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Design and specification for the Platform

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Summary

D3.1 is the current design specification for the One-Stop-Shop Platform (?The Platform?), also described as The Mission Platform, which provides European cities with support and solutions on their journey to climate neutrality. The Platform encompasses the online digital service (?The Portal?) and human-support services, enabling cities to collaborate and work with experts on systemic innovation, finance, citizen engagement, social innovation, and technical solutions, via an ecosystem of innovation, knowledge sharing and peer-to-peer learning. This document includes the current specification of: ? Front-end Portal design ? Service Delivery for Mission Cities, Pilot Cities and Twin Cities ? Back-end technical, management and governance systems It concludes by setting out the structure for reporting on the Platform evolution via future deliverables.

Approval

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Design and specification for the Portal and Platform

Deliverable D3.1

Version N°1

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Abbreviations and acronyms

Acronym	Description
API	Application Programming Interface
CCC	Climate City Contract
CoP	Community of Practice
CRM	Customer Relationship Management
DDoS	Distributed Denial-of-Service
EC	European Commission
FTPS	File Transfer Protocol Secure
GDPR	General Data Protection Regulation
JRC	Joint Research Centre
MEL	Monitoring, Evaluation and Learning
NFS	Network File System
NZC	Net Zero Cities
SSL	Secure Sockets Layer
WP	Work Package



Summary

D3.1 is the current design specification for the One-Stop-Shop Platform (“The Platform”), also described as The Mission Platform, which provides European cities with support and solutions on their journey to climate neutrality. The Platform encompasses the online digital service (“The Portal”) and human-support services, enabling cities to collaborate and work with experts on systemic innovation, finance, citizen engagement, social innovation, and technical solutions, via an ecosystem of innovation, knowledge sharing and peer-to-peer learning.

This document includes the current specification of:

- Front-end Portal design
- Service Delivery for Mission Cities, Pilot Cities and Twin Cities
- Back-end technical, management and governance systems

It concludes by setting out the structure for reporting on the Platform evolution via future deliverables.

Keywords

City, Collaboration, Knowledge, Mission, Organisation, Platform, Portal, Services, User



1. Introduction

1.1. Document Purpose

WP3 is responsible for designing, building, and operating a One-Stop-Shop Platform (“The Platform”) which provides European cities with a central point to access the support and solutions they need to rapidly become climate neutral in a socially inclusive and just way. This will encompass an online digital service (“The Portal”) and human-support services, enabling cities to collaborate and work with experts on systemic innovation, finance, citizen engagement, social innovation, and technical solutions.

This document provides a current design specification for both the ‘front-end’ Portal and the human-support services provided to cities, and the ‘back-end’ technical and management systems.

The specification is necessarily ‘current’ because design work to date has been prioritised to enable limited functionality required for Mission Cities to start in May 2022 (M8) prior to a full operational ‘go-live’ of Service-Levels 1 and 2(a) in September 2022 (M12). Hence some services are at a mature level of design whereas others are at earlier stages – we have tried to make this distinction clear in the text – but the ambition is to have all services presented here functionally operational by September.

Equally, it is important to note that the design will not be ‘fixed’ in any sense in September 2022 and that ‘go-live’ should instead be considered only as a starting point for the Platform, which will evolve via:

- (a) review of the initial operational service following Mission City feedback
- (b) development of new tools and services through co-design with Mission Cities
- (c) cooperation and integration with other city-support services and initiatives
- (d) launch of services to Pilot Cities in March 2023 (M18) and Twin Cities in September 2023 (M24)
- (e) integration of user functionality for a Community of Practice onto the Portal (date TBC)
- (f) future business model development

This document will be publicly published but is not intended to serve as a ‘user guide’ for cities but rather as a technical summary of the current Platform design, to support service management within the NZC Consortium, and understanding by the EC and other city-support services and initiatives.

1.2. Document Summary

Section 1, The Portal, explains how the Portal’s modular structure will operate and interconnect, including descriptive text, key visual mock-ups¹, and functional workflows for each module.

A summary and basic description for each Portal module is shown in figure 1 below, which also references the service-level hierarchy for the overall Platform:

- **Service-Level 1** – Any City. An online-only service, with access to most portal modules
- **Service-Level 2(a)** – Mission Cities (112). Access to all portal modules (excepting Grant Management) and human-support to design, implement and review their Climate-City Contract Commitment, Action Plan and Investment Plan
- **Service Level 2(b)** – Twin Cities (60). Access to all portal modules (excepting Grant Management) and human-support to define needs, design and implement action plans and facilitate replication via Twinning with Pilot Cities.
- **Service Level 3** – Pilot Cities (30). Access to all portal modules (including Grant Management) and human-support to deliver innovation activities and support systemic changes required to rapidly-decarbonise and disseminate learning.

¹ A complete set of mock-ups are included both within this document as an annex, and can be viewed online in this [Design Board](#), which will be accessible until September 2022 when the Portal goes fully public.



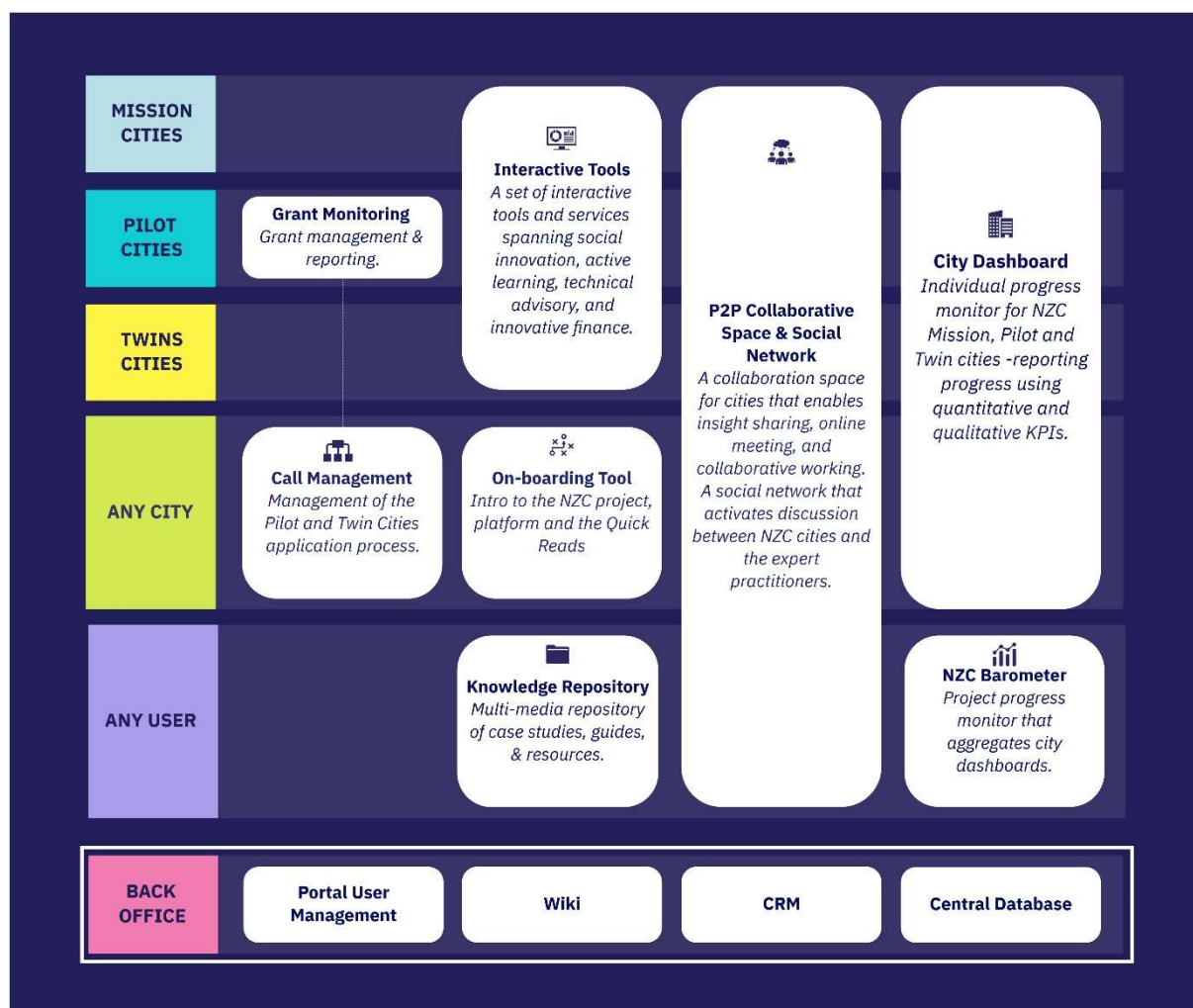


Figure 1 Portal Module Summary Descriptors

Section 2, Service Delivery for Mission Cities, Pilot Cities & Twin Cities, explains how the human-support services will interface with the portal modules, and sets out the respective roles of the:

- Climate Neutral City Advisors (“City Advisor”) from WP13, who provide the front-line service and key strategic link for cities. They will animate collaborative working between cities, help cities practically apply tools and services, identify gaps in the current service, and enable development of new services in response to city needs.
- NZC experts on Systems Innovation (WP6), Financial Innovation (WP7), Citizen Engagement (WP8), Social Innovation (WP9) and Technical Expertise (WP10), who will collate/produce resources, learning programmes and tools, lead co-design of new services and work with cities to provide specific input as required from their specific area of expertise

We then show how these will apply at each of the different services levels for Mission, Pilot and Twin Cities, how the resourcing approach differs from the ‘iterative development’ CCC process for Mission Cities, the more ‘linear’ project approach for Pilot Cities and the ‘replication’ approach for Twin Cities.

Figure 2 below summarise the differential services and also outlines the role of the ‘organisational design’ teams for Mission Cities (WP1), Pilot Cities (WP4) and Twin Cities (WP5).

Please note that this summary table is necessarily simplified and does not include the role of WP2 (Metrics, Evaluation & Learning) in designing and using the City Dashboard and Barometer modules, not the role of WP14 (Policy Recommendations) in producing content for the Knowledge Repository.

	Online Portal Modules	Climate-Neutral City Advisor Role	WP6-10 Team Member Role	WP1/4/5 Team Member Role
Service Level 1: Any City	<ul style="list-style-type: none"> Knowledge Repository Community Blog Social Network City Dashboard & NZC Barometer - generic reports P2P Collaboration Space – access only to self-managed spaces Call Management Tool Onboarding Tool 	<ul style="list-style-type: none"> Participate in Social Network Direct cities to resources on Portal Answer questions not covered by FAQs 	<ul style="list-style-type: none"> Participate in Social Network Collate / produce content for Knowledge Repository 	<ul style="list-style-type: none"> WP4 Manage call for Pilot Cities, via Call Management module WP5 Manage call for Twin Cities, via Call Management module WP4 Produce Pilot Cities Guidebook for Knowledge Repository WP5 Produce case studies for Knowledge Repository
Service Level 2a: Mission City (112)	Service Level 1, plus: <ul style="list-style-type: none"> City Dashboard & NZC Barometer – bespoke reports P2P Collaboration Space & Social Network - full access, including spaces facilitated by NZC consortium Interactive Tools 	Each Advisor works with a cluster of 10-12 Mission Cities to: <ul style="list-style-type: none"> Support CCC Needs Assessment Animate P2P collaboration spaces Check national gov. engagement Signpost resources Support WP6-10 to plan learning programme, Identify service gaps & brief WP6-10 to develop new content 	Service Level 1, plus: <ul style="list-style-type: none"> Co-design services and tools in response to city needs Deliver webinars/learning programmes for all Mission Cities (and potentially Twins), Work with clusters of Mission Cities, to input from their specific area of expertise Support City Advisors to respond to demands from individual cities 	WP1 will: <ul style="list-style-type: none"> Set-up the Clusters of Mission Cities for joint working in P2P space Produce CCC & Action Plan Resource Packages, for Knowledge Repository Support cities to design/review their CCC, Action Plan & Investment Plan, Deliver events & webinars in P2P Collaboration Space
Service Level 2b: Twin City (60)		Each Advisor works with 6 Twins to: <ul style="list-style-type: none"> Match 2 Twins to each Pilot City Facilitate collaboration and learning sessions Signpost resources Support WP5 to plan learning programme 		WP5 will: <ul style="list-style-type: none"> Administer Pilot City/Twin City programme Deliver Learning Programme via P2P Collaboration Space
Service Level 3: Pilot City (30)	Service Level 2, plus: <ul style="list-style-type: none"> Grant Management Tool 	Each Advisor works with 3 Pilots to help: <ul style="list-style-type: none"> WP4 allocate City Expertise Support WP4 monitor Pilot activities delivery WP4 plan sense-making session WP5 plan replication activities WP6 identify/coach change makers 	Service Level 2, plus: <ul style="list-style-type: none"> Intensive support to individual cities - allocated via City Expertise Support Facility. Development and coaching of city change makers (WP6 only) 	WP4 will: <ul style="list-style-type: none"> Manage Pilot cities reporting, via Grant Mgt. module Deliver sense-making sessions via P2P Collaboration Space

Table 1 Summary of Platform Services

Section 3, Back-End Systems, sets out the following tools and methodologies which underpin service management and delivery:

Back end	
Service Delivery Tools	<ul style="list-style-type: none"> • Customer Relationship Management (CRM) tool functionality • Workflows relating to emails/service demands from cities to City Advisors • Portal Wiki • AI Translation Tools • Portal log-in management and user database • Tagging system structure (full list included as an appendix) which will link together Portal modules, enables content-management across the service
Interoperability Governance	<ul style="list-style-type: none"> • Collaboration with Existing Initiatives – EC • Collaboration with Existing Initiatives – Non-EC • Platform Governance model
Legal Interoperability	<ul style="list-style-type: none"> • Portal licences • Open-Source vs Proprietary-software – principles • Legal Agreements
Semantic Interoperability	<ul style="list-style-type: none"> • Tagging system rationale (full list included as an appendix), managing semantic identification and delivery of expertise from the consortium to cities.

Section 4, Next Steps & Future Deliverables sets out how this current design specification will be taken forwards through future deliverables:

- *Deliverable 3.2*, The Capacity Building Programme Plan, due **M11**, will set-out how cities will use the Portal and Human-Services to help cities build their capacity, through individual learning and organisational development
- We will use this current specification to form the basis of a *Platform Wiki*, hosted in the Portal with viewing and editing rights for the NZC Consortium and the EC, to enable dynamic and collective ownership of the specification as the Platform develops over-time. We will use the Wiki, alongside Platform analytics and reports from City Panels (13.3) and other user feedback to compile the following future deliverables:
 - Deliverable 3.3 One-Stop Shop Platform Report, due **M14**,
 - Deliverable 3.6 Platform Technical Description and User Guide, due **M15**
 - Deliverable 3.5 Annual Reports on Platform Performance, due **M18, M38 and M48**
- *Deliverable 3.7*, Exploitation and Business plan/model for the future of the Platform and of the project results, due **M30**, will set out scenarios and recommendations for a sustainable long-term business model for the Platform

As a concluding note to the introduction, this document was developed via collaborative design work across the NZC consortium from November 2021 to May 2022. It included design review meetings with 22 staff from 17 cities in a Focus Group (task 13.1) on 21 February 2022 (Task 13.1) and 72 members of the City Practitioner Panel (Task 13.3) on 29 April 2022. We also held several meetings with the EC Mission Team to review key content over the same period.



2. The Portal Overall Structure & Release Schedule

The Portal is composed of a set of interconnected modules, which interlink with each other via front-end links and a common back-end database and tagging structure. A summary and basic description for each module is shown below

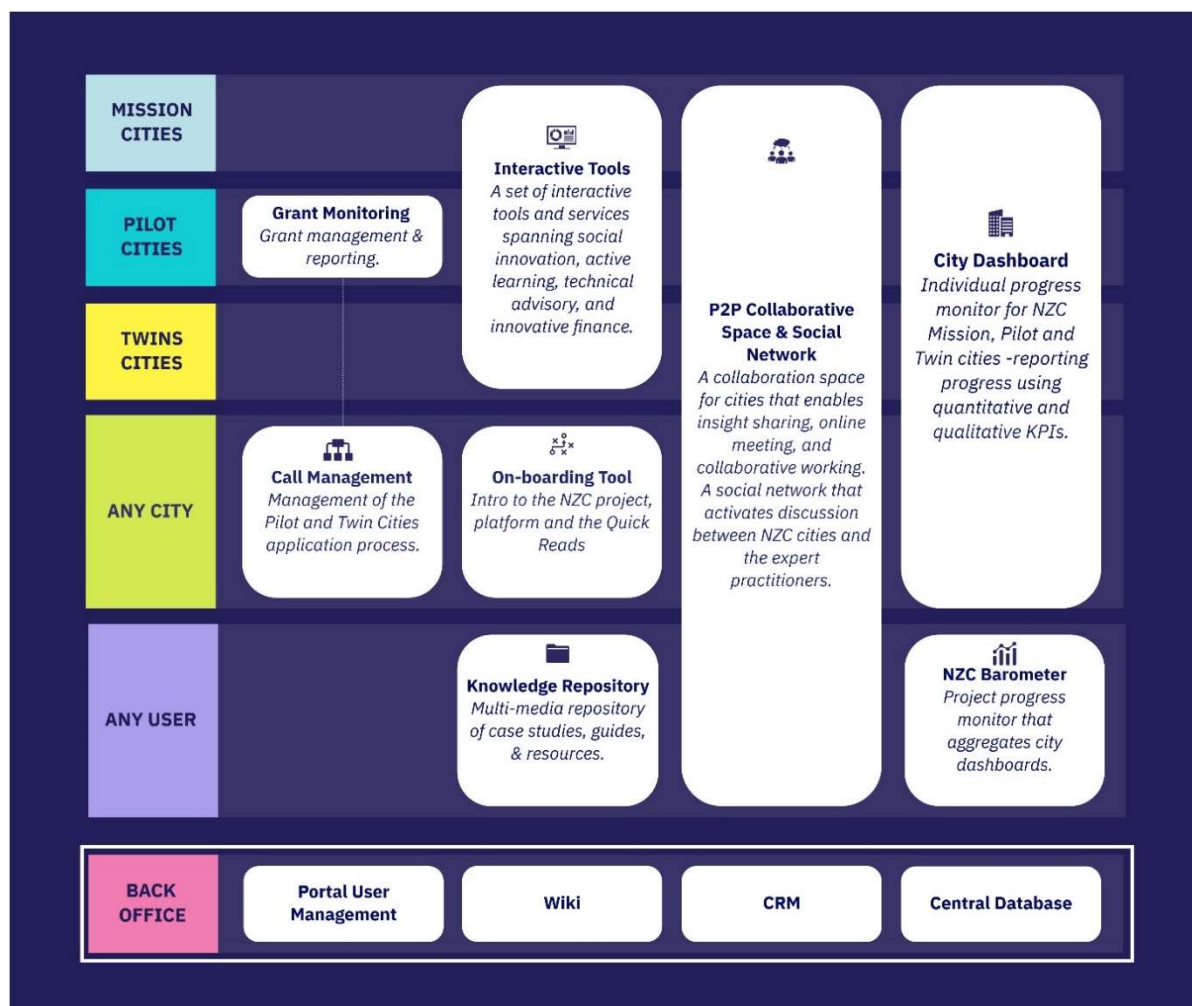


Figure 2 Overview on Portal Modules, their main features and core users

The operational build of the Portal will take place in two stages, to meet the following milestones:

- Onboarding the Mission – first modules go live **early June 2022**
- Onboarding of all Cities - all modules go live **mid-September 2022**

Therefore, the module designs are at different levels of maturity, as briefly outlined below

Modules	Maturity level	Delivery date
---------	----------------	---------------

Interactive Tools	0/5	Post-September 2022
NZC Barometer	0/5	September 2022
City Dashboard	1/5	September 2022
Call Management & Grant Monitoring	3/5	September 2022
Knowledge Repository	5/5	June 2022
Onboarding Tool	5/5	June 2022
Peer-to-Peer Collaboration Space & Social Network	5/5	June 2022

Table 2 Maturity level and release schedule of the modules introduced in D3.1

This following section sets out descriptive text, functional workflows and some key visual mock-ups of the front-end for each module.

A complete set of all the existing mock-ups (for the P2P Collaboration Space & Social Network, Knowledge Repository, City Dashboard and Onboarding Tool) are included as an annex, and can be [Viewed Here](#), via a link accessible until September 2022 when the Portal goes fully public.

2.2. P2P Collaboration Space & Social Network

The Peer-to-Peer Social Network and Collaboration Space provides a profile page per registered user (social networking functionality) as well as the possibility to define groups, e.g. city groups in which collaboration can be shaped.

The **social network** element of the module provides an open network visible and open to all registered users of the Portal, providing a site for open discussion and cross-posting across the NZC community with minimal moderation. It will also be the initial landing page of the Portal following log-in, with links to key content in other modules such as the Knowledge Repository and the data reporting capability in the City Dashboard.

The **groups pages** provide the space for more structured ongoing interactions, with facilities for document sharing, online meetings, and collaborative working by cities with NZC Climate-Neutral City Advisors and Experts. Groups can be private, restricted or public depending on their purpose and the chosen setting. Public groups are by definition accessible to all, the content that is published remains moderated. Restricted groups are by invitation only. Private groups, not visible in the search, are managed by group administrators, who can themselves appoint other administrators. Group pages will be established for:

- Individual cities, so their staff can work collaboratively within the Portal
- CCC clusters for Mission Cities to work together
- Pilot/Twin Cities clusters to work collaboratively with their Twins
- Thematic working on multiple topics

The **meetings and events** pages provide functionality for webinars/sense-making sessions/learning events. A video conferencing tool is directly integrated to facilitate exchanges. Events and meetings work just like groups, with a wall of publications and the possibility of sharing resources. Meetings are hosted inside the platform making use of the open-source software Jitsi (read more in Chapter 0).



The **user profiles**, are fairly simple pages in which one finds mainly the last publications of the user, their personal information (contact, position and organisation) and the groups they are members of.

The **City profiles pages** are like the user profiles but only the city administrators can manage them. They are the cities' showcase on the Portal. They also include the latest public publications of the city, the list of people working in the city, and a direct link to their city dashboard.

The **NZC organisations profile page** are based on the city profile page model but are for the use of NetZeroCities organisations members. Members of the page will be able to publish their news, display people working in the organisation and post content.

The social network is aimed at different types of users. Their roles and interactions are summarised in the table below.

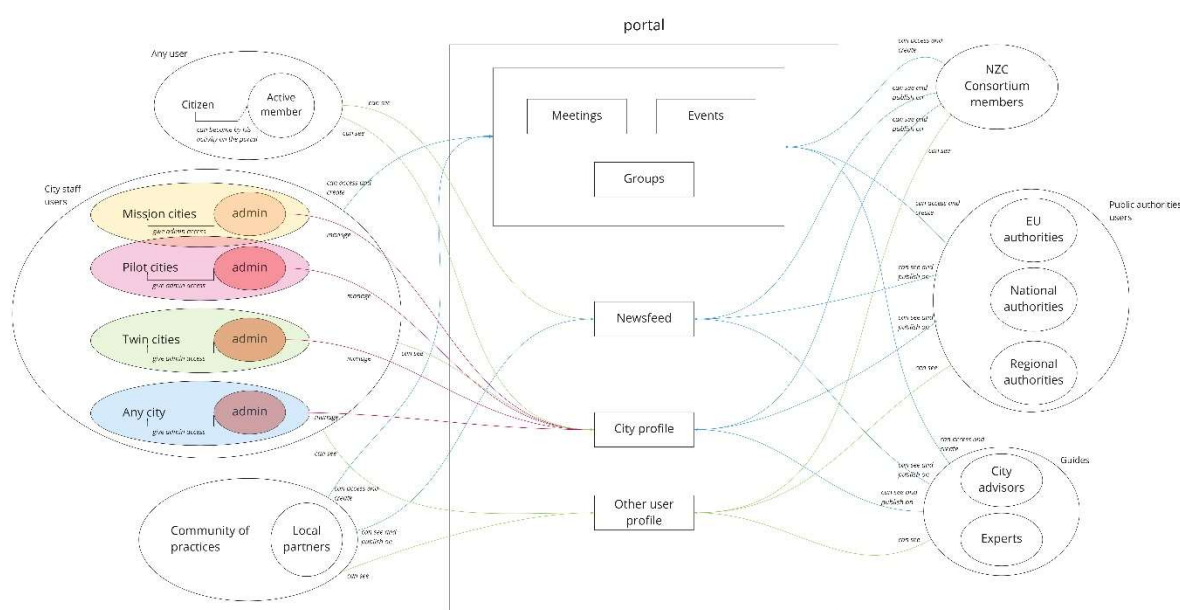


Figure 3. User diagram

Two example mock-ups showing key features of the P2P Collaboration Space and Social Network home are below (Figure 4). A full set of detailed mock-up's showing functionality are appended in the annex and are also accessible for viewing online via this [link](#) (which will be accessible until September 2022, when the Portal will go live).

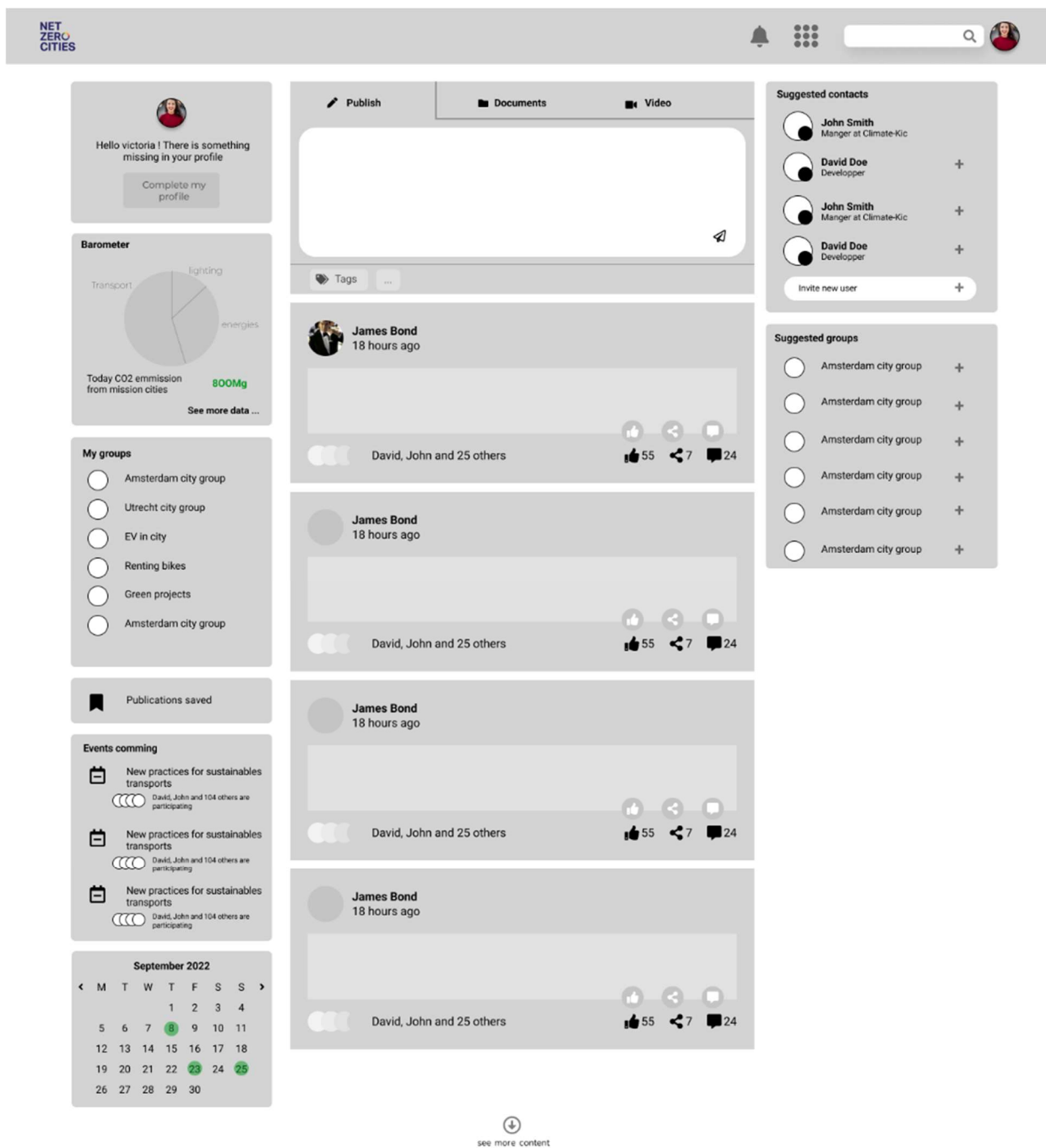


Figure 4. Portal Home page & Social Network 'Wall'

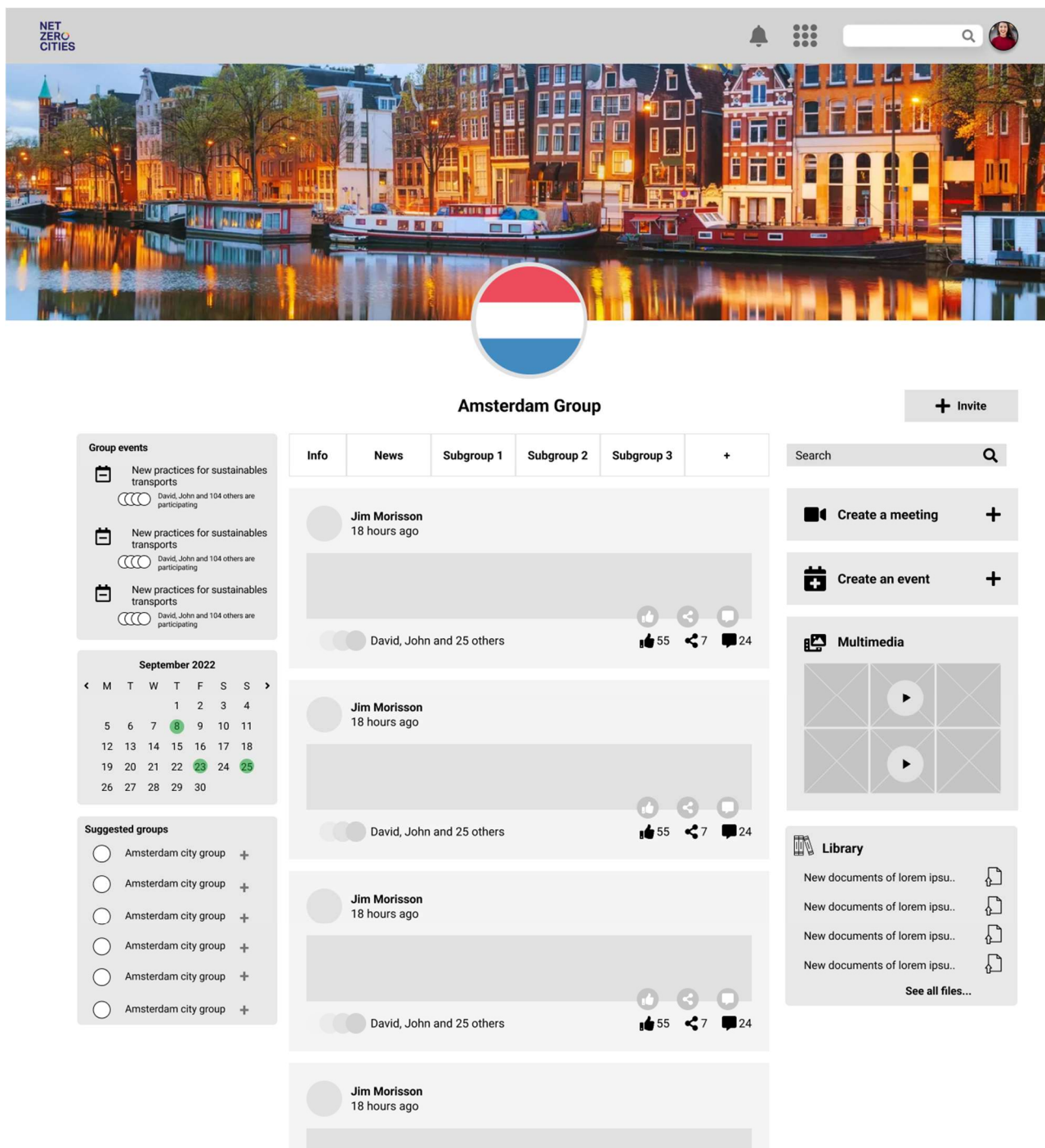


Figure 5: Group Page (example)



Portal spaces and pages	Features
Portal header	<ul style="list-style-type: none"> - Portal search engine - Profile icon : when clicking here a pop-up will appear - Link to explore page - Notification pop-up - NZC logo which send to the NZC website
Profile header icon pop-up	<ul style="list-style-type: none"> - Link to the user profile - Switch to the city profile page if the user have an administrator access - Link to Settings and Privacy / Help & Support / Logout button
Homepage (after connection succeed)	<ul style="list-style-type: none"> - Identity bloc - Groups in which the user is a member - Link to the publications you saved with the bookmark functionality - Resume of the events coming / Calendar with the date you are involved in - Suggested contact + invite Portal users by entering his email address - Suggested groups frame according to the user's interests - Publishing bloc providing the possibility to publish text, documents and videos and add tags with the tags pop-up - Newsfeed featuring public publications to like, comment, share, and save.
Explore page	<ul style="list-style-type: none"> - Link to all other Portal spaces/modules
Profile page when user is connected	<ul style="list-style-type: none"> - Identity bloc with user name, position, profile picture and description. Number of followers and number of follows. Button to complete your profile. - Link to the publications user saved - Resume of the events coming - Suggested contacts / suggested groups - Publishing frame - Publications from the user
Profile page of other user	<ul style="list-style-type: none"> - Identity bloc + followers / follows / email - Groups in which the user is - "You may also know" frame which give suggestions of users related - Publications from the user
City page (administrator access)	<ul style="list-style-type: none"> - Identity bloc with city name, type of city, profile picture and description. List of people that works here. Followers / Follows. Edit the city profile. - Groups in which the city page is - Resume of the city dashboard
City page (without administrator access)	<ul style="list-style-type: none"> - Identity bloc + follow function + email - Standard profile page features
Group page	<ul style="list-style-type: none"> - Banner picture - Group header including Info, main wall, sub groups - Create a meeting - Create an event - Multimedia frame / Library of related knowledge - Group events
Create a meeting windows	<ul style="list-style-type: none"> - This is a series of windows allowing to choose whether the event is in person or online. Online options: working meeting group (limited to 80 participants with cameras on) or webinar (no limit) - Privacy Settings: define which type of user can join the event - Start and end time - Meeting description
Event page	<ul style="list-style-type: none"> - Details - Post on the event - Invite (groups or users)
User directory	<ul style="list-style-type: none"> - List of users filtered by tags and organizations
Groups directory	<ul style="list-style-type: none"> - List of groups filtered by tags

Table 3 Overview on the relevant Portal spaces and pages and their features in the P2P Collaborative Space and Social Network



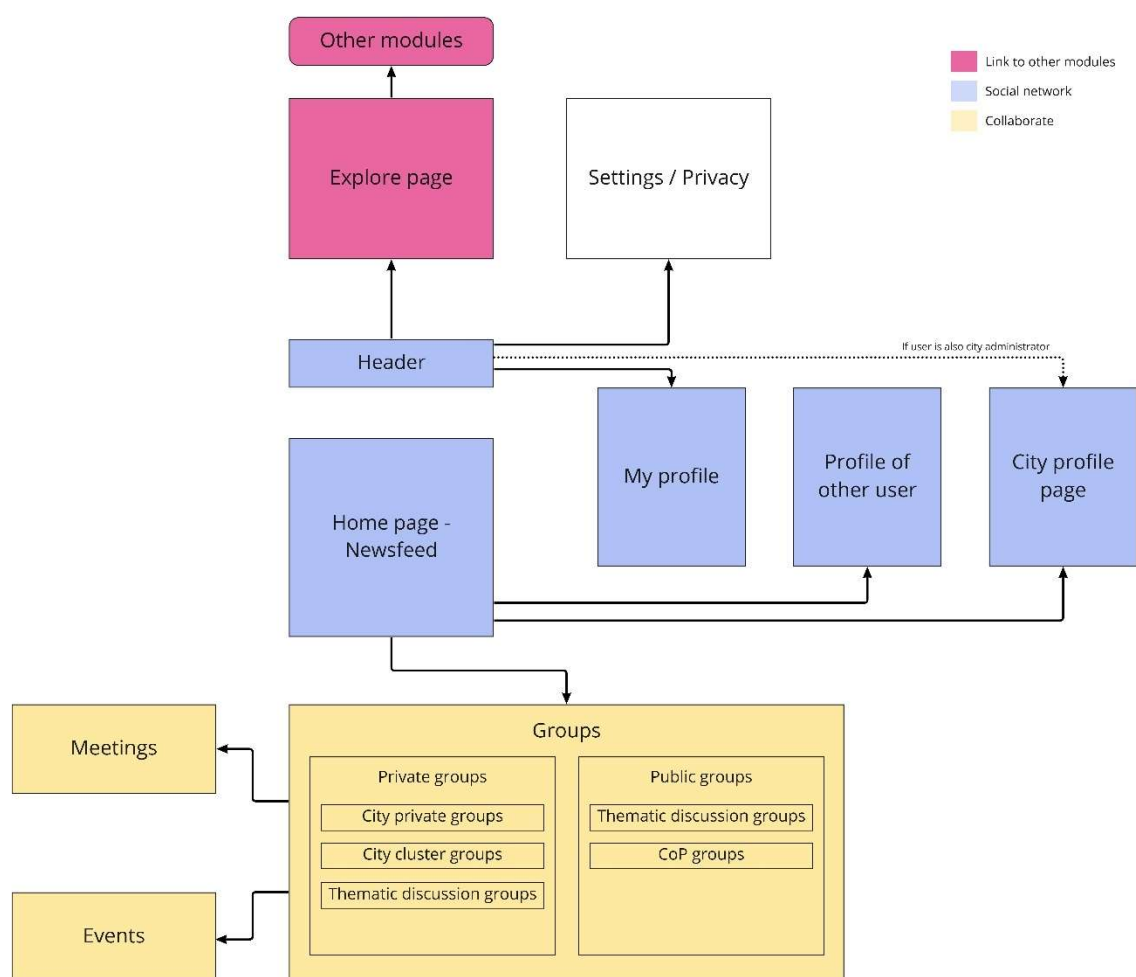


Figure 5 Peer-to-Peer features map

Workflows associated with the Peer-to-Peer Space

Who uses the Peer-to-Peer Collaboration Space and how?

Every registered user has access to the peer-to-peer space. However, administrative privileges are reserved for a subset of users (see diagram Peer-to-Peer Space Administrator Roles). Administrator privileges allow users to create and manage groups (see diagram How to create a group). Users with administrator privileges are: NZC consortium members, City Advisors, EU/National/Regional authority representatives, and a subset of assigned city users. Administrator roles for a city are assigned to the first and second contact invited to the NZC Portal, these city administrators may later invite/assign other city users from their locale as administrators.

All users – administrators and non-administrators may participate in groups, create posts on their profile page and in the groups they participate in, and follow other profile and group pages (groups within which they are members).

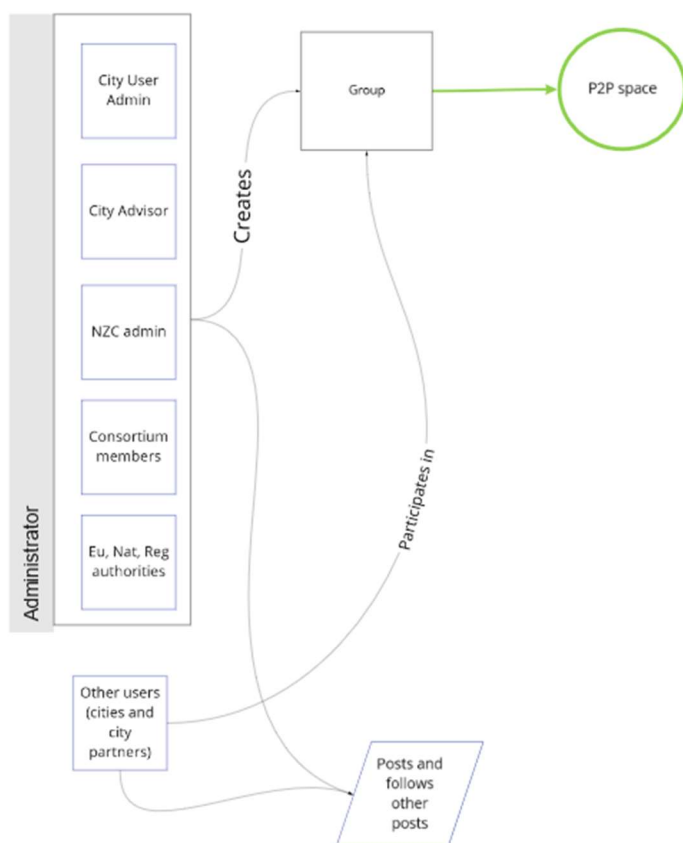


Figure 6 Peer-to-Peer Collaboration Space Administrator roles

Groups in the Peer-to-Peer Collaboration Space

When creating a group, administrators decide on the privacy level (either public or restricted). In a restricted group, the group is visible in the group directory, but the content is only visible to members and users must either be invited to the group or request access to join.

In some special circumstances, the technology team may create completely private groups for administrative communication purposes. However, all Mission related discussions will either take place in public or restricted groups in order to adhere to the principle of transparency being developed in the forthcoming code of conduct.

After determining the privacy settings, the administrator writes a group description and adds tags to the group, based on the Portal's tagging convention. The tags will trigger suggestions of other groups on the Peer-to-Peer space which may be of interest to group members. The group description is written in the language being used in the group. Finally, the administrator invites users to the group. An invitation may be accepted or rejected by a Portal user.

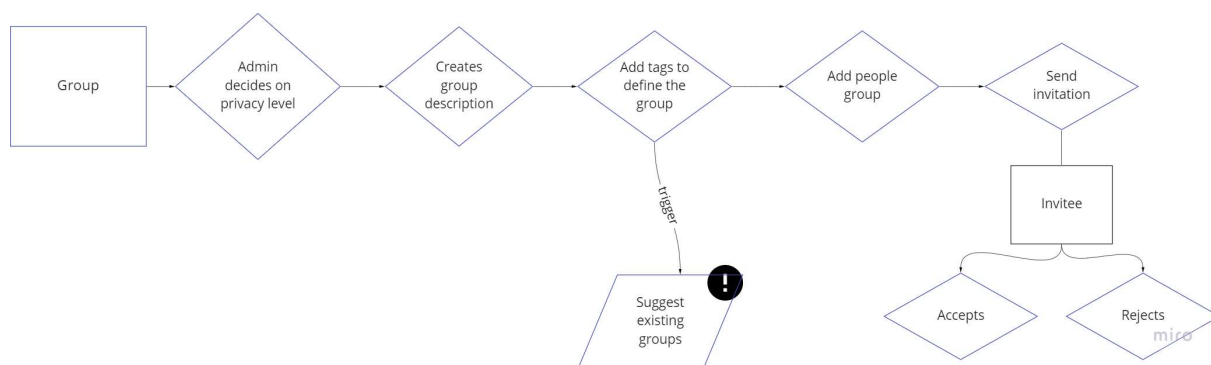


Figure 7 Creating groups in the Peer-to-Peer Collaboration Space

Users see what groups they are members of on their profile page. The tags associated with these groups, prompt suggestions for related material that the users might find relevant from the Knowledge Repository. These suggestions show up on their profile page. As shown in Figure 6 Peer-to-Peer Administrative Roles, users with administrative privileges may create groups.

The user (with administrative privileges) that creates a group becomes that group's administrator. The group administrator may create a channel, which functions as a sub-group conversation space (see Figure 9). Group members may request that the group administrator set up a channel for a particular topic to discuss. All group members may create a meeting, post within the group (including links to videos and pictures), and create events (Figure 8).

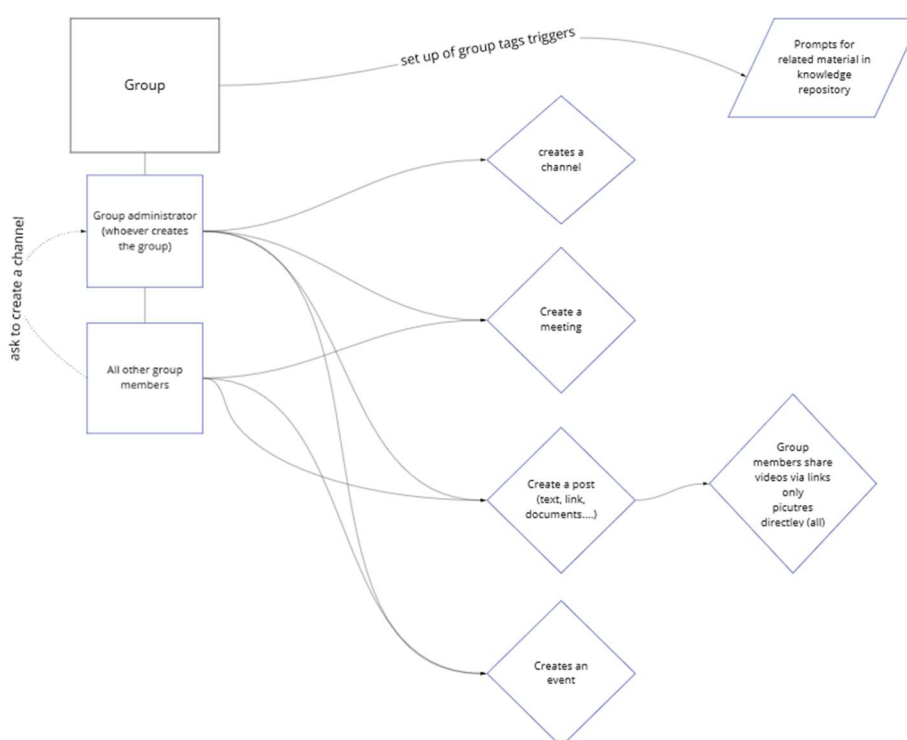


Figure 8 Activities in Groups in the Peer-to-peer Collaboration Space



Channels

The Channel feature is designed for when the particular group space is insufficient for focused discussion about a specific topic that may not be relevant for all group members. For example, if there is a group set up for all cities and municipalities in Spain, but only some of the Spanish cities are interested discussing the policy related to e.g. retrofitting the Building stock in historic centres, they can create a channel within their group (note: alternatively separate groups could be created). Channels are visible to all group members. They are not private or restricted.

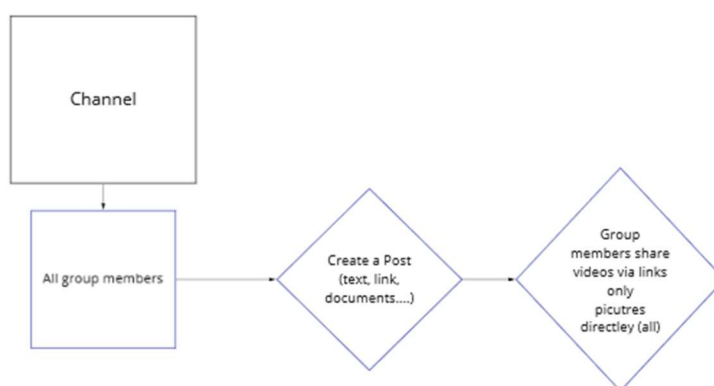


Figure 9 Peer-to-Peer Collaboration Space Channel

Engaging on specific topics in the Peer-to-Peer Space

Users interested in engaging around a particular topic may use the search feature to type in keywords (or known tags) to look for groups already discussing the issue(s). If the user finds a public group already looking into the topic of interest and it is public, they may follow the group. If it is private, they may request to join the group. If the user does not find a relevant group related to their topic, they may request a user with administrative privileges to create a group for them (see Finding and Accessing Groups).

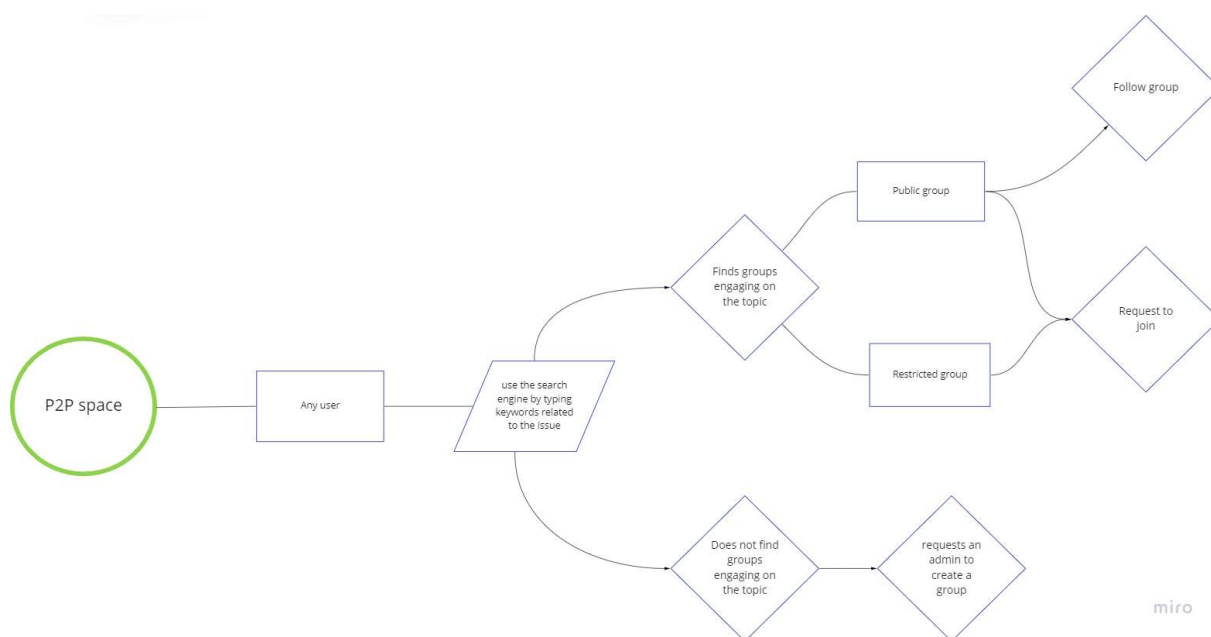


Figure 10 Discovering and accessing groups in the Peer-to-Peer Collaboration Space



City Advisors will use the Peer-to-Peer Collaboration space to respond to questions and requests from Mission Cities, Twin Cities, or Pilot Cities (or other city users as relevant). When a City Advisor needs help answering a question, they may use a City Advisor Group space or Consortium Group space to discuss the issue. If they identify a topic relevant for a channel within a group they are a part of, they can create the channel. They could also create a new group if no relevant group exists. If they are unsure how broad the need is, they could simply post a question within the Peer-to-Peer Collaboration space before creating a group or channel.

2.3. Knowledge Repository

The Knowledge Repository module is a multi-media repository of resources aimed towards supporting the platform users and cities to progress to carbon neutrality. The aim of the Knowledge Repository is at the centre of the One-Stop-Shop Ambition of the Mission Implementation Plan. It allows users to browse all resources, view *featured content* and find relevant content using features such as *search*, *tags* and *filters*.

- Through **text-based search** users can type in words and/or phrases in the search box which suggests resources where similar words and phrases are found in their title or content.
- **Tags** are keywords or phrases which help categorise resources based on their content. These allow the users to find resources under similar categories regardless of the format of the resource. The tagging system used in the NZC platform is described in further detail in Section **Error! Bookmark not defined.**
- **Filters** allow users to refine their search results to reach the desired set of resources. For example, the language or format of the resource (video, image etc.). The user can check the appropriate boxes to apply the filter to narrow down their search.

Additional to the above query functions, the Knowledge Repository showcases resources in different tabs, where the resources are grouped under “*Collections*”, “*Curated*” and “*Favourites*”:

- **Collections** are bundles of knowledge resources pre-defined by the NZC consortium members that showcase resources existing on the knowledge repository through the lens of different impact pathways and thematic areas (Deliverable 10.4).
- **Favourites** are resources that users save as favourites for further reading or for the purpose of bookmarking relevant resources. These link to the personal profile page of the user.
- **Curated content** is a collection of recommended resources based on the interests marked by the user through their personal profile page on the Portal.
- **Featured content** are resources visible on the landing page to all users. These are expected to change periodically based on multiple aspects such as resources gaining engagement through comments from users.



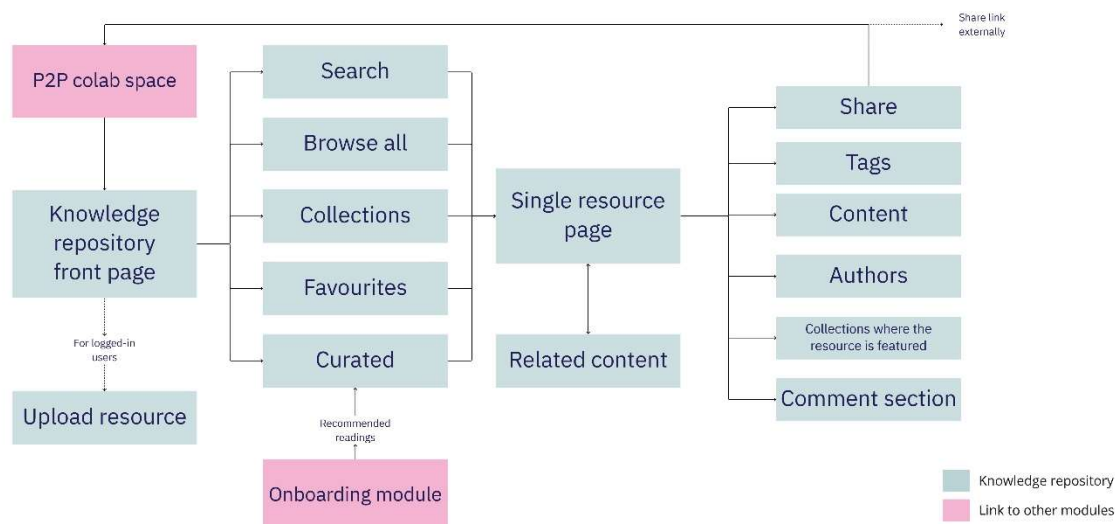


Figure 11 Knowledge Repository features map

Multiple use cases and user journeys for users to reach relevant resources are defined in Deliverable 10.4, section 7. A more specific use case on the European policy landscape and its integration into the Knowledge Repository can be found in Deliverable 14.6.

These resources include content developed within the NZC project, external content such as resources provided by the extensive European research such as the Horizon Results Platform, and user uploaded content from the city representatives using the Portal. The repository will be able to house text-based, video, audio, graphics and webpage embedded 3rd party content, but not proprietary formats (such as InDesign).

Currently there are three sources for the content expected for the knowledge repository:

- NZC project content:** Deliverables as well as reports and other media content produced by the NZC Consortium, will be published and stored in the Knowledge Repository. For an illustration of non-deliverable content, recordings of webinars and minutes e.g., summarising events hosted in the City Panel will be shared in the Knowledge Repository.
- External content:** APIs will be progressively developed to tap into pre-existing repositories that match the one-stop-shop ambition of NZC, including other EC content. This will ensure any duplication is avoided with existing repositories and make the NZC platform complementary to knowledge content available for cities.
- User uploaded content:** The logged-in users will have the option to upload content to the knowledge repository through an upload form. This form which requests the following information: title, short description, attachment upload or link, authors, language, a thumbnail image for the resource, keywords which will aid in the search and the selection of pre-defined tags. The uploaded content will be periodically reviewed (defined in Chapter **Error! Reference source not found.**) before becoming accessible to all users through the search function of the repository. While the resource is under review, it remains accessible to all users via a sharable link, but with an “under review” disclaimer and tag on the page. The resources are available for review to the NZC consortium under a dedicated tab titled “Under Review” (Annex II).

An example of the all-resources page feature is shown below (Figure 11). The remaining features are detailed in the annex II and are also accessible for viewing online in a dedicated [Miro](#) which will be accessible until September 2022, when the Portal will go live.

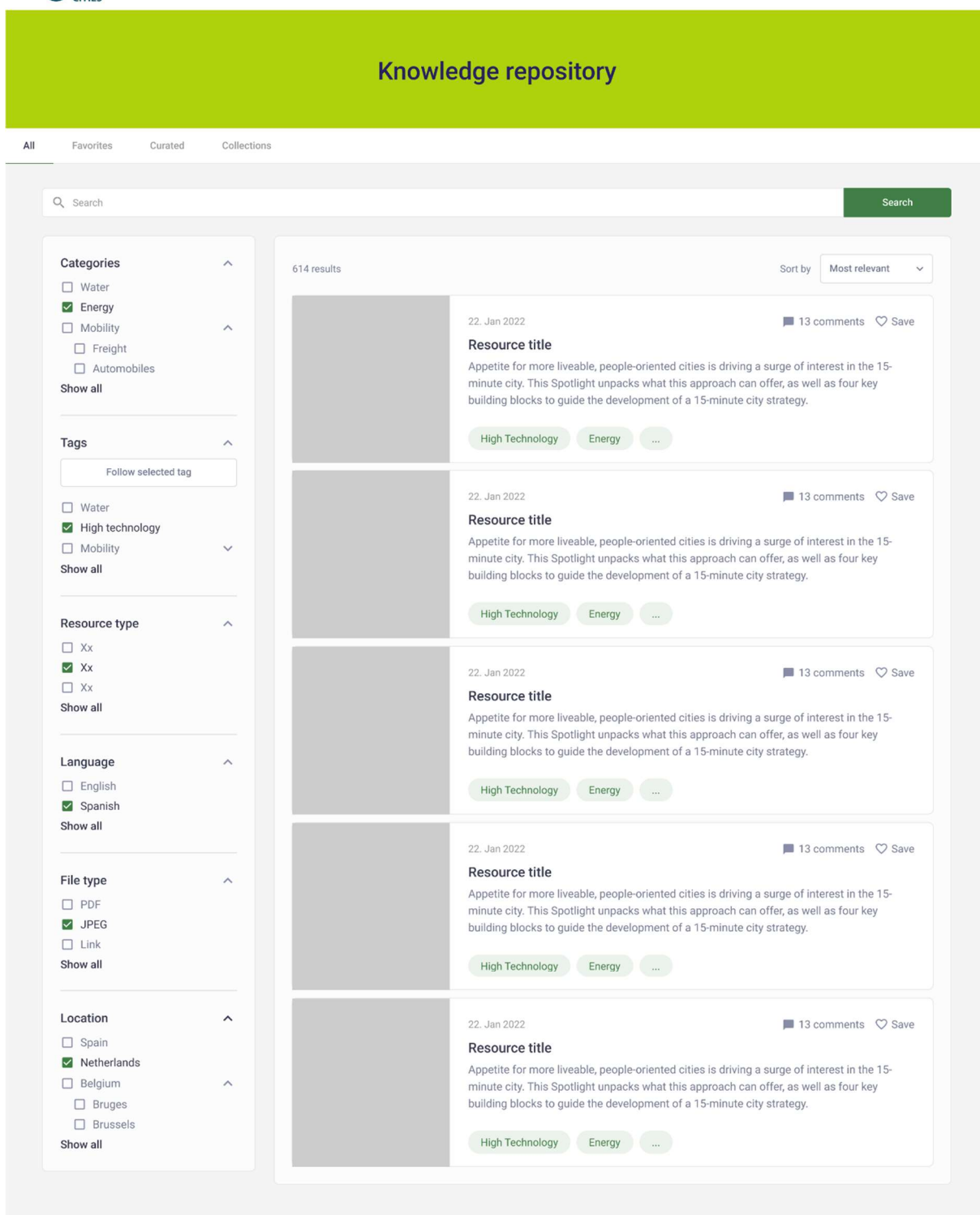


Figure 12 Current design mock-up of one of the Knowledge Repository overview pages



Pages and sections	Features and content
Front Page	<ul style="list-style-type: none"> - Search bar - Upload a resource - Browse all - Preview of 5 to 6 features resources - Preview of 3-6 collections
Resource preview on front page, browse all page and through search	Each resource preview shows a short description of the content, a thumbnail image (optional), key tags, number of comments, date of upload and the save option.
Query functions	Text-based search: users can type in words and/or phrases in the search box which suggests resources where similar words and phrases can be found in their title or content.
All resources page	<ul style="list-style-type: none"> - Tabs to change view between all resources, collections, favourites and curated resources - Search bar - Selectable filters for categories, Tags, language, resource type, source, location - Option to sort the results as most relevant, most commented, most saved, date of upload,
Favorites	<ul style="list-style-type: none"> - A personal view of the collection of all the resources saved/hearted by the user
All Collections	<ul style="list-style-type: none"> - Previews of all predefined bundles of resources for different transition pathways which the user can browse
Individual collection page	<ul style="list-style-type: none"> - List of resources in the selected collection -
Curated resources	<ul style="list-style-type: none"> - List of recommended resources for individual users based on the interests noted by the user in their personal profiles page.
Individual resource page/ single knowledge page	<ul style="list-style-type: none"> - Title, date of upload or latest update - Option to download resource - Option to save/like resource (this adds the resource to favourites) - Option to share resource (to a P2P space, in a message, copy sharable link) - Option to report the resource - Content body (can be text based, infographic, video, audio, embedded links etc) - List of authors - Relevant tags - List of collections (with outlinks) where this resource features - Section for comments under the main resource body - Preview of up to 3 related resources
Resource sharing options	The user can share a resource to any P2P groups they are a part of. This sharing as a post invites the user to write a description and select a limited number of tags.
Uploading a resource	Users can upload a resource by selecting the “upload resource” option on the landing page of the knowledge repository. This takes the user to an upload form which requests the following: Title, short description, attachment upload or link, authors, language, a thumbnail image for the resource, selection of tags from a given list

Table 4 Overview of Knowledge Repository features



Workflows associated with the Knowledge Repository

Any Portal user may suggest documents and tools to add to the Knowledge Repository. As mentioned in **Error! Reference source not found.**, users will have access to an 'upload resource' option. This takes users to a form to fill out, after submitting the form the resource is available online with limited visibility and identified as 'under review.' The editorial and expert review committees meet monthly to review suggestions for the knowledge repository and either suggest edits that need to be addressed before final approval, approves, or rejects a suggestion. In each case feedback and reasoning is provided to the user who 'authors' the form. The expert review committee reviews the resource first and either suggests improvements, approves, or rejects the suggestion. Feedback is given to the user who 'authored' the form and if the resource is approved, it moves on to the editorial review committee who makes any minor edits. If more major adjustments are needed, the committee (Figure 13).



Figure 13 Uploading to the Knowledge Repository

Tools and resources will be shared within the Peer-to-Peer space. In order to capture relevant resources, group administrators are advised to sweep shared resources and identify any they deem useful to expand the repository. They then either fill out an upload form themselves or suggest to the Portal user who shared the resource that they fill out the upload form. This triggers the workflow described above 'uploading to the knowledge repository,' also represented in Figure 13.

Expanding the knowledge repository with tools and resources from external initiatives is critical to the success of the project. Incorporating external initiatives into the platform will be a dynamic process. Consortium members may identified external initiatives and communicate opportunities to the Platform Secretariat/Partnership Committee, which will seek the input from the Content Manager and Expert Committee regarding relevance and appropriateness for inclusion on the platform. The Partnership Committee will act as liaison between and build relationships with the external initiatives and the NZC project. They will ensure written agreements are in place and signed by appropriate individuals (e.g. Secretariat representative and initiative representative) (see Figure 14).

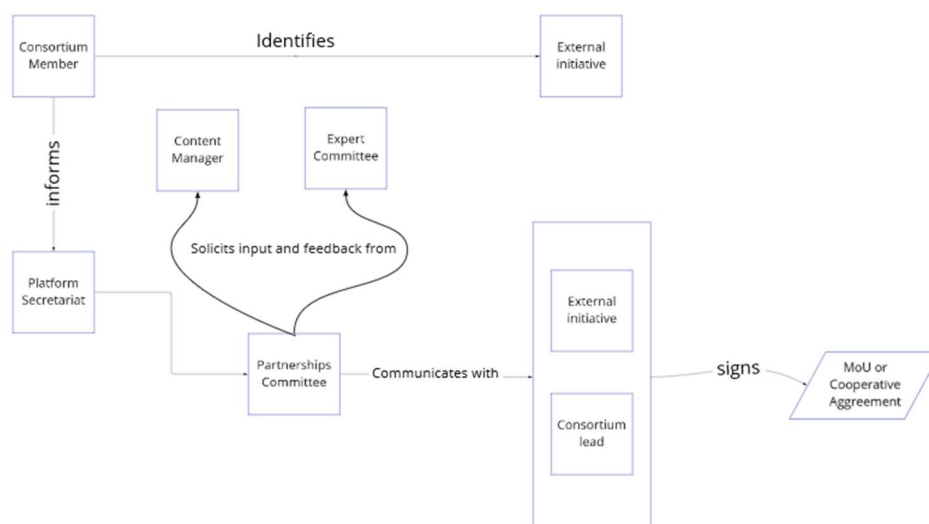


Figure 14 Including External Initiatives into the Knowledge Repository and Portal



2.4. Onboarding Module

The **Onboarding module** will be the city's first touchpoint with the project and the Mission Platform. Besides providing information on the Mission and the NetZeroCities project, it will include a virtual tour through the Portal and several links that will bring the user to recommended content on the platform.

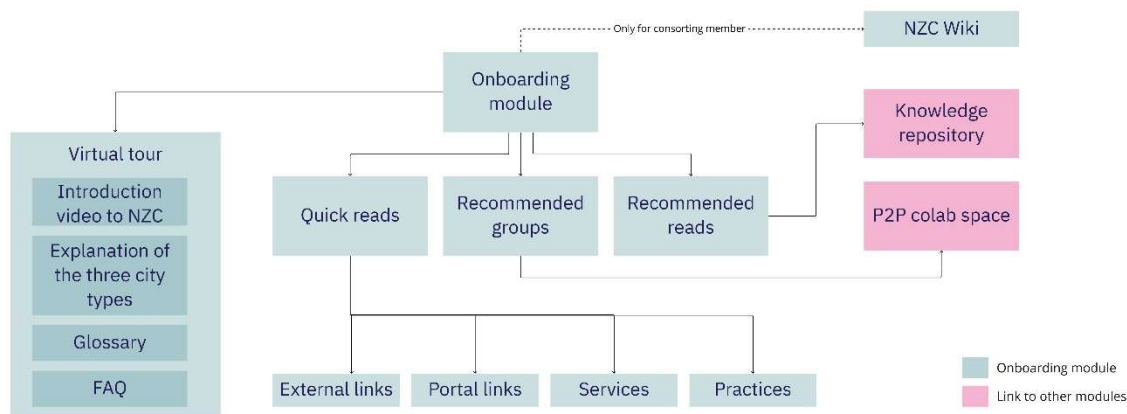


Figure 15 Onboarding features map

The Onboarding module provides an initial Portal induction and learning process for the users as they join the platform. Currently there are two main functions of this module: (1) an introduction to the Portal and its various modules to help the city representatives navigate the Portal and; (2) an introduction to the NetZeroCities project and content. In a future iteration, the Onboarding module may also include a self-assessment survey to identify the current state of the city. The latter will then support the user in navigating through the Portal based on where the city is at in the Climate City Contract process and offer curated content.

As part of the introduction to the program, '**Quick Reads**' will be accessible to users. These will be webpages providing essential information in a **practical and visual way**. They provide core definition(s), principles for action and/or key takeaways, insist on why the information presented is essential to cities' transition to net zero and they contain links to additional content such as relevant elements in the knowledge repository when appropriate or external resources.

The '**Quick Reads**' include the following topics:

- Climate City Contract Overview
- Citizen Stakeholder Engagement for Net Zero
- Social Innovation for Net Zero
- Finance for Net Zero
- Systems Innovation for Net Zero
- MEL for Net Zero – Express your Approach
- Strategic Learning Brief
- Governance Innovation for Net Zero

An example of the Onboarding page feature provides Table 5. The remaining features are detailed in the annex and are also accessible for viewing online via this [link](#) which they will be accessible until September 2022, when the Portal will go live.

Pages and sections	Features and content
Landing page - introduction to the NZC project	Introductory video to the NZC project Link to quick reads Recommended working groups Recommended reads Useful/helpful links to the NZC platform virtual tour, NZC project goals and documents, Explanation of the city terminology
Introduction of the 3 different city types in NZC	Explanation of the terminology - three city user types (Mission, Pilot, Twin) and their respective journeys Once you click complete, the introduction module window closes. You can find the same information in the "helpful links" panel.
Quick reads	Factsheets are a one page, a cheat sheet type of document/web page providing essential information in an extremely practical and visual way. They provide core definition(s), principles for action and/or key takeaways, insist on why the information presented is essential to the cities' transition to net zero and they contain links to additional content such as relevant elements in the knowledge repository when appropriate.
Frequently Asked Questions (FAQ) & Glossary	The FAQ provide answers to typical questions that user might ask themselves during their NetZeroCities journey. The NetZeroCities glossary includes an alphabetically ordered list of terms that are used with the NetZeroCities project.
Wiki (only for consortium members)	The wiki provides explanatory descriptions of key concepts and definitions as used within the NetZeroCities consortium aiming to create a common understanding among the partners and enabling the members to reach out to cities using the same language. This feature is only available only for consortium members.
Cities Map	A map indicates the location of the 100+12 mission cities. A similar map will be included in the P2P space which will allow the user to navigate through the different city profile pages.
Self-assessment survey (potential future feature)	In a next iteration of the Onboarding module, a self-assessment survey may be added. The purpose of this will be two-fold; 1/ it will provide the user with insights on where they are at in their CCC journey (see chapter 3) and 2/ the outcomes will make it possible to guide the user towards curated content and services.

Table 5 Specific pages and features in the Onboarding module



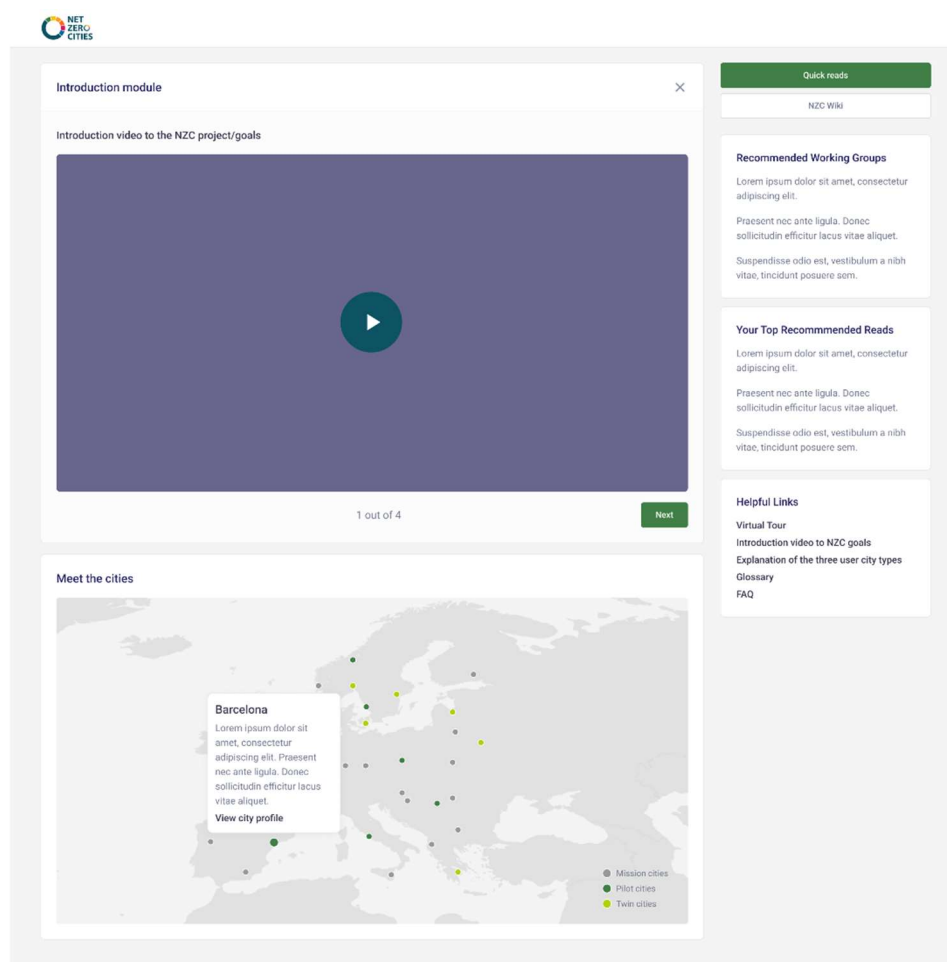


Figure 16 Current design mock-up of the Onboarding module

2.5. City Dashboard Module

The City Dashboard module aims to enable the cities to display their progress towards Climate Neutrality. The City Dashboard aims to fulfil functionalities of reporting, monitoring, learning, visualisation, action planning and outward communications for the cities. The City Dashboard will include different visualisations and sections that are of relevance for achieving Climate Neutrality using quantitative and qualitative KPIs. The KPIs might vary between the cities but may include e.g. the information on the GHG emissions and sectors indicated in the “[Info Kit for Cities](#)” published by the European Commission or any other Mission compliant GHG monitoring requirements. The aim is to display cross-sectorial data. The different visualisation options might either be pre-selected or be subject to the user’s choice.

The frequency of information updated in the City Dashboard should be one of convenience for the cities and will thus depend on the depth of information and complexity of the information being displayed. We are conscious that the updates to the data might not be more frequent than an annually. Cities will come from different starting points in regards to:

- Experience with dashboards
- Digitalisation of data and thus
- Automatisations of the data updates

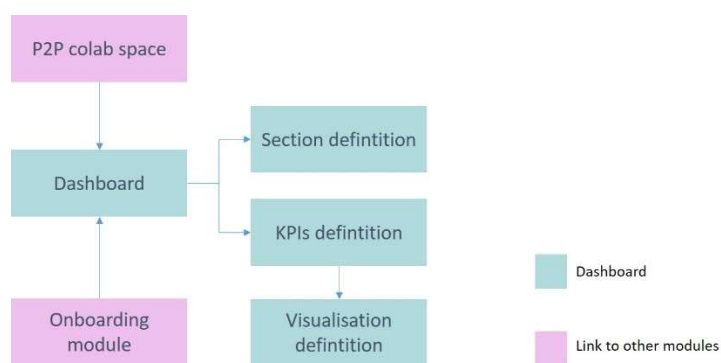


Figure 17 City Dashboard features map

Functionalities will be progressively broadened and updated to be able to link existing reporting mechanisms around the city climate action plans, finance and investment plan or Pilot project implementation. The development of the dashboard module has dependencies on the MEL qualitative and quantitative indicators being developed under WP2 and the Pilot projects in WP4, reflecting projects, organisation change and progress in the CCC. Both of which are expected in September 2022.

There is expected to be one dashboard overview page per city with the following functions:

- Option to upload or import city's **GHG inventory data**
- Visualisation of the progress of the city **towards their net-zero goals**
- Visualisation of sector specific **GHG reporting**
- Hosting the information on **the climate action plan of the city and investment plan**
- Visualising the **impact pathways** selected by the city

Possible features might include:

- Privacy settings for some of the data
- Workflow based on the navigation with the CCC compass (see Chapter 3)

The maturity of the City Dashboard is in an early stage and thus the complete design and the detailed description of the features are not presented in the current deliverable. An initial mockup of the dashboard front page can be seen below in Figure 18. It is based on initial feedback from the engagement with Cities in the NetZeroCities City Panel, which took place on 29 April 2022.

Workflows will be defined when this module reaches the appropriate maturity level and when human/user interactions with the module become relevant (see Table 2).

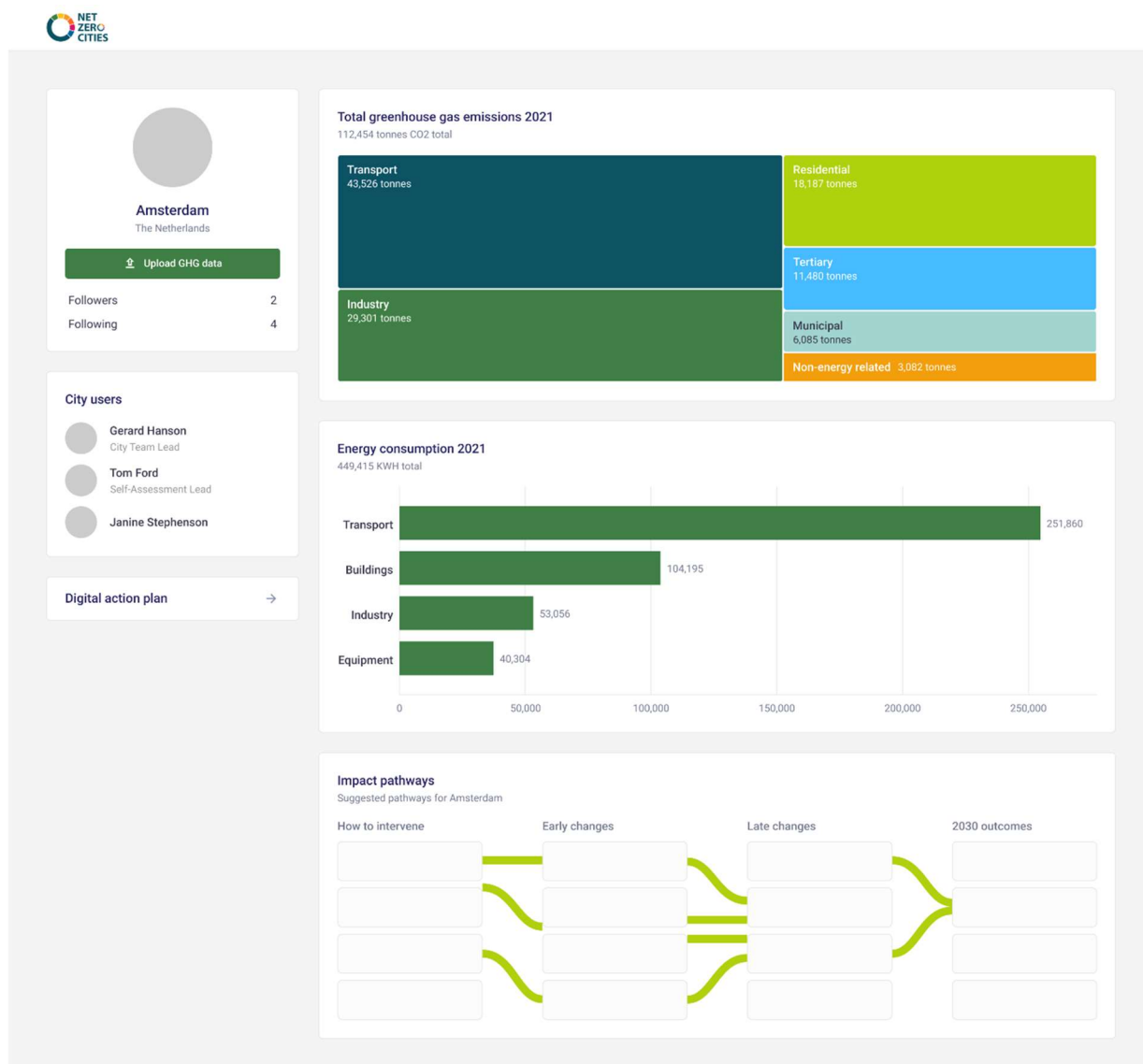


Figure 18 Initial design mock-up of the Dashboard module

2.6. NZC Barometer Module

The maturity of the module Barometer is in an early stage and thus the design and the detailed description of the features are not presented in the current deliverable.

The Barometer will provide a high level aggregation of data from all cities, to assess the progress of the Mission in achieving its objective of climate neutrality in the 100 Mission Cities by 2030, and will be updated on an annual basis. The barometer could either be the homepage of the City Dashboards or it could be on the outwards facing website, in which no registration would be required to receive this high-level information.

Workflows will be defined when this module reaches the appropriate maturity level and when human/user interactions with the module become relevant (Table 1).

2.7. Call Management & Grant Monitoring Module

The Call & Grant Management Module will not be used by Mission Cities and will specifically support service delivery of the Pilot Cities and Twin Cities programmes, as covered in the following section of this paper.

It will be provided as a third-party platform / system that integrates to the Portal via an appropriate API supporting single-sign-on (SSO) capability, linking the two systems' user profiles, and providing a seamless log-in and transition from other modules.

Broadly speaking, the module will deliver the functionality required to open and receive proposals against the Pilot Call to Action; undertake both eligibility and assessment reviewing; translate proposals into projects and facilitate digital contracting (grant agreements); request and receive interim narrative and technical (implementation) reports; receive deliverables and cost / spend evidence, as required; and provide a platform for feedback and communication between grantor and grantee.

Beyond these Call and grant management requirements, the module will also allow the NZC Consortium to track progress (milestones; deliverables; reporting against targets) and monitor the portfolio of Pilot activities; view grant disbursement and consumption (as linked with key reporting and financing milestones); and track and process Pilot activities' changes (change control and grant amendments). The Figure 19 details high-level front-end functionality per user-type, broadly covering the Pilot Cities Programme grant cycle.

The Call Management and Grant Monitoring module will also manage access to and governance of the City Expertise Support Facility outlined in section 3.5 below. Similar to the Call for Pilot Cities, a dedicated application form will be accessible via the CGMM for selected cities to submit a request for support. The module's review and assessment functionality will be used to govern the review and allocation process, with the communications, contracting and projects functionalities deployed to track and monitor delivery. This feature will go live in M20, so this paragraph is a high-level description only.



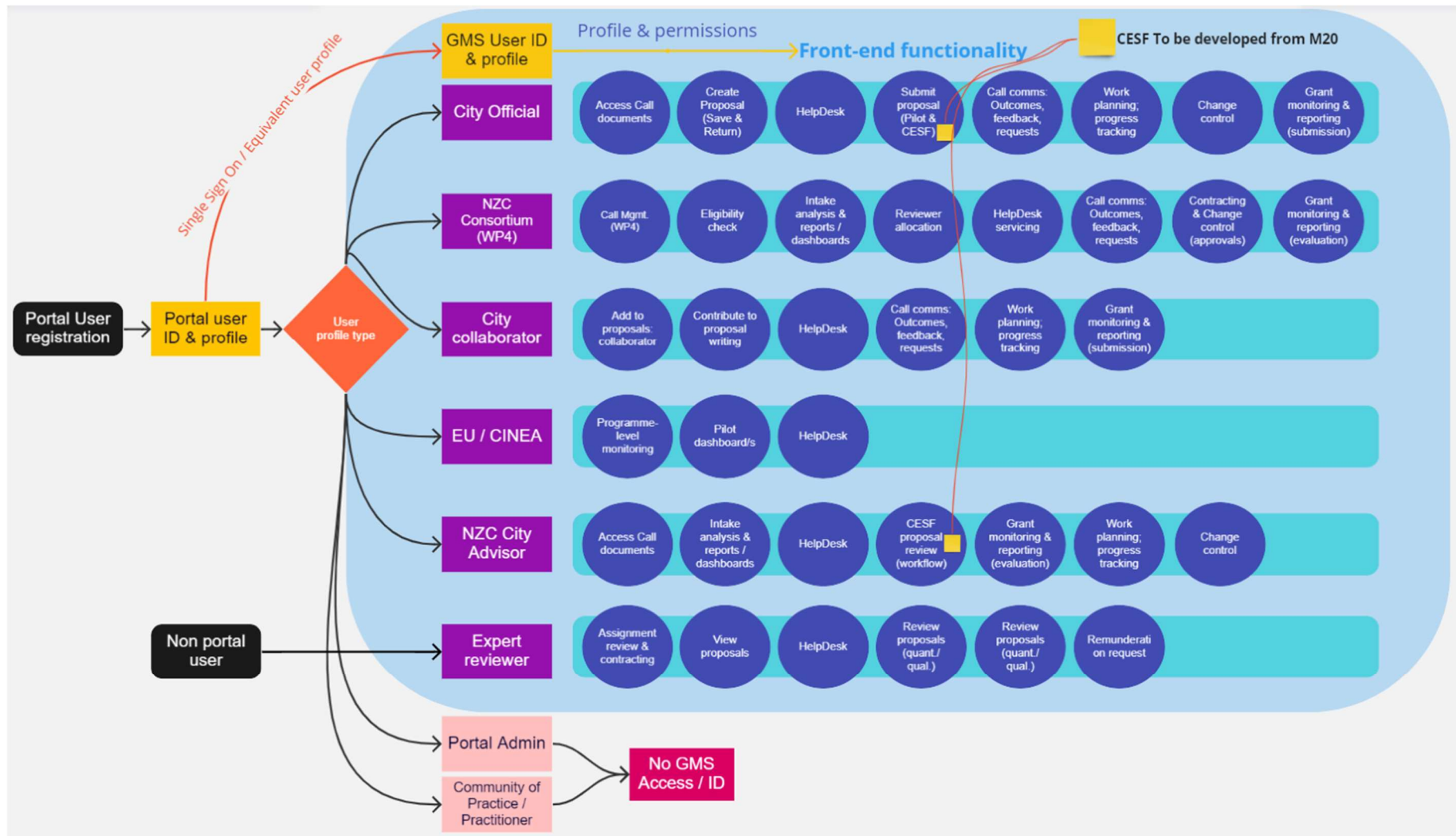


Figure 19 The Call & Grant Management Module front-end feature

2.8. Interactive Tools Module(s)

The Portal is not intended to be static and will evolve through a process of service review with cities and a co-design process to develop new tools and content. The description of modules set out above is only an initial description of the modules currently under development and built out for the launch in September 2022. We are also actively scoping further developments including:

- (a) links to relevant existing tools that allow e.g. carbon accounting or profiling by using computation and simulation technics. It may link to products and service provided by the Smart Cities Marketplace for example, following testing and review with cities. Further detail on the development of relationships with existing initiatives is set out in section 4 below.
- (b) new bespoke tools to be co-designed by the cities and service delivery teams in WP6-10. One of the first tools envisioned is the “Finance Innovation Tool” (Task 7.1.4). The consortium aims to bring forward its delivery date from M24 as specified in the Grant Agreement to M12, in order to support the full Platform Go-Live. Additional tools will be progressively created from M12 onwards once we are in a fully operational phase of the project and are developing additional tools in response to city feedback and identified needs.



3 Service Delivery for Mission Cities, Pilot Cities & Twin Cities

This section sets out the roles for staff within the NZC consortium working with cities and how they relate with Portal Modules in order to deliver a defined service level for Mission Cities, Pilot Cities and Twin Cities. Please note that the service specification for each type is at differing levels of maturity, reflecting the commencement date for Mission City service in May 2022 (M8), Pilot City services in March 2023 (M18) and Twin City services in September 2023 (M24).

3.1 The Climate-Neutral City Advisor Role

The Climate-Neutral City Advisors (described as 'City Guides' in the Grant Agreement) will be the frontline NZC service working with cities, helping them access tools and resources, facilitating exchanges among cities and linking them with NZC Experts. Functional responsibilities include:

- Provide support and advisory services to Mission cities, focussing on knowledge transfer and practical application of tools and guidance for achieving climate neutrality.
- Forge high-trust relationships with cities, to enable and encourage them to develop systemic approaches to their climate action, and work with each city to effectively deploy expertise and capabilities available through the Mission Platform in support of climate neutral actions. Contribute to co-design and participate in meetings with cities and their key stakeholders.
- Provide strategic advice and information to cities involved in the CCC process, facilitating the development of climate-neutral commitments and, action and investment plans.
- Provide support to Pilot Cities enabling them to build capacities on systemic innovation, covering innovative governance across silos, unlocking social innovation and participatory approaches with citizens, as well as innovative finance and policy
- With the cohort of City Advisors, help animate a network of cities, supporting them to learn from and inspire each other, as well as assist them to develop relationships between cities for them to pursue in-depth learning for specific solutions
- Implement the learning programme for Twin Cities, supporting and challenging the Twin Cities to scale up their ambition and progress, ensuring that the exchanges between cities are constructive, and contribute to the synthesis of lessons learned from cities for wider dissemination
- Contribute to the governance and organisation of the Mission Platform through: provision of feedback on cities' needs to inform consortium partners for the development of new content and/or services; knowledge sharing and learning with the cohort of City Advisors; attend regular training on new approaches, services and tools to share with cities; provision of ad hoc advice and responses to cities' enquiries via the Mission Platform, ensuring coordinated interactions with the support of the Customer Relationship Management system.

3.2 The NZC Expert (WP6-10) Role

The Service Design work packages, WP6-10, will support service delivery via:

- Participating in informal exchanges within the Social Network open to All Cities on an ad-hoc basis (no obligation to respond)



- Producing and collating content for the Knowledge Repository and identifying existing Interactive Tools to incorporate into the Portal, available for All Cities.
- Co-designing services and tools in response to needs identified with Mission Cities, Pilot Cities and Twin cities.
- Delivering webinars/training events/learning programmes for all Mission Cities (and potentially Twins), to be primarily hosted via the events tools in the P2P Collaboration Space module
- Working with clusters of Mission Cities (and potentially Twin Cities), to give specific input from their area of expertise and to facilitate sprints by which cities can identify and resolve issues, to be primarily hosted within the groups in the P2P Collaboration Space module
- Supporting Climate Neutral City Advisors to respond to demands from cities, either via developing an individually-tailored response or a collective solution delivered via the Knowledge Repository or an event/training programme (see section 4.1 for detail)
- More intensive ongoing direct support to Pilot Cities via the City Expertise Support Facility, which will allocate discrete time from recognised experts to work closely with individual Pilot Cities in response to their needs.

3.3 The Service Coordination role

There will be functional management of the Platform from WP3, via the Service Coordination role within the Platform Secretariat, task 3.3.1 (further detailed in section 4.8, Organisational Architecture).

This will include responsibility for onboarding and training City Advisors; ensuring that they are regularly informed and updated on project developments; connecting and guaranteeing a feedback loop with other Work Packages; fostering regular exchanges and learning between City Advisors; helping identify City Advisors' needs and provide them with the necessary support. More broadly, the City Advisor Coordinator will also coordinate the exchange between City Advisors and the platform coordination and operation team, the City Panels, and the City Support Expertise Facility. The Coordinator will also liaise with the City Advisors' line managers in their employer organisations in WP13, ensuring there is clear communication and understanding between them, and allowing any issues to be addressed as they arise.

The Process Design (WP1, WP4, WP5), MEL (WP2) and Policy (WP14) work packages will also liaise with the Platform Secretariat to ensure consistent delivery and will functionally use the Platform to:

- WP1 - Host the CCC Resource pack, support CCC, action plan and investment plan development, publish signed contracts and manage the review process
- WP2 - Designing and using Metrics, Evaluation & Learning to populate the City Dashboard and Barometer modules
- WP4 - Manage the call for Pilot Cities, monitor project delivery, host sensemaking workshops, and share learning to support replication
- WP5 - Manage the call for Twins, organising Pilot-Twin Cities clusters, and deliver a specific learning programme for Twins
- WP14 - Producing content for the Knowledge Repository linked to policy case studies and recommendations



	Online Portal Modules	Climate-Neutral City Advisor Role	WP6-10 Team Member Role	WP1/4/5 Team Member Role
Service Level 1: Any City	<ul style="list-style-type: none"> Knowledge Repository Community Blog Social Network City Dashboard & NZC Barometer - generic reports P2P Collaboration Space – access only to self-managed spaces Call Management Tool Onboarding Tool (detailed only if Mission City EOI submitted) 	<ul style="list-style-type: none"> Participate in Social Network Direct cities to resources on Portal Answer questions not covered by FAQs 	<ul style="list-style-type: none"> Participate in Social Network Collate / produce content for Knowledge Repository 	<ul style="list-style-type: none"> WP4 Manage call for Pilot Cities, via Call Management module WP5 Manage call for Twin Cities, via Call Management module WP4 Produce Pilot Cities Guidebook for Knowledge Repository WP5 Produce case studies for Knowledge Repository
Service Level 2a: Mission City (112)	Service Level 1, plus: <ul style="list-style-type: none"> City Dashboard & NZC Barometer – bespoke reports P2P Collaboration Space & Social Network - full access, including spaces facilitated by NZC consortium Interactive Tools 	Each Advisor works with a cluster of 10-12 Mission Cities to: <ul style="list-style-type: none"> Support CCC Needs Assessment Animate P2P collaboration spaces Check national gov. engagement Signpost resources Support WP6-10 to plan learning programme, Identify service gaps & brief WP6-10 to develop new content 	Service Level 1, plus: <ul style="list-style-type: none"> Co-design services and tools in response to city needs Deliver webinars/learning programmes for all Mission Cities (and potentially Twins), Work with clusters of Mission Cities, to input from their specific area of expertise Support City Advisors to respond to demands from individual cities 	WP1 will: <ul style="list-style-type: none"> Set-up the Clusters of Mission Cities for joint working in P2P space Produce CCC & Action Plan Resource Packages, for Knowledge Repository Support cities to design/review their CCC, Action Plan & Investment Plan, Deliver events & webinars in P2P Collaboration Space
Service Level 2b: Twin City (60)		Each Advisor works with 6 Twins to: <ul style="list-style-type: none"> Match 2 Twins to each Pilot City Facilitate collaboration and learning sessions Signpost resources Support WP5 to plan learning programme 		WP5 will: <ul style="list-style-type: none"> Administer Pilots/Twins Programme Deliver Learning Programme via P2P Collaboration Space
Service Level 3: Pilot City (30)	Service Level 2, plus: <ul style="list-style-type: none"> Grant Management Tool 	Each Advisor works with 3 Pilots to help: <ul style="list-style-type: none"> WP4 allocate City Expertise Support WP4 monitor Pilot activities delivery WP4 plan sense-making session WP5 plan replication activities WP6 identify/coach change makers 	Service Level 2, plus: <ul style="list-style-type: none"> Intensive support to individual cities - allocated via City Expertise Support Facility. Development and coaching of city change makers (WP6 only) 	WP4 will: <ul style="list-style-type: none"> Manage Pilot cities reporting & project delivery, via Grant Mgt. module Deliver sense-making sessions via P2P Collaboration Space

Table 6 Summary of Platform Services

3.4 Service Delivery for Mission Cities

Mission Cities will receive support services from the Mission Portal and Platform to help them develop their Cities Mission Climate City Contract (CCC), which includes a Commitments Core Contract, a 2030 Action Plan and a 2030 Investment Plan, engage in multi-level governance dialogues, implement actions in the CCC (Pilot City Programme), and monitor their progress towards the 2030 climate neutrality goal for the duration of the Mission (Monitoring, Evaluation and Learning Framework). The CCC is an **iterative process** and designed to adapt to the unique context of each Mission City; CCCs are **reviewed and adjusted on a periodic review cycle** (1-2 years). The process is expressed through the **Climate Transition Map** (Figure 20).

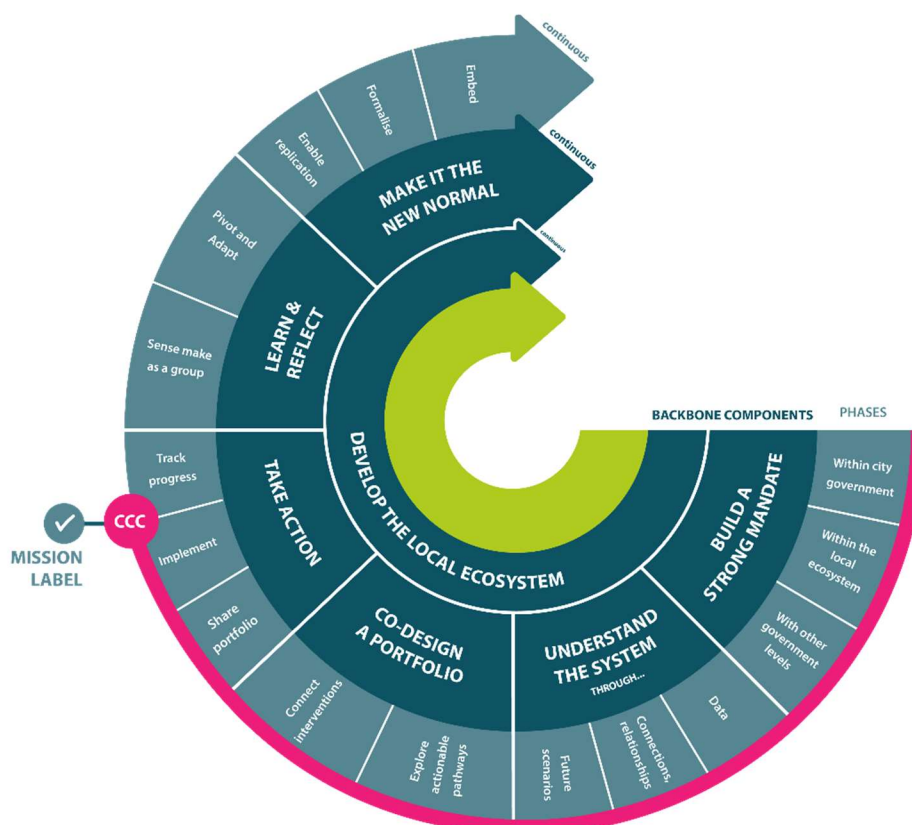


Figure 20 The current understanding of the phases in the Cities Mission Climate City Contract

An interactive **Climate Transition Compass** (see Figure 21) will provide an organising structure for the Mission Portal to help Mission Cities navigate the complex processes embedded in the Climate Transition Map and connect them to services and resources for those processes through various modules (e.g., Knowledge Repository, P2P Collaboration Space Groups, Interactive Tools, etc.). It will also link information in the CCC to monitoring processes and data visualisations (City Dashboard).

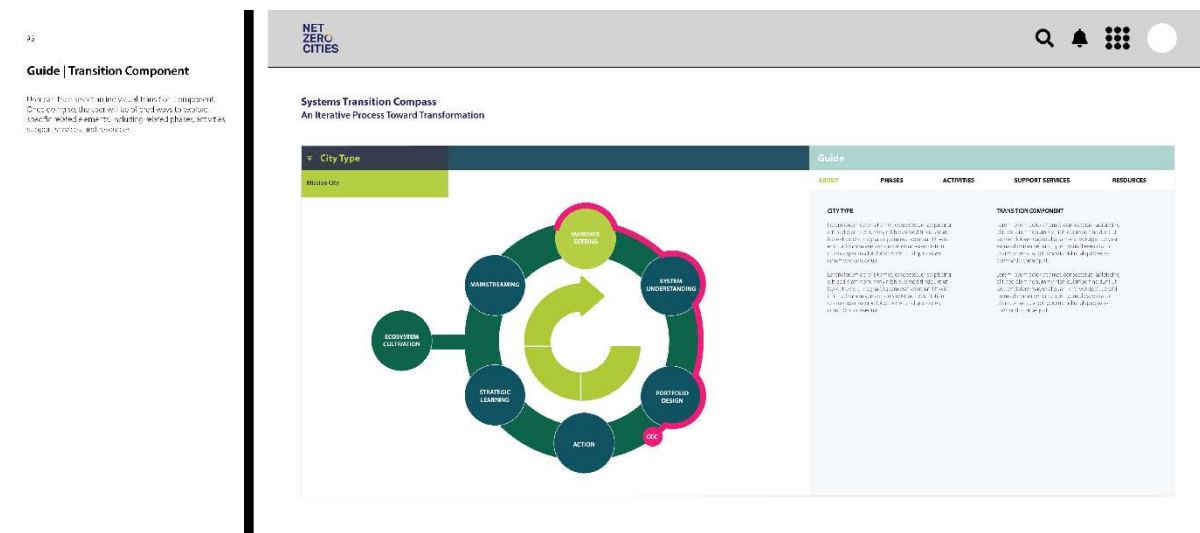


Figure 21 The current design of the Climate transition Compass supporting navigation of the Mission Platform

Mission Cities will require a wide range of support services for each phase of the CCC, depending on the city’s readiness level, familiarity with systems innovation, and local capacities and capabilities. Some advanced Mission Cities will only need very targeted support on specific topics, like climate finance or social innovation, and will largely benefit from peer-to-peer exchange and strategic learning. Other Mission Cities will require more fundamental support services for climate action planning, citizen and stakeholder engagement, and technical support. As such, support services for Mission Cities will be principally delivered through the Mission Portal and City Advisors, with targeted Expert Services support at the cluster level.

3.4.1 City Advisor Role

Each City Advisor will support a cohort of 10-12 Mission Cities through their CCC process, connecting them to support services to develop a Core Contract, 2030 Action Plan and 2030 Investment Plan. The City Advisors will also facilitate / activate peer-to-peer exchange in the Portal, and actively monitor evolving needs from the Mission Cities to enable the Platform to develop tailor-made tools and services. City Advisors will be paired with Mission Cities to the greatest extent possible through compatibility matching (i.e., language, location, specialized experience, existing relationships, etc.).

- In collaboration with task partner(s), design and conduct a CCC support needs assessment (T1.3) to create a City Profile for each Mission City and animate/coordinate cluster collaboration spaces on the Portal;
- Coordinate with the consortium members responsible for the National Platform Observatory (T1.4) and the emerging national / regional clusters to ensure that the CCC-related dialogues and learnings are integrated into and shared across the Platform;
- Facilitate support services for the Climate City Contract process, including the 2030 Action Plan and Investment Plan, through the Portal (T1.5, T7.2), and encourage Mission Cities to progress through the Climate Transition Compass to critically evaluate and test how the process can contribute to transformative action in their context;
- Support Mission Cities with CCC-related monitoring, reporting learning, and evaluation processes, including the Mission Label (T1.6, T2.5).

3.5 Service Delivery for Pilot Cities

In contrast to the iterative cycle of working with Mission Cities, work with the 30 Pilot Cities will follow a more linear process, from the call to submit applications through to project approval, management and closure and results dissemination, as per the following timeline:

Date / Time (CET)	Item
March 2022	Early announcement of the call timeline on the project website
June 2022	Publication: Guidebook for participants A Pilot Cities Guidebook will be launched at the NZC Conference in June 2022, to support cities in preparing proposals for submission to the open Call. Publication: Call Guidelines The guidelines for the Call, including eligibility, assessment, and selection criteria, will be published both to the NZC website, Mission Portal, and EU Funding and Tenders Opportunities Portal under the type of grants “Cascade Funding Calls”
24 June 2022 27 June 2022 5 September 2022	Information sessions: <ul style="list-style-type: none"> • NZC Pilot Cities Programme: Ambition, approach, application • Criteria for selection and the selection process • Technical information session • Open forum
Monday 5 September 2022	Call Opens At 12.00 CEST hrs on Monday 5 September, the NZC Call, and Grant Management module will go live. Cities will be able to register themselves with the module through the NZC Mission Portal and create a proposal with headline information. Cities will be able to save and return to this proposal at any time up until the submission deadline as stated below.
June –October 2022	Publication: Frequently Asked Questions (FAQs) Between June and October 2022, a Frequently Asked Questions (FAQ) file will be created and updated.
Friday 4 November 2022 (23.59 CET)	Call deadline Formal deadline for full submission. Proposals received after this date will not be accepted. No extensions can be granted and modification of your proposal after submission is not possible. We suggest setting your own internal deadline ahead of this date.
November 2022 – January 2023	Review and selection Proposals will be checked against eligibility criteria (Stage 1) and eligible proposals reviewed by independent external experts (Stage 2). Proposals reaching a minimum scoring threshold against specified criteria will proceed to final selection (Stage 3). More information about these Stages can be found in section 8 of this document.
28 February 2023	Decision Communication Formal outcomes will be sent to applicants, along with feedback.
March 2023	Contract development Applications amended to address compliance and selection feedback. Due diligence checks, and finalisation of revised project plans.
March 2023	Publication of Call outcomes and selected Pilot Cities Parallel to the contracting process, a list of successful Pilot Cities will be published to the NZC Platform and disseminated through NZC communications channels. This will include a description to illustrate the portfolio selected.
Q2 2024	Interim sensemaking and report
Q2 2025	Pilot Programme end-sensemaking and final reporting

Table 7 Timeline on Pilot and Twinning programme

3.5.1 City Advisor Role

Each of the ten City Advisors will build relationships with three Pilot Cities and work with them to ensure their Pilot activities are capable of delivering Mission-level work to advance to climate neutrality



by 2030, and to enable learning about how to replicate and advance climate-neutral transformations. This will also include:

- Work with to identify expertise needs and facilitate their submission for the City Expertise Support allocation (3.3.3)
- Cooperate with Pilot Cities Programme project managers who will facilitate administrative, delivery and reporting aspects of the Pilot activities (4.3). City Guides will have to review and approve final performance reports from a content perspective
- Identify and support development and coaching of municipal change makers (6.4.3), with whom WP6 will deliver leadership coaching (6.4.1 and 6.4.2), to increase their impact
- Contribute to and support planning and execution of sensemaking sessions (4.4)
- Help identify which Pilot activities to showcase (and potentially cluster) for case studies and the different elements/angles to highlight (T5.3.2)

3.5.2 NZC Expert (WP6-10) Role

A City Expert Support Facility (CESF) will be developed to support Pilot Cities with direct expert support tailored to the scope of the Pilot activities). The Facility will be launched immediately following the Pilot Cities selection process. City Advisors will work with their Pilot Cities to scope out support and expertise requirements to submit to the Facility via a dedicated application and management process hosted within the Call & Grant Management Module (outlined in Section 2.7 above).

Support will be provided by both NZC Consortium partners and, where expertise is not available from within the Consortium itself but is critical to a proper development and implementation of Pilot activities, external parties and/or local partners will be engaged, including from within the NZC Community of Practice (CoP). Local partners will be engaged where limited capacity is needed for context, culture, and/or language capabilities, or where more intensive local capacity is needed.

3.5.3 Use of Portal Modules

The Table 8 sets out how the Portal Modules and their features may support the Pilot Cities over the Pilot Cities Programme's lifetime.

Module	Details
<i>Before the call</i>	
Login page	Registration: In order to register an account with the Portal to apply. Not required if already registered as a Mission City.
Introduction & Onboarding Tool	Quick overview of the NZC project and how the Portal works
Pilot Cities Guidebook and other associated documents in Knowledge Repository	What it is to be a Pilot City? What does it include? What are the expectations?
	Info about General Timelines, / Journeys / What is it to take part in NZC/ What is on offer/ expectations / One-Stop-Shop for NZC
	Inspiration and orientation via case studies and example to validate if their Pilot activities' idea fits / is innovative
	Vision and understanding of the Twinning programme and the mutual benefits/learning opportunities it offers
	Information about how they will interact with the Twin cities, including use of Portal & methods for engagement (site visits, virtual interaction)
	What the learning programme is (i.e., what happens on the visits for the Twin Cities, what happens on the visit to the Pilot City, how structured this is, how co-created it is)
P2P Collaboration Space & Social Network	Headline information via the News Feed including call deadlines, requirements, detail/scope expectations, timelines, budget, how to apply (links to sections of the Pilot Cities Guidebook)



	Events to present the application process and to answer questions from cities
	Option to create a private group for the city to coordinate the writing of the application proposal
Grant Management module	Register interest in Grant Management module
	Complete pre-registered proposal
	Submit proposal
	<i>We learn about the pre-registered interest in Call can collect meta-data related to intended Pilot activities that can help us with intelligence (, challenges, emissions domains, areas/needs of support...)</i>
<i>During the call</i>	
Introduction & Onboarding Tool	Support: Tour of Portal and resources
	NZC guidebook: One-stop shop for everything about NZC
P2P Collaboration Space and Social Network	How/ when find out about outcome of the Call
	Headline information via the News Feed about Calls including any changes or crucial information related to the Call
	Option to create a private group for the city to continue discussion amongst their staff
	Events on Call-related Q&A Events
Knowledge repository	Access to case studies, inspiration, and content developed in the Portal
	<i>We learn (mostly from Q&As) about gaps in the resources we provide, in guidebook content and in city knowledge which needs support</i>
Grant Management module	Support: Response to requests for clarifications or due diligence
	Make proposal, edit proposal and then submit proposal
	Where to see proposal status: under review; passed/failed eligibility requirements; Successful/unsuccessful
	<i>We learn troubleshooting issues - things not working with Grant Management system and / or Portal</i>
<i>After the call and during the programme - if successful</i>	
Introduction & Onboarding Tool	Tour of Portal and resources
	One-stop shop for everything about NZC
Grant Management module	Read decision communication & feedback
	The contracting process and information about.
	See and make amendments or clarifications as required (pre-contract)
	Grant Management– Indicator refinement
	Expert facility access/ submission/ activation
	Expert facility: submit PID proposal form for use of /access to Expert facility (which is then reviewed)
	Access to and details on all mandatory deliverables / activities (Financial sustainability; Comms & Media) and reporting requirements
	Assess project management allocation to ensure meets with needs of the City Learning Programme
	Twinning Programme pairing and programme facilitation – which Twin cities have been selected (functionality TBC, may be held in P2P Collaboration space instead)
	Kick off Twin Programme and programme starting instructions
	System troubleshooting (next stage: work plans, milestones, contracting, reporting, sensemaking)
	Access to and details on all mandatory deliverables / activities (Financial sustainability; Comms & Media) and reporting requirements
	Work plan and milestones development
	Continuous reporting (deliverables), Interim & Final Reporting
	Assess PM allocation to ensure meets with needs of the City Learning Programme



	All intra-programme contracting processes Support Twinning relationship and activities (functionality TBC, may be held in P2P Collaboration space instead) <i>We learn: the Gaps in Experts support Facility (i.e. what we need to find outside of the consortium)</i>
Knowledge Repository	List of successful Pilot and Mission (and later Twin) Cities and short blurb on their projects. Ability (and encouragement) to contribute to best cases, learning, inspiration, insights, dissemination, proliferation via NetZeroCities central consortium/ sensemaking workshops etc Access Library of insights, information, best practise and information of novel innovations Potentially a place to share their own tools and approaches School on NetZeroCities practises and methods School on Systemic innovation and whole systems transformation
City Dashboard	Monitor and track own progress Access to Self-Assessment
NetZeroCities Barometer	Benchmark their progress with that of general city progress (aggregated).
Interactive Tools module	Access to various NetZeroCities developed tools to support cities with challenges involved in systemic innovation and net zero transformation
<i>After the programme</i>	
Grant Management module	Pilot Cities Programme evaluation and continuous improvement (POV of cities) <i>We learn about consortium & WP4 team learning (duration, budgets, set-up, Call)</i> <i>Learning across WPs in relation to WP4 - interaction w/ Twinning, MEL, Expert support; Portal, resources, etc.</i>

Table 8 Portal features used to support the pilot calls

3.6 Service Delivery for Twin Cities

3.6.1 Twinning Programme

A programme will be implemented for c.60 Twin Cities who will follow the Pilot Cities through their implementation. Up to two (2) Twin Cities per Pilot will be selected, through an open call, to participate in the Learning Programme being developed in WP5. These cities are likely to have differing climate neutrality ambitions so not all will necessarily be expected to start the Climate City Contract process from the outset, but rather to have ambition and capacity to work with their Pilot City and forge effective collaboration and learning, and acceleration of their journey towards climate neutrality.

An open call for Twins will run through June and July 2023, hosted via the Call & Grant Management Module, with Twin cities selected and matched with Pilots in September 2023. Twin cities will then commence their learning journey with Pilots, supported by their allocated City Advisor. This Pilot/Twin City working will primarily take place in the Portal, via dedicated spaces in the P2P Collaboration Space module, however there will be a limited amount of in-person study and mentoring visits to facilitate learning between the cities.

3.6.2 City Advisor Role

Lead the implementation of the Twinning Programme including the coordination process between 2 Twin cities per Pilot City:

- Help identify and match Twins for each Pilot City
- Support review of Twin City Needs Assessment, definition of replication/learning needs and development of Action Plans



- Deliver City Learning Programme in cooperation with WP5 leaders/partners (5.2.5)
- Leading regular peer-to-peer Pilot/Twin Cities collaboration meetings (5.2.5)
- Help organise and facilitate periodic (1-2 times per year) online meetings between representatives of all Pilot and Twin Cities (T13.2.3)
- Monitoring Twin Cities' progress

Separately, an additional peer-learning initiative to support cities who applied to join the Mission but were not successful is also in development. The purpose is to support those ambitious cities who were motivated to join the Mission, and to harness and build on their commitment to accelerate their transformation to climate neutrality. These cities will be clustered with Mission Cities from their own country and will participate in a learning programme and multi-level governance dialogue to support the development of the Climate City Contracts.

NZC Experts (WP6-10) will offer limited support to this programme as part of their work with Mission Cities, as defined above.



4 Back End Systems

4.1 City-Advisor to WP6-10 Workflow

What happens when a city makes a request which cannot be resolved via an existing resource (e.g. Knowledge Repository, P2P Working Group, Learning Programme) and the City Advisor needs support from WP6-10? The City Advisor will bring in support from an Expert from WP6-10 when a city needs a service which they cannot provide directly and is not covered by existing resources in the Portal. As summarised in the below workflow:

- The City Advisor will identify an appropriate expert, based on their User Profile in the Portal. The Expert will be responsible for setting-up their profile to include tagging areas of expertise, languages spoken and any previous experience working with specific Mission Cities
- The City Advisor will initially check availability of the Expert based on their calendar in the Portal (synchronised with their organisational calendar in Outlook, Gmail etc) and the number of outstanding tasks within the Customer Relationship Management (CRM) system
- The Expert will review the service need and determine (potentially via discussion with the City Advisor and/or colleagues) if the service need is best addressed via working with the individual city/cluster of cities, or at the collective organisational level for multiple cities
- The Expert's work with an individual city/cluster of cities could encompass meetings, written advice, participation in a resolution sprint etc. Most interactions will take place within the P2P Collaboration Space, which will create a record of the learning automatically. However, if these interactions take place outside of the Portal (email/telephone/in-person meeting) the Expert must create a record of the learning in CRM
- If the service need is best addressed at the collective organisational level, the Expert will create new resources in the Knowledge Repository, or an event or workshop for multiple cities. The resourcing needs and editorial content will then be reviewed with the Content Coordinator in the Platform Secretariat (see Platform Organisation, section 3.10.1)

Please note this workflow excludes the allocation and management of WP6-10 resources via the City Expertise Support Facility for Pilot Cities, which instead uses the Call and Grant Management Module – the process for this is outlined in section 2.7 above.



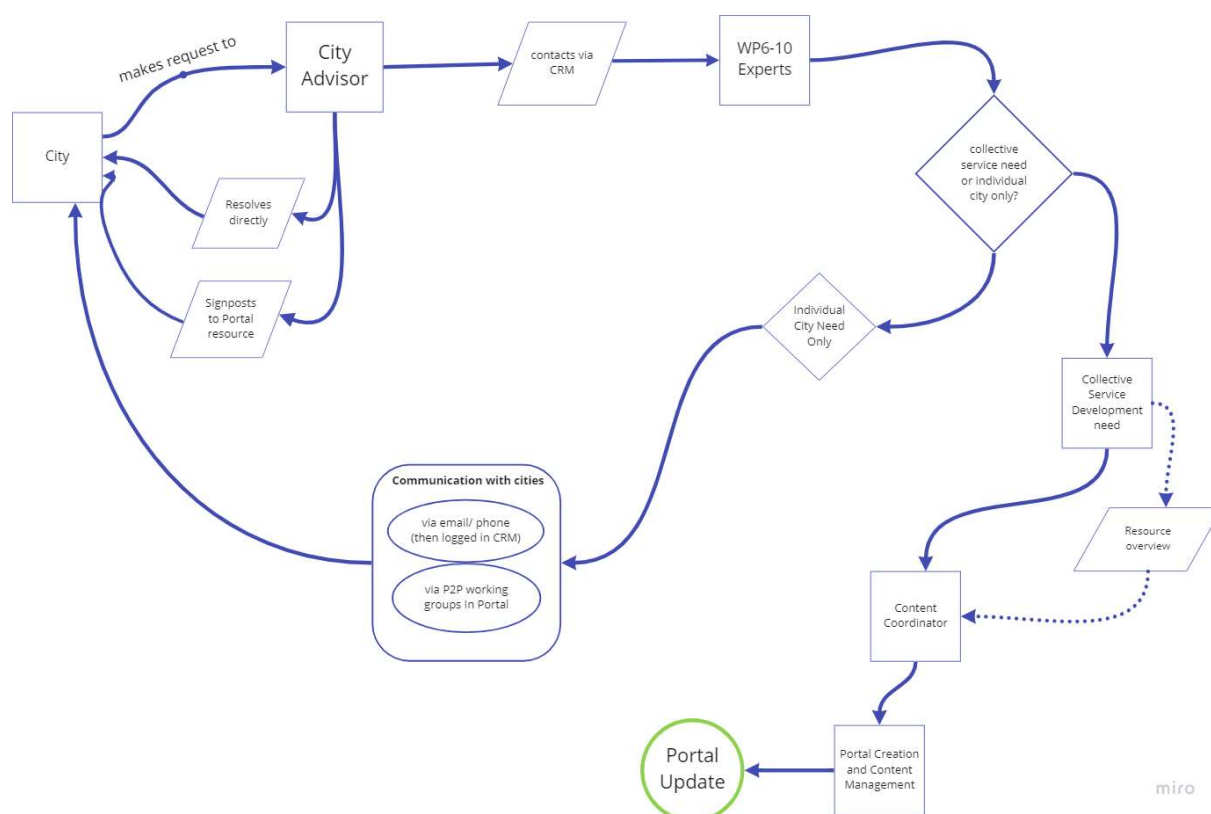


Figure 22 Description of the high-level interaction between City Advisor and the user City

4.2 CRM System

The CRM (Customer Relation Management) tool is used in NZC for multiple purposes. First it is a database of all cities, city officers, regional officers, experts, consortium members that are registered on the platform. Second, it helps City Advisors to track their interaction with cities and their city officers, how experts are working with them and on which subjects. Third, it is an emailing tool to provide updates and newsletter to cities.

CRM of choice

WP3 choices for CRM is HubSpot, with the 'sales professional' plan which allow to build custom report regarding City Advisor activities and therefore the help requested by cities. Reports are based on the data gathered: number of requests to City Advisors, thematic, complexity, follow up with experts.... We also contract a 'marketing starter' plan which provide an emailing solution to launch emails campaign and updates to our contact database. HubSpot is GDPR compliant and answers to the technical and organisational measures to ensure the security of data asked by the EC (more details see Table 9).

Location	Data are hosted by HubSpot in the European Union in compliance with GDPR
Measures for ensuring ongoing confidentiality, integrity, availability and resilience of processing systems and services	In terms of infrastructure security, data are hosted on a leading cloud infrastructure provider (AWS) with network and perimeter protection.
Measures for ensuring the ability to restore the availability and access to personal data in a timely manner in the event of a physical or technical incident	Hubspot has a disaster recovery plan. Also, the infrastructure providers use commercially reasonable efforts to ensure a minimum of 99,95% uptime.
Processes for regularly testing, assessing and evaluating the effectiveness of technical and organisational measures in order to ensure the security of the processing	24/7 Monitoring and Incident Response
Measures for user identification and authorisation	Login/Password and Two Factor Authentication
Measures for the protection of data during transmission	Encryption In-Transit (TLS 1.2, TLS 1.3)
Measures for the protection of data during storage	Encryption At-Rest (AES-256)
Measures for ensuring physical security of locations at which personal data are processed:	Perimeter protection managed by AWS
Measures for internal IT and IT security governance and management	Independent service auditor's SOC 2 and SOC 3 reports available at https://legal.hubspot.com/security
Measures for certification/assurance of processes and products	Independent service auditor's SOC 2 and SOC 3 reports available at https://legal.hubspot.com/security
Measures for ensuring data quality	GDPR Compliance
Measures for ensuring limited data retention	GDPR Compliance

Table 9 Data security measures for HubSpot CRM

Database purpose

HubSpot's database where all contacts are recorded give us (City Advisors, Experts with access to the CRM) a shared understanding of the activities of a city. Activities can be mails exchanges, calls, notes, tickets tracking, all encapsulated by a tagging system shared with the Portal. These tags will allow to make periodic reports and understand what are the 'hot topic' concerning the cities and how they progress.

To ensure data integrity, all registrations made in the Portal will also be made in the CRM. Technically, the Portal backend server will call HubSpot API and create a contact with the following data:

- Name
- Surname



- Email
- City, if user is a city officer
- Company, if user is an expert or a NZC consortium member
- Marketing contact, If user agrees to receive the newsletter

Communication, interaction and monitoring.

There are two ways of communication between Cities and City Advisors: through the NZC Portal’s social network or by email, each canal has a distinct use as shown by the graphic below

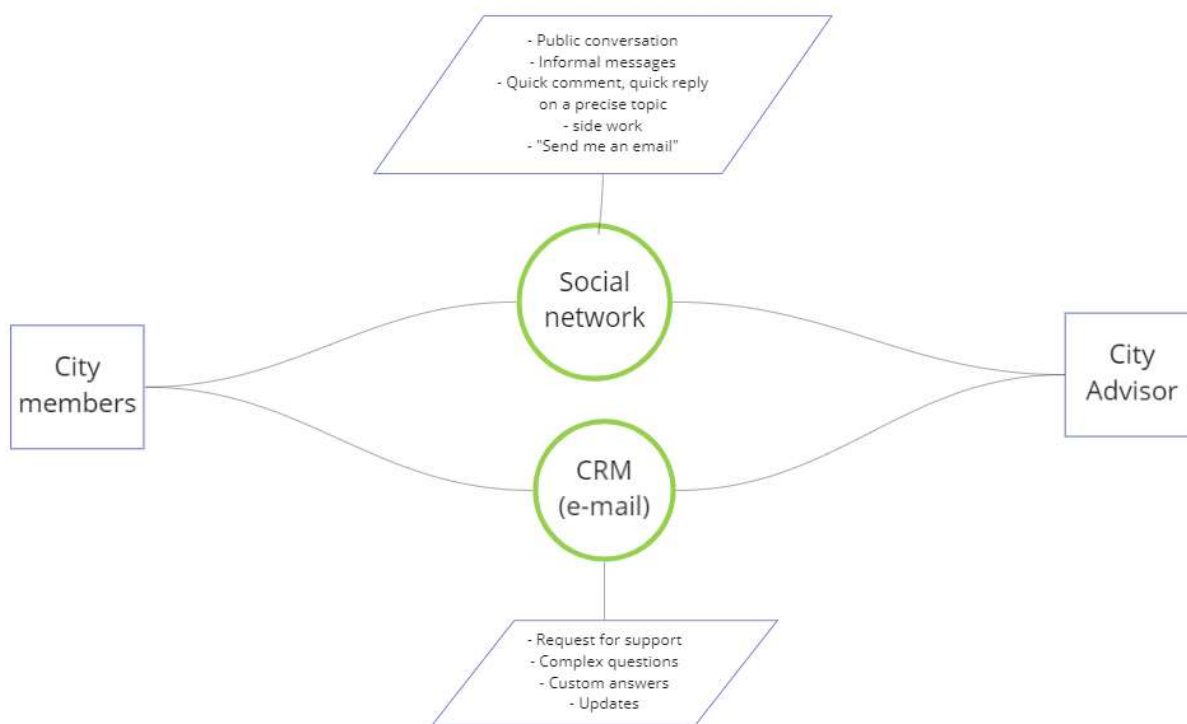


Figure 23 Exchange formats between the City Advisor and the representative of a city

Each City Advisor will be responsible for around 10 cities, each city could have 1 to 5 contacts, potentially more, with who the City Advisor will interact. The CRM tool will help the advisors to manage their workflows with the cities and collect data (thematic of the requests, number of occurrences, time to answer, complexity of the answers, more possible on request). This data will help NZC consortium members to understand better the pain points of the cities and develop the platform and solutions according to it.



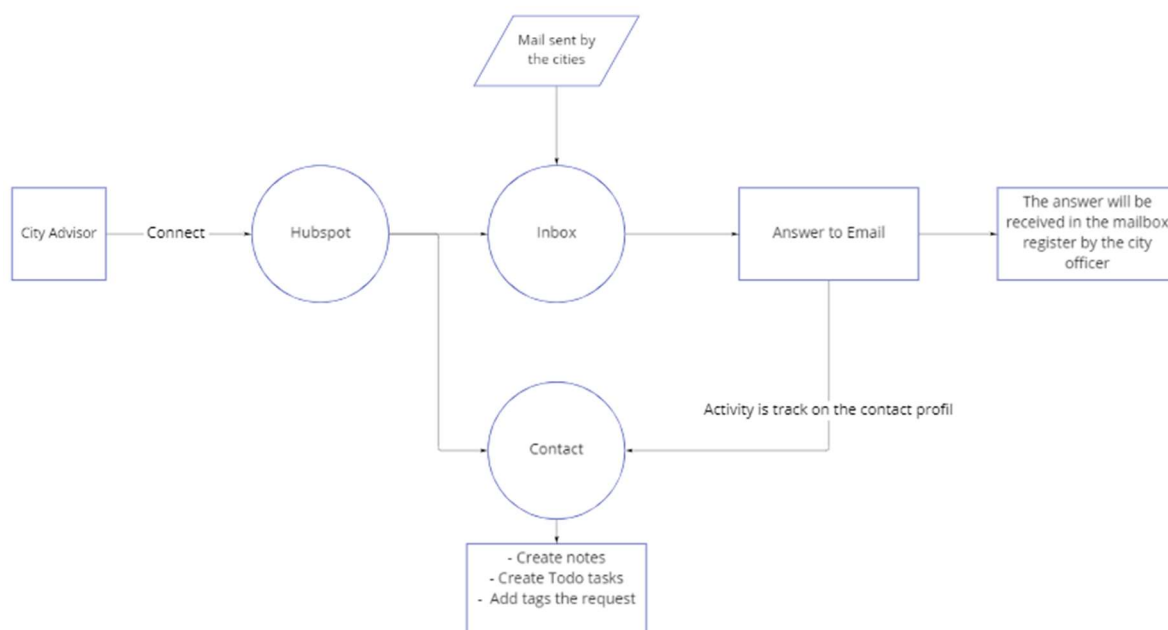


Figure 24 Workflow in the CRM processed by the City Advisor

The Portal will operate three emails canals:

Hello@netzerocities.eu : public email available on netzerocities.eu public facing website

Missioncities@netzerocities.eu : working email reserved for cities part of the program. The newsletter and updates regarding webinar, events, etc pass by this address.

Support@netzerocities.eu: backup email

Besides these general emails, each City Advisors will have a personal email in the form of name.surname@netzerocities.eu that will be the primary canal of communication with its dedicated cities.

Marketing purpose

HubSpot CRM managing the contacts of the cities, it is through it that we will launch emails campaign such as Welcome emails, Webinar invitation, Kick-off event details, etc. These marketing emails will only be sent to contacts who registered for the newsletter or gave their consent in a form. HubSpot emailing tool allows us to precisely control to who we send the emails and get insights about their delivery.

4.3 Portal Log-in Management & User Database

For registration and authentication, a password-less procedure is set up. Password-less authentication has many advantages allowing e.g. a greater productivity and better user experience, while keeping a high level of cyber security. Generating and memorizing hundreds of passwords will generate unsustainability, resetting passwords becoming clunky, and may demotivate the use the Portal. With passwordless authentication in place, users can authenticate only by using their email allowing a low barriers to the accessibility of the Portal.

For the first connection the passwordless authentication with one-time passwords authentication will be in place: One-time passwords are unique codes, linked to a particular user, and only valid for a certain amount of time. The code is sent to the user email and they allow authentication when the user enters the code correctly. The device is then memorized and future connections within 12 months time will not require additional authentication. However, if the user connects with a new machine or logout, the procedure must be repeated. The user will also be able to delete one of his connected devices via the settings of his user account. The user will also be able to choose to deactivate the password-less and activate the factor authentication for each log in.

Users who register on the platform will follow a quick procedure explained in the table below. We anticipate that in some European Member States or in smaller communities the city staff may be recruited from outside the organisation and might have diverging e-mail alias not indicating the city name, in which case verification will be required from the lead officer at the city.

Type of registration	What is Your Role	Additional fields	Additional field	Final user role
Spontaneous registration or by invitation	I'm employed by a city	Choose city	Any city	Standard user
			Mission city	Mission city user
			Pilot City	Pilot City user
			Twin city	Twin city user
	I work for a public or private organisation working on urban transformation	Enter the organisation		
	I work for a European, national or regional authority	Choose authority type	European authority	
National authority				
Regional authority				
Recognition of the email domain or invitation only	I'm a member of the NetZeroCities project			

Table 10 User Log-In process

When logged in the Portal all users will have different access and permissions levels. Their roles are defined in the following table, which can be modified at any time.



Table 11 User access and permissions

	Platform Governance	Knowledge and community manager	NZU consortium partners	Cities advisors	Experts	European / national / regional authority	City administrator (pilot city)	I'm active in a city (pilot city)	City administrator (twin city)	I'm active in a city (twin city)	City administrator (mission city)	I'm active in a city (mission city)	City administrator (any city)	I'm active in a city (any city)	Community of practice	Local partner	Active member	Citizen
Create an account without being invited	★	★	★			★		★		★		★	★	★	★	★	★	★
Authenticate user	★	★	★															
Administer a city administration	★	★	★			★	★		★		★		★					
Manage any user, update and deactivate city staff	★	★	★			★	★		★		★		★					
Send invitation to the portal	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★
See the main feed	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★
Like a post	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★
Comment a post	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★
Share a post	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★
Save a post	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★
Publish	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★
Go to a city page	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★
Publish on a city page	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★
See the city dashboard	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★
Manage the city page		★					★		★		★		★					
Moderate publication on the city page							★		★		★		★					
Publish with the city profile							★		★		★		★					
Join a group	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★
Create a group	★	★	★	★		★	★	★	★	★	★	★	★	★	★	★	★	★
publish on a public group	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★
Create group meeting	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★
Create event	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★
Join a free event	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★
Go to the blog	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★
Access the knowledge repository	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★
Upload content	★	★	★	★		★	★	★	★	★	★	★	★	★				
Access call management space	★	★	★	★		★	★	★	★	★	★	★	★	★				
Access the grant monitoring space	★	★	★	★		★	★	★	★	★	★	★	★	★				
Access to Heliosput CRM	★	★	★	★		★	★	★	★	★	★	★	★	★				
Interactive tools	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★

4.4 Third-Party Back-End Software

To date, several third-party software applications are being designed to support back-end systems.

Customer Relationship Management: HubSpot,

The CRM is used by City Advisors to manage interactions with city officers, see 3.3 CRM Tool.

The Call & Grant management tool will be accessible from an icon/link displayed on the Portal if the current user has access to it (i.e., he is a City Advisor or a Portal administrator). On click on the icon/link, by using Single Sign On technology, the current user will open a new tab in its browser and be automatically logged in HubSpot. For further information <https://www.hubspot.com/>

Call & Grant management tool: to be selected

The Call & Grant management tool will be used by city officers to answer the call for Pilot Cities, request grants. The Call & Grant management tool will be accessible from an icon/link displayed on the Portal if the current user has access to it. On click on the icon/link, by using Single Sign On technology, the current user will open a new tab in its browser and be automatically logged in the C&G tool.

Data exchange between C&G tool and the Portal application will be done by API. Ex: to display the advancement of a call or grant, the Portal will use the tool's API to retrieve the data and display it.

Wiki for documentation: to be selected

A wiki is the solution to keep a growing collaborative documentation user friendly and up to date. There is two independent sections: one section is user (city officers) facing, the other is consortium members facing (City Advisors, experts, NZC communication team...).

User facing wiki, is not a documentation about how to use the Portal but a good practices guide. Portal's priority is ease of use, if there is a need for a documentation, it means we have to improve the incriminated module. User facing wiki is about good practices: how to manage a working group, which privacy settings use, which tools use for an online meeting, etc. As such it will be especially useful for administrators of cities, groups or meeting.

Consortium members facing wiki is more technical and contain information such as data reporting, contact management, emailing campaign, how to customize the CRM, etc. It is written toward City Advisors, experts, communication team, etc. Most important feature is an attractive and intuitive interface for ease of consultation and use. We want to encourage cities and consortium members to look for answers there and WP3 members to fill information about CRM usage and Portal guidelines.

Translation tool: DeepL

NZC Portal will be fully translated in all 24 official EU languages: Bulgarian, Croatian, Czech, Danish, Dutch, English, Estonian, Finnish, French, German, Greek, Hungarian, Irish, Italian, Latvian, Lithuanian, Maltese, Polish, Portuguese, Romanian, Slovak, Slovenian, Spanish and Swedish.

Static labels which compose the Portal will be automatically translated by the Portal backend server in the language determined by the web browser's "favourite language" of the current user. Posts, comments, and descriptions, on the P2P space will be translated at user's discretion. For both usages, translation will be performed by DeepL translator.

On each post on the NZC social network, which are not in the user's preferred language, a prompt will allow the current user to translate the text in its preferred language. For further information <https://www.deepl.com/>



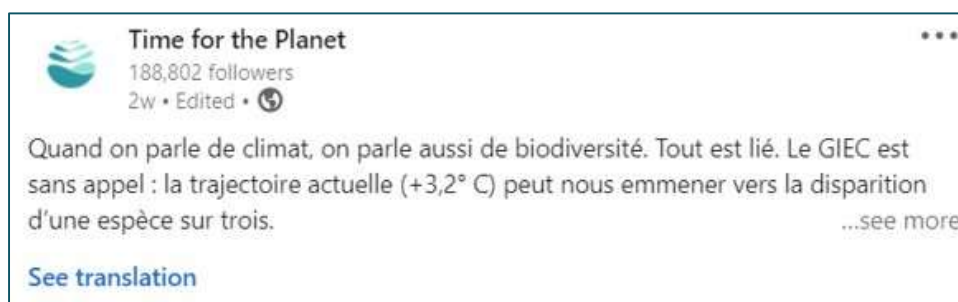


Figure 25 Translator

Key features of Deep Machine Translation:

- All official European languages supported except Croatian, Hungarian, Irish, Maltese. For these languages we will use google translate api
- End to End encryption to ensure information is protected and cannot be read by a third party
- GDPR compliant
- Unlimited translation
- Cost of translation: 20.00€ per 1.000.000 characters. This has to be monitored but seems on par with the “occasional” use of the translation service that was reported during city practitioner panels.
- Document translation

Videoconferencing tool: Jitsi as a service

The videoconferencing tool embedded into the Portal will be used by all users who wants to join an online meeting with an “all cams activated” mode.

Various pricing plans are proposed by Jitsi as a service. We will start with the one allowing 300 monthly active users for 99\$ per month and switch if necessary to the superior plan allowing 1500 monthly active users for 499\$ per month. Jitsi also provides bigger packages which we will consider if there is a need for. For further information <https://jaas.8x8.vc/#/>

4.5 Interoperability-Semantic/Technical/Legal

The Mission Platform should be understood as a European Public Service delivered to a subset (=cities) of its members. Thus, the link of the Mission Platform to other public services or to existing initiatives that support cities in their journey towards Climate Neutrality by 2030 falls under the European Interoperability Framework (EIF), the European Interoperability Action Plan and the European Interoperability Architecture (EIRA).

The following section will provide insights into the needed consideration to address the governance, organisational, technical and legal layers of interoperability.

- Standards used
- legal, organisational, semantic and technical.
- EU interoperability framework



Semantic Interoperability: Tagging System

The Portal will use a set of tags to index resources in the knowledge repository, discussion topics, groups and user profiles in the P2P collaborative space with relevant key words. These tags will support search functions for all resource types, but don't limit the searchability of resources, which can be done also through regular text-based searches, filters, or a combination of the three. An initial list of has been developed based on a set of good practices listed below:

- A resource should be defined by 3 to 5 tags attached to it
- A tag should not have less than 3 to 4 resources
- A tag should not have more than half of the resources (e.g., "sustainability")
- A tag should not be more than 2 words long, with an exception of 3 words when other solutions are not possible
- Tags should be words which are clear and simple, with user friendliness as a keystone

The content specificity of these tags has been developed through the co-creation work of WP6 to WP10 in relation to the resources being developed within these WPs. The main requirements laid out for these tags can also be viewed in Deliverable 10.4. The current list of tags may be revised in the future based on feedback from the users of the platform, analysis on how content is distributed across the tags and the need for new keywords arising from new content.

Social & Economy	Sustainable environment	Science & Technology
Culture	Biodiversity	Technology
Tourism	Climate resilience	Building
Governance and policy	Nature based solutions	Transport and mobility
Education	Soil	Industry
Citizen participation	Waste	Energy
Stakeholder engagement	Water	Sustainable fuel
Social innovation	Food	Carbon capture
Awareness Raising	Health	Materials
Circular economy	Air quality	Analytics and modelling
Funding	Green areas	
Finance	Local resource	

Table 12 Tag list

Technical interoperability

Web-technology, data licences, open & proprietary sources

Trying not to create lock-ins for the platform or the cities. Thus, the goal is to create a flexible approach and use whenever possible open-source software and APIs. Concerns particularly the reporting activities cities are already engaged in.

For the server we use the php8 technology, it is a powerful and widely accessible programming language, with an open-source code, mainly used for website development.

All the software licenses we use are open-source, except for those used for some APIs. Below is the list of these licenses (**Error! Reference source not found.**).

Licence software (open source):	API (not open source):
<ul style="list-style-type: none"> • PHP 8 • Linux • CentOS 8 	<ul style="list-style-type: none"> • Jitsi (functionality: communication, meeting and chat) • DeepL (functionality: translation)



<ul style="list-style-type: none"> • Plesk • Apache 2.2 • MySQL 5.5 • nodejs • javascript • jaxon • CK editor 	<ul style="list-style-type: none"> • open AI (functionality: to summarize a text and find corresponding tags) • Hubspot (module: CRM) • Salesforce(module: call management and grant management)
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Table 13 Overview of license used in the Mission Platform

Moreover, the site and the data are hosted on a secured server whose characteristics are the following:

- Firewall, anti-DDoS Protection
- Load balancers
- Unlimited bandwidth 1 Gbit/s guarantee
- Service Level Agreement – 99.95 %
- Daily backup on remote backup server 500Go (FTPS, NFS)
- Data centre in France (Roubaix 59)*
- Handling of incidents in 24/7 and Guaranteed response time 15 minute
- SSL Certificate

Legal interoperability

The consortium will enter into formal cooperation agreements with initiatives managed and/or funded by the EC, as well as, external to the project and to the EC. NZC will follow the outlined recommendation to address in these agreements governance, organisational, technical and legal layers of interoperability.

Key elements in the cooperation agreements are outlined in the in Table 14. The cooperation agreements may evolve over time. An approximate timeline for the development of the key elements is indicated.

Key elements	Timeline
Relationship to the municipalities/Mission Cities/Pilot Cities	needs to be ready before the first launch
Role and responsibility of the participating parties (CoP and the initiative)	needs to be ready before the content is integrated
Agreements related to license, liability, and copyrights	needs to be ready before the content is integrated
Agreements related to GDPR	needs to be ready before the first launch

Table 14 Overview on legal on key elements in the cooperation agreement

Legal interoperability agreements will be specific and where necessary binding bilateral and multilateral agreements. The agreements might vary in nature and may include memoranda of understanding (MoUs), service level agreements (SLAs) as well as

A signature, when necessary, will be provided by the consortium lead, while all the consortium will be called upon to develop the relationship between the Mission Platform and the external parties to allow successful execution of the partnerships and to embed the Platform in the wider ecosystem of people working towards climate neutrality.



GDPR agreements and compliance

The GDPR agreement will be signed between the NZC consortium and the organisation of the users.

Each party is responsible for complying with the obligations of the GDPR. The parties only process personal data for the functioning of the platform shared and provided via the platform and do not process personal data collected as source data and/or used in research.

The Mission Platform underlying principle is that users will not place secret and/or confidential information on the platform. The Mission Platform aims at ensuring that the personal information of the users requested is kept to a minimum. The terms of use and privacy policy will be easily accessible directly by clicking on the profile icon in the header. Users will be able to easily control in their settings the information transmitted.

Anonymization will be available upon request, as well as data extraction. The official agreement of the terms of use and privacy policy will be in English. The reference version is available as download in the Portal. Translations will be available in all European languages.

Agreements related to license, liability, and copyrights

The consortium is setting up and prepared to manage technical level interoperability agreements aiming at maximum internal and external flexibility.

4.6 Collaboration with Other Initiatives

The ability of cities to reach climate neutrality by 2030 requires the use of a wide range of tools, services, and data that exist in a myriad of places online and in the institutional knowledge of various organisations and initiatives. The NZC platform seeks to bring this information under one roof in order to support cities in the best and most comprehensive way. The consortium is setting up and prepared to manage technical level interoperability agreements aiming at maximum internal and external flexibility.

Consortium members mapped and analysed existing city support services and initiatives as part of two tasks in work package three, 3.1.3 focusing on key initiatives to develop collaborative agreements with and task 3.4.2 focusing on gathering input for future business plan development. The outcomes of the mapping and scoping yielded ideas for establishing collaboration agreements with both EC initiatives and initiatives independent from the EC. These mapping processes will be iterative and ongoing as the Portal develops.

The combined objectives of the mapping processes include:

1. Identify existing platforms and providers where cities share and report their data in order to develop APIs to populate the NZC dashboard
2. Map service providers and initiatives targeting city administrations in order to identify valuable resources to feed into the 'smart' knowledge repository and interactive tools
3. Integrate existing services and initiatives into the platform/Portal to the deepest extent possible, more than simply linking to external websites and services
4. Learn from successful platforms and initiatives in order to allay challenges and build on successes and identify transferrable practices in governance and funding mechanisms

The following definitions are used to differentiate between an initiative and a service.

Initiative: is a knowledge hub, platform, provider, organisation, or programme targeting city administrations to support them working towards sustainability and climate neutrality

Service: is an offering by an initiative that assists city administrations working towards sustainability and climate neutrality. A service may be a program, knowledge repository, tool, reporting mechanism, source of data etc. Services need to be distinguished from products. Products would be e.g. research reports issued by an initiative. Products were not part of the scoping exercises to determine collaboration opportunities.



Collaboration with EC Initiatives

As a European Public Service within the European Interoperability Framework delivered to cities within EU Member States and those with relationships to the EU, establishing formal collaboration with other existing EC initiatives is critical to the delivery of digital public services proposed by NZC. In discussion with the Mission Team we will identify who and how these

The Mission Platform designed within NZC **builds on existing actions, including but not limited to those developed in other H2020 funded projects**. Collaborating with EC initiatives includes **establishing a cooperation framework** to understand how content can be incorporated or signposted, and where appropriate, the interoperability and use of data for dashboard input can be agreed.

Existing city support services and initiatives at the EU level (e.g. CoM, CIVITAS) were mapped and analysed for relevance to the NZC project. Task 3.1.3 utilised the expertise of task partners and desk research to create a long list (110) of initiatives at EU level, including those mentioned to the Executive Committee by the EC and those mentioned in the EU Mission Implementation Plan. Initiatives and services mapped come from public, and semi-public/private, NGO sectors. This list was further prioritised based on input from the EC, relevance to Portal development occurring in WP3, and task 3.4.2.

Next, using a combination of desk research and engagement with relevant organisations, partners completed an Excel spreadsheet provided by ICLEI and filled out a detailed form about each selected initiative and associated relevant services (23 forms were completed). This information is being used to develop collaborative agreements with external initiatives to align what the initiatives can offer to NZC and what NZC can offer in return. At a later stage, identified services and service providers will receive a fillable fact sheet being developed in WP10 for inclusion on the platform via the smart repository (e.g. WP10 and WP14). The mapping considered the taxonomy being developed in WP10, WP3 as well as WP1.

The first round of EC initiatives to be contacted include under others:

- Covenant of Mayors (CoM):** The Covenant of Mayors for Climate and Energy aims to increase support for local activities, provide a platform for greater engagement and networking by cities, and raise public awareness about adaptation and mitigation and the measures needed. The overarching objective for the Covenant of Mayors' signatories is "2050: Towards fairer, climate-neutral Europe for all". The CoM is a service contract with DG ENER delivered by a consortium. Based on voluntary commitment, plans to achieve commitment (SECAPs), monitoring/reporting (MyCovenant), knowledge hub, peer-learning/mentoring/Twinning. The resources could be linked in the P2P space and the Knowledge Repository.
- Clean Energy for EU Islands:** The one-stop-shop for Europe's island communities transitioning to clean energy provision. Providing the service to connect with other island communities, technical experts, or support on project development. Linking to the repository provides practical materials to help advance the clean energy transition may support the Mission Platform.
- EU City Finance Facility:** The project engages cities in a competitive process to access support to develop investment plans concept as a type of pre-facilitation study. For cities to be selected they need to fulfill eligibility criteria such as having a SECAP in place. Services are focused on financial support to prepare the investment plan concept, aiding in the development of the concept and the support implementation, based on a help desk, a national support structure and networking. The networking takes place in groups by topic (e.g. DHN, renovation). The knowledge on investment planning may support the Mission Platform.
- URBACT:** URBACT finances transnational exchange and learning networks. Its mission is to enable cities to work together and develop integrated solutions to common urban challenges, by networking, learning from one another's experiences, drawing lessons and identifying good practices to improve urban policies. Service provided Library/knowledge hub with case



studies, reports, toolbox tailored to respond to 5 different stages of the public action-planning cycle, capacity building events, trainings. Linking to the network through shared networking activities might support both initiatives.

- **Smart Cities Marketplace:** The Smart Cities Marketplace is a service contract to the EC. Aiming at being a market-changing undertaking bringing cities, industries, SMEs, investors, researchers and other smart city actors together. Their common aims are to improve quality of life, increase the competitiveness to reach European energy and climate targets. Services provided are a) matchmaking cities and investors to create and fund smart city projects, b) smart City Roadmap Masterclass – coaching/training, c) insights - knowledge hub.
 - **Scalable Cities** represents 120 cities and 18 Lighthouse projects involved in the Horizon 2020 Smart Cities and Communities Project Cluster Focus on replication and dissemination of results. Links could go beyond the sharing of knowledge, more in the direction of joined activities e.g. including the events planned in the City Panels.
- **100 Positive Energy Districts:** Knowledge exchange and funding, linking stakeholders from R&I funding networks, cities, industry, research organisations and citizen organisations, aiming at in a next step of sustainable urban development and becoming frontrunners in the field of energy transition. The findings may support the Mission Cities in their implementation of the CCC and action planning.
- **CIVITAS:** In service of the EC and co-coordinated by cities the initiative is focused on implementing sustainable, clean and efficient urban transport measures. The initiative provides knowledge, tools and methods that could be linked in the Knowledge Repository.
- **Eltis:** Service Contract focus on a knowledge hub with updated and curated content, e.g. case studies spotlighted. No registration is required. It should support the further development of the Sustainable Urban Mobility Plan (SUMP) concept and the tools required for its successful application by local planning authorities, providing relevant input or links to in the Knowledge Repository.
- **SisCode:** Knowledge hub stimulating the use of co-creation methodologies in policy design, using bottom-design-driven methodologies to pollinate Responsible Research and Innovation, and Science Technology and Innovation Policies. 10 co-creation labs were set up around Europe to support this research making real life experimentation a key aspect of it. Each of the labs undertook a co-creation journey to deliver working and sustainable solutions to local societal problems.
- **100 Intelligent Cities Challenge:** The Intelligent Cities Challenge (ICC) is a European Commission initiative that supports 136 cities in using cutting-edge technologies to lead the intelligent, green and socially responsible recovery. The ICC cities and their local ecosystems focus on the recovery of their local economy, create new jobs, and strengthen citizen participation and wellbeing. The ICC is part of a wider EU support system delivering on the European Green Deal, the digital strategy, and other EU policies. After the service (and five thematic tracks) were launched in 2019, the programme changed. This meant less consultancy support offered to individual cities, and the whole focus of the programme changed, from ex. “up-skilling and re-skilling” to a new focus of “pandemic recovery.”
- **JPI Urban Europe:** Most prominently featured might be the service on policy recommendations, which include based on formerly funded projects the topics: Positive Energy Districts, Food-Water-Energy Nexus, preparedness and respond to pluvial floods, Climate resilience and low-carbon energy systems under others. Further resources provided are reports, methods, videos, tools, apps, which may be referenced in the module Knowledge Repository can be created or joined content creation such as Webinars.
 - Further links can be created with the JPI Urban Europe’s Stakeholder Involvement Platform **AGORA**.



- **Green City Accord:** The Green City Accord is a recent initiative, launched in 2020. Aimed at improving the quality of life of all Europeans and accelerate the implementation of relevant EU environmental laws at the local level. By joining the Accord, cities commit to step up their efforts in five areas (water, air, nature and biodiversity, circular economy and waste, and noise) by 2030. Many of the services mentioned are currently being developed. These include e.g. a reporting framework for cities to define a baseline and report on their progress towards fulfilling the commitment along the five areas of the Accord. Publication opportunities for resources, news; information on best practices, guidance material (in development) as well as opportunities for the exchange of knowledge, experiences and contacts through peer-learning visits, events, among others.
- **The New European Bauhaus (NEB):** The creative and interdisciplinary initiative under the European Green Deal focuses on living space and experiences to achieve climate targets and improve quality of life.
 - The **CRAFT (CReating Actionable FuTures)** coordination and support action, will support all five selected projects, as well as future NEB lighthouse projects, with €2 million in funding. CRAFT will test collaborative local models for NEB transformations in three 'sandbox cities' (Amsterdam, Bologna and Prague) and guide the Mission Cities.

Collaboration with Non-EC Initiatives

To effectively act as a 'one-stop-shop' we need to be able to host services and initiatives developed and owned by organisations outside of the EC institutions.

We are designing the Portal to be technically interoperable with any initiatives on the same basis as with EC initiatives, however, we also need to define a set of principles by which any such hosting on the Portal would take place. Our three guiding principles are:

- Efficiency – We must make the best existing tools available via the Portal and avoid 'reinventing the wheel' by using our development resources to replicate them
- Transparency – We must not give any actor a competitive advantage by hosting their products or services to the exclusion of other competitors
- Non-proprietary relationships – We must ensure cities do not need to enter relationships with commercial 3rd-parties, which require them to purchase services or lose control of their data

These principles will be refined into a set of operational principles via input from the EC Mission team and in conjunction with the development of a strategy for engaging the Community of Practice (Task 12.4) and a long-term future business model for the Platform (Task 3.4).

Preliminary desk research combined with a crowdsourced survey within the consortium was used to generate a list of possible organisations and platforms for benchmarking governance and funding mechanisms. From this list, fifteen organisations and platforms were selected for interviews based on four essential criteria:

- Their activities focus on European audiences,
- Their organisational structure is that of a Portal, a network, a joint-programming initiative, a platform, or a stand-alone private entity,
- Their main service is assisting cities in implementing strategies and actions,
- They demonstrate a certain level of recent activity (recent publications, projects, dissemination activities, etc.).

During the interviews, organically, opportunities for future collaboration were discussed and are being considered for future exploration. Some collaborations will require MOUs or similar structure.



4.7 Organisational Architecture

Overall organisational architecture

The organisational architecture reflects the operations ‘behind the scenes’, including the organisational structures, outlining some first elements regarding possible roles and corresponding responsibilities and associated workflows.

The organisational architecture shows the support systems for the city journey. The human side of the platform is organised through workflow diagrams, which show how the human roles interact with the technical Portal components, as well as the relationship between different roles/actors operating within the platform. This architecture and accompanying workflows will change and evolve over time. They will be reviewed and updated in three phases:

Phase	Timeline	Development plan
Phase 1: Development	M8-M11 (May 2022- Aug 2022)	Described in this document
Phase 2: Platform launch	M12-M17 (September 2022 – February 2023)	Will describe operations of working with mission cities and service level 2. Expected development timeline, M8-M11
Phase 3: Full platform operational	M18 – ongoing	Will describe service level 3 and ongoing platform operations. Expected development timeline, M12 - M18

Table 15 Overview of development Phases

The organisational architecture of phase 1 is depicted in image Figure 26. The image can be read as four quadrants, which are marked by the red horizontal and vertical lines. There are groups and individuals responsible for **platform strategy** (upper and lower left quadrants) and **platform coordination and operations** (upper and lower right quadrants). These functions consist of **platform facilitators** (upper left and right), individuals and groups who operate and run the ‘behind the scenes’ of the platform and Portal and **platform core-users** (bottom left and right), individuals and groups who utilise and influence the services and functionality of the platform.



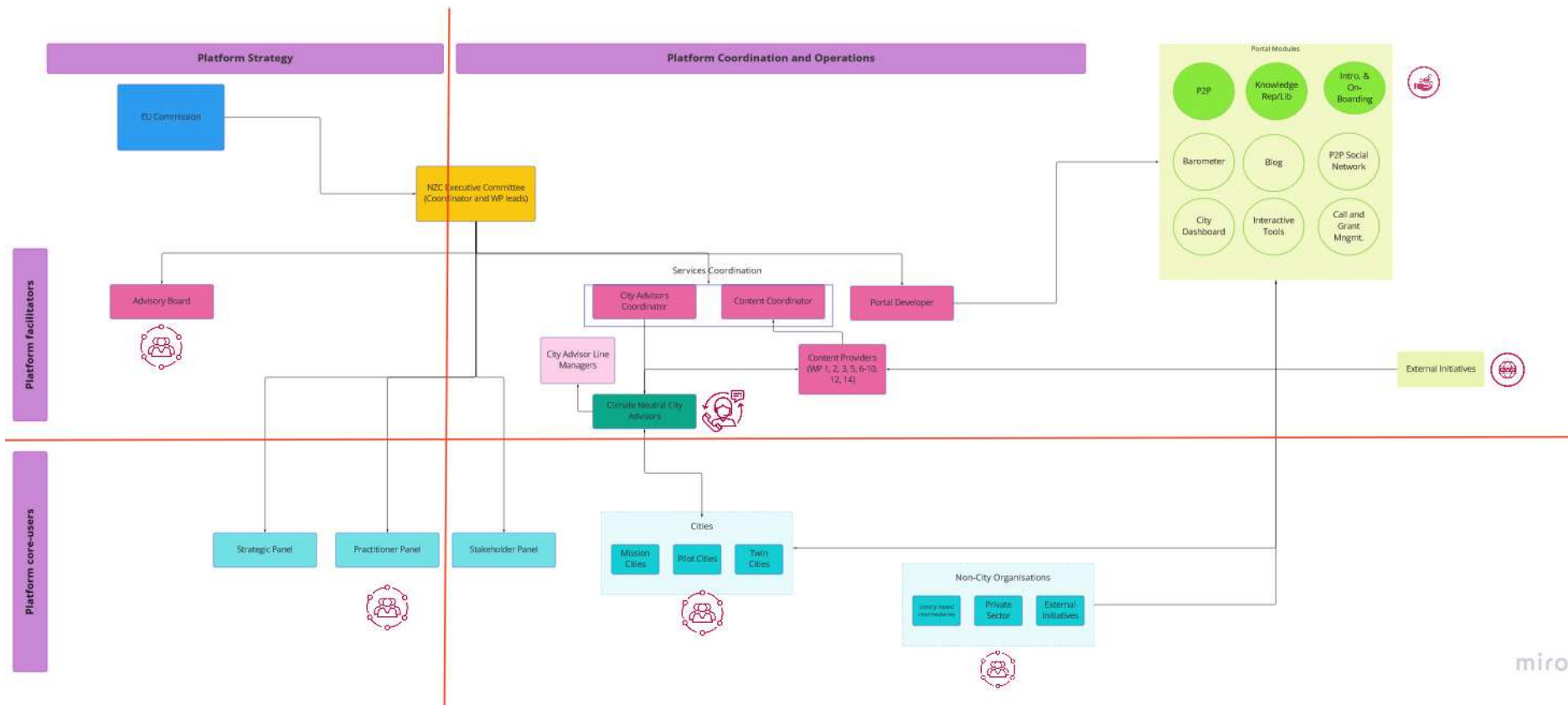


Figure 26 Architecture in the development phase 1

The organisational architecture of phase 2 is depicted in image Figure 27 in draft form. In this version, the Portal modules have been removed from the chart and major additions include the platform secretariat, city support facility, and community of practice. The platform secretariat and associated committees is being developed as the long term replacement for the NetZeroCities Executive Committee and work packages lead. However, in phase 2, elements of the H2020 structure are still in place. This terminology and associated relationships will change with input from the Advisory Board and work done in task 3.4 focusing on business planning and scenario building for the longevity of the platform. Relatedly, governance innovation will be applied to the organisational chart, which may result in difference relationships between actors on the chart, different names of committees, and/or the addition and removal of roles. On an ongoing basis, the organisational chart will be refined and adjusted based on the results emerging from the NetZeroCities project.



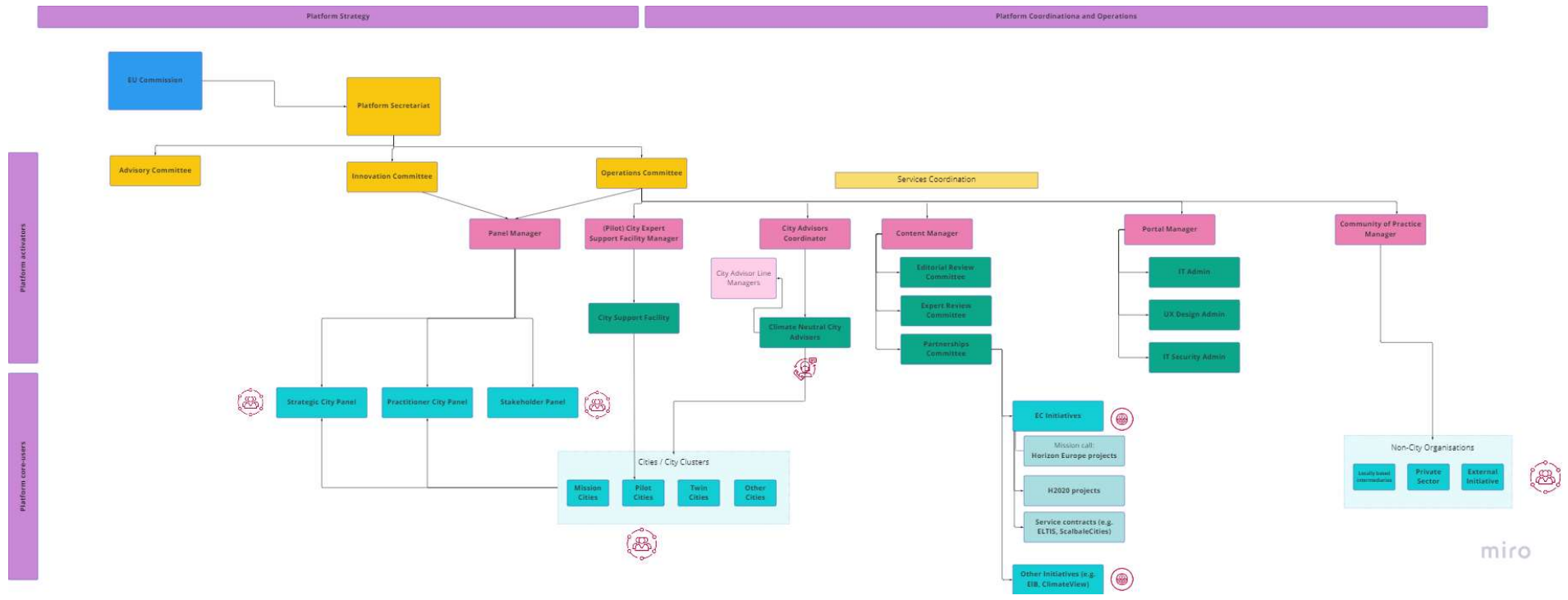


Figure 27 Architecture development phase 2

Platform Facilitators – strategy and operations

The EU Commission influences the platform strategy via communications about the project with the NetZeroCities Executive Committee. Under the oversight of the NetZeroCities Executive Committee there is an Advisory Board organised in consultation with the EC, which consists of institutional stakeholders to provide feedback and guidance on the project's strategic orientations, platform governance, and long term strategy. Also within the purview of the Executive Committee are the City Advisors coordinator and content coordinator, together they coordinate the development and dissemination of services through the platform; and the Portal developer who is responsible for the technical design and functioning of the Portal modules (depicted outside of the matrix lines in the upper right corner in green, the darker green circles indicate the focus of Portal development in this phase of the organisational architecture) - the Peer to Peer Collaboration Space (P2P), the Knowledge Repository, and the introduction and Onboarding module.

Within the services coordination box, the content coordinator works directly with content providers, which are consortium members and work package group who in turn are also establishing relationships with external initiatives (light green box outside the framework of the red matrix) to provide content and services through the platform. Another part of the service coordination is the management and oversight of Climate Neutral City Advisors who for day-to-day support and management turn to their City Advisors Line Manager (light pink box) within the organisation in which they are hired, and for specific NZC training and support, they are in contact with the City Advisors Coordinator. The Climate Neutral City Advisors are also in direct contact with the Content Providers via the Portal in order to support the Cities (details in workflows about the knowledge repository).

Platform Core Users – strategy and operations

The core platform users are city representatives mainly from city administration. The user profile "City users" will fall into multiple categories, there are the Mission Cities, who are part of the EU's Mission '100 Climate-Neutral and Smart Cities by 2030. The Pilot Cities who will receive 'responsive' support to help drive rapid learning about how to achieve climate neutrality at city scale; and the Twin Cities who will participate in peer-learning with the Pilot Cities.

Additionally, members of the NZC Executive Committee work directly with cities from across Europe to organise city panels, which are also core users of the platform via the P2P module.

Regarding the City Panels we can distinguish between the Practitioner Panel, which's members we see as the core-users, and the Strategic Panel. The Practitioner Panel composed of technical and administrative staff actively working on climate neutrality, evaluates services and solutions showcased on the Mission Platform (One-Stop-Shop Platform), and other outputs. As a Practitioner Panel city representative, you will benefit from opportunities to network and collaborate with other panel member cities committed to accelerating the transition to climate neutrality. The Strategic Panel, composed of Mayors, Deputy Mayors and high-level decision-makers (Deputy Mayors or Head of Departments) actively involved with strategic policymaking and climate governance, principally advises and observes processes including the Climate City Contract.



5 Next Steps: Future Deliverables

This document will be taken forward by a series of future deliverables.

Capacity Building Plan Future Deliverable 3.2

The D3.2 Capacity Building Programme Plan, due M11, will show how Portal and Platform services enable capacity-building at both the level of individual user and city-wide level organisational development. This will be informed by the initial Mission City onboarding over M8-10. Reflecting on the different starting points of each city e.g. in translating the Climate City Contract process and with it the use of resources provided by the Mission Platform to their unique situation. The capacity building programme therefore should always offer different tools, methods or services to reach the goal of carbon neutrality by 2030, allowing cities to translate the Climate City Contract process and develop their best fitting approach to reach the set result.

Platform Wiki - Future Deliverables 3.3, 3.5 & 3.6

The text in this document will form the Wiki on Platform organisation, service delivery and expected practice. NZC and EC users will use the Wiki to review and comment, highlight issues and service gaps and generally enable collective ownership of an adaptive Platform service design. Elements of this Wiki will be then viewable within the Portal as user guidance to cities.

There will be three principle functions of the Wiki:

- User facing wiki visible to cities is about good practices: how to manage a working group, which privacy settings use, which tools use for an online meeting, etc. As such it will be especially useful for city staff in their capacity as administrators of groups or meetings.
- Consortium members facing wiki is more technical and contain information such as data reporting, contact management, emailing campaign, how to customize the CRM, etc. It is written toward City Advisors, experts, communication team, etc.
- Consortium members and EC users will also be focused on the broader sections of the wiki on governance, interoperability and relationships with other initiatives. It will reflect the development of the Future Business Model as per section below

The Wiki will then progressively be updated to reflect developments of new services and users (such as the introduction of the Community of Practice) within the Platform. This will both reflect the formal launch of new service-levels to Pilot Cities in M18 (March 2023) and Twin Cities in M24 (September 2023) and the progressive development of services in response to feedback from users.

We will then use the Wiki updates, alongside Platform analytics and reports from City Panels (13.3) and other user feedback to compile the following future deliverables:

- D3.3 One-Stop Shop Platform Report, due M14,
- D3.6 Platform Technical Description and User Guide, due M15
- D3.5 Annual Reports on Platform Performance, due M18, M38 and M48

Exploitation and Business plan/model for the future of the Platform and of the project results – Future Deliverable 3.7

The Platform will provide a strong and direct support to cities that will commit to achieving climate neutrality by 2030 (primary support), and in turn, the cities benefitting from these actions will act as experimentation and innovation hubs for other cities to become climate-neutral by 2050 (secondary support). This implies that to allow for a purposeful design of the business model the Platform must be fully functioning to provide cities with primary support (Service levels 1, 2 & 3) until 2030, and provide secondary support (Service level 1 & 2) potentially until 2050. This creates both short-term and long-term needs for the Exploitation and Business Model.



We have started by benchmarked existing platforms, through interviews with their operational teams. The benchmarking highlighted the need to maintain focus while being agile and flexible, collaborative, and open, as well as aligned with the political context. The benchmark suggested two key scenarios: multi-level or horizontal governance, with an emphasis on fostering agility and flexibility. At their best, platform actors create public value by themselves by bringing together people, services, technologies and data in a systemic way. The actors and stakeholders facilitate interaction among cities, citizens and private partners in their local ecosystem and beyond to collectively frame problems and co-design solutions. In NetZeroCities this means the need to consider whether the private sector solutions and services can feed the Platform and how an open Community of Practice amongst net-zero practitioners that can learn from each other could operate.

We are currently developing draft business models, encompassing a range of governance, legal and financial options, to ensure long-term sustainability. These include the following broad categories:

- 1) One-stop-shop having a predefined service packages for cities in different stages of their climate neutrality journey
- 2) Tailored services for cities providing content that is hard to find anywhere else
- 3) A curated platform for different kind of service providers (public and private) and versatile services from technical solutions to social innovations

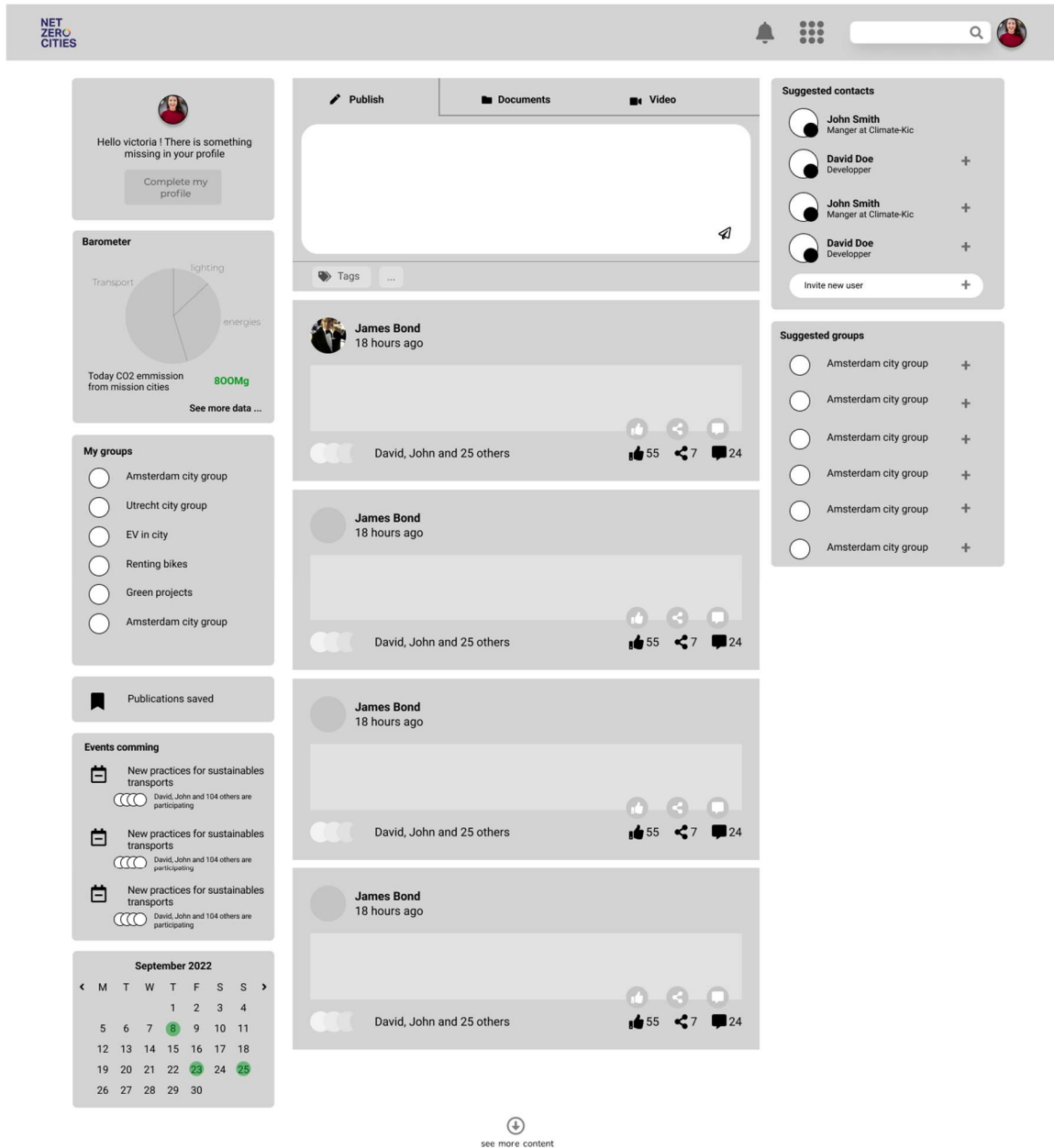
These models will initially reflect the learning from the cities need assessment report (Deliverable 13.1) and learnings from the benchmark and iteration among NZC partners. Secondly, the business model will reflect on the Capacity Building Programme Plan (Deliverable 3.2) and the different starting points of each city and the design of resources provided by the Platform in translating the Climate City Contract process to their unique situation. Thirdly, they will elaborate on the outline organisational architecture set out in section 4.8. Fourthly, they will be tested via a foresight process that reflects possible future states that may affect the business models and their ability to create long-term sustainability for the platform. The foresight process is participatory and engages NZC stakeholder panels into the work of defining how the Platform is scaled up, with options to open and develop its offering to better answer the city and EC needs.

Through this iterative and participatory process, an initial Exploitation and Business model for the Mission platform will be produced by M30 and specified for implementation by M40.

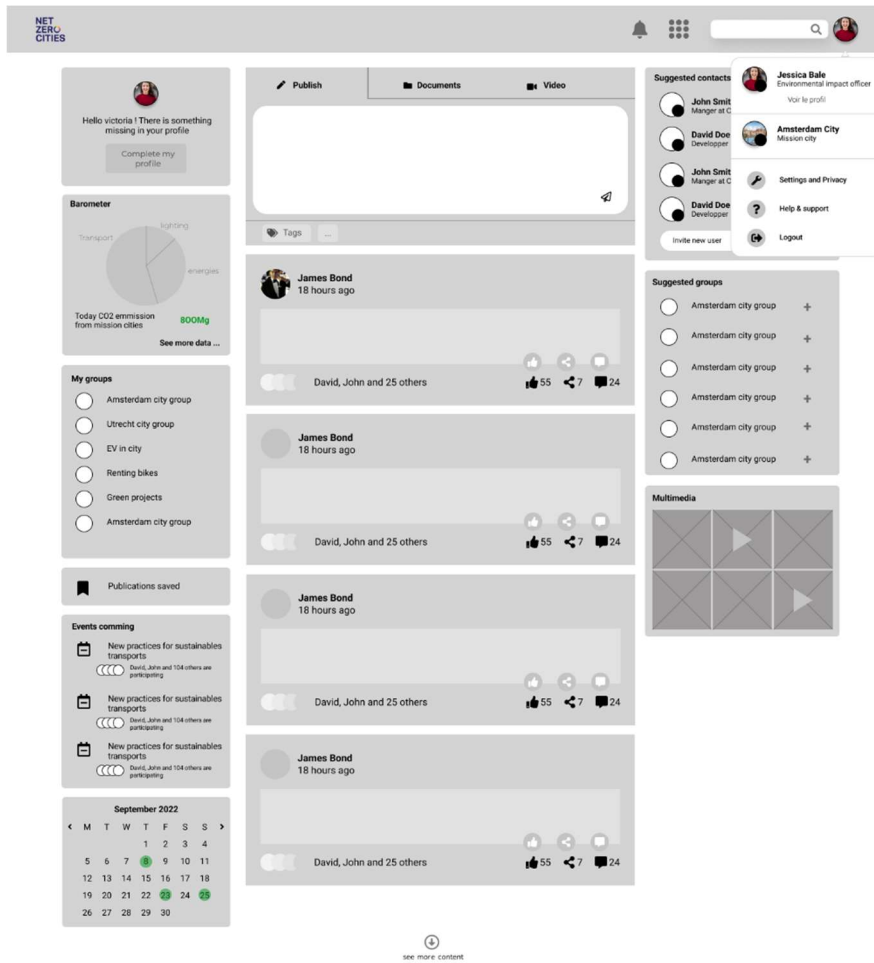


Appendix I: P2P Collaboration Space & social network mock-ups

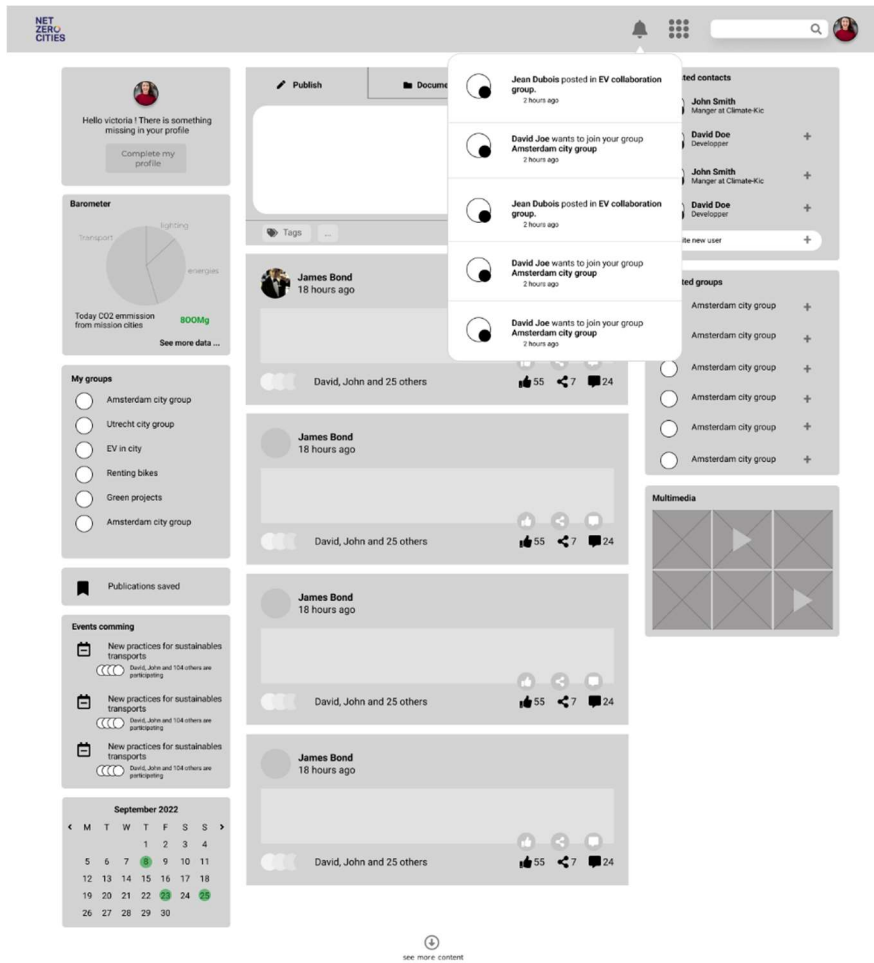
Home page (after connection succeed)



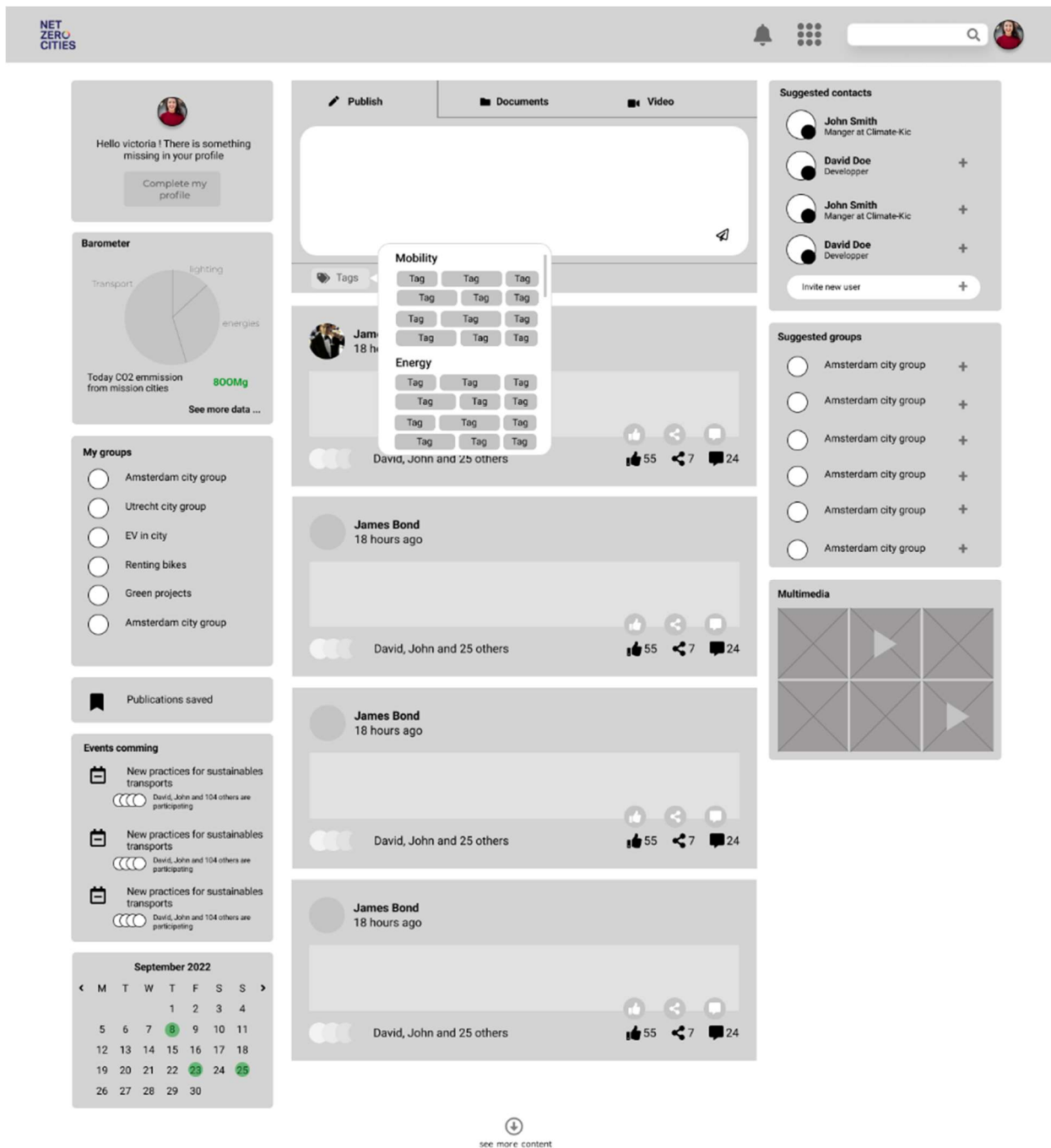
Home page (profile pop-up)



Home page (notification pop-up)



Home page (adding tags pop-up)



User profile page (user connected)

Jessica Bale
Eco city expert

This is a description of my job. Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ...
See full description

145 followers
210 follows

Edit my profile

Publish
Documents
Video

Tags
...

James Bond
18 hours ago

David, John and 25 others

55
 7
 24

Jessica Bale
18 hours ago

David, John and 25 others

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 7
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Jessica Bale
18 hours ago

David, John and 25 others

55
 7
 24

Suggested contacts

John Smith
Manger at Climate-Kic

+

David Doe
Developer

+

John Smith
Manger at Climate-Kic

+

David Doe
Developer

+

Suggested groups

Amsterdam city group

+

Amsterdam city group

+

Amsterdam city group

+

Amsterdam city group

+

Amsterdam city group

+

Amsterdam city group

+

My groups

Amsterdam city group

Utrecht city group

EV in city

Renting bikes

Green projects

Amsterdam city group

Publications saved

Events coming

New practices for sustainables transports

David, John and 104 others are participating

New practices for sustainables transports

David, John and 104 others are participating

New practices for sustainables transports

David, John and 104 others are participating

September 2022

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>

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5	6	7	8	9	10	11	
12	13	14	15	16	17	18	
19	20	21	22	23	24	25	
26	27	28	29	30			



Other user profile

The interface shows a user profile for James Bond. The profile card includes a circular profile picture, the name 'James Bond', and the bio 'Spy at London secret services'. Below the bio is a placeholder for a description and a 'Follow' button. To the left of the main feed is a list of groups with radio buttons: Amsterdam city group, Utrecht city group, EV in city, Renting bikes, Green projects, and Amsterdam city group. The main feed consists of six posts, each by James Bond or Jessica Bale, with 18 hours ago timestamp, a placeholder for content, and interaction icons (likes, shares, comments) showing 55 likes, 7 shares, and 24 comments. On the right, there is a 'You may also know' section with three suggested users (John Smith, David Doe) and an 'Invite new user' button. Below that is a 'Multimedia' section with a grid of placeholder images.



City profile page (when user connected have administrator access)

NET ZERO CITIES

AMSTERDAM
Mission city

This is a description of my job, Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ...
[See full description](#)

125 persons works here

145 followers
210 follows

[Edit profile](#)

My groups

- Amsterdam city group
- Utrecht city group
- EV in city
- Renting bikes
- Green projects
- Amsterdam city group

Publications saved

Events coming

- New practices for sustainable transports
David, John and 104 others are participating
- New practices for sustainable transports
David, John and 104 others are participating
- New practices for sustainable transports
David, John and 104 others are participating

September 2022

<	M	T	W	T	F	S	S	>
				1	2	3	4	
	5	6	7	8	9	10	11	
	12	13	14	15	16	17	18	
	19	20	21	22	23	24	25	
	26	27	28	29	30			

Publish | Documents | Video

Tags ...

James Bond
18 hours ago

David, John and 25 others

55 7 24

Jessica Bale
18 hours ago

David, John and 25 others

55 7 24

Jessica Bale
18 hours ago

David, John and 25 others

55 7 24

Jessica Bale
18 hours ago

David, John and 25 others

55 7 24

City Dashboard

Transport lighting energies

Today CO2 emission from mission cities **800Mg**

[See full city dashboard](#)

Suggested contacts

- John Smith
Manger at Climate-Kic
- David Doe
Developer
- John Smith
Manger at Climate-Kic
- David Doe
Developer

[Invite new user](#)

Multimedia



City profile page (for any user)

AMSTERDAM
Mission city

This is a description of my job, Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ...
[See full description](#)

125 persons works here

145 followers
210 follows

[More details](#)

My groups

- Amsterdam city group
- Utrecht city group
- EV in city
- Renting bikes
- Green projects
- Amsterdam city group

Publications saved

Events coming

- New practices for sustainable transports
David, John and 104 others are participating
- New practices for sustainable transports
David, John and 104 others are participating
- New practices for sustainable transports
David, John and 104 others are participating

September 2022

<	M	T	W	T	F	S	S	>
				1	2	3	4	
	5	6	7	8	9	10	11	
	12	13	14	15	16	17	18	
	19	20	21	22	23	24	25	
	26	27	28	29	30			

City Dashboard

Search in the page

Transport lighting energies

Today CO2 emission from mission cities **800Mg**

[See full city dashboard](#)

You may like

- Bilbao Pilot city
- Utrecht Mission city
- Paris Mission city
- Roma Pilot city

[Invite new user](#)

Suggested groups

- Amsterdam city group
- Amsterdam city group
- Amsterdam city group
- Amsterdam city group
- Amsterdam city group
- Amsterdam city group
- Amsterdam city group

Multimedia

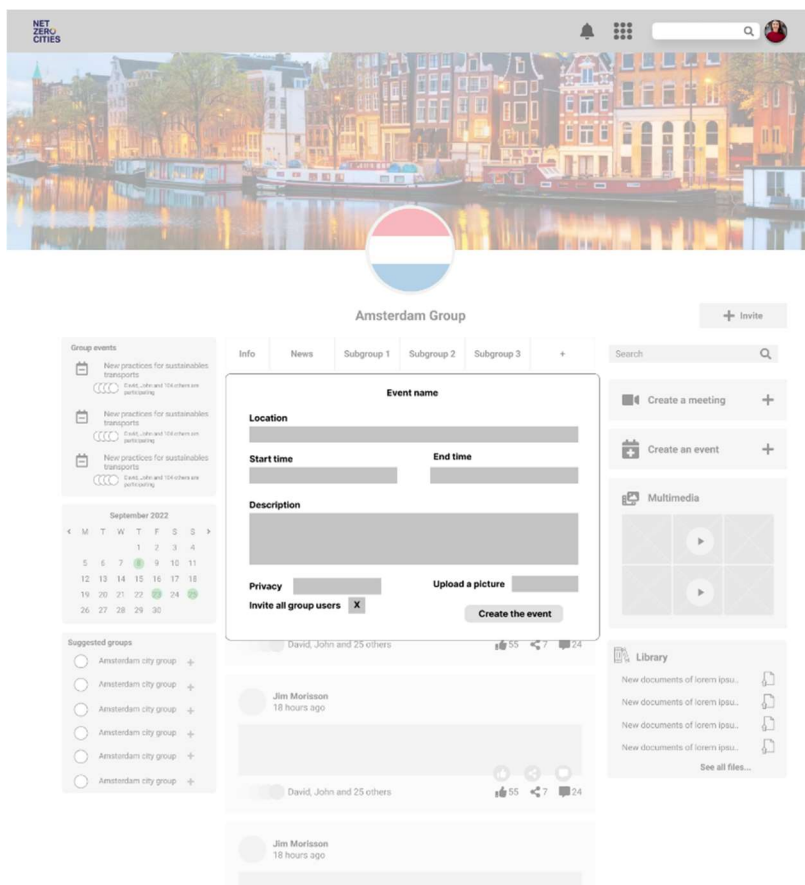
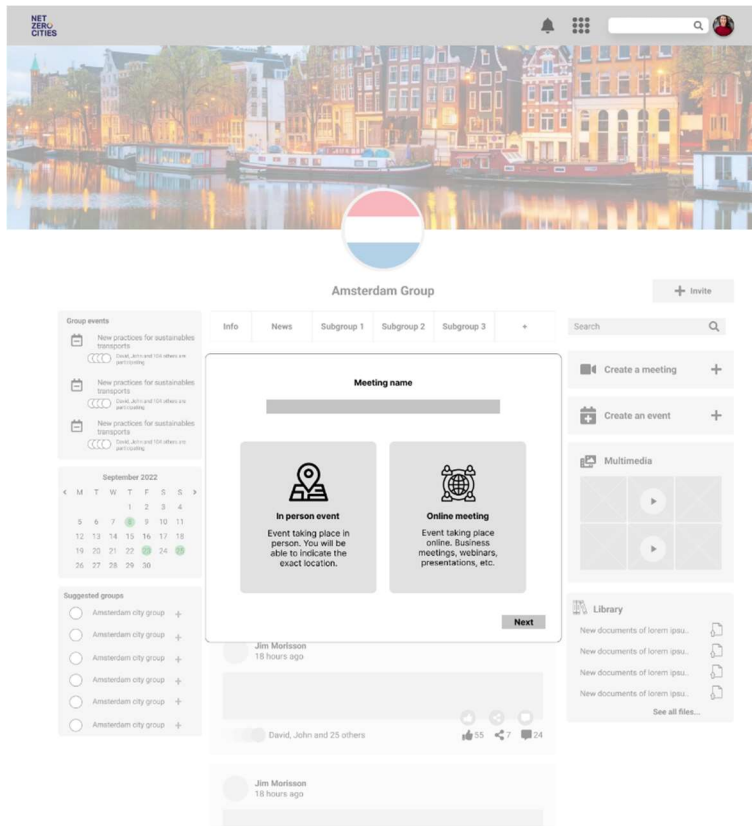


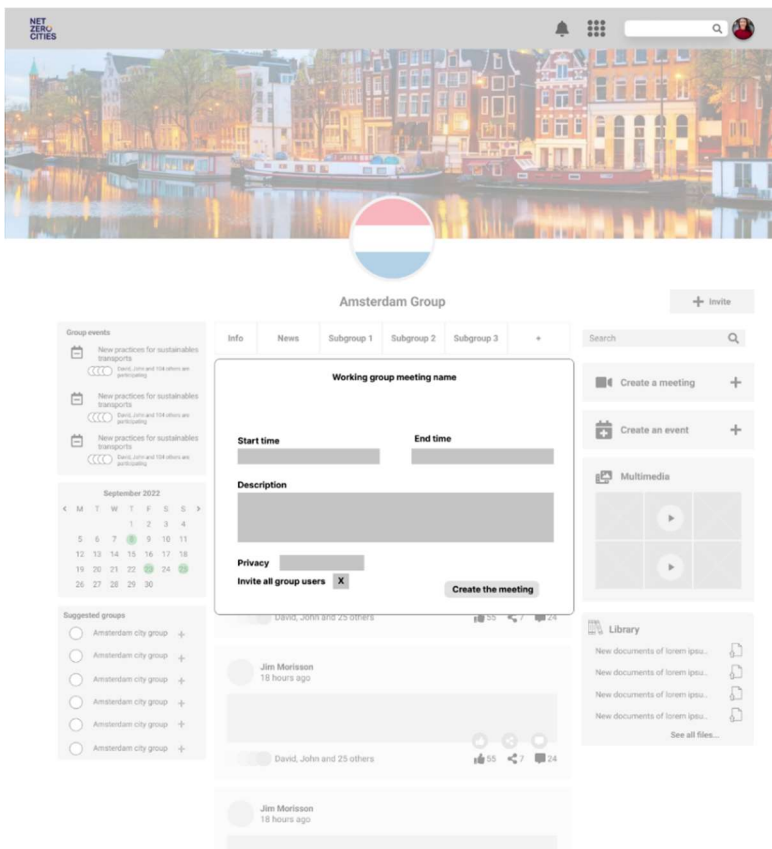
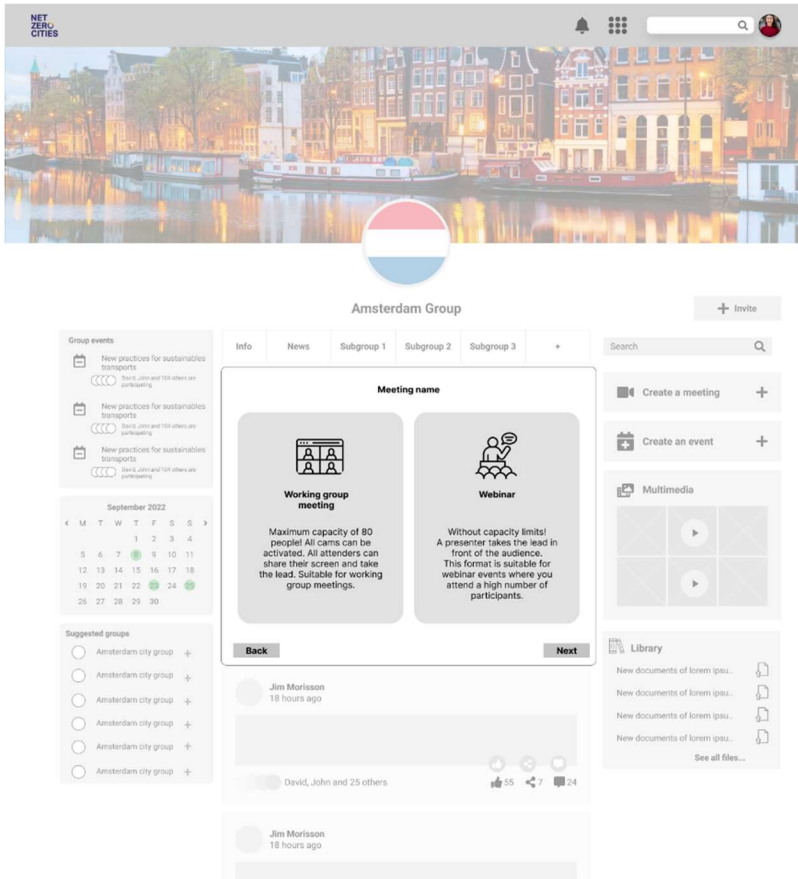
Group page

The screenshot displays a user interface for a group named "Amsterdam Group". At the top, there is a header with the group name and a circular profile picture. Below this, a navigation bar includes tabs for "Info", "News", "Subgroup 1", "Subgroup 2", "Subgroup 3", and a "+" icon. The main content area shows a series of posts, each starting with a user profile picture and the name "Jim Morisson" followed by "18 hours ago". Each post has a placeholder for content and a set of interaction icons (like, comment, share) with counts (55 likes, 7 comments, 24 shares). To the left of the main content, there are three sections: "Group events" with three event cards, a calendar for "September 2022", and "Suggested groups" with a list of "Amsterdam city group" entries. To the right, there is a sidebar with a search bar, "Create a meeting" and "Create an event" buttons, a "Multimedia" section with video thumbnails, and a "Library" section with document icons. The top of the page features a navigation bar with the "NET ZERO CITIES" logo, a notification bell, a grid icon, a search bar, and a user profile icon.



Create a meeting process





Event page

The screenshot shows a web interface for an event page. At the top, there is a header with the 'NET ZERO CITIES' logo on the left, a notification bell, a grid icon, a search bar, and a profile picture on the right. Below the header is a large banner image of a historic building in Amsterdam. Underneath the banner, there are three buttons: '+ Message guests', '+ Invite', and 'Edit'. To the right of these buttons is a summary table:

10 going	4 maybe	30 invited
-------------	------------	---------------

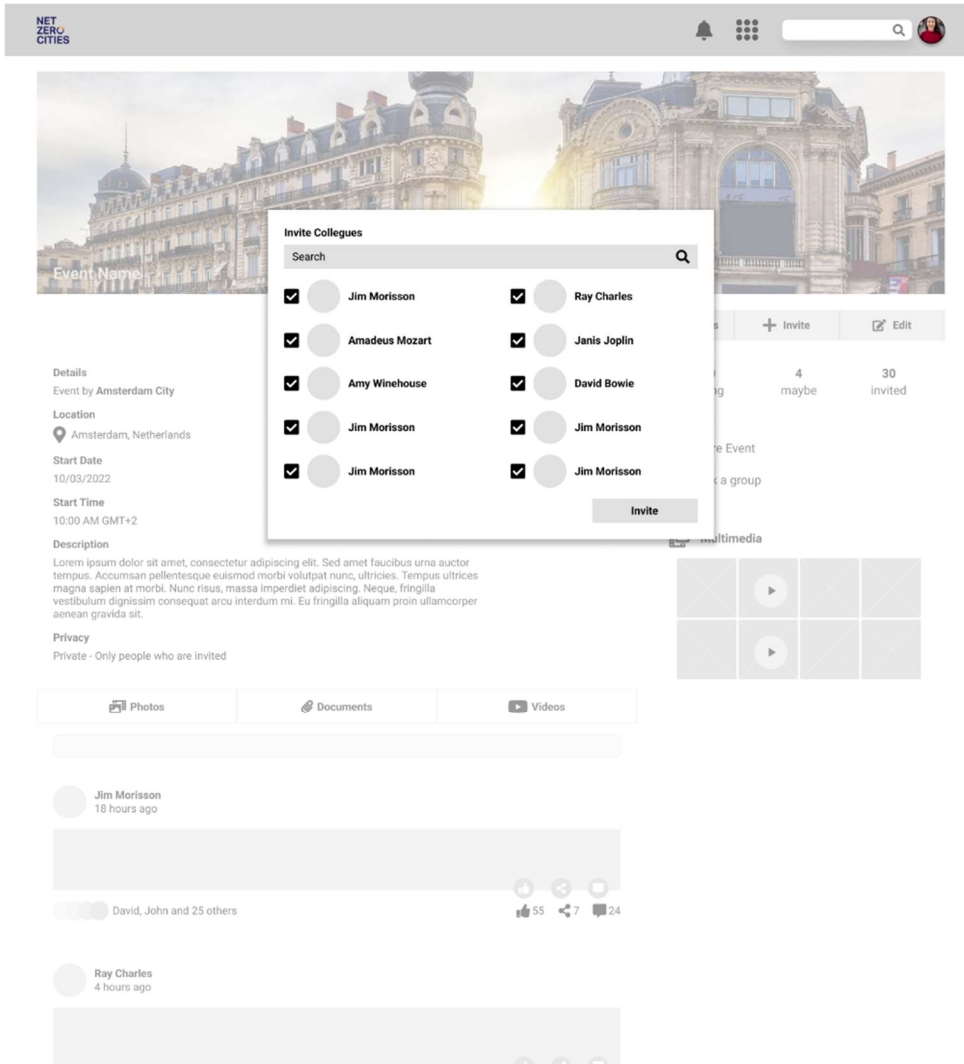
Below the table are two buttons: 'Share Event' and 'Link a group'. To the left of the main content, there is a 'Details' section with the following information:

- Event by Amsterdam City
- Location: Amsterdam, Netherlands
- Start Date: 10/03/2022
- End Date: 15/03/2022
- Start Time: 10:00 AM GMT+2
- End Time: 10:00 PM GMT+2

A 'Description' section follows with a paragraph of placeholder text. Below that is a 'Privacy' section set to 'Private - Only people who are invited'. At the bottom of the details section are three tabs: 'Photos', 'Documents', and 'Videos'. The main content area below the details shows a list of user comments. The first comment is from 'Jim Morisson' (18 hours ago) with a greyed-out text area. The second comment is from 'David, John and 25 others' (55 likes, 7 replies, 24 shares). The third comment is from 'Ray Charles' (4 hours ago) with a greyed-out text area.



Invite user window



Explore page

EXPLORE

- Groups
- Events
- Chat
- Barometer
- Cities Dashboards
- Call Management
- Grant monitoring
- Multimedia
- Blog
- Knowledge
- User directory
- Privacy
- Helpdesk
- Settings

User directory

USER DIRECTORY

Filter with tags associated

Tag Tag Tag Tag Tag Tag Tag ...

- James Bond
Spy at London secret services
Follow
- James Bond
Spy at London secret services
Follow
- James Bond
Spy at London secret services
Follow
- James Bond
Spy at London secret services
Follow
- James Bond
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Follow
- James Bond
Spy at London secret services
Follow
- James Bond
Spy at London secret services
Follow



Groups directory

NET ZERO CITIES

GROUPS DIRECTORY

Filter with tags associated

Tag Tag Tag Tag Tag Tag Tag ...

Create a group

AMSTERDAM GROUP private group

David, John and 25 others

Join the group +



Appendix II: Knowledge Repository mock-ups

Knowledge repository landing page

Knowledge repository

Search [input] Search [button] Upload a resource [button]

Featured Browse all

22. Jan 2022
Resource title
Appetite for more liveable, people-oriented cities is driving a surge of interest in the 15-minute city. This Spotlight unpacks what this approach can offer, as well as four key building blocks to guide the development of a 15-minute city strategy.
High Technology Energy ...

22. Jan 2022 13 ♥
Resource title
Appetite for more liveable, people-oriented cities is driving a surge of interest in the 15-minute city.
High Technology Energy ...

22. Jan 2022 13 ♥
Resource title
Appetite for more liveable, people-oriented cities is driving a surge of interest in the 15-minute city.
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High Technology Energy ...

22. Jan 2022 13 ♥
Resource title
Appetite for more liveable, people-oriented cities is driving a surge of interest in the 15-minute city.
High Technology Energy ...

[Browse all resources](#)

Collections

High Technology
Short description of category/tag.

High Technology
Short description of category/tag.

High Technology
Short description of category/tag.

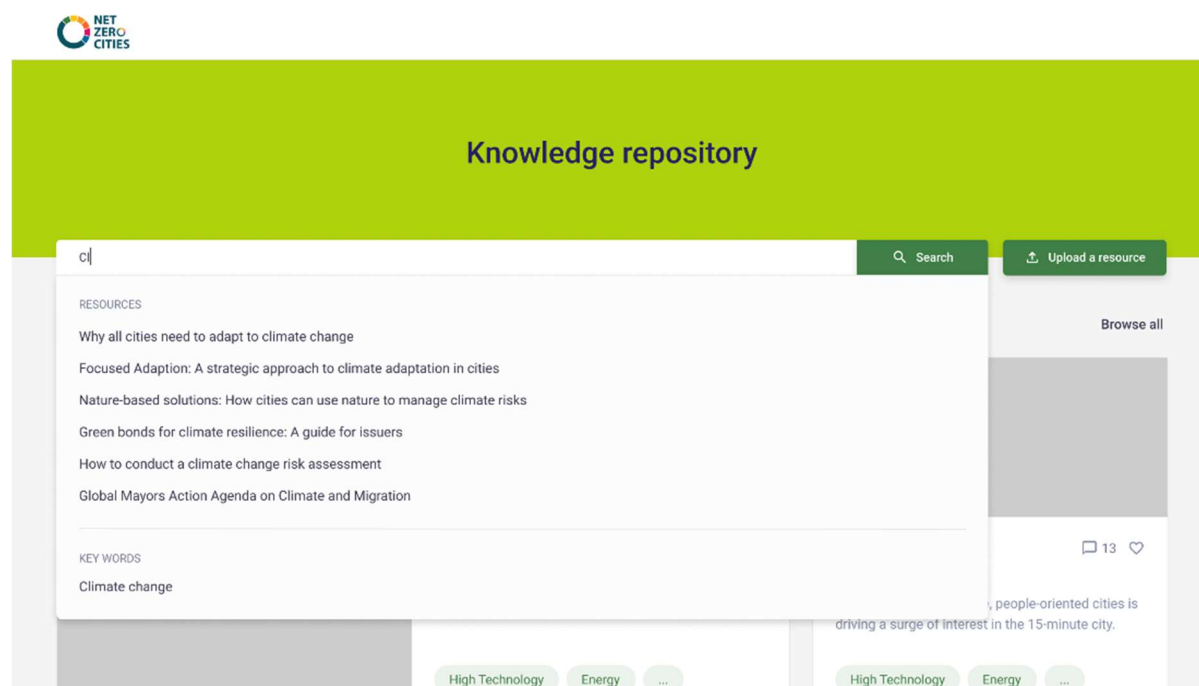
High Technology
Short description of category/tag.

High Technology
Short description of category/tag.

High Technology
Short description of category/tag.



Direct search function



Knowledge repository all resources page

Knowledge repository

All
Favorites
Curated

Search

Categories ^

- Water
- Energy
- Mobility ^
- Freight
- Automobiles

Show all

Tags ^

Follow selected tag

- Water
- High technology
- Mobility v

Show all

Resource type ^

- Xx
- Xx
- Xx

Show all

Language ^

- English
- Spanish

Show all

File type ^

- PDF
- JPEG
- Link

Show all

Location ^

- Spain
- Netherlands
- Belgium ^
- Bruges
- Brussels

Show all

614 results
Sort by Most relevant v

22. Jan 2022 13 comments Save

Resource title

Appetite for more liveable, people-oriented cities is driving a surge of interest in the 15-minute city. This Spotlight unpacks what this approach can offer, as well as four key building blocks to guide the development of a 15-minute city strategy.

High Technology
Energy
...

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High Technology
Energy
...

This project has received funding from the H2020 Research and Innovation Programme under the grant agreement n°101036519.

84

Knowledge repository favourites page, includes followed tags





Knowledge repository

All Favorites Curated

Favorites

4 resources

- 22. Jan 2022 13 comments Save

Resource title

Appetite for more liveable, people-oriented cities is driving a surge of interest in the 15-minute city. This Spotlight unpacks what this approach can offer, as well as four key building blocks to guide the development of a 15-minute city strategy.

High Technology Energy ...
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High Technology Energy ...

Followed tags

- High Technology X
- Water X
- Energy X
- Mobility X
- Solar X

70 results

Sort by Newest first

- 22. Jan 2022 13 comments Save

Resource title

Appetite for more liveable, people-oriented cities is driving a surge of interest in the 15-minute city. This Spotlight unpacks what this approach can offer, as well as four key building blocks to guide the development of a 15-minute city strategy.

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High Technology Energy ...



Knowledge repository curated resources page, showing recommended readings

Knowledge repository

All Favorites **Curated**

Curated list
A list of recommended resources based on your targets and challenges in your assessment survey 2022.

15 resources

22. Jan 2022 13 comments Save
Resource title
Appetite for more liveable, people-oriented cities is driving a surge of interest in the 15-minute city. This Spotlight unpacks what this approach can offer, as well as four key building blocks to guide the development of a 15-minute city strategy.
High Technology Energy ...

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High Technology Energy ...



Single resource page (text based)



22. JAN 2022

Resource title

Public spaces are key to empowering women to be equal participants in the cultural, political, and economic development of communities and cities. Following 18 months of participatory assessment, co-designing of urban spaces and implementation works, the Medina of Tunis can now offer women greater opportunities to engage in the city.

rehabilitated public spaces under the Femmedina Inclusive City Programme will be made available to women to respond to their needs and challenges they face as residents of Tunis' historic neighbourhoods.

On 9 March, the partners of the project, USAID, City of Tunis, and Cities Alliance will officially open the first two public spaces:

- The Women's Safe Haven, a rehabilitated green area that allows women to step aside from the busy streets of the Medina, and enjoy an outside space in a safe and protected environment.
- The Learning Hub, in Sidi Bechir, a training centre where woman can gain new skills through workshops in a range of fields such as sewing, crafts, and IT.

Other public spaces rehabilitated under the Femmedina scheme include a library in Bab Bahar, two training centres in Bab Bahar and Bab Souika, and two former parking lots transformed into green spaces in El Hafsia and Tourbet el Bey. These facilities will be rehabilitated public spaces under the Femmedina Inclusive City Programme will be made available to women to respond to their needs and challenges they face as residents.

Public spaces are key to empowering women to be equal participants in the cultural, political, and economic development of communities and cities. Following 18 months of participatory assessment, co-designing of urban spaces and implementation works, the Medina of Tunis can now offer women greater opportunities to engage in the city.

A series of newly rehabilitated public spaces under the Femmedina Inclusive City Programme will be made available to women to respond to their needs and challenges they face as residents of Tunis' historic neighbourhoods.

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Download resource (PDF)

Authors

- City of Amsterdam
- ICLEI

Tags

- High Technology Follow
- Water Follow
- Mobility Follow

Featured in

- Amsterdam collection View →
- Pilot collection View →

Comments 3 comments

Write a comment...

Tom Wilkinson · 19 hours ago
Great resource! I will keep this for later.

Bruce Willis · 15 hours ago
This is really interesting.

Tom Wilkinson · 19 hours ago
Great resource! I will keep this for later.

Related resources





Single resource page (video based)

22. JAN 2022

Resource title

22. JAN 2022

13

Download resource (PDF)

Authors

- City of Amsterdam
- ICLEI

Tags

- High Technology Follow
- Water Follow
- Mobility Follow

Featured in

- Amsterdam collection View →
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Related resources

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Resource title
Appetite for more liveable, people-oriented cities is driving a surge of interest in the 15-minute city.
- 22. Jan 2022 13
Resource title
Appetite for more liveable, people-oriented cities is driving a surge of interest in the 15-minute city.
- 22. Jan 2022 13
Resource title
Appetite for more liveable, people-oriented cities is driving a surge of interest in the 15-minute city.



Single resource page (browser embedded tool – Kumu example)

22. JAN 2022

Resource title

Search

Download resource (PDF)

Authors

- City of Amsterdam
- ICLEI

Tags

- High Technology Follow
- Water Follow
- Mobility Follow

Featured in

- Amsterdam collection View →
- Pilot collection View →

View in Kumu

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High Technology Energy ...

22. Jan 2022 13

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High Technology Energy ...

22. Jan 2022 13

Resource title

Appetite for more liveable, people-oriented cities is driving a surge of interest in the 15-minute city.

High Technology Energy ...



Single resource page (NZC factsheet example)



"Urban biodegradable waste refers to waste from gardens and parks, food waste from households, gastronomy, and markets, as well as waste from food processing, excluding waste from forestry or agriculture, textiles, wood, or paper. Across the EU, between 118 and 138 million tons of biodegradable waste are generated each year, which makes up almost half of municipal solid waste. Urban biodegradable waste discarded in landfills poses a major threat for the environment as its decomposition releases harmful methane into the atmosphere.

To reduce the harmful effects of urban biodegradable waste, smart waste management is crucial. Currently only 40% of biodegradable waste is currently composted. However, composting offers a solution which cities can easily implement and which allows cities to recover high-quality secondary raw materials (composts and digestate). The nutrient-dense mixture can be used by farmers as a high-quality fertilizer to raise organic produce. Using compost instead of chemical fertilizers not only reduces pollution but also produces healthier food.

To successfully reduce the amount of urban biodegradable waste discarded in landfills, composting facilities or bins must be easily accessible to the population. Regulations such as municipal composting laws can help to accelerate large-scale urban composting.

Co-benefits

Smart waste management of urban biowaste can have several co-benefits: Reducing the waste ending up in landfills is essential to reduce GHG emissions. Next to this, a well-organized composting system can enhance citizen participation and helps to raise awareness/behavioural change. Using the nutrient-dense mixture produced from compost as a fertilizer also positively impacts local agriculture and helps to create a sustainable and resilient food system. It improves soil health, reduces the ecological footprint that conventional fertilizers have, and thereby contributes to greater biodiversity.

Comments 3 comments

-
- Tom Wilkinson** · 19 hours ago
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 This is really interesting.
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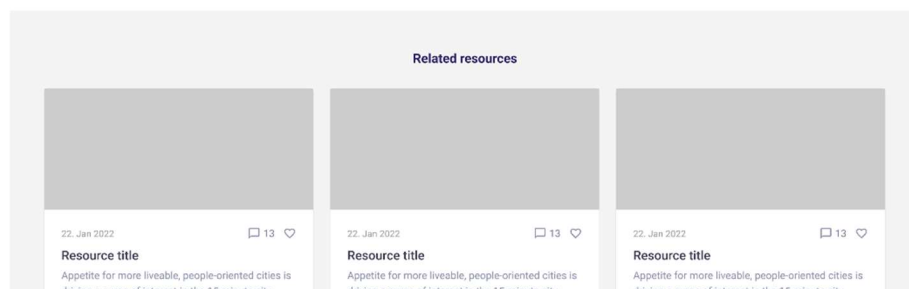
- City of Amsterdam
- ICLEI

Tags

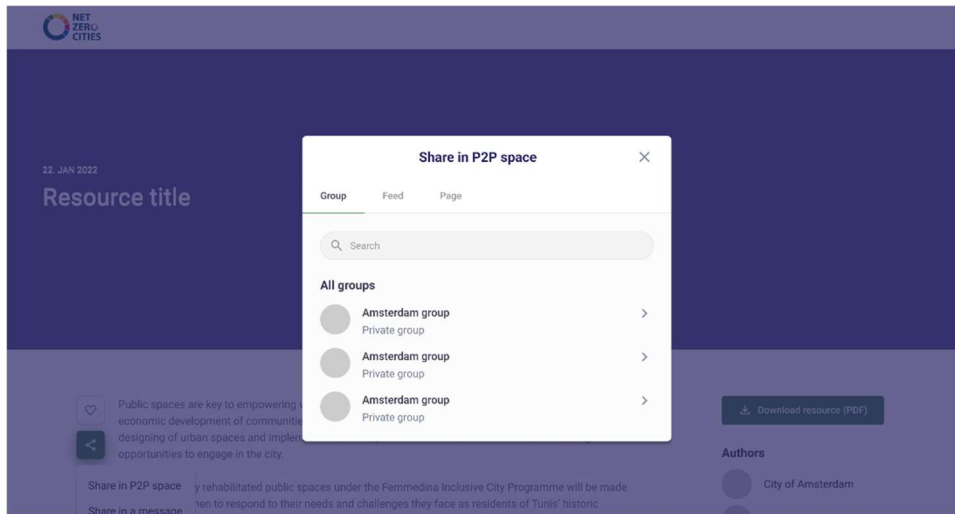
- Circular Economy [Follow](#)
- Nature Based Solutions [Follow](#)

Featured in

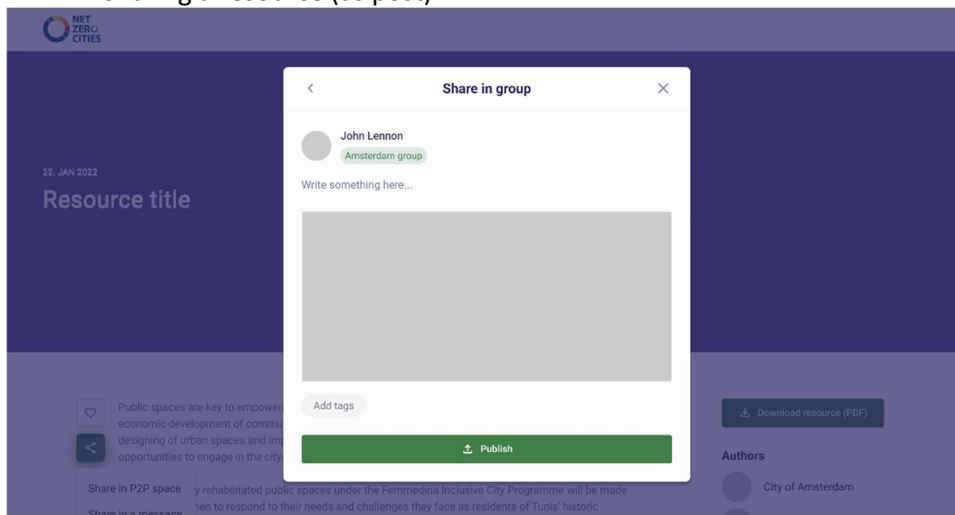
- Amsterdam collection [View →](#)
- Pilot collection [View →](#)



Sharing a resource (to P2P group)



1. Sharing a resource (as post)



Uploading a resource



← Back to the knowledge repository

Upload resource

Title

Short description

0/100 characters

Attachment
You can either add the link or attach a PDF, mp4, .mov or audio file.

Paste link...

Author

Tags

Show all tags

Language

English ▾

Resource type

Case study ▾

Resource thumbnail
PNG or JPEG



Tab for resources under review (view for NZC consortium members)

Knowledge repository

All Favorites Curated Collections **Under review** Wiki

Under review
List of resources currently under review.

6 resources

22. Jan 2022 13 comments Save
Resource title
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High Technology Energy ... Review →

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High Technology Energy ... Review →



Individual resources under review (view for NZC consortium members)



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Share in P2P space

Share in a message

Copy share link

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partners of the project, USAID, City of Tunis, and Cities Alliance will officially open the first two public spaces:

- The Women's Safe Haven, a rehabilitated green area that allows women to step aside from the busy streets of the Medina, and enjoy an outside space in a safe and protected environment.
- The Learning Hub, in Sidi Bechir, a training centre where woman can gain new skills through workshops in a range of fields such as sewing, crafts, and IT.

Other public spaces rehabilitated under the Femmedina scheme include a libray in Bab Bahar, two training centres in Bab Bahar and Bab Souika, and two former parking lots transformed into green spaces in El Hafsia and Tourbet el Bey. These facilities will be rehabilitated public spaces under the Femmedina Inclusive City Programme will be made available to women to respond to their needs and challenges they face as residents.

Public spaces are key to empowering women to be equal participants in the cultural, political, and economic development of communities and cities. Following 18 months of participatory assessment, co-designing of urban spaces and implementation works, the Medina of Tunis can now offer women greater opportunities to engage in the city.

Download resource (PDF)

Authors

- City of Amsterdam
- ICLEI

Tags

- High Technology
- Water
- Mobility

Search icon Suggest a tag

Featured in

Search icon Suggest a collection

Reviewer comments 3 comments

- Write a comment...
- Tom Wilkinson** · 19 hours ago
Please review this sentence: "outside space in a safe and protected environment".
- Bruce Willis** · 15 hours ago
I suggest "outside area"
- Tom Wilkinson** · 19 hours ago
What is the source for this? "two training centres in Bab Bahar and Bab Souika"



Appendix III: Onboarding module mock-ups

Onboarding landing page: introduction to the NZC project and goals (default view for mission and Pilot Cities)

The mock-up displays the following components:

- Introduction module:** A video player titled "Introduction video to the NZC project/goals" with a play button and a "Next" button. Below the video, it shows "1 out of 4" slides.
- Meet the cities:** A map of Europe with markers for cities. A tooltip for Barcelona is visible, containing placeholder text and a "View city profile" link. A legend identifies "Mission cities" (grey), "Pilot cities" (green), and "Twin cities" (yellow).
- Quick reads:** A sidebar containing:
 - NZC Wiki
 - Recommended Working Groups (with placeholder text)
 - Your Top Recommended Reads (with placeholder text)
 - Helpful Links:
 - Virtual Tour
 - Introduction video to NZC goals
 - Explanation of the three user city types
 - Glossary
 - FAQ

Default view for Twin cities (after introduction to NZC project)

Meet the cities

Barcelona
 Lorem ipsum dolor sit amet, consectetur adipiscing elit. Praesent nec ante ligula. Donec sollicitudin efficitur lacus vitae aliquet.
[View city profile](#)

Twinned cities

Milan
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Barcelona
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Amsterdam
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Quick reads

Recommended Working Groups
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Your Top Recommended Reads
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 Suspendisse odio est, vestibulum a nibh vitae, tincidunt posuere sem.

Helpful Links
[Virtual Tour](#)
[Introduction video to NZC goals](#)
[Explanation of the three user city types](#)
[Glossary](#)
[FAQ](#)

Virtual tour of the platform

Introduction module

Virtual tour

[Take the virtual tour](#)

2 out of 4 [Next](#)

Meet the cities

Barcelona
 Lorem ipsum dolor sit amet, consectetur adipiscing elit. Praesent nec ante ligula. Donec sollicitudin efficitur lacus vitae aliquet.
[View city profile](#)

Quick reads

Recommended Working Groups
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Your Top Recommended Reads
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Helpful Links
[Virtual Tour](#)
[Introduction video to NZC goals](#)
[Explanation of the three user city types](#)
[Glossary](#)
[FAQ](#)



Introduction to city types

Introduction module ×

Three different user types

Pilot cities

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Mission cities

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Twin cities

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3 out of 4 Next

Meet the cities

Quick reads

Recommended Working Groups

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Your Top Recommended Reads

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Helpful Links

- Virtual Tour
- Introduction video to NZC goals
- Explanation of the three user city types
- Glossary
- FAQ

FAQ and Glossary

Introduction module ×

Helpful links

FAQ

Glossary

3 out of 4 Finish

Meet the cities

Quick reads

Recommended Working Groups

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Your Top Recommended Reads

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Helpful Links

- Virtual Tour
- Introduction video to NZC goals
- Explanation of the three user city types
- Glossary
- FAQ



Quick reads



QUICK READS

Systems innovation for net zero

Why systems innovation?

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Building blocks of a systematic approach

Infographics

Key principle #1

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Key principle #1

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Key principle #1

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Pioneering practices

Example #1

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Example #2

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Example #3

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Useful resources

External	Portal	Services
Link #1	Link #1	Link #1
Link #2	Link #2	Link #2
Link #3	Link #3	Link #3
Link #4	Link #4	Link #4

