preserving key elements like learning types, filtering options, and entry points.

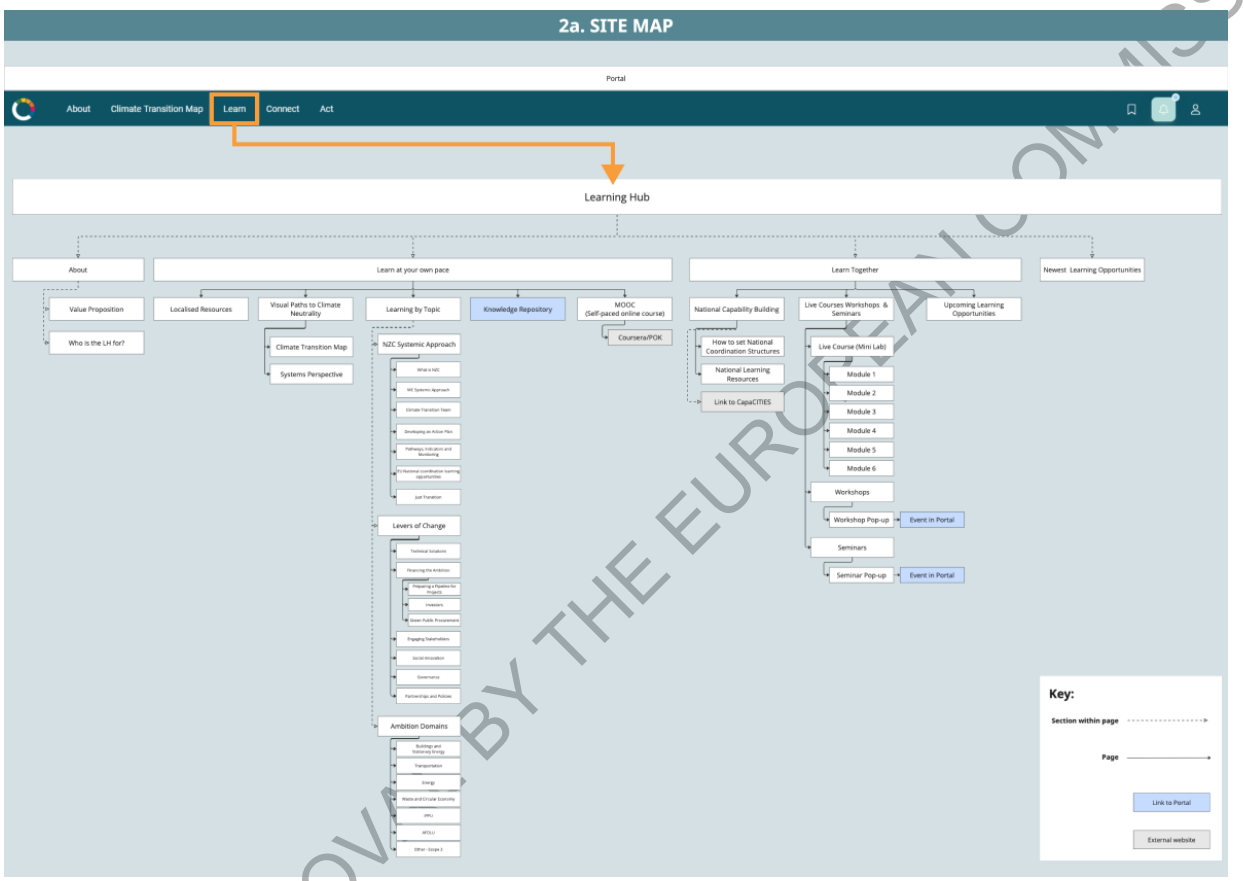

Figure 12: The Sitemap of the Learning Hub

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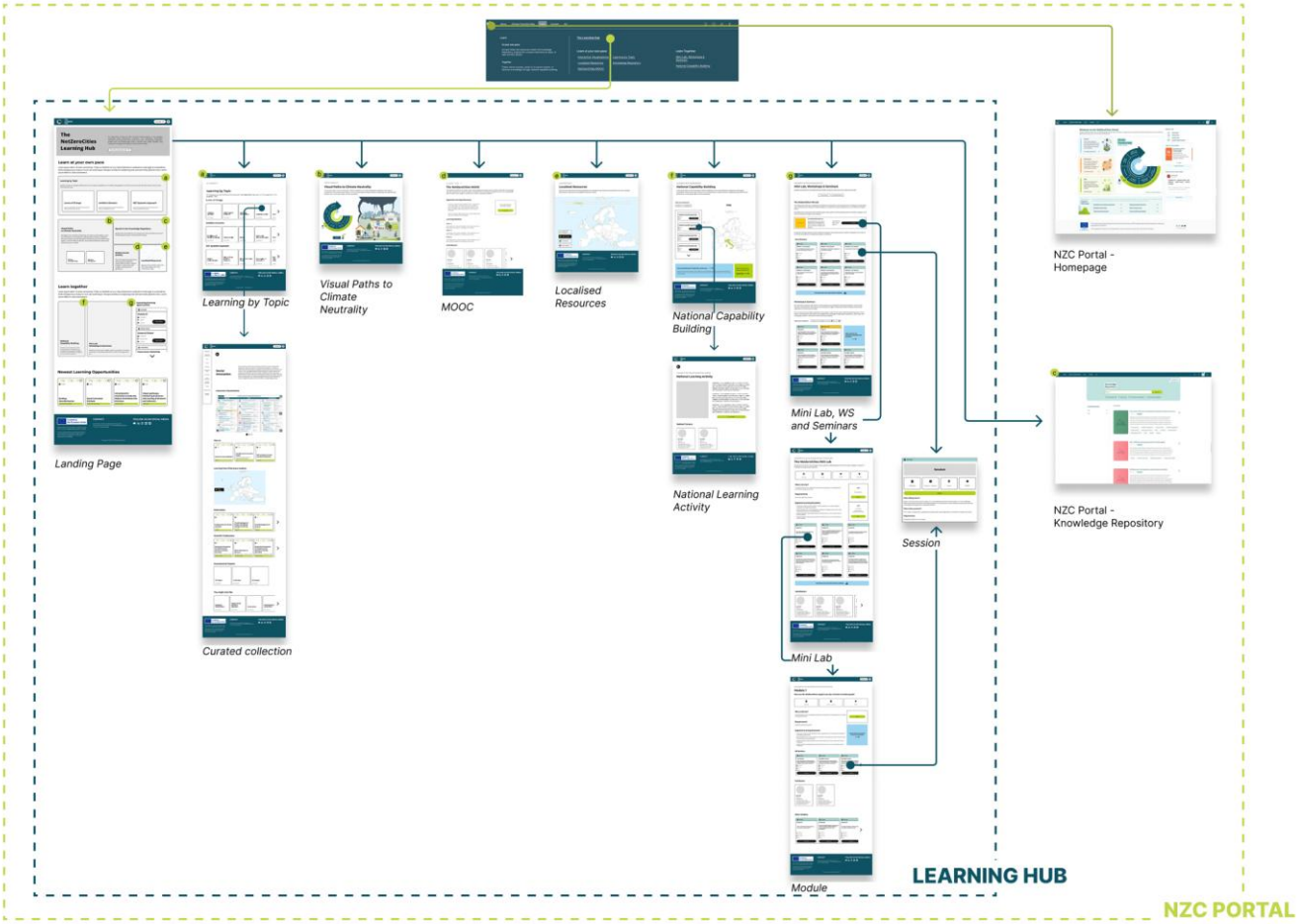

Figure 13: Structure of the Learning Hub within the NetZeroCities Portal

3.4 The Learning Hub prototype

The Learning Hub design was developed iteratively, supported by co-design sessions, partner feedback meetings, and heuristic evaluations before moving to the testing phase described in Section 4. The outcomes of the collaborative design process include: (1) the development of the current version of the **Learning Hub landing page**; (2) the creation of **the interactive visualisations**; (3) the design of **topic-based navigation** and filtering; and (4) the planning and implementation of **user testing**.

3.4.1 Portal navigation

The design of the Learning Hub navigation evolved as part of an iterative design process, leading to an updated proposal (Figure 14).

During the design process, two key priorities emerged: first, the need to **highlight opportunities for both** individual and collaborative learning—allowing users to engage with courses at their own pace or participate in group learning experiences that foster peer exchange and networking; second, **the importance of topic-based learning**, which is particularly valuable for cities, as it enables them to easily access resources tailored to their specific challenges and priorities.

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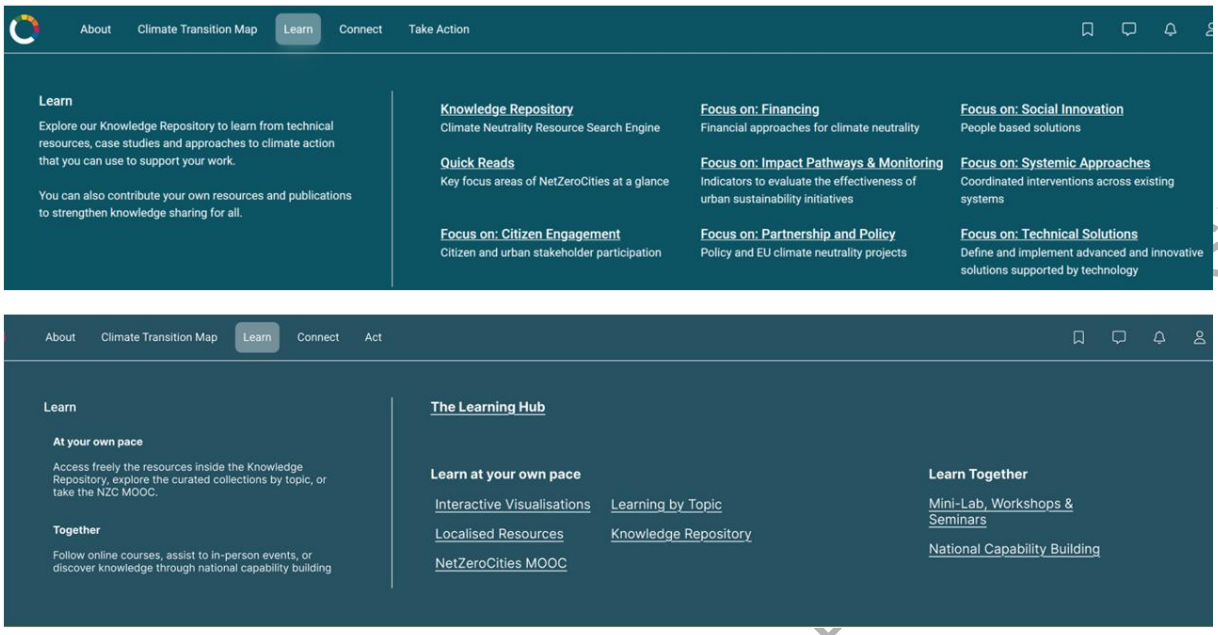

Figure 14: Current (above) and prototyped (below) versions of the Portal menu.

3.4.2 Landing Page

The landing page of the Learning Hub went through several stages of prototyping, feedback sessions with partners, and iterative redesign. The landing page, interactive visualizations, and the topics/filters section were the first elements developed. The initial versions of the homepage (see 7.8) were iteratively refined through multiple feedback sessions with project partners, particularly during Task T1.3.3 and Task T1.3.2 and WP1 monthly meeting in April 2025 (see 7.7).

Some of the most relevant feedback received—and successfully implemented in the wireframes—included the shift towards a more topic-centred learning approach, the introduction of events, the addition of a dedicated section for "localized" resources using an interactive map with geolocated content, and a clearer integration with the Knowledge Repository. The clarity of each section was also enhanced by adding descriptive summaries and collecting feedback on section names through a partner survey.

The latest version of the landing page of NetZeroCities Learning Hub (Figure 14) is structured around two main sections, "Learn at your own pace" and "Learn together", offering a comprehensive entry point for users to explore thematic learning areas such as such as *Levers of Change*, *Emission Domains*, and the *NZC Systemic Approach*, navigate interactive tools like under "Visual Path to Climate Neutrality", explore the Knowledge Repository, access self-paced courses (MOOCs), localised resources and discover upcoming learning events including city modules, seasonal schools, and governance workshops, all designed to support cities in their journey toward climate neutrality.

In the following pages, beside the overall presentation of each main page, we will take a closer look at three key subsections of the Learning Hub:

- Learning by Topic
- Visual Paths to Climate Neutrality
- Courses, Workshops, and Seminars.

Below, we present the content available through the "Learn at Your Own Pace" section of the landing page, with a closer look at the "Learning by Topic" and "Visual Path to Climate Neutrality" subsections.

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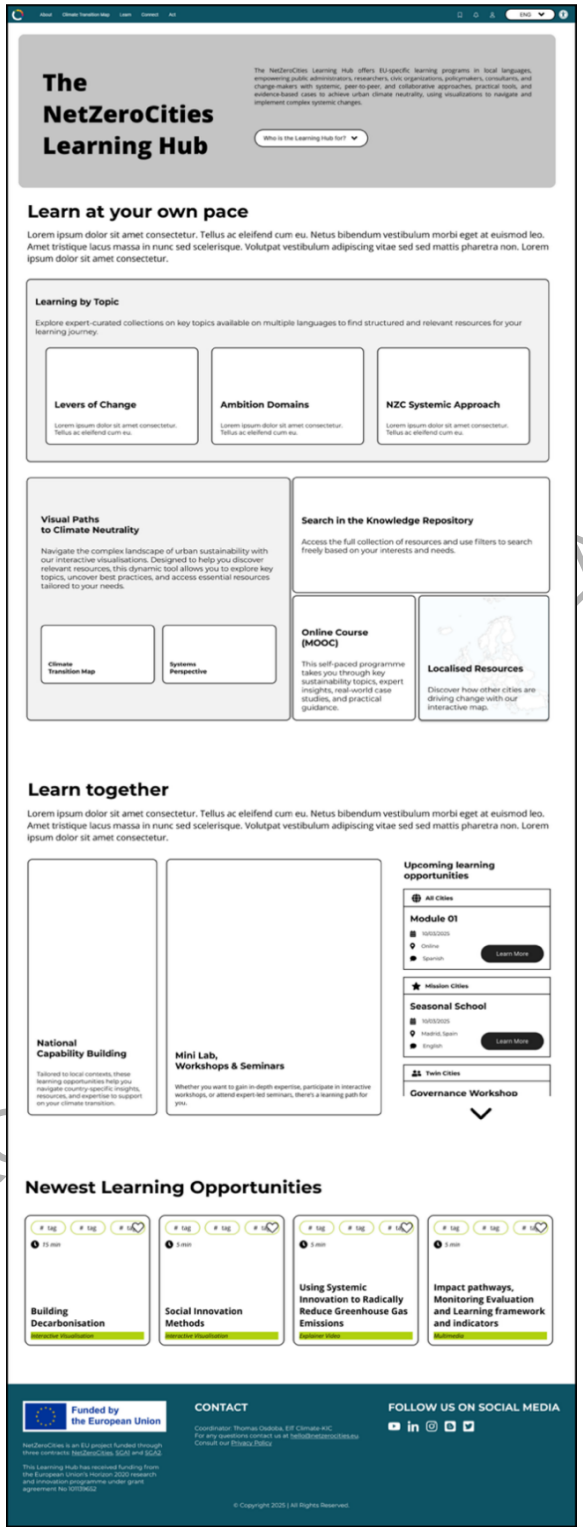

Figure 15: Landing Page wireframe

3.4.3 Learning by Topic

The “Learning by Topic” section is designed to complement the Knowledge Repository, by providing users with resource collections carefully **curated by experts** and organised around key thematic areas.

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The “Learning by Topic” section (Figure 16) serves as a **template for future content development**. Each topic page offers in-depth information and links to specific resources in the Portal and allows for the exploration of intersections and combinations between topics through rich, long-format content.

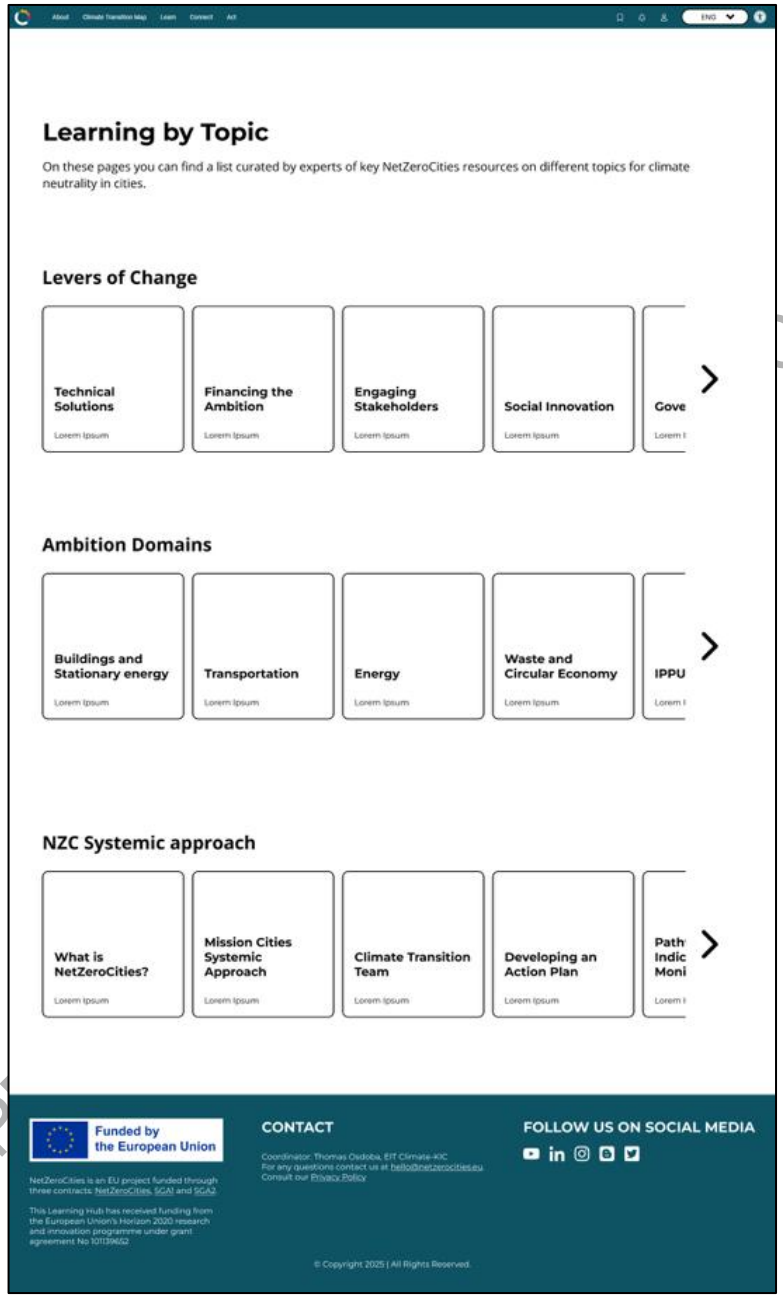

Figure 16: The "Learning by Topic" page.

Hence, the "Learning by Topic" page acts as a **central gateway to curated content on key themes related to climate neutrality in cities available in the portal and NZC platform**. It is structured into three main sections:

- The "Levers of Change" section highlights strategic enablers such as technical solutions, financing, stakeholder engagement, and social innovation, with an indication that more topics are accessible via scrolling.

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- The "Emission Domains" section focuses on emission sectors
- The "NZC Systemic Approach" section presents cross-cutting frameworks and processes central to the EU Cities Mission approach, including overviews of the programme, systemic methodologies, and tools for action planning.

Each topic is presented as a clickable tile leading to a dedicated ***Long Page*** with curated resources (Figure 17)

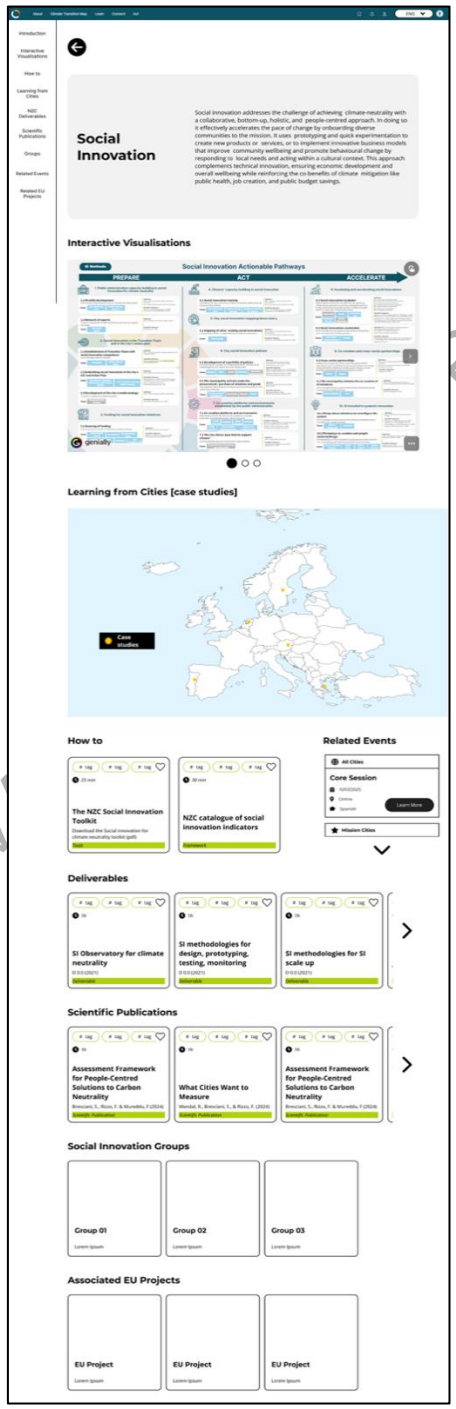

Figure 17: Example of a Long Page – here on social innovation

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Each Long Page includes:

- An introductory overview of the topic.
- Interactive visualisations that illustrate actionable pathways and methodologies.
- Case studies presented through an interactive map.
- A “How to” section with toolkits and practical resources.
- A list of events relevant to the topic.
- NetZeroCities deliverables.
- Discussion groups.
- Links to relevant EU-funded projects.
- Suggestions for further exploration, pointing users to related topic pages.
- Relevant scientific publications.

This structure ensures consistency across topics while providing the flexibility to incorporate new content and highlight topic-specific insights as they emerge.

This current set of categories is still under evaluation at the time of deliverable submission to ensure they reflect the entirety of the resources relevant and available for users. In parallel, a new version of the Long Page format is under development, featuring an improved layout and navigation aimed at enhancing the usability and overall user experience.

3.4.4 Visual Paths to Climate Neutrality

To facilitate learning, interactive visual representations were developed by CRS for each of the three steps of the Climate Transition Map (CTM), accessible within the *"Visual Path to Climate Neutrality"* section of the Learning Hub.

Visual learning serves as an introduction to essential climate transition principles, fostering a deeper understanding among diverse stakeholders, regardless of their prior knowledge of the topic. Additionally, this format helps overcoming language barriers and transforming abstract concepts into more tangible insights.

The main visuals include:

- An overarching visualisation of the climate transition (Figure 18), which illustrates the complexity of systemic change. Each of the three stages features different levels of intervention, showing how new actions impact the ecosystem and contribute to the reduction of GHG emissions.
- CTM - For each step of the CTM, a visual was developed with the goal of effectively illustrating the description of each step and its sub-steps (Figure 19 and Figure 20)

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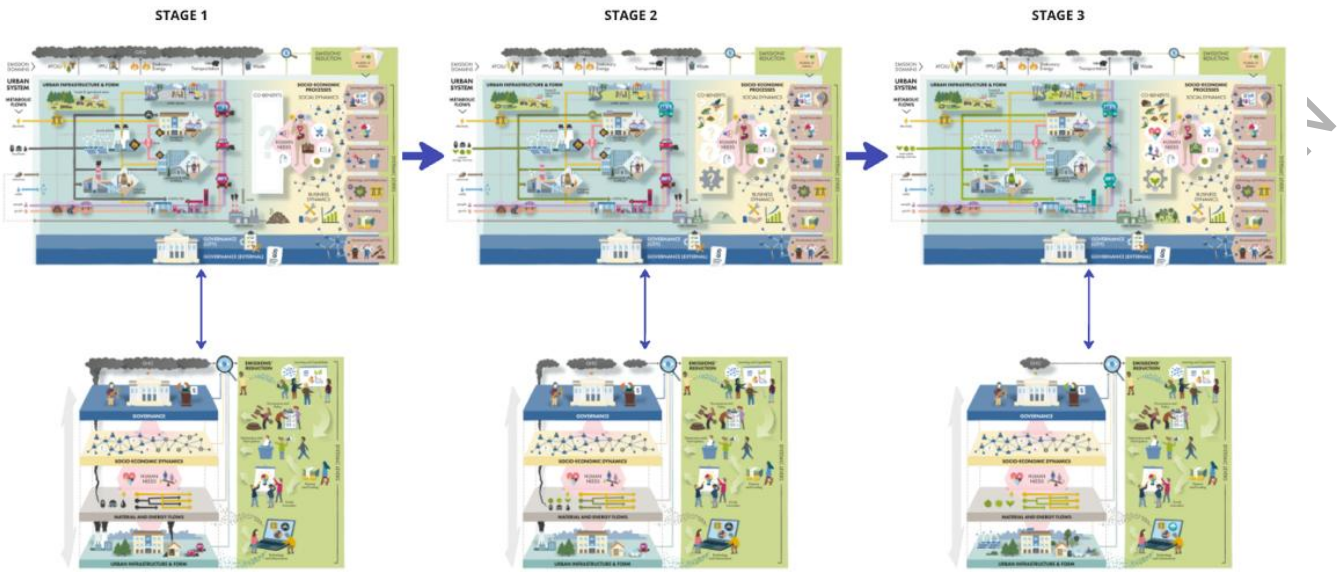

Figure 18: Systems perspective

Figure 19: Interactive visualisations of the CTM

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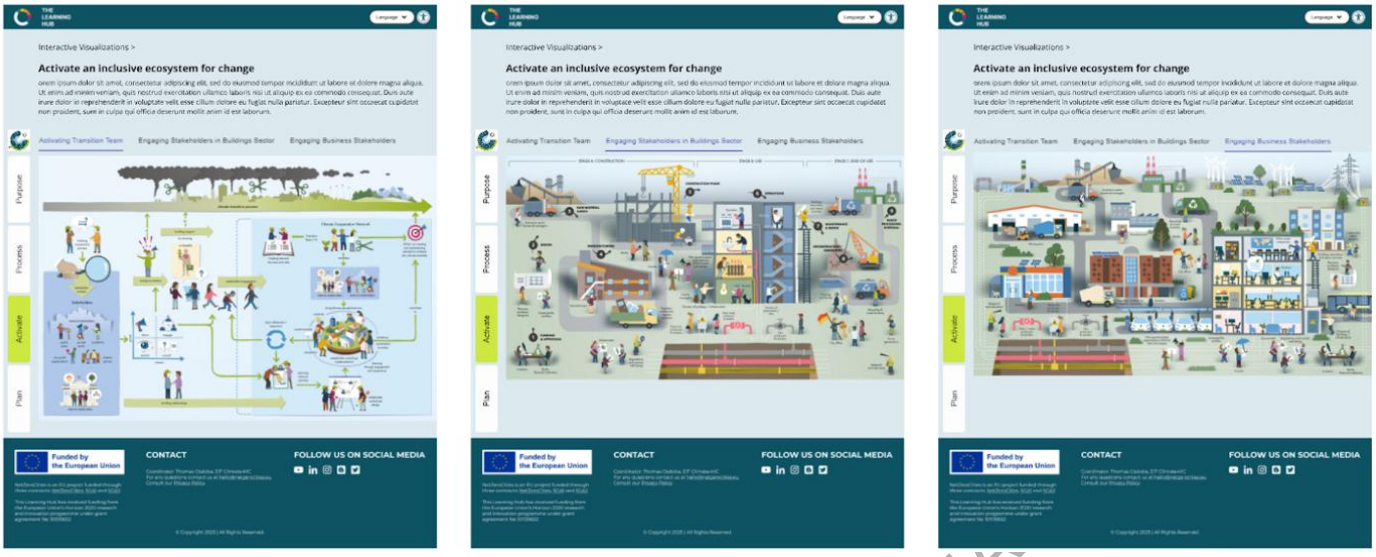

Figure 20: Interactive visualisation interface for the three sub-steps of Activating an inclusive ecosystem for change.

Methodology - The methodology to develop the visuals included initial black & white drafts, which were then further developed, with colours added accordingly to enhance clarity and visual appeal. The drafts were then refined through multiple iterations, incorporating feedback from partners to improve clarity and effectiveness. The interface through which these visuals will be displayed on the Portal will also undergo testing and be adjusted based on the results.

For the plan of the CTM, visuals were created to guide users to linked Portal resources. Integrating these visuals into the interface was another important part of the development process. Initially, we planned to use a nested menu to allow users to explore the steps of the Climate Transition Map. However, after receiving feedback from partners during several review sessions, we decided it would be more effective to offer a fully clickable version of the map itself. This approach not only enhances usability but also helps users become familiar with the structure of the transition by learning through interactive navigation.

Interactivity - Within the topical visualisation, select visual elements link to Portal resources, while other open an explanatory dialog box. (Figure 21)

To date, the links associated with visual elements need to be defined. In addition, interactive functionalities and features of the visuals, such as scrolling interactions, clickable areas, and links, will need to be further defined. To ensure the interface is intuitive and effective, each of these elements will undergo testing.

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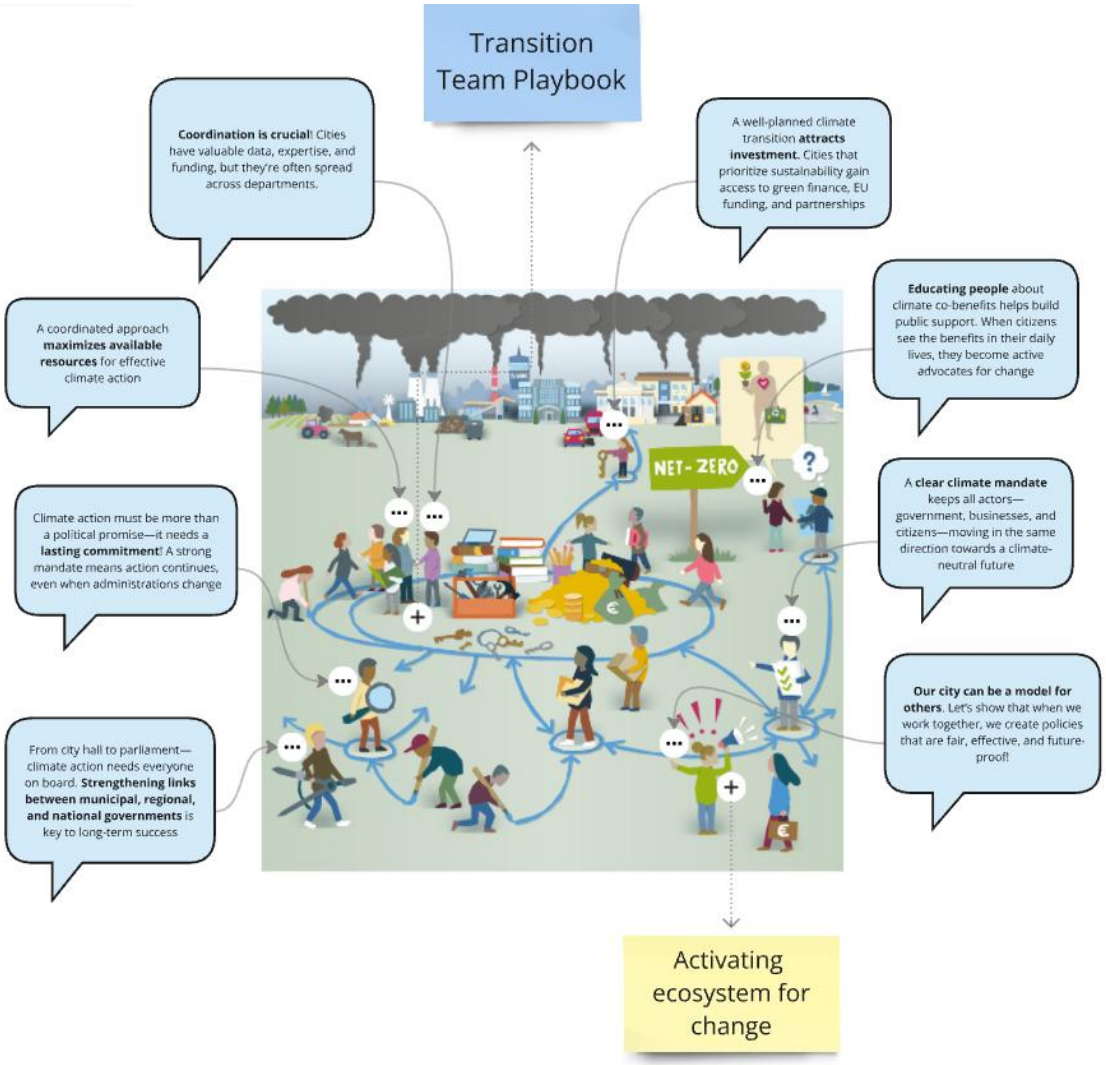

Figure 2121: Visual representation of the CTM - "Building a Strong Mandate".

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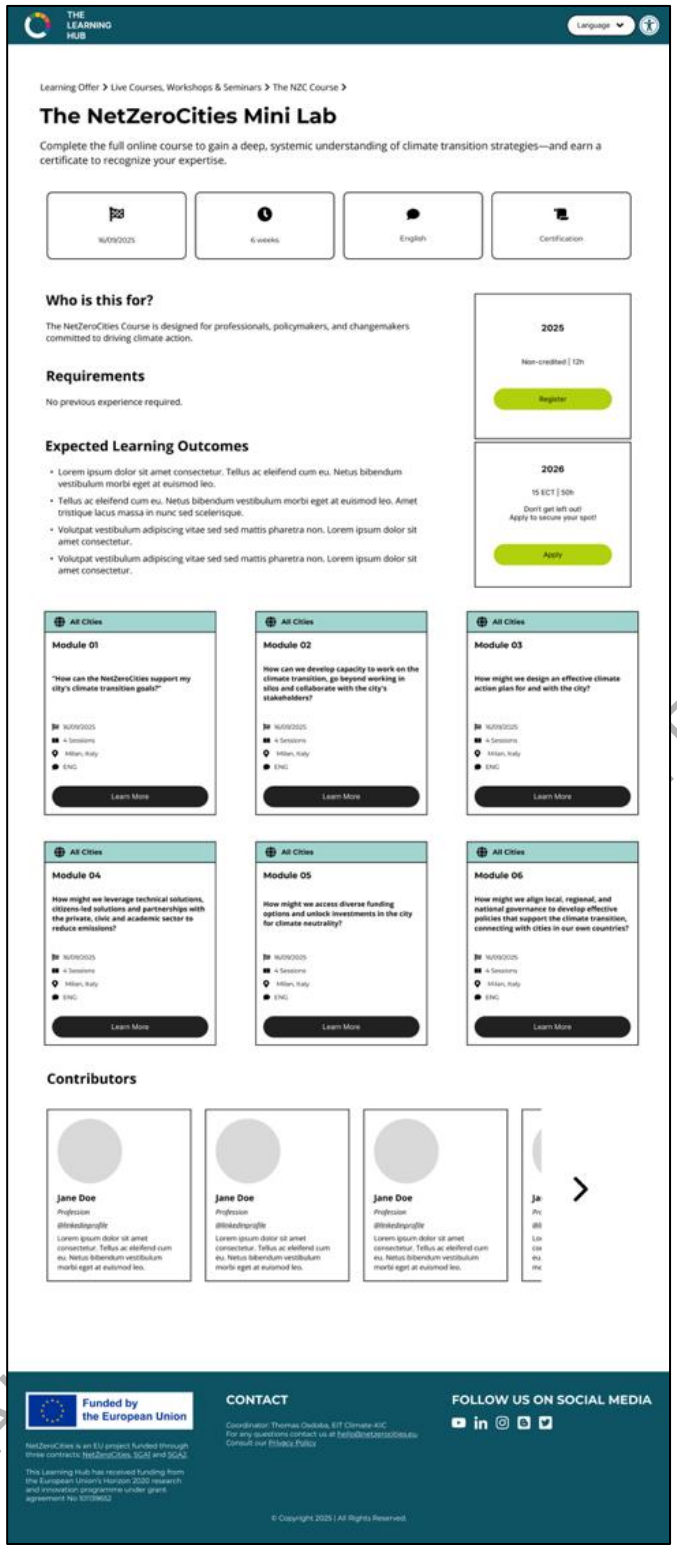

Figure 22: The Online Planning Lab page

3.4.5Courses, Workshop and Seminars

The Courses, Workshop and Seminars page will provide users with all the necessary information to enrol in activities provided by NZC. This section of the Learning Hub is being developed in parallel of the activities of Tasks 1.3.2 and 1.4 and is therefore subject to upcoming updates.

NetZeroCities Online Planning Lab represents one of the core learning offers of the programme, offering Mission-minded cities free access to a structured project-based course (starting in September 2025) designed to equip them with the basic tools and knowledge needed to drive systemic change by developing their own systemic action plan. (Figure 22)

Just as the rest of the Learning Hub, key resources for each module are planned to be translated into multiple EU languages through AI to improve accessibility and inclusivity for a wider range of stakeholders, so that they can also benefit from the learning process.

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3.4.6 Other components of the landing page

National Capability Building and partnerships
A dedicated section under the "Learn Together" area of the Learning Hub will be created to support the National Learning Programs[8] conducted within SGA2-NZC T1.6.

Partly related, the work carried out related to Partnerships, Policy, and Networks has a dedicated Focus page portraying interactive maps of the NZC partnerships mapped by cities and by Mission. This page draws on curated content from the Policy and Partnerships resource, which includes tools such as the EU Climate Projects Navigator and the Relationships Map (Kumu).

The National Capability Building section of the Learning Hub will:

- Aggregate a collection of National Learning activities, available in multiple languages, through an interactive and filtered cartographic map.
- Support users in understanding how to set up national coordination structures effectively.
- Connect to other relevant projects within EU, such as CapaCITIES.

Geographical maps of case studies and resources
Cities expressed the interest in exploring content and information by learning what other cities are doing. For this reason, the case studies and resources created in NZC WP5, 6,7,8,9,10 and further resources created in SGA-NZC WP1,2,4 and SGA2-NZC T1.3.2 can be geo-localised in interactive geographical maps, to allow cities to find cases and content available in the knowledge repository, through a geographical exploration. Users can explore also public Climate City Contracts, best practices, case studies, and pilot programmes in a geographically contextualised way. From both a partnership and pathways perspective, this approach supports knowledge exchange and highlights real-world examples of climate action across the Mission network (see example on Figure 18).

Online Courses (MOOCs)
The NetZeroCities MOOC, developed as part of SGA2-NZC T1.4, will be an open, online course designed to equip cities and professionals with the knowledge and tools needed for the climate transition. Accessible to all, this self-paced programme covers key sustainability topics through expert insights, real-world case studies, and practical guidance. The layout of the page is organised in a way that allows users to explorer the topics covered by the program. Users will enrol in the course via an external platform, linked in the Learning Hub.

Learning from the Knowledge Repository
The Knowledge Repository, already an integral part of the Portal, will be accessible through the Learning Hub as an alternative entry point for content discovery. While the Knowledge Repository is designed for users who are familiar with the specific keywords or documents they are seeking, the curated content within the Learning Hub serves a complementary purpose. It is tailored to support Mission-minded cities users and non-experts by providing accessible, structured resources that clarify the language and concepts used within NetZeroCities making information easier to navigate.

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[8] This section contributes to both the "Partnerships & Policy" long page and the broader National Capability Building effort.

4 User testing

4.1 Testing strategy and goals

The testing strategy, co-created by task partners, focuses primarily on validating the Learning Hub's value proposition—ensuring the platform meets the real needs of city users and delivers a clear, engaging, and meaningful learning experience. Building on the guidelines and methods developed in T1.3.1, the following specific testing goals were identified:

Validating the Learning Hub's value proposition, which includes verifying the comprehensiveness and integration of the learning offer, confirming that the learning content and interactive elements provide sufficient value to encourage users to continuously engage with the platform. Additionally, the team recommended to test the potential scalability, suggesting the team intends not only to meet immediate user needs but also to design a solution that accommodates future growth and evolving user demands.

Accessibility and **intuitive navigation** were also identified as critical testing goals, ensuring users can effortlessly navigate the website, suggesting a need for intuitive organisation and clear structuring of content. It was stressed that there should be no unnecessary duplication of elements, facilitating an efficient and satisfying user journey. The team also emphasized the clarity of **terms and vocabulary**.

Additionally, attention is placed to the **homepage and menu structure**, particularly to ensure intuitive navigation and immediate clarity for users accessing the Portal. Partners emphasized the importance of testing the functionality and engagement with **Learning by Topic**.

Additionally, partners highlighted the necessity of **usability testing for interactive components**, including dynamic visualizations and other tools, to ensure these elements enhance rather than hinder the user experience.

To address these goals, a range of testing methods were identified, including:

- **A/B testing** using comparative analysis of different versions.
- **Usability testing methods** to provide qualitative insights into user behaviours and preferences.
- **Tree testing** to validate the effectiveness of the site's navigation structure and information architecture.
- **Accessibility audits** to ensure compliance with inclusive design principles across multiple devices and user types.
- **Automated readability** checks and scanning tools to confirm content clarity and compliance with accessibility standards required in Europe by the Accessibility Act.
- **User surveys and feedback sessions** to collect detailed, direct user feedback on the overall usability and effectiveness of the Learning Hub and the associated Portal.

4.2 Heuristic evaluation

Before proceeding with the testing with cities, the UX design team conducted a heuristic evaluation to identify potential usability issues. Using Jakob Nielsen's (1994) heuristics for interaction design as a framework, the team assessed the main pages of the prototype and highlighted several areas needing improvement. Each screen and interaction were reviewed against the principles, such as system feedback, user control, consistency, and error prevention. Issues were noted, linked to specific heuristics, and rated by severity to inform design improvements.

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To address these issues, the team recommended strengthening visual indicators, standardising interface components and colours, reorganising content into clearer categories and a cleaner layout, and adding back buttons to give the user freedom of navigation to enhance overall the navigation experience for the user.

4.3 Testing with cities

4.3.1 Research objectives and success criteria

The following **research objectives** we identified:

- Validate the **desirability** for the Learning Hub and identified which concepts (and parts of concepts) are most valuable for city practitioners and why.
- Identify/validate the most important **goals, tasks & "jobs to be done"**[9] (Christensen, C. M et al., 2016) for city practitioners.
- Test the **navigation** of the Learning Hub and identify key issues in city practitioners' ability to achieve their goals, complete their tasks, and find/discover the information they're looking for quickly and efficiently,
- Identify the **persona(s) which will get the most & least value** from the Learning Hub, so we can...1) amplify the value, and 2) find opportunities to reach target personas who we are not providing value to yet.

Success criteria defined:

- City practitioners need/want what the Learning Hub will offer, and if not, what they need/want instead.
- What city practitioners need/want to use the Learning Hub for A/B/C tasks, goals & jobs to be done", for X/Y/Z benefits.
- That city practitioners can go to the Learning Hub and complete A/B/C tasks/goals.
- Our fans (early adopters), our potential fans (early majority), our users we won't target yet.

4.3.2 Testing methodology

To achieve these objectives, we used the following testing methods:

- **Jobs to be Done (JTBD)**[10] **/ Needs prioritisation interview**. To identify and confirm the most important "jobs" (related to learning) that city practitioners are trying to get done or needs they

[9] *Jobs to be done is a framework that states the "jobs" your target user would "hire" a product or service for. These can be functional, emotional or social needs. Here are some examples, in the context of the Learning Hub these could include: "I want to...connect with peers from other cities that I can learn from so I/we can...spar on similar challenges together or learn from others who've found effective ways to address similar challenges and reach similar goals"; "I want to...apply learnings and implement initiatives in my city so I/we can...feel a sense of purpose, momentum, tangible progress".
[10] https://www.productplan.com/glossary/jobs-to-be-done-framework/

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have. We will ask participants to review the list of "job statements" and vote on what are most important and relevant for them, share why, put in their own words or add their own.

- **Think aloud concept test (Nielsen, 1993): Landing & Core pages.** To test the desirability, value of the concepts, and how well they address the JTBD identified earlier part of the session, participants will explore the wireframes we developed and think out loud focusing on what they like, what they find confusing, and anything that's missing, and why.
- **Tree testing[11] (Spencer, 2009).** To test and define the navigation and organisation of content that most effectively and intuitively helps city practitioners achieve their goals, complete core tasks, and find/discover the information they're looking for quickly and effectively, we will use the tree testing method. This allows us to test information architecture and how well users can find information and complete core tasks. By showing participants the proposed site map (tree), and giving them core tasks to complete, it reveals how users expect to find the information they are looking for and make targeted improvements where participants struggle or can't complete a task or find what they're looking for.

All the methods proposed were offered in a **live interview format** as well as **an asynchronous format**. The live option was preferred to ensure clarity of the exercises, however providing the exercises in an asynchronous offered another opportunity for city practitioners to participate.

Testing the navigation and information architecture using tree testing was a lower priority. We first needed to validate the desirability of our solutions and that they are serving the needs and jobs that city practitioners have. Given their limited availability, we invited participants for a follow up session to test the navigation either live or asynchronously.

To achieve the research objectives and success criteria, it was important to have a **representative sample** in terms of geographies, city size, and practitioner roles (general vs. specialist) and to know where biases and gaps are. When recruiting participants, we tracked the representability variables to aim for as representative as possible, adapt to target clear gaps where viable, and appropriately caveat our insights when synthesising and presenting the results.

The **45-minute interview** was structured into two sections:

1) **Jobs to be done (JTBD) / needs prioritisation (10 minutes)**
   We asked participants to use 5 votes in total to mark the job statements that they believed were most relevant for them and their city.
2) **Think-aloud concept testing (20 minutes)**
   We asked participants to explore core wireframes of the Learning Hub concept and think out loud. They would then share something they like, anything missing and why it matters to them, and improvements: Something that's confusing, unclear, and/or could be improved.

We also included a 5-minute introduction and a 5-minute reflection and wrap up, where we asked participants to evaluate the concepts on a scale of 1-5 "How well does this Learning Hub help you meet your goals/needs?" and share why and what could be improved.

[11] https://www.optimalworkshop.com/product/tree-testing

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4.3.3 Testing sample

We tested the proposed UX with **representatives from 7 cities**: Picanya & Fuenlabrada – Spain, Nilufer – Turkey, Ghent – Belgium, Prague – Czech Republic, Treviso – Italy, and Matosinhos – Portugal.

Participants included individuals in executive leadership roles, such as directors of Municipality of Treviso's Public funding, environmental sustainability and university city department, responsible for setting strategic priorities and overseeing cross-departmental coordination. From the upper management cluster, participants included a Head of International Cooperation and Projects (Prague), a Healthy Cities and FUSILLI Project Coordinator (Nilufer), a Director of City Projects (Fuenlabrada) and a Responsible Officer for European Funds (Picanya), all of whom manage complex urban sustainability initiatives, partnerships, and funding streams. The group also included a Superior Technician (Matosinhos), representing the technical and specialist role cluster, providing insights into the operational and implementation aspects of climate-related projects.

While inputs from more cities from Nordic, Baltic and Eastern Europe, and more roles such as more technical/specialistic and consultant roles would have been preferable, preliminary results could be drawn from the approach.

4.3.4 Results summary

Jobs to be Done / Needs Prioritisation

One key research objective was to identify and validate the most important goals, tasks & "jobs to be done" for city practitioners. We found that:

- Almost all city practitioners interviewed focused on jobs related to **connecting with other cities** to...spar on and support each other around shared challenges, learn from each other's experience, and apply learnings and implement initiatives with proven success.
- Most city practitioners also highlighted wanting to **learn from cities geographically close**, how they are dealing with similar goals/challenges.
- Many also expressed a **need for tools, methods and practices** that are relevant to their context (or can be adapted) and then applied immediately.

The complete results are available in appendix section 7.10, including select quotes from interviewees.

Desirable concepts and themes

We set out to validate the desirability for the Learning Hub and identify which concepts (and parts of concepts) are most valuable for city practitioners and why. Here are some additional themes that emerged from further elaboration on the job statements chosen, and in response to concepts they explored.

Cities want to **connect with cities, especially with shared challenges, collaborate on solutions/responses, and learn from case studies and success stories.** Many expressed a desire for a platform that enables more connection, especially if they can connect over common challenges and find peers at a similar stage of their journey. A few highlighted the need to connect on specific issues such as climate adaptation, agriculture or citizen engagement strategies. Lastly, there's a specific desire to **share and learn from what's worked in cities like theirs.**

Cities want to **connect with cities within their own country.** Several city practitioners responded positively to the concept where you can explore content broken down by country and others requesting more ways to interact with those local to them.

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Cities want to **get support to find and filter the most relevant and effective examples.** Many cities specifically highlighted their appreciation for the concept that organises learning by topic, albeit with room for improvement on the personalisation. Two cities suggested a rating system for practices.

Cities want to **learn through interactive visualisations**, which are also helpful to onboard other stakeholders.

Cities want to **participate in interactive formats.** A few cities expressed a desire for more interaction with other cities and learning materials, and one city specifically suggesting using a chatbot.

Supporting extracts of interviews are available in Appendix 7.11.

Overall evaluation of the Learning Hub prototype

Cities were asked to rate on a scale from 1 (poor) to 5 (excellent); while most gave high scores between 4 and 5, averaging 4.5, the Ghent's city representative gave a significantly lower rating of approximately 3.5, indicating a more critical perspective (Figure 23: Average rating from the city representative of the Learning Hub prototype.

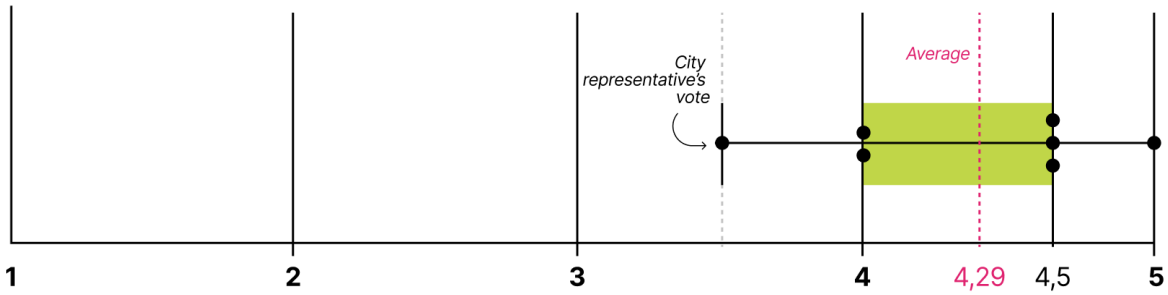

Figure 23: Average rating from the city representative of the Learning Hub prototype.

4.4 UX Recommendations for Portal implementation

To ensure successful uptake of the Learning Hub, the following areas of the portal require improvements:

- **Language** - To make the NetZeroCities Portal more accessible and inclusive, the pages of the site should be available in multiple EU languages, including content such as PDFs.
- **Compliance with Accessibility Act** - The European Union requires all services in Europe to comply with the Accessibility Act by June 2025. The Portal is currently not compliant with the Accessibility Act and should urgently be updated to do so.
- **Mobile responsiveness** - As of June 2025, the Portal is not accessible from mobile devices, which significantly limits the user experience, except for the NetZeroCities Barometer and groups. This is a critical enabler for the success of the Learning Hub.
- **Portal orientation** - The NetZeroCities website, originally designed to attract Mission applicants, now needs to be refocused to also engage Mission-Minded Cities by improving messaging, navigation, and visibility of tools and resources in the Portal, with clearer calls to action, and updated project content to support a broader audience in their climate neutrality journey. (See Appendix 7.12)

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5 Outlook and future work

In 2024, and as part of SGA-NZC WP5, the NetZeroCities Portal underwent a comprehensive review and redesign to better support Mission-minded cities. Building on this work, UX team resourced under SGA2-NZC T1.5, aligned with this deliverable, led enhancements to the user experience via an overhaul of the Portal navigation menu. This work improved clarity and usability, guided by user analytics tools like Hotjar. KPIs show an increase in traffic on the Portal since the portal overhaul.

In this deliverable, we also outlined the design and testing of the Learning Hub, developed as a central location for hybrid learning opportunities, combining self-paced, and peer-to-peer formats. It was informed by UX research including interviews and surveys with city representatives, user personas and journey maps that reflect real use cases. Significant progress has been made in embedding and curating resources across the Learning Hub, laying a foundation for city support, peer learning, and knowledge sharing. Support programmes such as SNAP and City Support Groups have been actively integrated into the Learning Hub through workshops and seminars. Strategic learning methodologies, like impact design, reflexive monitoring, and MEL, are embedded into formats such as Seasonal Schools and Courses (Mini Lab, MOOCs, webinars, online discussion groups), helping cities build reflective and systemic capacities. In the areas of partnerships and policy, *SGA-NZC WP6* services, including the Mission Platform partnership database and national dialogues, are now accessible via dedicated sections in the Knowledge Repository. The design of the Learning Hub is completed, and its implementation should start in summer 2025.

Thanks to the feedback gathered during sessions with cities, along with parallel feedback activities on the Learning Programme under Tasks T1.3.2 and T1.4, the Learning Hub content will be improved and expanded under task T1.3.2 (and reported in the dedicated deliverable due December 2025). Visual elements within the Learning Programme will be enhanced to better highlight connections between city experiences, making it easier for cities to learn from one another (*SGA-NZC WP4*).

The process of designing and testing we followed in developing the portal Menu and the Learning Hub will serve as a model for integrating new services from other tasks into the Portal moving forward, in particular in the following 2.5 years we will continue updating the navigation as new resources and services become available, such as integrating learnings from Mission Cities services for implementation phase (SGA-NZC WP2), finance (SGA2-NZC WP2) and partnerships. Hence, looking ahead, future work is structured around key contributions on parallel work packages that will contribute to the broader improvement of the Portal.

Specifically, to better respond to the evolving needs of cities in the implementation phase, upcoming developments will focus on:

Expanding access to support resources derived from City Support Groups' learnings

Cities will benefit from a more synthetic knowledge base, including lightweight resource cards that summarise and clarify key concepts and cases already available or provided by City Support Groups—helping local teams quickly find what they need to move forward (SGA-NZC WP2).

Finance

A dedicated learning space will be designed to help cities navigate the practical steps of engaging with the Capital Hub and financing instruments, offering tailored guidance on how to plan, activate, and manage investment-related activities that align with their climate ambitions (*SGA-NZC WP7 and SGA2-NZC WP2*).

Tools integration

The overall work of T1.3.3 will continue in connection with the parallel task SGA2-*NZC T1.2.2*, contributing to this broader vision by improving key components such as the Knowledge Repository,

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event listings, city profiles, and user spaces. In addition, in the following reporting period (2025-2026) the task will focus on the integration of tools to improve user experience, which may include improvements to key tools such as the NetZeroPlanner, the Solution bundles,[12] Solution outliner[13], interactive visualisations, or the NetZeroCities Barometer[14]. A design of a potential digital Action Planning tool[15] is currently under testing phase.

Emphasize and integrate peer-to-peer learning between cities and projects

To respond to the common need identified in the city practitioners' needs assessments; to learn from peers with similar challenges, future work could design and test a concept that integrates peer learning throughout the experience. For example, future work could prototype a closer integration of the "learn" and "connect" sections of the portal:

- **Content leading to connection**
  For example, case studies or methods could include a link to a user profile of the specific city practitioner(s) who worked on it and include contacts (with the permission of the author/expert.
- **Connection leading to content**
  The portal could provide for each user the list of authored content and tools so that while interacting, users can explore each other's expertise and publications in the portal.
- **Matching and connecting cities and projects**
  With the support of AI, the Portal could propose to cities/users similar to them for peer-to-peer learning, replicating manual work done during sensemaking sessions for SGA-NZC T4.4 and integrating NetZeroCities' database of partnerships and projects.

Increase interactive visualisations and simulations

Cities showed great interest in the interactive visualisations to engage and process complex information. Future work can include:

- Layering of information of the interactive visuals through interaction design animations
- Interactive visualisations of cities' future scenarios (fed from SGA-NZC T4.8 due December 2025)
- Online simulations – building on the successful experience of SGA-NZC T4.2 with policy simulations during the Seasonal Schools with Mission Cities – to open it to all cities if conducted online.

Systems to suggest customized content

- **Global search** - users can search for content from anywhere on the portal instead of only in the knowledge repository: this can be implemented by expanding the support by *Algolia* beyond the Knowledge Repository to the Portal.

[12] https://view.genially.com/65a6258ddcb35a001443d69c/presentation-solutionbundles-city-panel-version-beta
[13] https://netzerocities.app/file-f8c0c968632845cd133308b1a494967f
[14] https://netzerocities.app/barometer
[15] Source: Hirata, H. (2024) Bridging policy and implementation: an empirical evaluation and digital redesign of the climate city contract action plan for municipal climate neutrality. Master's thesis, Politecnico di Milano https://hdl.handle.net/10589/235240

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- **Revise the tagging of the Knowledge Repository –** to align with the NZC impact pathways outlined in Section 2.1 and international standards such as GHG Protocol for Cities.
- **Conversational search** in the Knowledge repository or Portal, leveraging AI to query content and find specific answers. This can enable natural language queries such as "Which cities have tried to manage scooter parking?" → "Which have solved it most effectively, what did they implement?"
- **Integrate with T1.2/JRC survey results** – as SGA2-NZC T1.2, based on JRC work of collecting data from all cities of the Covenant, is planning to provide customised suggestions for relevant content based on city profile, such work could be supported through an algorithm or AI. Such data can also be used to group cities and suggest them cities with a similar profile for peer-to-peer learning.
- **City profiles with *specialisms*** - include a section on the city profile page that includes what that city is specialised in such as mobility, policy innovation, citizen engagement etc. Cities could self-nominate themself for their expertise or an AI agent could make suggestions based on their CCC.
- **Integrate resources and cross-references in NetZeroCities tools** with AI to suggest relevant resources for cities based on their data input in the tool case studies that are most relevant to them.

These directions of work directly respond to user feedback and offer an opportunity to better distribute content and interaction points across the platform. This approach will not only align more closely with users' actual needs and usage patterns but will also accelerate development timelines and lead to a more coherent and efficient Portal experience overall.

All further work of SGA2-NZC T1.3.3 on UX design and user journey will continuously build on feedback from users and from SGA2-NZC T1.1 and T1.3.1, and will be reported in the related deliverables D1.8 "Non-Mission City Portal Usage & User Satisfaction Report" due in December 2025 and D1.9 "Second Non-Mission City Portal Usage & User Satisfaction Report" due at the end of the project (December 2027) based on the work of T1.3.1. Additionally, the work of the task SGA2-NZC T1.3.3 of this deliverable on UX design and user journey will be integrated and aligned within the future deliverables and reporting of the UX of new content development in D1.6 and D1.7 "Summary report on new portal content for Non-Mission Cities" related to task T1.3.2 due in December 2025 and December 2027 respectively, as well as in D1.11 and D1.12 "Summary report on new content for capability building" related to task 1.4, due in December 2025 and December 2027, respectively.

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7 Appendix

7.1 Portal Content Structure

Although the Portal covers a variety of content and functional modules such as City Dossier, User Directory, Calendar, etc., this analysis focuses on its *core tools*, namely **key resources that provide direct support and guidance for cities to achieve carbon neutrality goals and therefore have a particularly prominent strategic significance in the Portal**. For this reason, systematic classification and integration of these tool types have become an important prerequisite for improving the functional synergy and resource utilisation efficiency of the platform.

7.1.1 Tools analysis

Table 3: The 22 tools included in the analysis.

ID	Code *Based on functions*	Name of the content *(As depicted in Figure 3)*
1	A	User directory
2	B	Groups
3	C	Events
4	D	Cities
5	E	Knowledge
6	F	Climate Transition Map
7	G	Finance Guidance Tool
8	H	Engagement Strategy Tools
9	I	Chat
10	J	City dossier
11	K	CCC review
12	L	UTMC – Urban Transition Mission Centre
13	M	FAQs
14	N	Settings
15	O	EU Climate Projects Navigator*
16	P	NetZeroPlanner*
17	Q	Barometer***
18	R	Solution Outliner**
19	S	Solution Bundle**
20	T	Social Innovation Actionable Pathways**
21	U	Learning hub***
22	V	Capital hub***

Note:
* contents added in the updated version of the menu (version B, Figure 3); ** contents in the Knowledge Repository; *** contents under development.
Colour Code Note:
Green: Tools in the Version A menu (before spring 2024, see Figure 3);

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Blue: Tools added in the Version B menu, see Figure 3;
Purple: Noteworthy tools in knowledge repository (not included on the menu);
Grey: Tools under development.

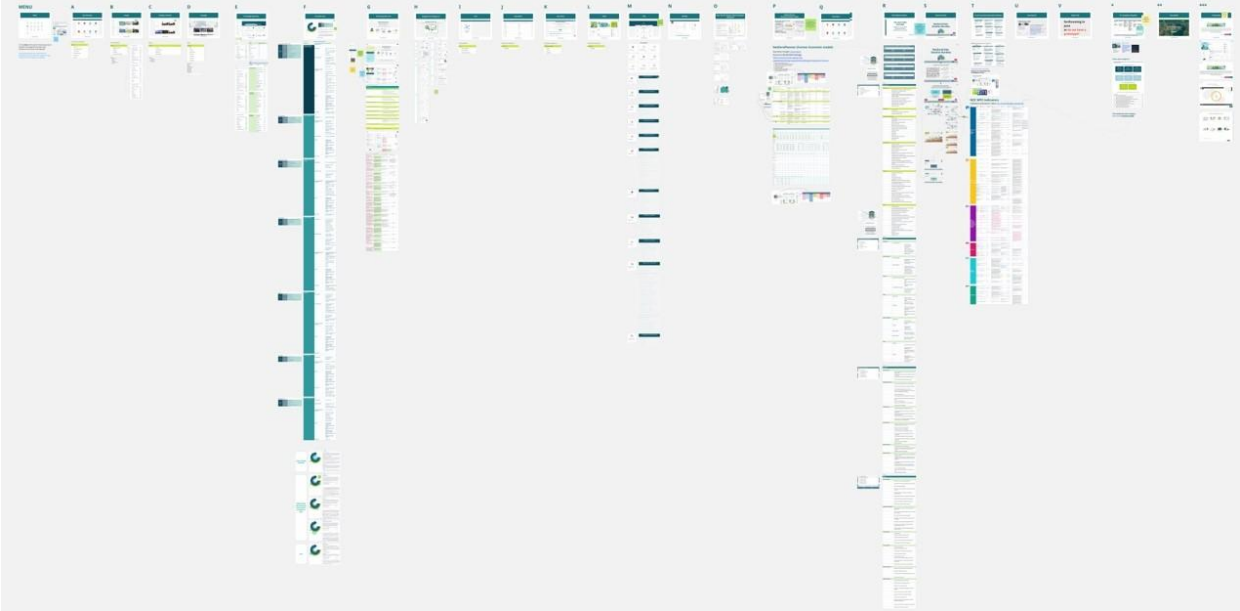

Figure 24: Screenshot of Miro workspace with the mapping of all NZC tools available on the Portal and their respective categorizations. Link https://miro.com/app/board/uXjVI4HnHuQ=/?share_link_id=320359149484

7.1.2 Suggested categories from tools analysis

- By NZC Topic
- NZC and the Mission
- Climate neutrality
- Systemic Innovation (*NZC WP6*)
- What is a CCC (*NZC WP1*; *SGA1 WP1*)
- Planning (Economic model; *WP7*)
- Replicating and upscaling
- Impact pathways, Monitoring, Evaluation & Learning (MEL)
- Domains (GHG protocol for cities - domains and subdomains (Wee Kean Fong et al. 2021; pg.35)
    - Stationary energy (Buildings)
    - Transportation
    - Waste / wastewater
    - IPPU
    - AFOLU
    - Other Scope 3
- Levers of change
    - Technology and Infrastructure
    - Governance and Policy
    - Social Innovation and People-based solutions
    - Democracy and Participation
    - Finance and Funding
    - Learning and Capabilities
- By “Process” Category of the Climate Transition Map

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- Activate an inclusive Ecosystem for Change
- Build a Strong Mandate
- Understand the System
- Co-Design a Portfolio
- Take Action
- Learn & Reflect
- Make it the New Normal
- By Geographic dimensions
- Level: Building, neighbourhood, city
- Cities: List of Mission and Twinning Programme cities (for tagging content)
- Population of the city
- Country
- Costal, mountain, none
- Cold and hot climate
- By Level of Expertise Required to process the content
    - None - Introductory Content
    - Intermediate - General familiarity with the subject
    - Expert - Specialist technical knowledge
- By intended user
    - Mission Cities
    - Pilot City Projects
    - Twin Cities
    - Mission-Minded Cities
    - Second wave cities (that applied to the EOI)
    - All cities
    - Consortium members
    - Partners and partnerships
- Press (it only applies to the website, not to the Portal)
- By category of the Climate City Contract:
- Part A – Current State of Climate Action
- Module A-1: Greenhouse Gas Emissions Baseline Inventory
- Module A-2: Current Policies and Strategies Assessment
- Module A-3: Systemic Barriers and Opportunities to 2030 Climate Neutrality
- Part B – Pathways towards Climate Neutrality by 2030
- Module B-1: Climate Neutrality Scenarios and Impact Pathways
- Module B-2: Climate Neutrality Portfolio Design
- Module B-3: Indicators for Monitoring, Evaluation and Learning
- Part C – Enabling Climate Neutrality by 2030
- Module C-1: Governance Innovation Interventions
- Module C-2: Social Innovation Interventions
- By document type
    - Page (previously “article”)
        - Overview Page
        - *Focus Page* (explained in detail in the section below)
    - Solution factsheets
    - Methods and canvas
    - Case studies visual case studies videos
    - Document upload (they should have a description in any case)

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7.2 Results of the Sweet Spot Analysis

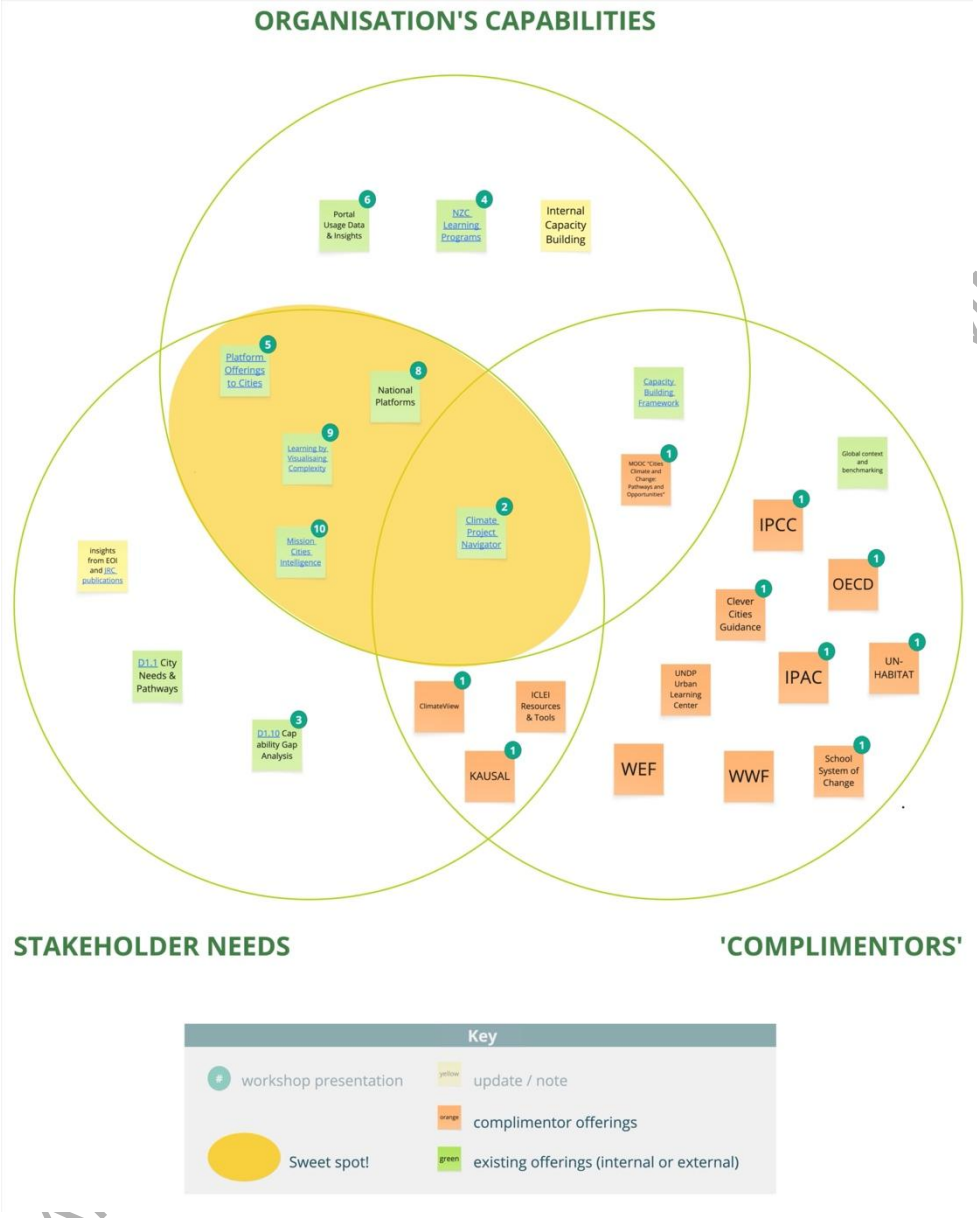

Figure 25: Results of the sweet spot analysis

7.3 Benchmark of platforms

Table 4: Benchmarking of the alternatives/complementors of NZC Learning Hub

Platform	Information architecture	Main topics	Content	Insights
School of System Change *Home - School of System Change*	Structured to support learning journeys with	Systems change, sustainability,	Offers courses, blog posts, and	Emphasizes a multi-method approach to systems change,

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	sections for courses, resources, and community engagement.	and leadership	multimedia resources like the "Stepping into Systems" film series.	integrating various fields and disciplines. Strong focus on building a community of practitioners and learners, diverse resources
Clever Cites *CLEVER Cities*	Organised around using nature-based solutions (NBS) to address urban challenges, with sections for resources, news, and project updates.	Urban greening, social inclusion, and co-creation in urban planning	Provides scientific publications, guidance documents, and reports on the co-creation framework and the benefits of NBS.	Specializes in using NBS to address urban challenges, Emphasizes co-creation and shared governance.
Green Policy Platform *Green Policy Platform*	Designed for quick access to a vast collection of knowledge products, featuring thematic and country-specific pages	Green growth, green economy, and sustainable development	Includes global reports, case studies, guidance notes, and learning products from over 100 organisations	Host vast collection of knowledge from many organisations, offers tailored content based on themes and countries, making it highly relevant for diverse audiences
OECD - International Programme for Action on Climate (IPAC) *International Programme for Action on Climate (IPAC) | OECD*	Structured to provide foundational data and indicators through components like the Climate Action Dashboard and the Climate Action Monitor	Climate action, net-zero targets, and policy evaluation	Features the Climate Action Monitor, country notes, and a dashboard of climate indicators	Data-driven with focus on tracking and assessing climate policies, offering valuable feedback on best practices
The Intergovernmental Panel on Climate Change (IPCC) *IPCC — Intergovernmental Panel on Climate Change*	Organised to facilitate access to comprehensive assessment reports and other publications, with sections for reports, working groups, and activities	Climate science, impacts, adaptation, and mitigation	Offers detailed assessment reports, methodology reports, and summaries for policymakers.	Provides comprehensive assessment reports on climate science, impacts, adaptation, and summaries for policymakers, making complex scientific information accessible and actionable for decision-makers

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7.4 Personas & User Journeys

7.4.1 Personas

The personas reflect a diverse range of city representatives and support staff involved in climate action and learning platform development across various European cities. Several municipal climate professionals seek to enhance local sustainability strategies by learning from other cities, accessing case studies, and fostering internal collaboration. Common challenges include limited access to information in local languages, siloed municipal departments, a lack of actionable guidance, and difficulties engaging stakeholders—particularly from the private sector. These city actors express a strong interest in flexible, accessible learning formats such as short online courses, live sessions, and peer-to-peer exchanges. They value curated content that supports both expert and non-expert users, particularly materials that simplify complex concepts and policy language. Larger cities show a focus on financing mechanisms, procurement processes, and strategic project implementation, while smaller and mid-sized cities emphasize community engagement and internal team motivation. Platform support staff—including content and admin managers—strive to maintain high-quality, user-centric learning environments. Their challenges include technical limitations, delayed feedback loops, and language barriers in content production. Their priorities include better analytics, smoother workflows, and closer coordination with instructional designers and city stakeholders.

Valentina Russo - Cremona, Italy *(NMC 50-100K)*

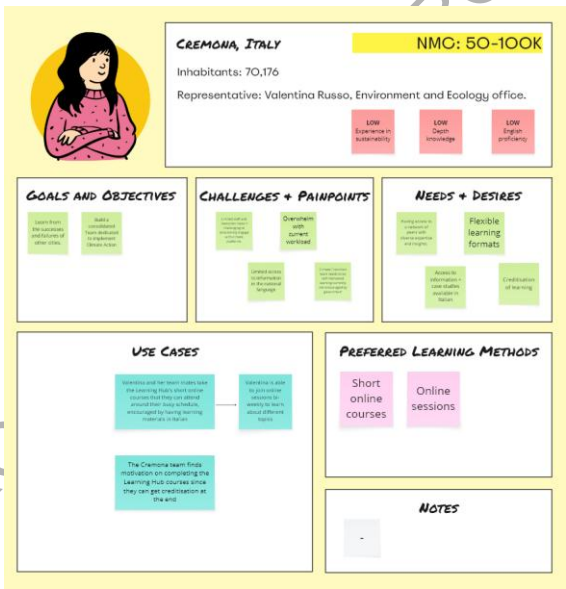

Figure 26: Persona's card Valentina Russo

Valentina Russo, from Cremona's Environment and Ecology office, strives to learn from other cities' experiences and build a committed team for climate action. Overwhelmed by her current workload and hindered by limited access to information in Italian, she seeks flexible learning formats and accredited educational opportunities to enhance team motivation. Her learning strategy includes short online courses and online sessions, focusing on making learning accessible and relevant in Italian.

Ingrid Naslund - Jönköping, Sweden *(NMC 100-200K)*

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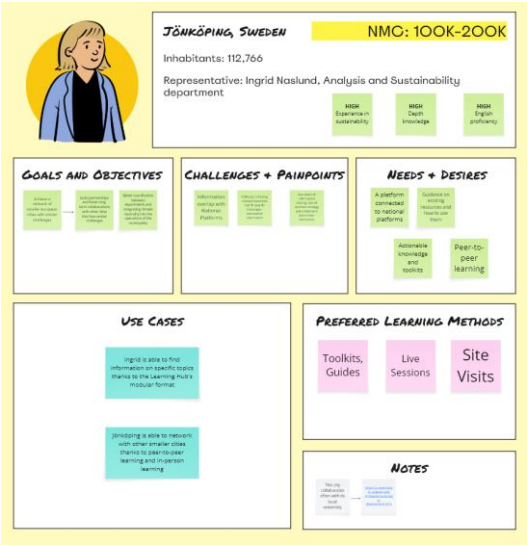

Figure 27: Persona's card Ingrid Naslund

Ingrid Naslund works in Jönköping, Sweden, with a population of 112,766, focusing on building a network of European cities collaborating on sustainability challenges in her role in the Analysis and Sustainability department. She faces issues such as overlapping information with national platforms and a lack of specific, actionable content. Ingrid's strategies for overcoming these challenges include using toolkits, live sessions, and site visits. She also collaborates with local universities to promote effective partnerships and urban development.

Ernst Kleinmann - Wiesbaden, Germany *(Twin City 200-300K)*

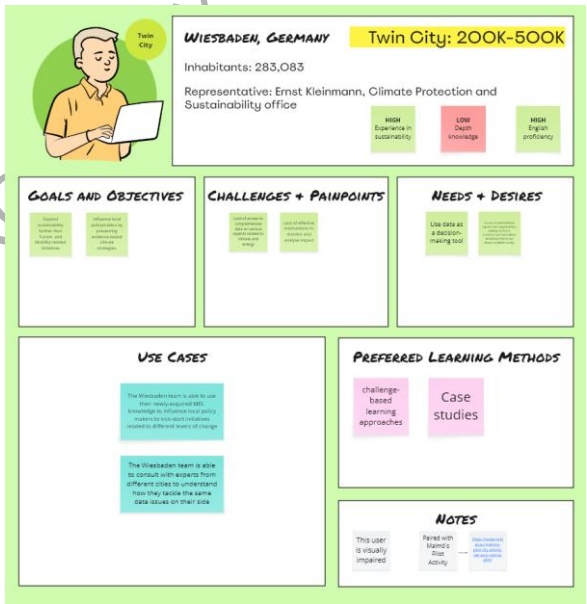

Figure 28: Persona's card Ernst Kleinmann

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In Wiesbaden, Germany, which has a population of 283,083, Ernst Kleinmann holds a position in the Climate Protection and Sustainability office. He aims to expand sustainability in local policymaking and influence policy through evidence-based initiatives. Ernst struggles with limited access to comprehensive data on climate and energy and ineffective monitoring mechanisms. To tackle these challenges, he uses case studies and challenge-based learning, utilizing data as a vital decision-making tool. Ernst, who is visually impaired, actively participates in collaborative projects with Malmö.

Margaret Lane - Leeds, UK *(NMC 500K-1M)*

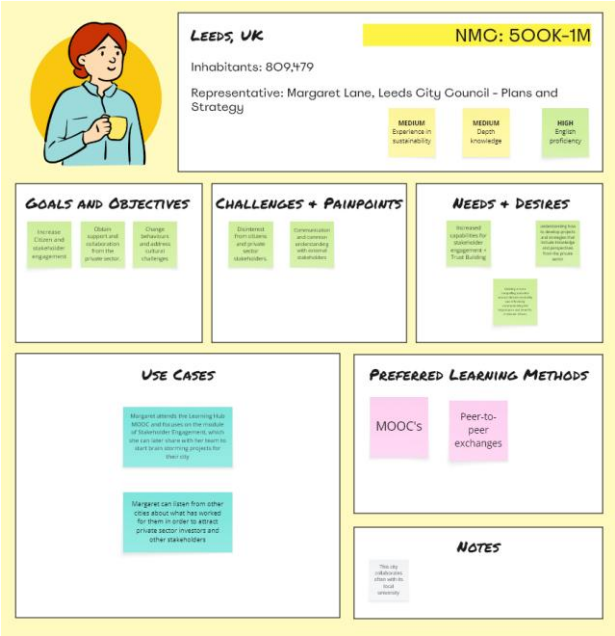

Figure 29: Persona's card Margaret Lane

Margaret Lane represents Leeds, UK, with a population of 809,479. As part of the Leeds City Council's Plans and Strategy team, her goals include increasing citizen and stakeholder engagement, supporting collaboration across private and public sectors, and fostering cultural and behavioural changes. Margaret faces challenges like disinterest from private sector partners and communication issues with external stakeholders. Her needs focus on building capacities for stakeholder engagement and developing a deeper understanding of project impacts. Margaret prefers using **MOOCs** and **peer-to-peer exchanges** as learning methods to gather insights and foster engagement effectively. Her work is further detailed in collaborative efforts with local universities, aiming to enhance the city's strategic initiatives.

Eliza Sisak - ***Poznan, Poland*** *(Twin City 500K-1M)*

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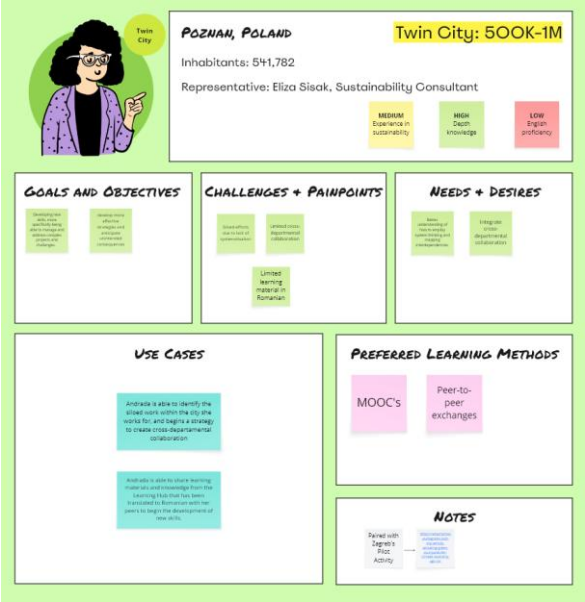

Figure 30: Persona's card Eliza Sisak

Eliza Sisak, a Sustainability Consultant in Poznań, Poland, serves a city with 541,782 residents. Her goals involve developing new sustainability policies, fostering more effective strategies, and anticipating unintended consequences. Eliza's challenges include siloed efforts within the city, limited interdepartmental collaboration, and scarce learning materials in Romanian, which impact her effectiveness. She desires a better understanding of system mapping and cross-departmental collaboration. Eliza prefers learning through MOOCs and peer-to-peer exchanges, which help her identify and address gaps within her work environment and share knowledge. Additionally, her efforts are supported by being paired with Zagreb's project activities, enhancing her ability to implement and innovate within her role.

İlke Tarcan — Ankara, Turkey, Turkish City *(NMC >1M)*

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Figure 31: Persona's card İlke Tarcan

İlke Tarcan, representing Ankara, Turkey, works within the Ankara Metropolitan Municipality, focusing on sustainability initiatives for a population of over 5.8 million. His goals include learning from financial best practices of other major cities and securing funding for climate initiatives. He faces challenges such as finding relevant case studies for cities of Ankara's size, dealing with lengthy procurement processes, and a lack of comprehensive examples from larger cities for reference. His needs are centred on obtaining detailed information on financial mechanisms and project implementation steps. İlke's preferred learning methods are live sessions and peer-to-peer exchanges, which help him, and his team acquire necessary knowledge and share experiences, thereby overcoming barriers imposed by cumbersome procurement systems. Notably, the city is also involved in a climate action discourse and has an implementation plan related to the N2G policy, underscoring its commitment to sustainable urban development.

Rébecca Coulomb - Lyon, France (Mission and Pilot City)

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Figure 32: Persona's card Rébecca Coulomb

Rébecca Coulomb represents Lyon, France, a Mission City of 520,000 inhabitants, where she leverages her extensive sustainability expertise and deep knowledge to enhance stakeholder skills and cooperation. Her focus is on increasing local involvement in climate action and devising innovative strategies for policy implementation. Despite her challenges in coordinating diverse groups, maintaining engagement, and navigating complex policies, Rébecca uses live sessions and peer-to-peer exchanges to bridge the gap caused by her low English proficiency. As a representative of Lyon, a pilot city collaborating with Milton Keynes, UK, she works on collaborative sustainability projects.

Wade Pallav – Content Manager

Figure 33: Persona's card Wade Pallav

Wade Pallav is at the helm of Content Management, engaging with expert partners, teachers, guest lecturers, and designers. His role is pivotal in developing and maintaining high-quality learning materials, ensuring language accuracy, and aligning content with the varying needs across cities. Wade faces challenges such as lengthy approval processes, insufficient user feedback, and difficulties in managing content in unfamiliar languages. To tackle these issues, he prioritizes the use of reliable **translation tools**, effective **user feedback mechanisms**, **and efficient communication** with the administrative team, aiming to enhance the relevance and effectiveness of educational content continuously.

Rosalie Lovisa – Admin

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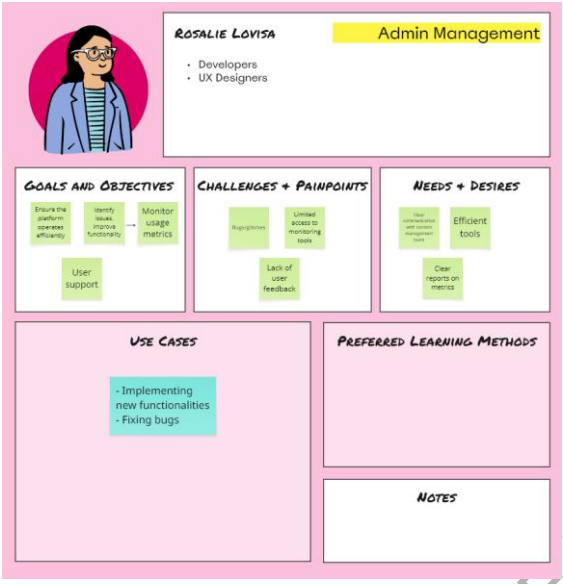

Figure 34: Persona's card Rosalie Lovisa

Rosalie Lovisa, overseeing Admin Management, collaborates closely with developers and UX designers. Her primary goals include ensuring the platform operates efficiently, identifying and resolving functionality issues, and monitoring usage metrics to support continuous improvement. Rosalie confronts challenges such as persistent bugs and glitches, limited access to monitoring tools, and a scarcity of user feedback, which hampers her ability to optimize platform performance effectively. She desires clear communication with her management team, more efficient tools, and better reports on metrics to enhance operational decisions and user support strategies.

Persona	City & Category	Roles	Goals
Valentina Russo	Cremona, Italy (Mission-Minded City: 50-100K)	Climate Specialist	Learn from the successes and failures of other cities
	Cremona, Italy (Mission-Minded City: 50-100K)	Project Coordinator	Build a consolidated team dedicated to implementing Climate Action.
Margaret Lane	Leeds, UK (Mission-Minded City: 500K-1M)	Council Member	Increase Citizen and stakeholder engagement
	Leeds, UK (Mission-Minded City: 500K-1M)	Project Coordinator	Obtain support and collaboration from the private sector.
Ingrid Naslund	Jönköping, Sweden (Mission-Minded City: 100K-200K)	Council Member	Achieve a network of smaller European cities with similar challenges
	Jönköping, Sweden (Mission-Minded City: 100K-200K)	Sustainability Department Director	Better coordination between departments and integrating climate neutrality into municipal operations.
Ilke Tarcan	Ankara, Turkey (NMC: >1M)	Climate Specialist	Learn about best practices from other big cities

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		Finance Consultant	Find funding for climate initiatives
		Communications Manager	Promote the city's progress on sustainability.
Ernst Kleinmann	Wiesbaden, Germany (Twin City: 200-500K)	Environmental Specialist	Influence local policymakers by presenting evidence-based climate strategies
		Sustainability Department Director	Better coordination between departments and integrating climate neutrality into municipal operations.
Eliza Sisak	Poznan, Poland (Twin City: 500K-1M)	Consultant	Develop more effective strategies and anticipate unintended consequences
		Deputy Mayor	Develop new skills in managing complex projects
		Communications Manager	Showcase new skills developed by city representatives.
Wade Pallav	Content Management	Sustainability expert	Develop/maintain high-quality learning materials
		Teacher	Conveying knowledge to users
		Designer	Update materials based on user feedback.
Rosalie Lovisa	Admin Management	Developer	Ensure the platform operates efficiently
		UX Designer	Identify issues, improve functionality.

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7.4.2 User Journeys

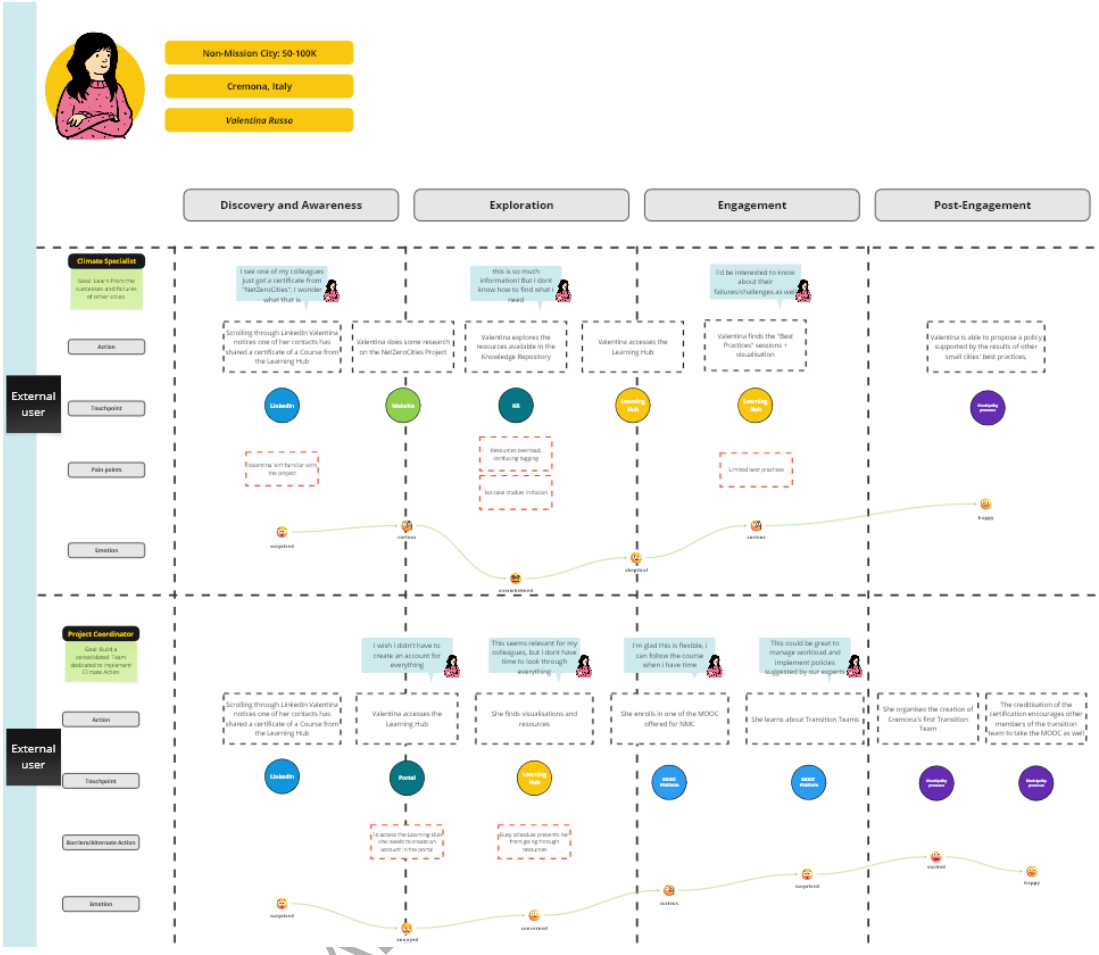

Figure 35: Valentina Rosso's (Persona) potential User Journeys based on her different roles within the municipality.

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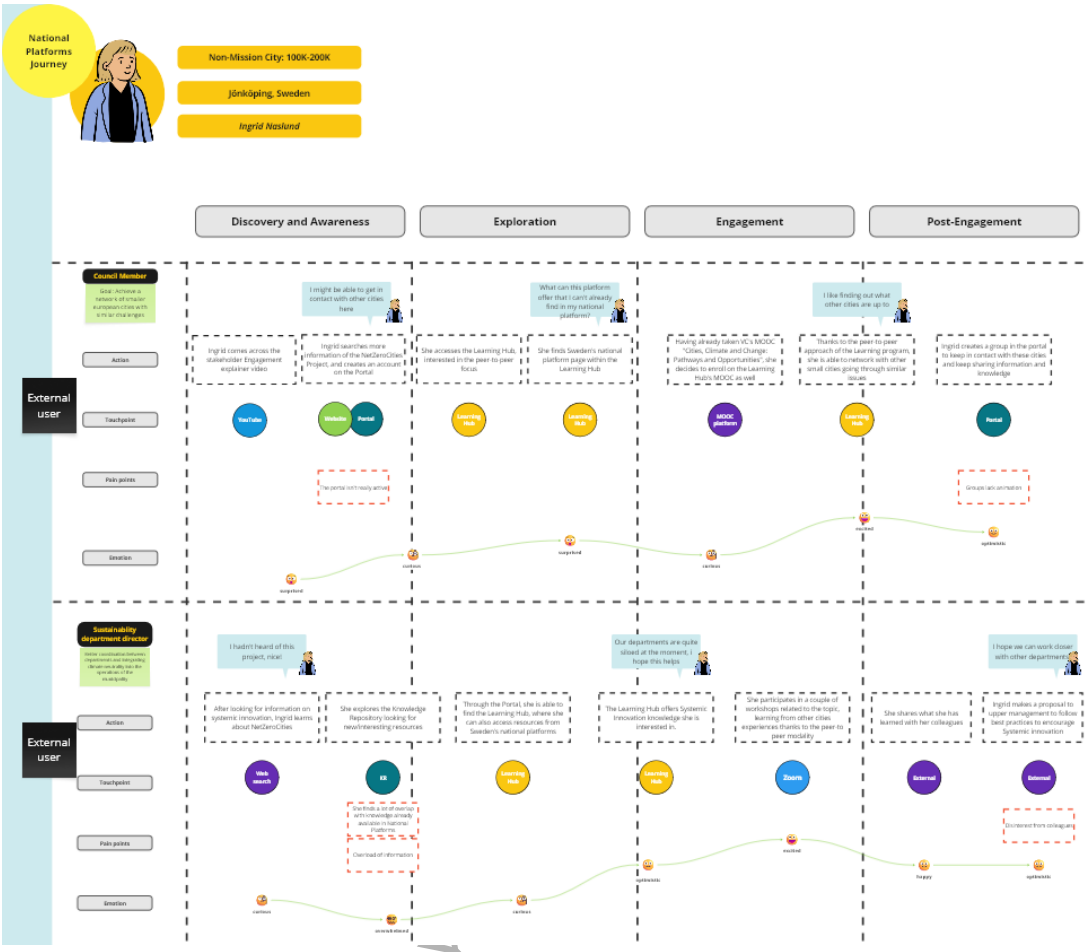

Figure 36: Ingrid Naslund's (Persona) potential User Journeys based on her different roles within the municipality with a focus on National Platforms. All User Journeys

7.5 Card Sorting

The cards used for the activity were labelled as: Bookmarks, Calendar, Chat, Cities, City Dossier, Climate City Contracts, Climate Transition Map, Engagement Strategy Tools, Events, FAQ, Feedback, Finance Guidance Tool, Groups, Help, Knowledge Repository, Log Out, Messages, Mission Cities Capital Hub (Not Implemented), Notifications, Onboard Module, Settings, Social Feed, Suggested Groups, Suggested Profiles, UTMC, User Directory, User Profile.

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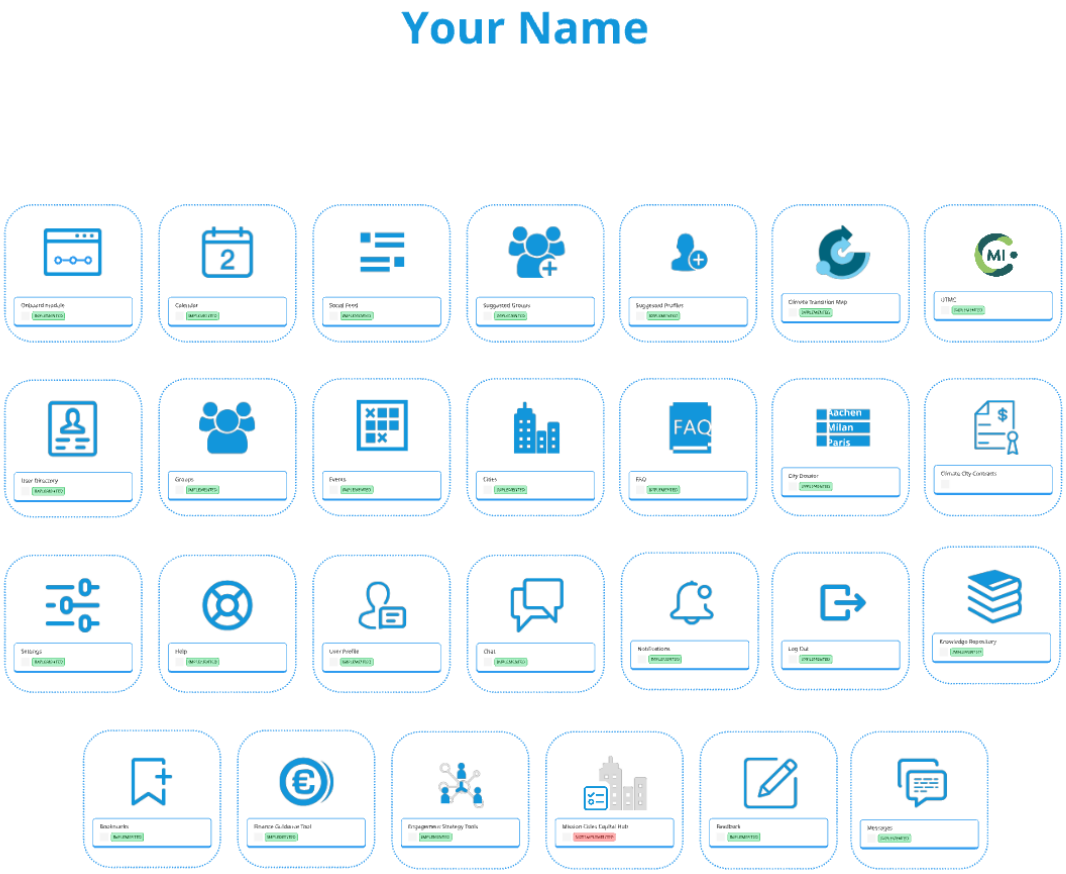

Figure 37: Set of cards provided to each participant.

Table 5: categories and clusters of the pages emerged during the Card Sorting activity.

Cluster	Categories assigned by participants	Description
Calendar/Events	Calendar, Events, Social events, Keeping up	Time-based coordination tools, helping users track and engage with key dates, meetings, and events across the Portal.
Cities	Cities, Services and Resources, City Support, Essential for Cities, Important for Cities, Other Cities, Everything about Cities	Groups content related to city-specific data, dossiers, and collaboration tools to support place-based action and peer learning.
Tools	Tools, Digital Tools, Big Tools, Knowledge & Tools, NZC Offers & Tools	Contains functional instruments and support tools like the Finance Guidance Tool and Engagement Strategy Tools for implementation and decision-making.
Help	Help, FAQ / Help, Help & Contact, Technical Support, Support, Portal Support, When I get confused	Gathers resources like FAQs and user support to assist with navigation, troubleshooting, and platform understanding.
Socially Connecting	Groups, Chat, Community, Connect with Others, Directories, Interactive spaces,	Brings together tools that foster community interaction, group

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	Interactive Social Feed, Social, NZC Community, NZC Social/Tech hangout, Social Feed, User Management, Stakeholder Networking, Personal Drop-down Menu, My City, Individual Features	engagement, and user-to-user connections.
My / Personal	My Account, My Dashboard, Personal Area, Personal Drop-down Menu, User Management, My City, Individual Features, Individual Feedback Function, Individual User Decisions	Includes features related to user identity and preferences, such as profiles, settings, and saved content.
Onboarding	Onboarding, NZC Start point, Intro / Tutorial, Welcoming Page	Designed to support new users in getting oriented with the platform, including initial guidance and introductory content.
NZC Process	NZC Process, only important for NZC	Focuses on elements that directly relate to the NZC mission structure, processes, and milestones like the Mission Implementation phases.
Settings	Settings, Settings/Profile Menu	Provides user customization options for platform use and interface preferences.
Resources	Resources, Other Resources	Hosts core repositories and structured content like the *Knowledge Repository* enabling learning and reference.
Navigation/Menu	Menu, Navigation Tools, Portal Features, Useful Features, Functions on the top-right corner, General Menu	Encompasses elements related to how users move through and organise content within the Portal.
Categorisation based on usability	Nice to have – Not Essential, Good as "Add-on", Could be better, Links training & information, Work well – Most commonly used	Reflects user-driven groupings based on perceived utility and ease of access, highlighting key functional areas.
Climate Transition Map	-	Categorized on its own due to its specific focus on mapping climate actions across cities.
Climate City Contracts	-	Stands alone as a unique contractual and policy-related component central to mission governance.
Feedback	-	Treated as a separate item enabling user input to improve Portal features and performance.
Settings	-	Also identified separately, indicating a potential overlap or confusion with general settings.
Social Feed	-	Individually classified for its role in real-time updates and social engagement within the platform.

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7.6 DIY Menu Activity

On May 21st, 2024, the activity began with each participant selecting a designated workspace and writing their name at the top. Within this space, they were asked to critically review the proposed sections (in green) and subsections (in light green), with the freedom to rename, reorder, or remove items to better reflect their expectations for intuitive navigation. If participants felt something was missing, they could use the "Crafting Table" to introduce new subsections by selecting from a set of predefined cards.

Any elements deemed unnecessary or redundant could be moved to the "Trash Bin"—without deleting them—to help the facilitators track what was being discarded. Finally, participants were encouraged to leave additional reflections or suggestions using the "Notes" area, providing qualitative input on how the Portal menu could better meet user needs. An example menu was included in each workspace as a reference to guide and inspire participants in this redesign exercise (Fig. xx).

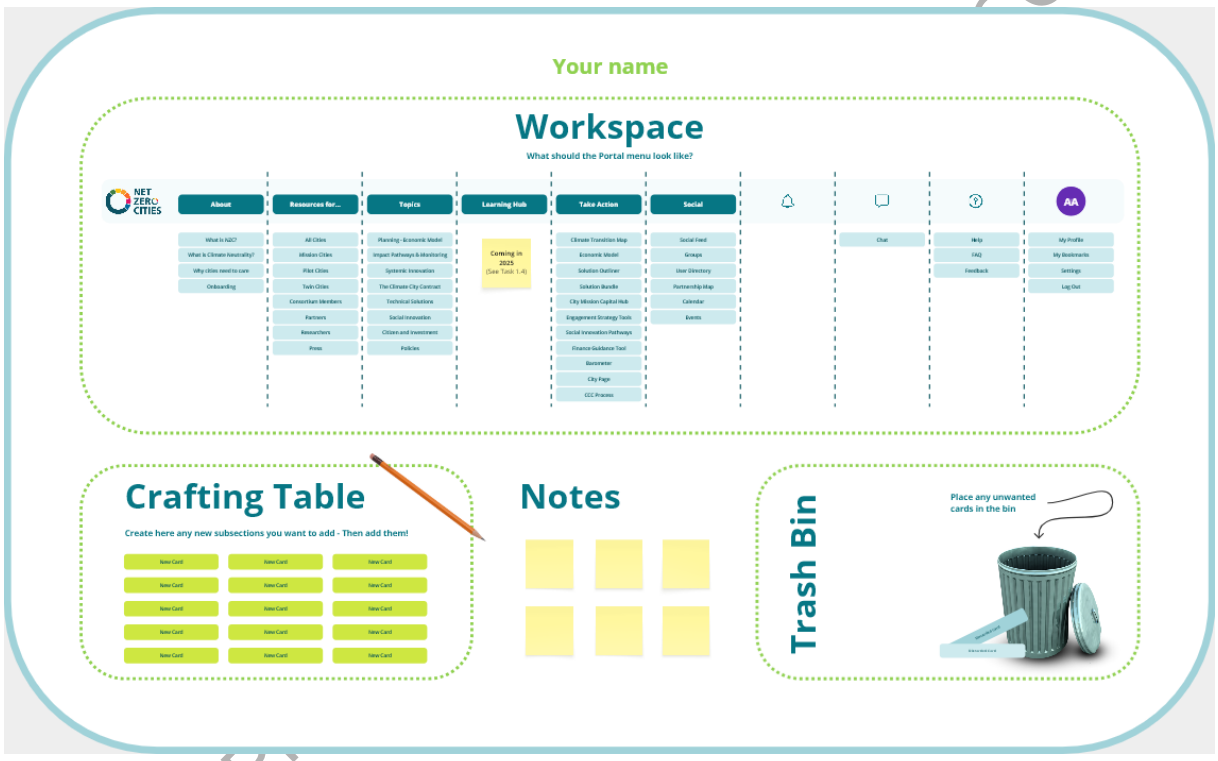

Figure 38: Co-design workspace provided to each participant

7.7 WP1 Feedback Session

During the WP1 Monthly Meeting held on April 26, 2025, we presented the first look of the Learning Hub to partners to receive feedback on the content and layout using a Miro Board populated with individual workspaces where partners could leave their feedback in the form of sticky notes following a set of instructions to guide partners to provide constructive criticism and suggestions on the proposed design. Each workspace included a section for participants to add their name and organisation, as well as a diagram illustrating the structure of the Learning Hub pages to help participants understand how the pages were interconnected.

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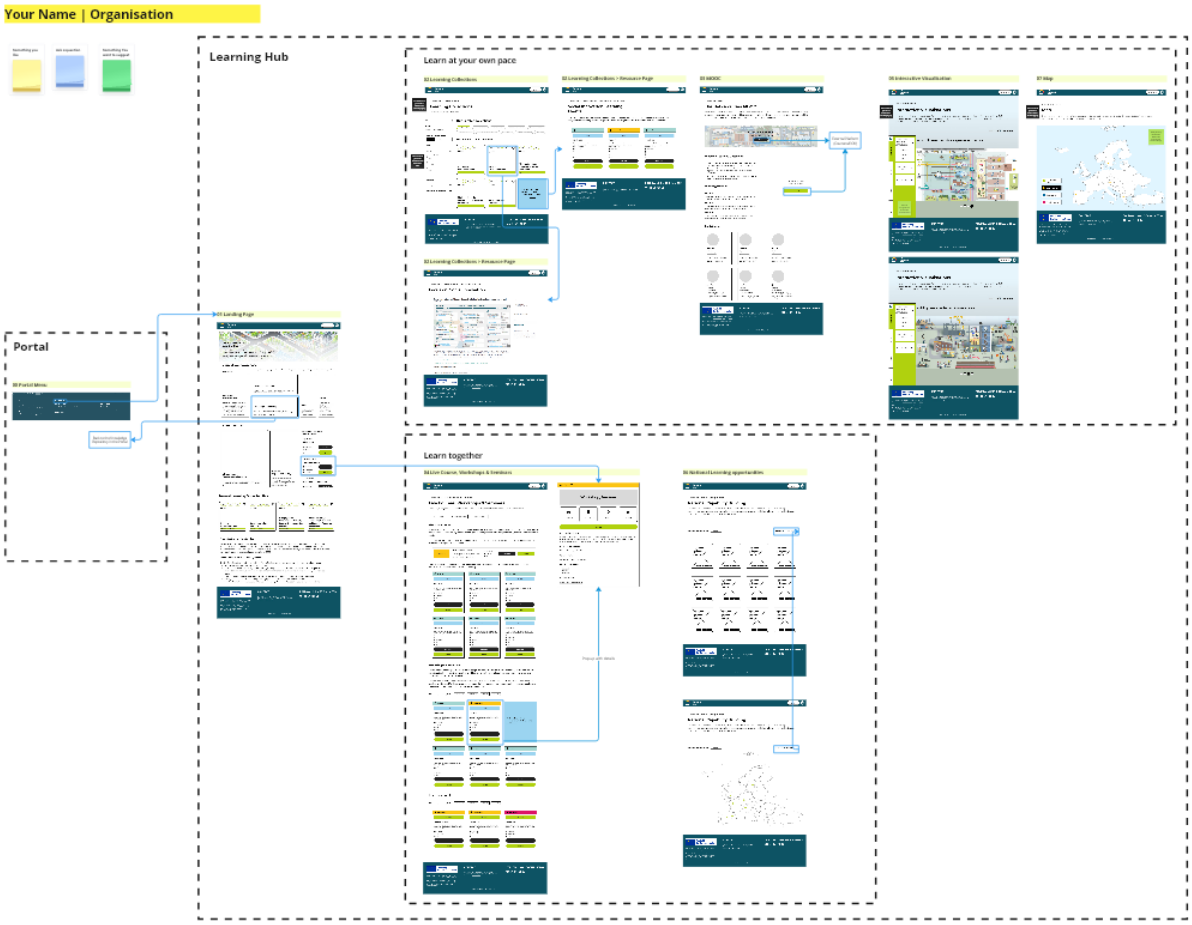

Figure 39: Workspace for participants including colour-coded sticky notes and a diagram of the Learning Hub pages.

A total of seven boards were used by partners from EuroCities, Tecnalia, CARTIF, Metabolic, Demos Helsinki, VTT, and CRS, enabling the collection of diverse feedback from organisations with varying areas of expertise, all of which were applied to improve the Learning Hub.

7.8 Intermediate designs of the Learning Hub landing page

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Figure 40 Intermediate versions of the landing page.

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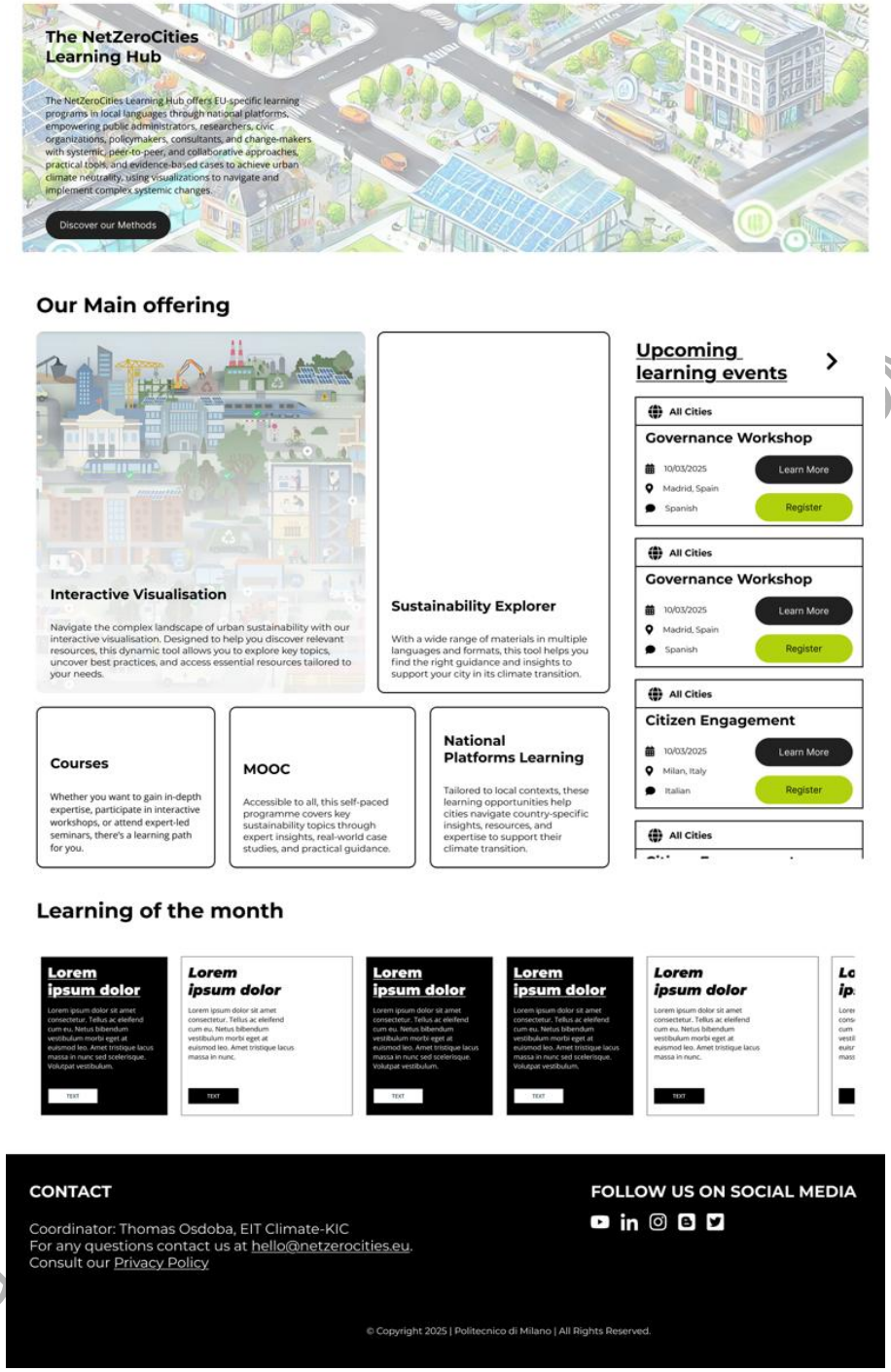

Figure 41: Intermediate version of the Learning Hub landing page, with greater emphasis on the core areas of the learning offering and upcoming learning events.

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7.9 Intermediate visuals for the Visual Paths to Climate Neutrality

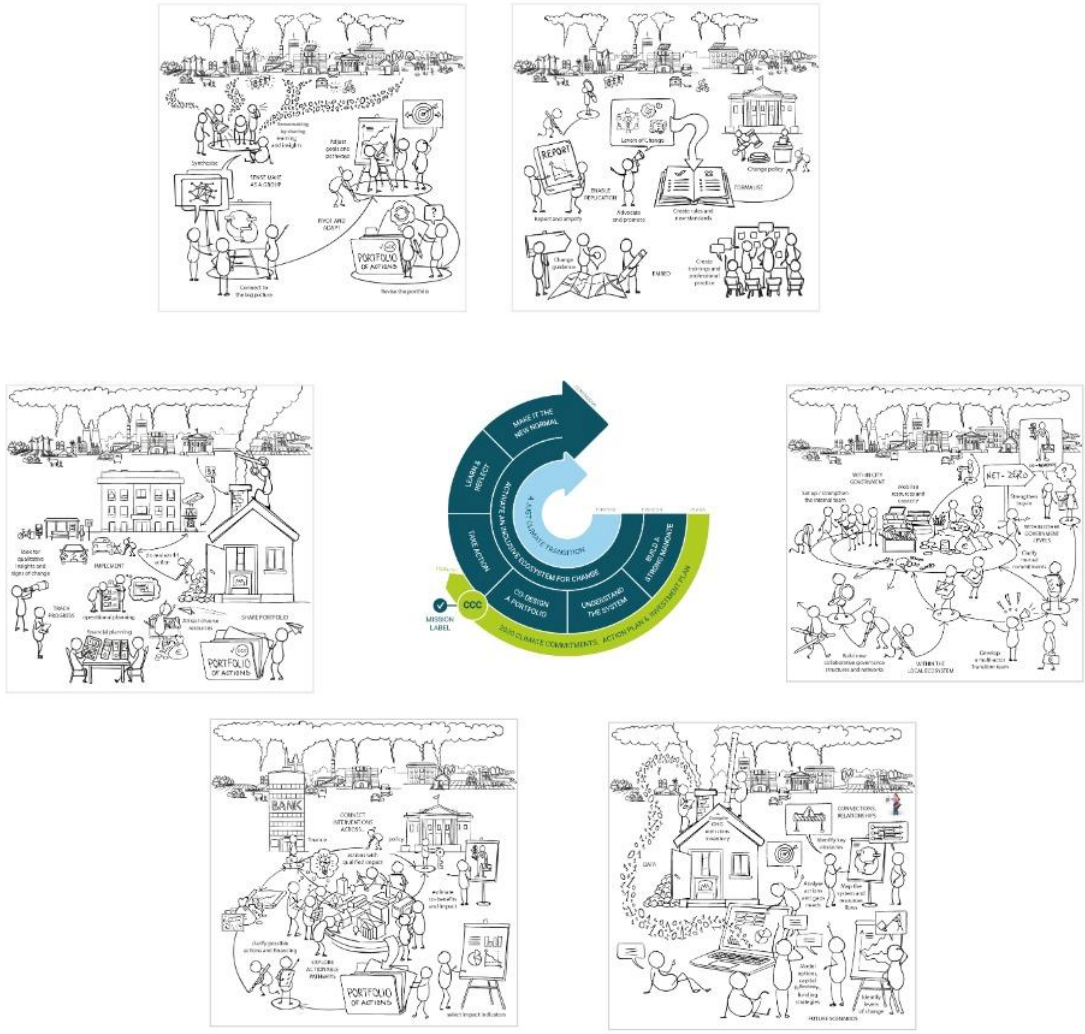

Figure 42: First draft of the visuals associated to each step of "Process" stage of the Climate Transition Map

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7.10 Learning Hub testing

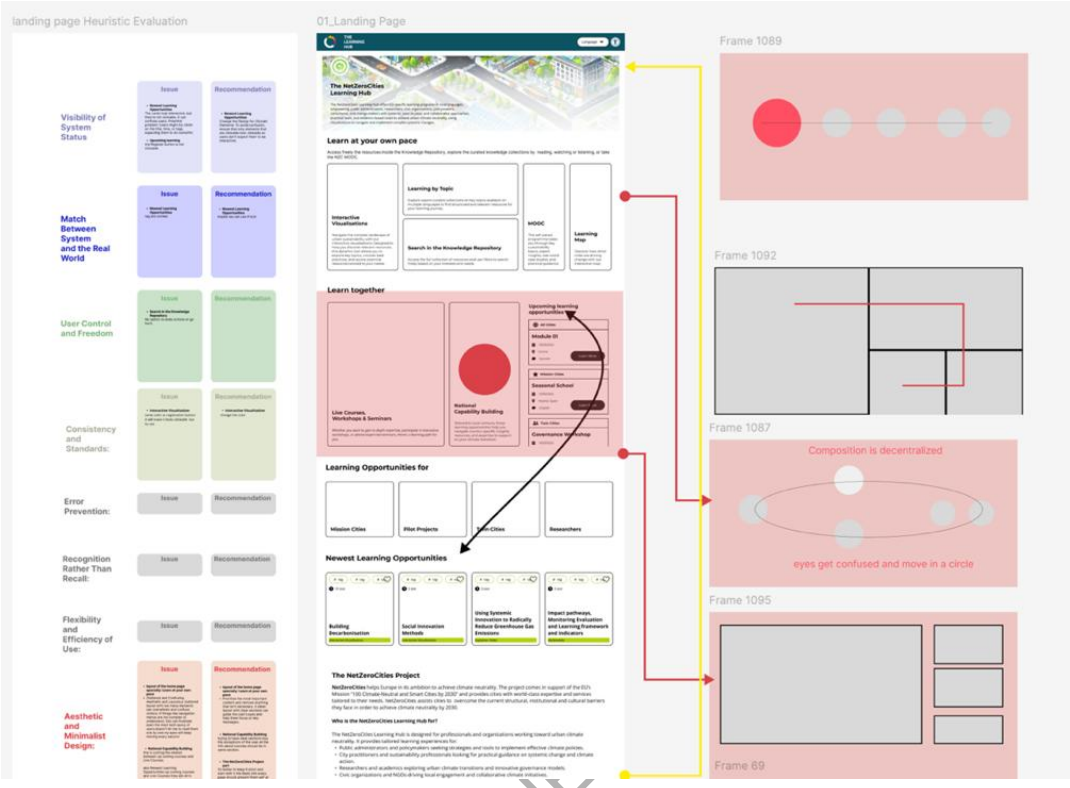

Figure 43: Heuristic Evaluation phase. On the left, Jakob Nielsen's cards. In the centre, the landing page of the Learning Hub. On the right, a diagram showing visual suggestions to improve the UX/UI.

Detailed live testing structure
40 mins

INTRO	JTBD / NEEDS PRIORITISATION	THINK-ALOUD CONCEPT TESTING	REFLECTION & WRAP UP
5 mins	10 mins	20 mins	5 mins
Introduce ourselves, describe the purpose of the session and the activities we plan to do, why we're talking to this person, and ask for permission to record / transcribe.	Participants choose from a list of statements that most describe the main "jobs" they would "hire" the learning hub for, this includes both functional and emotional aspects. They will elaborate on why this is important for them, and what they've tried so far to do this job elsewhere.	Participants will be shown the landing page (or multiple landing pages). They can explore the full page and think out loud, describing what stands out to them, what they like, what's confusing or dislike, and how it addresses the "jobs to be done" described from the previous exercise. They can explore other pages that appeal to them in the prototype (or we will guide them) and follow a similar think aloud exercise.	Ask if they have any last reflections that they didn't manage to share yet. Thank them for their time and share what the next steps will be: - running sessions with ~10 city practitioners, synthesising and sharing the results, and making iterations based on the learnings - running tests for the navigation & information architecture of the site through tree-testing and card sorting (give a small preview) Invite to this activity, and follow up testing sessions.

Figure 44: Detailed live testing structure of sessions with cities.

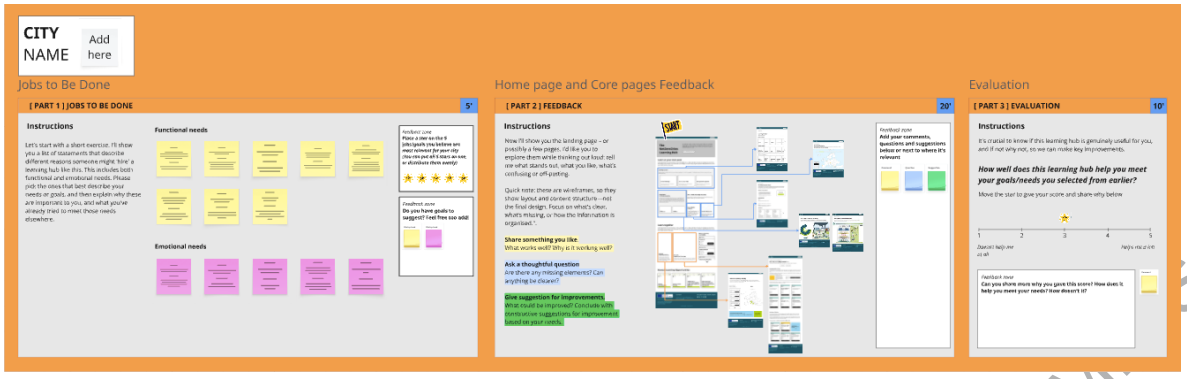

Figure 45 Blank feedback space used with cities during feedback sessions. The space is divided into the 3 sections of the test: JTBD, Think-Out-Loud test and final evaluation and comments.

Table 6 Results from the testing with cities.

Job statement	Votes	Cities
*I want to...**learn about proven methods, approaches, practices and examples** to address specific challenges in my city, so I/we can...solve problems more effectively by learning from other's success and adapting solutions to our circumstances rather than reinventing the wheel and making mistakes others already made.*	5	Ghent, Matosinhos, Nilufer, Picanya, Treviso
*I want to...**explore resources geographically**, so I/we can...explore how cities close to mine are dealing with similar goals/challenges and learn from them.*	5	Fuenlabrada, Ghent, Nilufer, Picanya, Prague
*I want to...**connect with peers** from other cities that I can learn from, so I/we can...spar on similar challenges together or learn from others who've found effective ways to address similar challenges and reach similar goals.*	4	Matosinhos, Nilufer, Picanya Prague
*I want to...**get tools and methods I can apply immediately** in my context with my team, so I/we can...be more efficient with the limited time we have and focus on tangible action.*	4	Fuenlabrada, Ghent, Matosinhos, Treviso
*I want to...**apply learnings and implement initiatives in my city**, so I/we can...feel a sense of purpose, momentum, tangible progress.*	4	Matosinhos, Nilufer, Prague, Treviso
*I want to...**find success stories of climate transition**, so I/we can...feel inspired and motivated.*	4	Ghent, Matosinhos, Nilufer, Treviso
*I want to...**explore interactive visual learning formats**, so I/we can...make sense of and more easily digest the complexity of climate transition*	3	Fuenlabrada, Ghent, Matosinhos
I want to...quickly and easily find or discover actionable learning resources and insights that are clearly relevant to our city's circumstances, so I/we can...spend more time applying what I learn rather than looking for information.	3	Matosinhos, Prague, Treviso

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*I want to...**contribute and share resources** with other local, regional and national colleagues, as well as other cities, so I/we can...share examples, successes and failures for others to learn and benefit from.*	3	Matosinhos, Nilufer, Picanya
*I want to...**connect with specialists on niche topics**, so I/we can...get advice for a specific situation in our city.*	2	Nilufer, Picanya
*I want to...**engage in learning and a community of practice with other city practitioners**, so I/we can...feel supported, reassured, confident, inspired and creative, despite the significant challenges, pressures and anxieties we face.*	2	Matosinhos, Prague
*I want to...**engage with resources and people who speak in simple, jargon-free language**, so I/we can...feel informed, credible and empowered in conversations and in taking action.*	1	Fuenlabrada

7.11 Select transcriptions of the interviews with city practitioners.

Cities want to **connect with cities, especially with shared challenges, collaborate on solutions/responses, and learn from case studies and success stories**

Some cities shared that they are already connected or collaborating with other cities:

- *"Picanya is collaborating with other small cities in France and Germany."*
- *"We're already connected with others through other EU horizon projects."*

Many expressed a desire for a platform that enables more connection, especially if they can connect over common challenges and find peers at a similar stage of their journey:

- *"We'd like to connect with peers as long as they have similar challenges."*
- *"It's nice to meet others who might be quite frustrated with similar challenges and can be quite comforting."*
- *"Which cities are closer to where we are in the climate transition? We'd like to get in contact with people that are implementing initiatives directly."*

A few highlighted the need to connect on specific issues such as climate adaptation, agriculture or citizen engagement strategies:

- *"We'd like to know what are doing the other small cities that have faced climate disasters, how they are adapting and preparing for future disasters."*
- *"We've connected with other cities about agriculture and citizen engagement - we shared our participation model with other cities and learned from others particularly about including children in the process and organised a workshop for children, with the children - this was an eye-opening moment and a big improvement for us."*

Lastly, there's a specific desire to **share and learn from what's worked in cities like them**:

- *"I'm missing a platform to share what we've already learned and our outcomes so it can be shared with other cities and see what other cities have discussed."*

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- *"[We'd like a space where we can] solve things together and learn from what works."*
- *"Include a well-curated section of localised, success-driven case studies, possibly with visuals, outcomes, and transferable insights."*

Cities want to **connect with cities within their own country.**

Several city practitioners responded positively to the concept where you can explore content broken down by country and others requesting more ways to interact with those local to them:

- *"I like that it helps to connect cities not only on a European level but also on a national level."*
- *"Consider enabling localized filtering or clustering of content and interactions, allowing cities to learn from structurally and contextually similar peers."*
- *"Include a well-curated section of localised, success-driven case studies."*
- *"This is also why we applied to the study visits - like the city of Bucharest and Prague, there is a similar history and mindset in a municipality."*

Cities want to **get support to find and filter the most relevant and effective examples.**

Many cities specifically highlighted their appreciation for the concept that organises learning by topic, albeit with room for improvement:

- *"This division by different topics is great."*
- *"It's great to have the option of learning things by topic whenever the city is ready and in need".*
- *"Make search and filter functions central to the hub. Design the map tool so it can highlight only relevant content, ideally filtered by topic, country, scale, or type of intervention."*

Two cities suggested a rating system for practices.

- *"Could we have a nomination table that highlights cities with best examples across different themes like transportation, industrial zones, or buildings. It's not a contest, but I would like to know the best example for say best mobility solutions - who worked out scooter parking for example?"*
- *"The Learning Hub should implement a system for rating or reviewing practices—perhaps through expert validation, user feedback, or success indicators—to help cities navigate what works best."*

Cities want to **learn through interactive visualisations.**

Some cities showed specific interest in

- *"I like the interactive visualisations."*
- *"These are useful not only for us but also for teaching stakeholders."*

Though there was criticism on their current implementation:

- *"Some visual elements are too dark or pessimistic, and too complex to inspire engagement, especially for colleagues outside the climate department. Replace complex infographics with interactive, modular visuals where users can explore layers at their own pace. Use clear legends, simplified metaphors, and progressive disclosure."*

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Cities want to **participate in interactive formats.**

A few cities expressed a desire for more interaction with other cities and learning materials, and one city specifically suggesting using a chatbot.

- *"The possibility to take part in workshops is really useful".*
- *"It could be nice of having the contacts of people in other countries."*

7.12 Recommendations for the NetZeroCities Portal and Website

7.12.1 Website Menu

In order to attract users to the Portal a call to action (CTA) could be used on the button ("Explore the NZC Portal"), and this button could be highlighted as well. (Figure 46 and Figure 47)

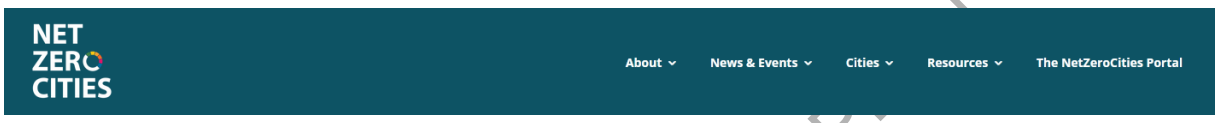

Figure 46: Current main menu in the Portal

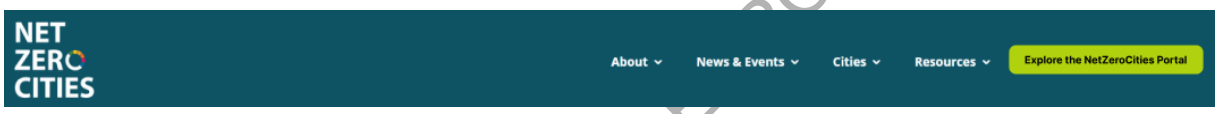

Figure 47: Example of enhanced CTA button for "Explore the NZC Portal" in the main menu

Once the Learning Hub will be implemented, it should be link inside the "Resources" section in the menu shown in Figure 48

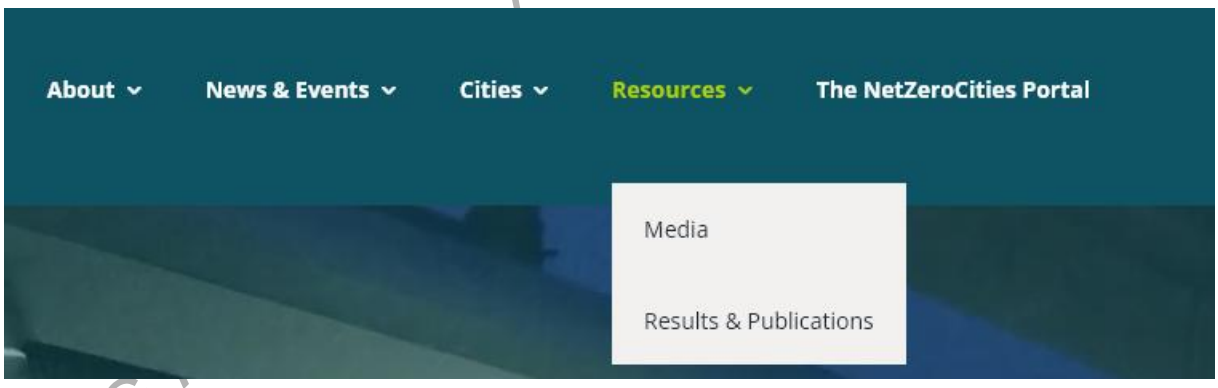

Figure 48: Suggested Learning Hub link under the "Resources" menu.

Currently the Categories section located on the left side of the menu is hard to read because the low contrast between the text and the background makes the content hard to distinguish. Improving the contrast would enhance readability and accessibility for all users. (Figure 49, left side)

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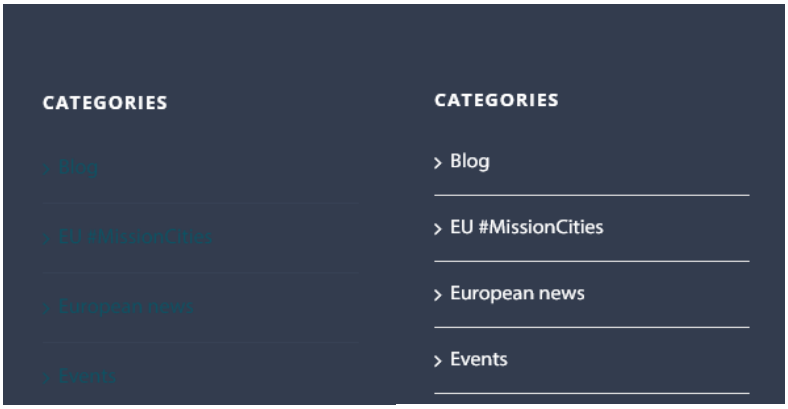

Figure 49: Low-contrast issue in the Categories section affecting readability (left side) vs. Issue can be fixed by changing to a high-contrast colour (white).

7.12.2 The NetZeroCities Website Project Page

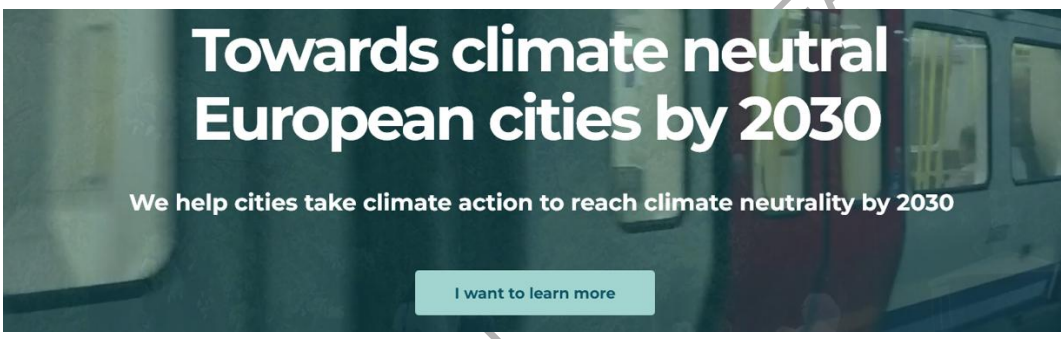

Figure 50: Landing page CTA linking to the NetZeroCities Project page.

As the first call to action, this CTA (Figure 50) works well on the landing page, but Mission-Minded cities do not have the target of 2030 as Mission cities, so the content should be updated (the year should be deleted as different cities have different target years). It leads the user to the "NetZeroCities Project" page where the user can read about the project, its approach, the EU Mission, the objectives, etc. Currently, the text explaining the Project addresses the Portal as a one-stop platform for all cities to find new resources and tools. However, the link to the Portal is simply added in-line making it easy to overlook. (Figure 51)

New and existing tools, resources and expertise are developed and promoted into a one-stop platform accessible to all cities through an online portal. Dedicated services are designed to support cities that are part of the EU's Mission "100 Climate-Neutral and Smart Cities by 2030". In addition, NetZeroCities supports a series of Pilots to help drive rapid learning about how to achieve climate neutrality at city scale, and runs a Twinning Learning programme to enable peer-learning.

Figure 51: The Portal link in the project description is in-line and easily overlooked.

The suggestion is to highlight all these resources available for cities is to integrate icons or cards for each, elements that can catch the eye of the user, as shown on Figure 52

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NetZeroCities supports the **EU's Mission of "100 Climate-Neutral and Smart Cities by 2030"** launched as part of the Horizon Europe programme. The project works as a service-oriented platform supported by world-class practitioners. It helps European cities by providing them with the support and solutions they need to achieve climate neutrality in a socially inclusive way.

Figure 52: Suggested use of icons or cards to highlight key resources for cities.

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