NET ZERO CITIES SGA-NZC

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Assessment of the Investment Model and User Guide

Deliverable D1.8

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Abbreviations and acronyms

Acronym	Description
WP	Work Package
CCC	Climate City Contract
NZP	NetZeroPlanner
EIB	European Investment Bank
JRC	Joint Research Center
CAP	Climate Action Plan
NZC	NetZeroCities
NPV	Net Present Value
IPPU	Industrial Processes and Product Use
AFOLU	Agriculture, Forestry and Other Land Use
GHG	Greenhouse gases

Summary

This deliverable presents an assessment of NetZeroPlanner based on feedback collected through an online user survey administered in 2026. To highlight the gradual improvement of NetZeroPlanner and its different stages of development, this survey is corroborated with the results of a previous survey conducted in 2025 and by feedback gathered during the Climate City Contract review process with the support of the European Investment Bank and the Joint Research Centre (Annex 2).

Across all feedback channels, several common themes emerge. NetZeroPlanner is primarily used to support the development of climate action and investment plans, and increasingly to support progress tracking by cities that have entered the implementation phase of their Climate City Contracts. Users value the structured modelling approach, the availability of emissions trajectories and financial indicators, and the possibility to export results in formats aligned with Climate City Contract requirements. At the same time, feedback consistently highlights challenges related to the availability and quality of local data, as well as to the accessibility of model assumptions and calculations, particularly when results are compared with alternative inventories or modelling tools.

The comparison between the 2025 and 2026 surveys suggests a broader and more heterogeneous user base over time, alongside persistent difficulties that are closely linked to cities' planning stages, internal capacities, and existing reporting frameworks. Insights from the CCC review process reinforce these findings and point to the importance of clearly communicating the scope and limitations of model-based results when they are used to inform action planning and investment decisions.

Keywords

Keywords: NetZeroPlanner, Climate City Contracts, Climate Action Plan, Investment Plan, Users' survey

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1 Introduction to the investment model and the user guide

NetZeroPlanner (NZP) is an online tool developed by the NetZeroCities consortium to help municipalities with planning and tracking progress towards their climate neutrality goals as described in their Climate City Contracts (CCC). The tool provides a structured modelling approach that helps cities assess decarbonisation pathways, allocate costs and benefits across stakeholder groups, and evaluate the economic case for climate action. In addition, the tool can track the implementation progress of climate actions, informing reporting and stakeholder dialogues on steering and improving plans.

The model outputs include a baseline GHG emissions inventory, emission reduction scenarios broken down by key emission sectors and subsectors across scope1, 2 and 3, including buildings, transport, waste, as well as costs (incremental CAPEX and OPEX) and co-benefits allocated across six stakeholder groups: citizens, businesses, municipalities, healthcare providers, transport operators, and utilities. Detailed descriptions of the scenario building functionality of the tool and of its methodology are included in "The NetZeroCities Economic Model: an overview of NetZeroPlanner" (Vanhuyse et al., 2024) and "Learning Resources and User Guidance for NetZeroPlanner" (Cheng-Wei Yu et al., 2025).

The use of NZP is not restricted to Mission Cities. The tool is available to all users registered on the NetZeroCities platform that may benefit from its use. NZP is designed to assist cities in different phases of the design-implementation-monitoring stages of their climate plans. In particular, cities taking the first steps into reducing their carbon footprint can rely on NetZeroPlanner's structured approach and availability of comparable data from cities with similar features to design reliable climate plans. Cities that that have already developed their climate plans, such as Mission Cities that have completed an initial version of their CCC, can leverage NZP to monitor their progress and update their plans for their CCC iterations, which ensure the transparency and accountability of CCC implementation.

Usage figures indicate a growing uptake of the tool. To date, 112 cities have logged into NetZeroPlanner and created at least one climate plan, including Mission Cities and other cities interested in the Mission. In addition to climate action and investment planning, an increasing number of cities that have entered the implementation phase of their Climate City Contracts are now using NetZeroPlanner to support monitoring, evaluation and learning related to their greenhouse gas reduction objectives.

The functions and the features of NetZeroPlanner can also be understood by outlining the steps that users are guided through with the help of the interactive online model interface:

1. **Create a new Climate Action Plan**: a Climate Action Plan is a plan municipalities develop to define time-bound GHG emission reduction targets and the actions to achieve these targets. The user is prompted with a series of questions designed to generate default input values based on comparable cities in Europe. The questions pertain to the city's profile, including population, climate, and composition of its energy mix.
2. **Data collection and entry:** at this step, the users are provided with two alternatives. They can populate the information prompt with data collected for this purpose (data include: the composition of the private and the public vehicles fleet, sources of energy and electricity, management of waste, emissions factors from several economic sectors, etc). Alternatively, the user can accept pre-populated inputs (also referred to as "comparable city values") generated by NZP based on the city profiling achieved in the previous step. Lastly, the user has the possibility to adjust some underlying assumptions to make the case more relevant for the city's specific climate goals.
3. **Output 1 Emissions scenario:** based on the information that is provided in the previous steps, NZP produces a graph that shows a linear reduction trajectory of the municipal emissions from the baseline year to the target year. The graph breaks down total emissions by sector and provides information on where the municipality needs to stand, every-by-year, in order to be considered on track to reach its goals.

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4. **Output 2 Economic considerations:** this second output builds on the results from Output 1 and provides a series of financial and economic metrics linked to the suggested decarbonization roadmap. The figures can be conveniently downloaded in an Excel file that aligns with the format and requirements of the Climate City Contract.. Several climate actions here are linked to several sectors and Net Present Values (NPV) and CO2eq reductions are reported. For instance, the group of actions envisioned for the transport sector include, among others, the electrification of the private and of the public vehicles fleets. NPVs are reported both for capital expenditure and for operational expenditures. Cost-efficiency considerations are included by reporting the NPV/ Reduced CO_2eq ratios that allow to compare the financial investments and returns per unit of reduced emissions. Finally, one last column reports the NPV for the co-benefits linked to climate action.
5. **Progress Tracker**: the tool does not simply allow its user to produce a roadmap for climate action that comprises financial considerations too, but it also provides a way to track the actual results and progress along the all the Key Performance Indicators that are found in the dashboard. This allows municipalities to establish a Monitoring, Evaluation, Learning and Implementation Management routing.

The tool has undergone significant changes and improvements throughout the project. This is an important aspect the reader should be reminded of. On the one hand, it prevents the possibility of performing accurate comparisons between different feedback inputs, as these may be referring to different versions of the tool. On the other hand, it offers the chance to assess whether the points raised during previous assessments of NZP were included in the later developments of the tool. The initial version of the tool was based on an online rendition of an initial climate action economic model designed by Material Economics with further enhancements by the Technical University of Madrid (UPM). Table 1 provides a concise summary of the timeline of model development phases (in white), of feedback collection (light green), and resulting improvements (dark green).

Table I Timeline of NZP development, feedback collection, and improvements

Year/Date	Update
2019	First Excel-based model is built by Material Economics and used by a several cities for GHG inventories and financial planning.
2022-2025	43 Missions Cities receive support from NZC to use of the Excel economic model to create their Climate City Contracts.
August 2023	The first CCCs elaborated with the help of the economic model are reviewed by the European Commission and receive feedback on the model
December 2023	Work starts on converting the excel economic model to an online tool
January – February 2024	A second cohort of CCCs elaborated with the help of the economic model are reviewed by the European Commission and receive feedback on the model
June 2024	Following feedback on CCCs as iterative climate governance instruments, a progress tracker feature is envisioned as an add-on to the original economic model to support cities in monitoring, learning and updating their CCCs.
July – September 2024	A third cohort of CCCs elaborated with the help of the Excel economic model are reviewed by the European Commission and receive feedback on the model
August 2024	The economic model is fully developed into the online tool NetZeroPlanner and is integrated in the NetZeroCities Portal, including SSO
September 2024	In response to feedback from CCC reviews, and to informal user feedback calling for methodology transparency, learning and support materials and a dedicated community group for support to cities.
October 2024	Cities and Consortium members are introduced to the tool through webinars and training sessions. A detailed description of the model is published as D1.6, « The NetZeroCities Economic Model: an overview of NetZeroPlanner » (Vanhuyse et al, 2025)

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January – September 2025	A fourth cohort of CCCs elaborated with the help of the Excel economic model are reviewed by the European Commission and receive feedback on the model
February 2025	The first cohort of Missions Cities begin using the progress tracker features to monitor, evaluate, learn and update their CCCs
March 2025	In response to feedback from CCC reviews, and to informal user feedback calling for methodology transparency, D1.7 Learning Resources and User Guidance for NetZeroPlanner is published (Cheng-Wei Yu et al, 2025) is published, detailing model assumptions and responses to frequently asked questions.
June 2025	The first NZP user survey is implemented. The results feed into the discussion of further developments for Version 2 of NetZeroPlanner.
August 2025	In response to feedback from users, including the 2025 user survey, NetZeroPlanner Version 2 is launched In particular, the update involved the following aspects of NZP: • Streamlined access procedures and plan creation. The goal is to make it easier for new cities to start using and rely on the tool. • Automatic access in the NZC Portal for cities beyond the Mission Cities cohort to guarantee an easy and straightforward access to NetZeroPlanner. • Reduction in the number of required baseline data inputs by a third to improve ease of climate plan creation. • Additional learning prompts inside the system to bring more transparency to model methodology. • Improvements to Progress Tracker graphs for more intuitive drill-down to support ongoing learning and better climate plan implementation. • Improvements to the graphs in Progress Tracker for more accurate estimation of Key Performance Indicators where city data is unavailable. • Ability to create templates of current plans including historical data as the foundation for the development of new scenarios and Climate City Contract Iteration. • Automatic sandbox access for all NZC Portal users. • Various bug fixes.
2024-2026	32 additional municipalities begin using NetZeroPlanner. Among these, Mission Cities creating new Climate City Contract iterations and cities other than the Mission cohorts, using the tool to start new plans
February 2026	The second NZP user survey is implemented. The results feed into the discussion of further developments for Version 3 of NetZeroPlanner
May 2026	In response to feedback from users, including the 2026 user survey, NetZeroPlanner Version 3 • Financial and GHG data: Updated financial and greenhouse gas inputs and assumptions to improve the accuracy of emissions scenarios, investment estimates and reporting outputs • Data quality: Additional error flagging mechanisms to support cities during data entry and reduce the risk of inconsistent or implausible inputs • Methodological transparency: Visualisation of model calculations to improve understanding of how emissions trajectories and financial results are generated • Usability: Practical usability improvements, including the ability to delete plans and to mark plans as “view only” • Progress tracking: Improvements to the Progress Tracker to allow clearer tracking of GHG results over time against the Business-as-Usual scenario

The NetZeroPlanner User Survey 2026 was therefore planned to reflect user feedback to NetZeroPlanner Version 2 and to inform NetZeroPlanner Version 3. Sections 2 and 3 of this deliverable are focused on showcasing the results of this survey and highlighting improvements foreseen for Version 3 of the tool. Nevertheless, to substantiate future tool development priorities, section “Lessons learnt and recommendations” goes a step further in tracking unexploited opportunities for NetZeroPlanner´s

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improvement across all feedback collected, including user surveys, and Climate City Contract reviews by the European Commission, European Investment Bank and the Joint Research Centre.

2 NetZeroPlanner user survey 2026

To collect feedback from NetZeroPlanner Version 2 users, a survey was designed during the period December 2025–January 2026. The aim of the survey was to gather information on the NZP user profiles, their roles in city administrations, understand to what extent NZP is used to create new climate plans and to track the implementation and progress of climate action. The structure and questions of the survey partially mirror those of a previous survey circulated in early 2025 among Spanish municipalities and the municipalities of Dortmund and Elbasan, whose results informed upgrades introduced in version 2 of the tool (Pérez Fernández, 2025). This makes it possible to compare feedback across tool versions. Results from this comparison are discussed in Section 4.

The 2026 user survey is split into two sections, one dedicated to the experience of creating a Climate Action Plan and one dedicated to the experience with tracking its progress. The acknowledgment that different municipalities may have different degrees of understanding and experience of the tool is reflected in a specific design choice to have each respondent answering questions on one, and only one, of these two parts. That is to say, the user that has only had experience with creating a Climate Action Plan will receive questions strictly related to this function of the platform. More advanced users that have been relying on the platform to monitor their progress will instead be asked to answer questions on their experience with this function. All the questions, irrespective of the sections they are included in, are designed so as to collect users' perspectives around the *utility* of certain functions, around the *ease of use* of other functions and on the availability and the quality of the support provided, in different forms. The complete structure of the survey is available in the Appendix.

The survey was initially distributed to NZP users at the beginning of February, with support from Kausal, the company responsible for maintaining and managing the online platform that hosts NZP. This approach ensured compliance with GDPR regulations and avoided the need to share users' personal contact information. At the same time, City Advisors were contacted to request their support in increasing the response rate across municipalities. One week prior to the February 28 deadline, a reminder was sent by both Kausal and the City Advisors. In total, 30 valid responses were received out of 172 users contacted, corresponding to a response rate of approximately 17%. Although 32 responses were submitted, two were empty and contained no usable information. The timeline covering the survey design, its distribution to users, and the final reminder is summarized in Figure 9. The figure also provides an overview of the platform's development timeline and indicates the timing of the first survey distributed among Spanish municipalities.

Responses were received from across Europe, with Spain the most represented country (12 out of 30 responses). Germany ranked second in terms of replies (n = 2). Bulgaria, Israel, Iceland, Ireland, France, Cyprus, the Czech Republic, Sweden, Portugal, Greece, and Poland each contributed one responding municipality. It should be noted, however, that in some cases multiple responses were submitted for the same municipality by different individuals. This occurred, for example, in the municipality of Eilat, where respondents representing different roles provided input. Most respondents indicated that they use the platform to track the progress of their plan (n = 13), followed by those who use it both for tracking and for developing a new climate action plan (n = 10). Only seven respondents reported using the platform solely to create a new climate action plan.

The roles of respondents within municipalities vary considerably, ranging from project and data managers to deputy mayors. Several respondents also indicated that they work with municipalities using NZP without being directly employed by them; most of these individuals are external consultants or advisors.

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2.1 Feedback on creating new climate plans

An average score of 2.29 is achieved in the question "*To what extent have you made use of NetZeroPlanner in designing your city's Climate Action Plan and/or Climate Investment Plan?*". We include in the computation of this score all the respondents that either indicated that they only use NZP to create a new Climate Action Plan or that they use it both for this and to track their progress. The Likert scale on this question ranged from 1 to 4, from "Low Use" to "High Use". The complete distribution of the answers to this question is shown in Figure 1.

As far as the assessment of the available features is concerned, the possibility to download the results of the analysis and to export them in a spreadsheet is the feature that is found to be the most useful, with 9 repondents indicating that they find it "Very useful", the highest possible value in the Likert scale, and 4 replying "Useful", the second highest possible value. The availability of graphs and plots, and the possibility to break these down by sector and subsector, is another of the features in NZP that has been found particularly helpful by the respondents. 7 of them indicated that they found this feature "Very useful" and 6 found it "Useful". Only one respondant stated that the feature is "Not useful". The availability of financial considerations such as the cost-effectiveness of the investments and the NPV of the suggested measures did not receive a clear assessment by the respondents. While it is generally percevied to be useful (*n = 8*), this is also the feature with most "Not useful" (*n = 3*) answers.

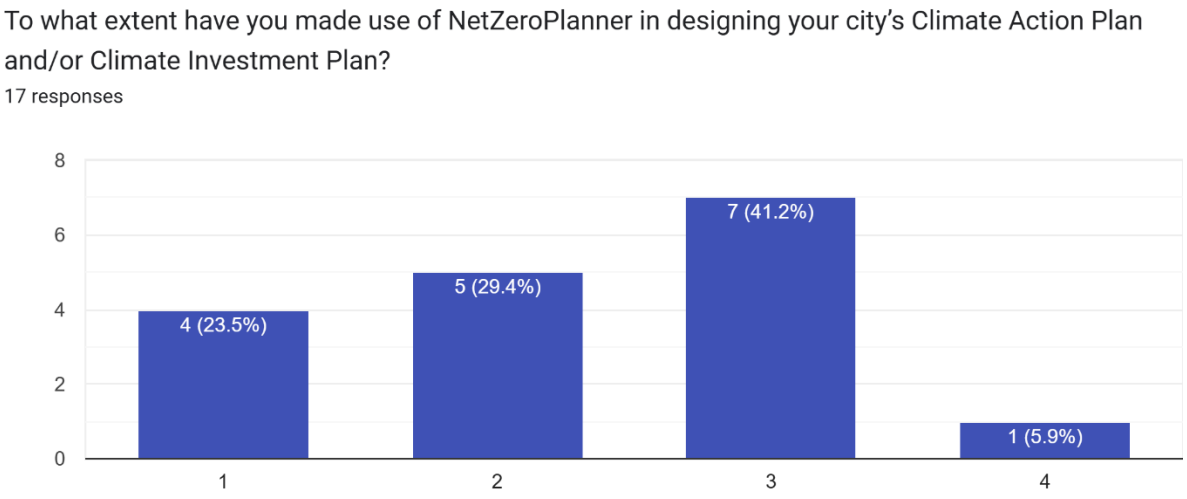


Figure 1.Distribution of answers to the question: To what extent have you made use of NetZeroPlanner in designing your city's Climate Action Plan and/or Climate Investment Plan?

Having the chance to tailor the analysis to the specific case of the city being represented is a feature that is perceived, overall, as relatively useful. 8 respondents judged it "Useful", 3 judged it "Very useful", "Somewhat useful" received 5 votes and none of the respondents felt it is "Not useful". The availability of fallback comparable city values to compensate for the lack of data from one's city has received an ambivalent assessment, with as many respondents (*n = 4*) valuing it "Very useful" as those valuing it "Somewhat useful". 6 found it "Useful" and 2 found it "Not useful". A full distribution of the answers to this section of the survey is provided in Figure 2.

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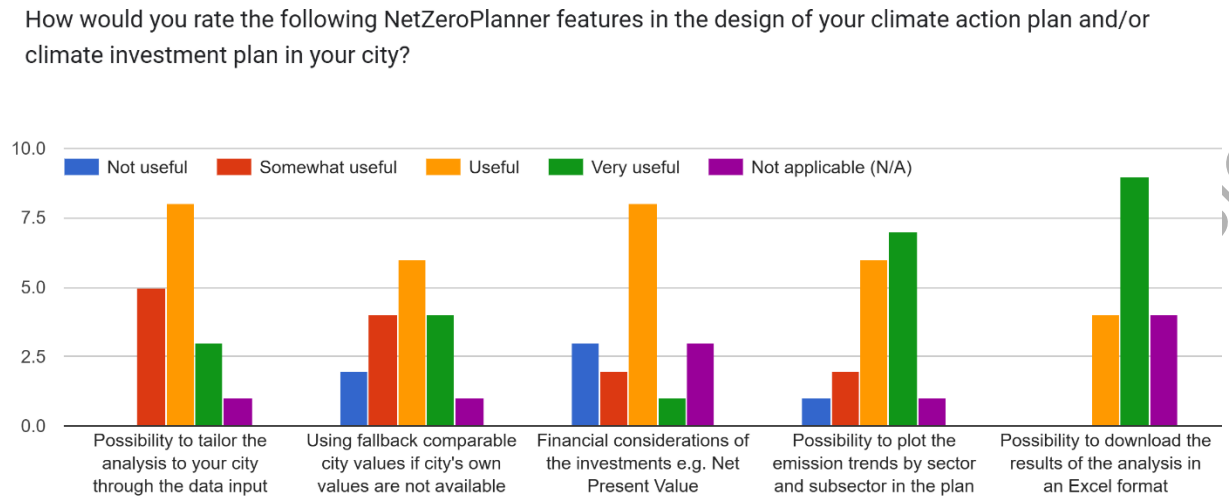


Figure 2 Distribution of the answers assessing the usefulness of the features available to the user in the design of the Climate Action Plan.

Respondents were also provided with the possibility to assess the scopes of the emissions covered in NetZeroPlanner and confirm whether these meet the needs of their municipality. The answer was again structured as a qualitative Likert scale with four alternatives ranging from “Too narrow” to “Too broad”. The results reveal a substantial degree of agreement that the scopes of emissions are appropriate with the users’ needs, with 14 respondents opting for the two middle options and only 3 reporting that they feel that the scopes may be too broad.

Before proceeding to the section of the survey that was dedicated to assessing the easiness of interaction and understanding of certain features of NZP, the respondents were given the chance to fill out a blank space with an open comment. The instruction given for this was the following: “*Is there any way you think the tool could be further developed to enhance its utility in helping a city draft its Climate Action Plan and/or Climate Investment Plan?*”.

One of the respondents suggested expanding the scope of the results being presented. While she acknowledges that the financial considerations are helpful to build a case for climate investments, she finds it could be helpful to provide insights into what kind of financial tools the municipalities can make use of. Still related to the financial aspects of NZP, one of the respondents pointed out the need to provide more clarity into how these values were computed, especially for the figures pertaining the estimate of investments costs. Another suggestion concerning the theme of costs points towards the need to provide local cost estimates, i.e. that reflects the condition of the local market and for more actions to be evaluated in the industrial sector. Contribution to economic prosperity and job creation are some of the additional co-benefits, other than health, that some users would like to see included. The possibility to adjust the structure and the division among stakeholders to better reflect the specific structure of the municipality is another suggestion on how the tool cool be further developed.

Waste is another sector where at least one of the respondents would like to see a broader consideration of the potential solutions a municipality may adopt. In particular, measures that would contribute to reducing the overall generation of waste would be very appreciated. The respondents also suggested the potential inclusion of air and water transport as additional sectors.

The issue of data availability is a recurrent one in the open comment section. Respondents are asking for the possibility of accessing more information about the “comparable city value” function. Another aspect that is brought about by one of the respondents is the need to provide more variation along the weather variable that is used to classify the city and provide comparable city values. It is suggested, for

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instance, that Eilat and Valencia should not be classified as having a similar weather. Several other aspects pertaining to the availability of data have also emerged from other sections of the survey.

The following section of the survey was dedicated to eliciting respondents' views on the easiness of engaging with certain features of NZP. Figure 3 provides an overview of the distribution of the answers to the questions in this section. As anticipated based on conversations with cities, many of the respondents indicated that they face significant challenges when dealing with the collection of data for their municipalities. 5 of the respondents judged the collection of data "Very difficult", while 7 mentioned that the find this task "Difficult". Only 3 respondents find this task easy, while none of them find it "Very easy.

Still related to the issue of the data is the attempt made by the research consortium to address these difficulties in retrieving data by providing fallback comparable cities values. It is worth noting that the question on how easy it is to make use of these values is scored significantly better than the previous one but probably still present scopes for improvements. No respondents reported making use of the fallback comparable city values as a "Very difficult" task. 6 mentioned that they found it "Difficult", while 5 responded with "Easy" and 3 with "Very easy". Overall, this task is found to be significantly easier than collecting the data, serving the purposes for which it was originally designed. However, as suggested by the answers in the open sections, the respondents would prefer to see more clarity and more transparency on how these are computed. Some even suggested changing the criteria that are used to classify the cities.

The questions on the easy-of-use of the features displaying the trajectories of the city's emissions and the identification of the sectors to prioritize reveal exactly the same distribution of answers. It is found that 2 respondents find these tasks "Difficult", while the rest of the answers are distributed between "Easy" (*n* = 8) and "Vert easy" (*n* = *5*).

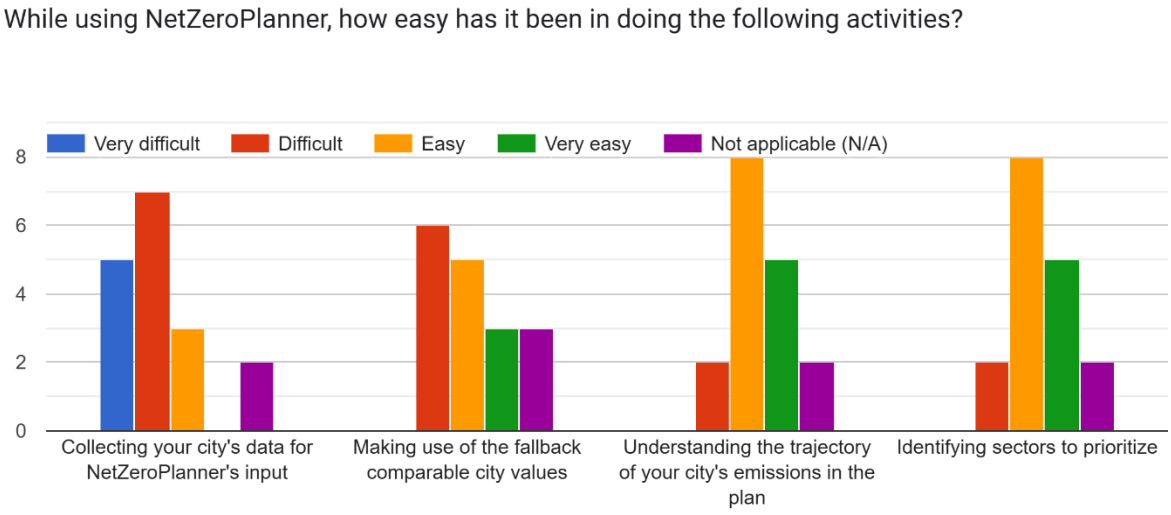


Figure 3 Distribution of the answers assessing the easiness of interaction with the features available to the user in the design of the Climate Action Plan.

Similar to the section where the respondents were prompted with questions on the utility of certain features, a box for open comment was offered also for the respondents to provide spontaneous feedback on *"What aspects of NetZeroPlanner could be changed, if any, to improve your user experience?*". The answers provided in this box point again towards the desire for larger clarity and larger scopes with respect to data. In particular, some respondents have expressed the desire to be provided with further and additional information on their emissions trajectories. They would like to assess how these compare to those that the tool envisions for other, comparable cities. Other respondents are

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questioning the number of data entries that the user is expected to fill out. A solution to this issue is proposed by another respondent that would like to have the possibility to upload files containing the required data, with substantial savings in terms of time. One respondent has also pointed out the need to update the current baseline year of 2019 to more a more recent one, also in light of the fact that many cities are currently working on collecting data for their emissions for years 2024 and 2025. While it is not possible to assess what version of NZP this specific respondent is referring to, it must be noted that the current version of NZP already grants the user the possibility to choose any baseline year in the 2018 – 2024 period and to any target year in the 2030 – 2050 window. Lastly, one respondent made a suggestion to try to use geospatial tools to support the municipality in performing project-level impact assessments.

The last section of the first half of the survey, dedicated to the use of NZP to create new Climate Action Plans and Climate Investment Plans, offers the respondents the possibility to provide feedback on NetZeroPlanner support tools and their utility. The distribution of the answers is shown in Figure 4.

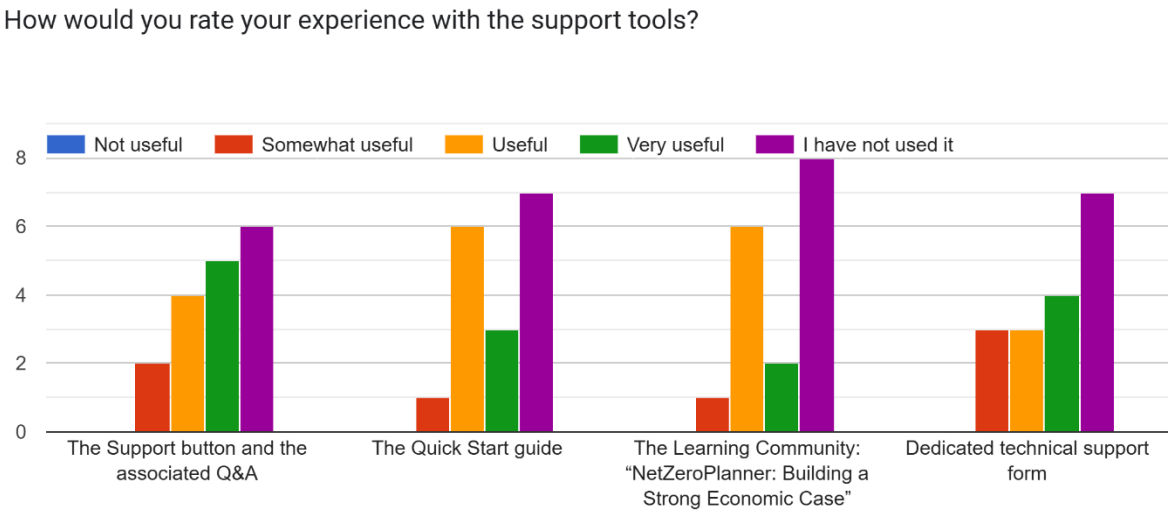


Figure 4 Distribution of the answers assessing the usefulness of NetZeroPlanner support tools.

The tools that are offered to the evaluation of the respondents include: the Support button and the associated Q&Q section, the Quick Start guide, the "NetZeroPlanner: Building a Strong Economic Case" Learning Community, and the dedicated support form. It must, for of all the support tools, be acknowledged that "I have not used it" is the single most common answer. It is not, unfortunately, possible to verify whether this reflects a good understanding of the functioning of the model, or the lack of awareness that these support options exist. Overall, no tool is found to be judged "Not useful" by any of the respondents. The one that is the awarded the highest number of "Very useful" assessments (n = 5) is the Support button and the associated Q&A section. The Quick Start guide and the Learning Community are assigned the same number of "Useful" assessments (n = 6) while the former has received more "Very useful" ratings (n = *3*) than the latter (n = 2).

A final open comment section is provided to offer the respondents the opportunity to share any other thoughts on the experience of using NetZeroPlanner to create the city's Climate Action Plan and Climate Investment Plan. Only two comments are provided in this section. One reiterates the previous request to provide more transparency on the way the financial metrics are computed. The respondent argues that it would be helpful to have access to more detailed information on how the financing needs are estimated. To conclude her comment, the same respondent also stresses the need to reduce the number of data entries, finding it particularly difficult to provide estimates for a large number of variables. As mentioned before, it is not possible to understand what version of NetZeroPlanner this respondent is familiar with. One of the features introduced by version V2 of NetZeroPlanner is the reduction of the

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data entry points by about a third. The other comment describes NetZeroPlanner simply as a task that the municipality has to act on in its role as Mission City. The tool is perceived to be fairly disconnected from the work carried out by the municipality. A strong desire to increase the reliance on the tool to track the municipality's progress is expressed, but this is said to be prevented by the lack of understanding on how to do so.

2.2 Feedback on NetZeroPlanner´s tracking functionality

The second half of the survey is dedicated to collecting the users' experiences with making use of NetZeroPlanner to track the progress of the Climate Action Plan. It follows a similar structure in first addressing the usefulness of a series of NZP's features, it then proceeds with eliciting opinions from the respondents on the ease of use of certain features and concludes with an assessment of the experience using the support tools. Each aspect is first investigated by asking the user to provide an assessment based on a Likert scale and then a possibility for further comments is offered in a text box.

This second half of the survey begins with a question about the extent to which NZP has been used in the municipality to track the progress of the city's Climate Action Plan. Figure 5 offers an overview of the answers provided. Overall, the results reveal a discrete level of use among the respondents, even though none of them indicated that they make a "High use" of the platform. Overall, the level of use is lower than that indicated to produce Climate Action Plans. It must however be noted that the use of NZP to monitor the progress of the city's Climate Action Plan is expected only of cities that have already begun their CCC iteration process. This also explains why Spanish cities, which have been early adopters of NZP, are found among the respondents that made use of the tool both to create the Climate Action Plan and to monitor its progress.

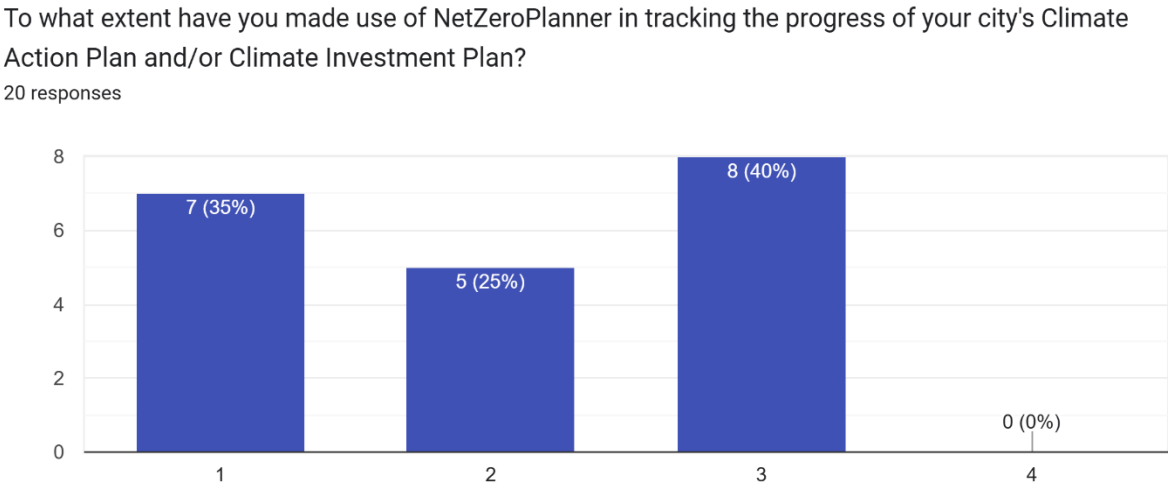


Figure 5 Distribution of the answers on the use of NetZeroPlanner in tracking the progress of the city's Climate Action Plan. 1 = Low Use; 4 = High Use.

Figure 6 depicts the distribution of the responses to the Likert scale assessing the utility of certain features on NetZeroPlanner in reporting and implementing the city's Climate Action Plan. The visual intuition of the progress provided by the graphs is the aspect of the tool that the respondents have found the most useful, with 11 respondents sharing that they found this "Very Useful", while it was found "Somewhat useful" and "Useful" by a similar number of respondents (n = 3). The features are found to be the least useful, according to the distribution of the opinions, with respect to the possibility of offering support for the mandate of further climate action in the city. This is an aspect that two respondents have found "Not useful" and is the one with the highest number of votes for this level of assessment. It is not possible to assess the reasons beyond these answers, but the sample of respondents is probably biased, representing a group of cities that has already made clear commitments to climate change action

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and may therefore not need any further mandate or justification in that regard. 1 respondent has found both the use of the results from NZP to inform decision on future actions in the city and the sectoral and sub-sectoral breakdowns “Not useful”. The vast majority of the respondents, however, found these to be “Very useful” to inform future actions (*n* = 7), and “Useful” being able to understand where emissions originate from in the sectoral and sub-sectoral breakdown (*n* = 10). Lastly, the possibility of tailoring the results of the analysis to the city’s experience through the Additional Historical Data section has received generally positive feedback with many finding this “Somewhat useful” and “Very useful” (*n* = 4) and most finding it “Useful” (*n* = 6).

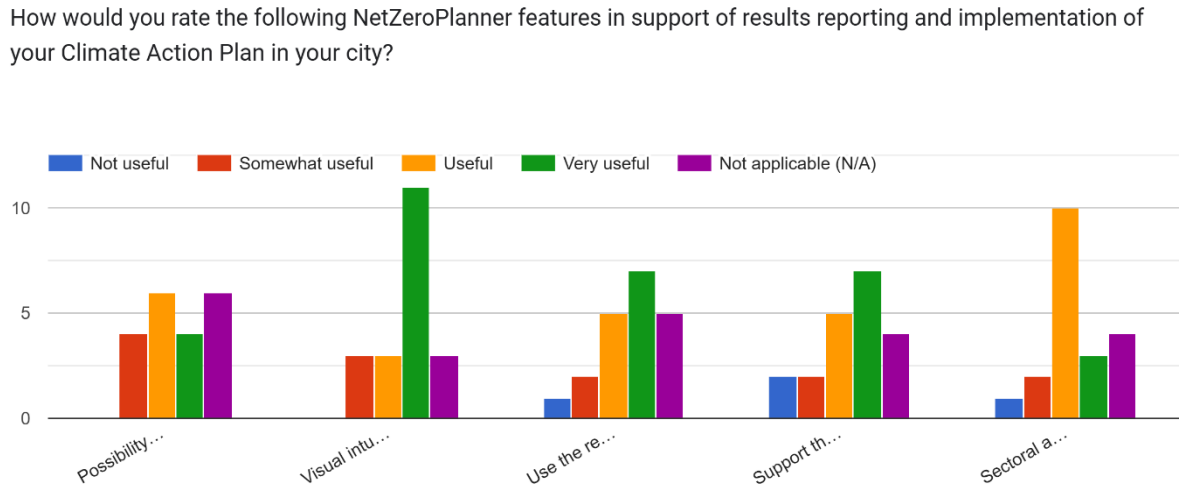


Figure 6 Distribution of the responses to the questions on the utility of certain features of NetZeroPlanner in reporting and implementing the city’s Climate Action Plan

The open comments section offers relevant insights into aspects that the respondents would like to see improved to increase the usefulness of NetZeroPlanner for progress tracking. The issue of data and the difficulty in retrieving this is, once again, a recurring one across the comments that are provided in this section. In particular, some respondents would appreciate guidance in identifying reliable, high-quality datasets that could help them retrieve the necessary information. This is particularly important for mobility data and modal split information. Still pointing to significant issues with the data collection process, some respondents suggest that they would like to have access to more detailed information regarding other cities. It is suggested that this information could serve as a reliable benchmark that could support the cities both to estimate the quality of their progress and to retrieve information that they may find difficult to access. When dealing with the retrieval of data, one respondent suggests that it may be helpful for the user to be provided with feedback that would signal input values that deviate significantly from the averages that are observed for other similar cities. A significant group of respondents stresses the importance of including features that would allow them to monitor the progress of the financial component of the Climate Action Plan.

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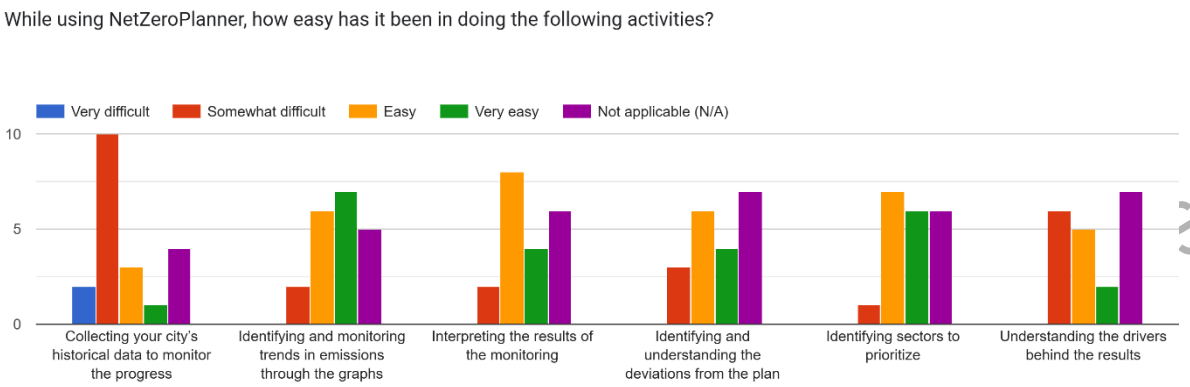


Figure 7 Distribution of the responses on the easy-of-use of certain features of the tool to track and monitor the progress of the city's Climate Action Plan.

Figure 7 displays the distribution of the responses to the Likert scales assessing the ease of use of certain features of NetZeroPlanner, especially with respect to the possibility of using the tool to monitor and track the progress of the work. The evidence from these responses confirms the significant challenges that municipalities are facing in retrieving and making use of data. The 10 responses indicating that users find it "Somewhat difficult" to collect city's historical data to monitor the progress of their Climate Action Plan is the second answer by degree of agreement among the respondents. Considering all the responses to this question, 50% of the respondents indicated that they find this task to be "Somewhat difficult", and the share increases to 60% when also including those that stated that the task is "Very difficult". When considering only the responses that provide an actual assessment of this, i.e. by excluding those that reported that this task is not applicable to their case (n = 4), the two percentages increase to 62,5% ("Somewhat difficult") and to 75% ("Somewhat difficult" and "Very difficult"). The open comments section offers again the opportunity to investigate more deeply the aspects of NetZeroPlanner that the respondents would like to change in order to improve their user experience. Lack of data, and in particular at the local level at which the municipalities operate, is cited as a significant obstacle to assessing the progress of the Climate Action Plan. The respondents reveal that they make use of extrapolation to infer the necessary data entries but the observations available to them are often scarce and discontinuous. Acknowledging this, the respondents hint that the results produced by the dashboard must necessarily also be approximations of the real progress of the city. They therefore indicate that they would appreciate the possibility to perform simply sensitivity analysis to understand how sensible the final results are to the underlying datasets. One respondent recommends issuing a more detailed and accurate tutorial guide in order to be better understand the features, the possibilities and the limitation of NetZeroPlanner.

The last section of the survey is dedicated to assessing the respondents' experience with the support tools that are made available in order to assist them in tracking the progress of their cities along their Climate Action Plan. The distribution of the answers is displayed in Figure 8. A clear trend emerges from these: in all cases but one, the most common reply indicates that the respondents did not make any use of the support tool. Due to the design of the survey, we are not able to assess whether such an occurrence should be attributed to a clear understanding of how NetZeroPlanner functions or to lack of knowledge that these support tools exist. The only significant exception to this trend is the Quick Start guide, that is found that be significantly appreciated by respondents, with 7 of them judging it "Very useful", 6 "Useful" and 3 finding it "Somewhat useful". It is relevant also to notice that none of the respondents have found any of the support tool "Not useful".

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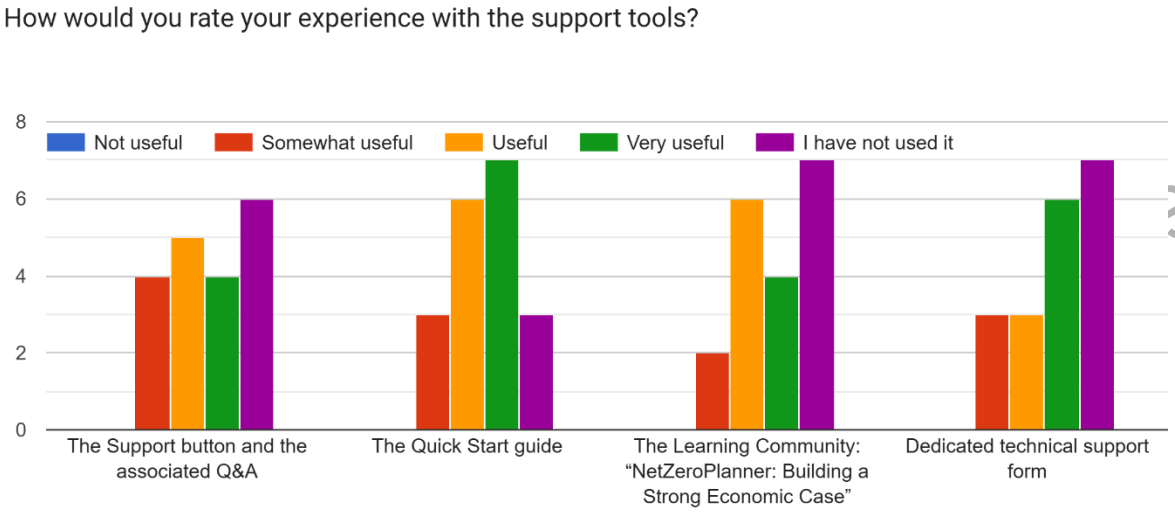


Figure 8 Assessing the user's experience with the support tools

The open comments box grants the respondents the opportunity to provide feedback beyond the points that are addressed by the Likert scales. One respondent mentioned that her municipality will not progress further with NetZeroPlanner to track and monitor the city's progress as this would double the effort that the municipality is already investing in collecting and reporting data on the Covenant of Mayors platform. This happens, the respondent continues, because NetZeroPlanner had adopted different standards from the ones used by other GHG registries. Another respondent shares that her municipality will not make use of the tracking features as the collection of data requires human resources beyond what the municipality can currently afford. Language barriers are also mentioned as yet another factor that is preventing the respondent from using the tool in an efficient way, as all the official documents and datasets have to be translated. The issue of lack of available data at the municipal level is mentioned in here too, with one of the respondents suggesting that data support frameworks could be established at the national level.

3 Conclusions

3.1 Best performing NZP features and features in need of improvement

Taken together, the results from the 2026 survey show that NetZeroPlanner is valued by municipalities for structuring climate action and investment planning and, increasingly, for supporting progress tracking. At the same time, the feedback highlights persistent challenges related to data availability, transparency of assumptions, and alignment with existing municipal processes. These findings provide important context for interpreting the tool's current use and for assessing changes over time. The findings are synthesized in Figure 9, where we report the feature that was valued the highest (in green) and the lowest (in red) within each of the aspect investigated by the survey.

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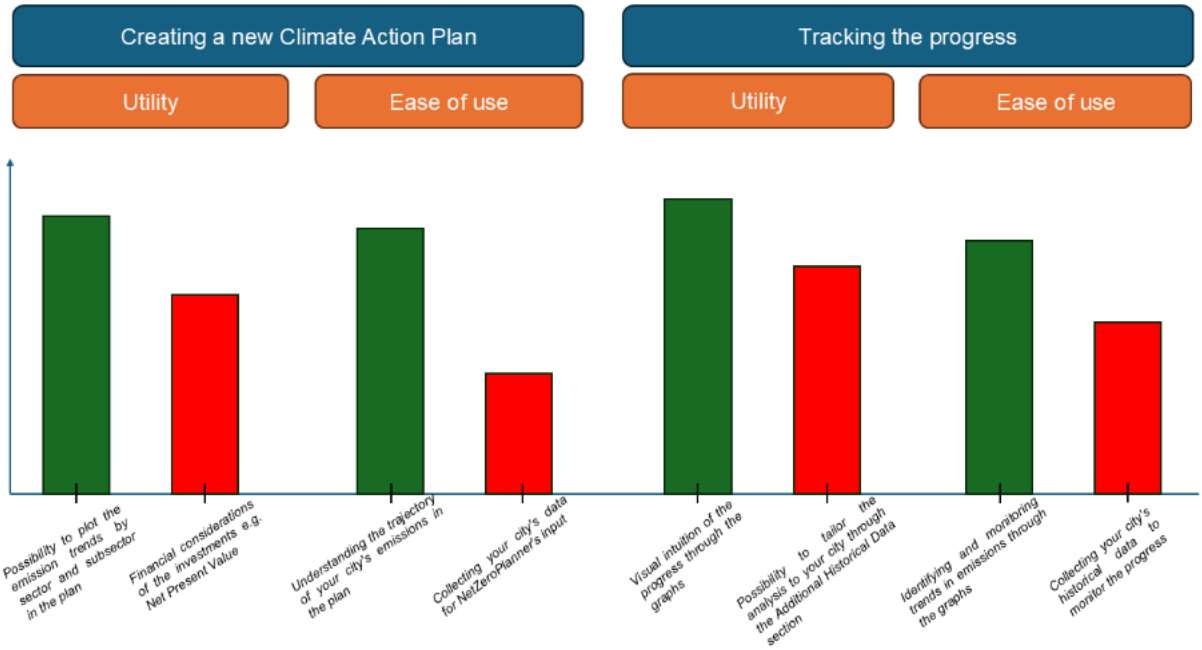


Figure 9 Summary of the highest and lowest scored features for each aspect investigated by the 2026 survey.

A clear pattern emerges among the lowest-ranked features: with a single exception, they are all associated with data-related challenges. Respondents indicate that the most significant difficulties arise in the collection and input of city-level data, both for the development of new plans and for the monitoring of existing ones. In response to these constraints, version V2 of NZP introduced a substantial reduction in the number of required data entry points, thereby streamlining the user process. Building on this improvement, version V3, scheduled for release in May 2026, will incorporate confidence intervals to further support users. These intervals are designed to provide empirically grounded ranges, derived from comparable cities, within which input values can reasonably be expected to fall.

In contrast, the highest-rated features (highlighted in green in Figure 9) are consistently those related to the graphical representation of results. Survey responses indicate a high level of satisfaction with the clarity and interpretability afforded by these visualizations. Accordingly, the forthcoming V3 update will retain the existing graphical outputs while introducing additional visual elements aimed at enhancing transparency regarding the underlying modelling framework used to generate final estimates.

3.2 NetZeroPlanner updates for Version 3

NetZeroPlanner updates are informed by feedback collected from cities, consortium partners, and CCC reviewers. Several recurring issues identified across user surveys as well as feedback from CCC review windows have directly informed the scope of NetZeroPlanner Version 3, scheduled for release in May 2026. The table below provides an overview of the main improvements introduced with this release.

Table 2. Overview of key improvements introduced with NetZeroPlanner V3

Area	Key improvements in V3
Financial and GHG data	Updated financial and greenhouse gas inputs and assumptions to improve the accuracy of emissions scenarios, investment estimates and reporting outputs
Data quality	Additional error flagging mechanisms to support cities during data entry and reduce the risk of inconsistent or implausible inputs
Methodological transparency	Visualisation of model calculations to improve understanding of how emissions trajectories and financial results are generated

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Usability	Practical usability improvements, including the ability to delete plans and to mark plans as “view only”
Progress tracking	Improvements to the Progress Tracker to allow clearer tracking of GHG results over time against the Business-as-Usual scenario

Together, these updates directly address several issues consistently raised by city users, along with other stakeholders such as CCC reviewers and investors (see Annex 2), in particular those related to transparency of assumptions, interpretation of results and robustness of input data. While not all structural limitations identified through the CCC review process can be resolved within a single tool update, V3 represents a targeted step toward improving the reliability, interpretability and day-to-day usability of NetZeroPlanner for both planning and implementation phases.

4 Lessons learnt and recommendations

4.1 Comparing the 2026 and 2025 user surveys

The presence of similar questions in two surveys implemented in successive years gives us the chance to assess how the perception of the platform has changed among the users. We must, however, caveat that a smaller portion of the users were contacted when the first survey was circulated in the first months of 2025**.** The group of respondents to the first survey comprises Spanish municipalities, the German municipality of Dortmund and the Albanian municipality of Elbasan. It must also be noted that the platform has undergone significant improvements between the timing of the two surveys. This offers the possibility to assess whether the new features have significantly changed users’ experience. Given the small sample of respondents from the first survey, we are not able to statistically test whether any significant improvement can be detected, but we believe a comparison between the answers is still insightful. Several reasons lie behind the smaller size of the sample of respondents to the previous version of the survey. The municipalities selected to be involved had to meet several criteria of inclusions: they were expected to be active users of NZP since its deployment in September 2024; had to provide evidence of a consistent application of the tool for specific purposes such as the development of their Climate Action Plan or the tracking and monitoring of this; were still making use of the tool in April 2025, when the survey was disseminated; and demonstrated a significant degree of knowledge and familiarity with the support functions. Moreover, at the time that survey was conducted, 56 European municipalities had experience interacting with NZP, a number that is significantly smaller than the number of registered users at the time of the second survey.

A constant result that is noted across the two surveys is the predominance of Spanish cities among the respondents. This is attributed by Pérez Fernández (2025) to the existence of a national platform designed to support Spanish cities’ transition towards climate neutrality (*citiES 2030*, 2026). It must, however, be noticed that other national platforms are in place in Europe, with many of the NZC municipalities belonging to these. Viable Cities, for instance, represent the national platform for Swedish municipalities (Viable Cities, 2026). This platform is significantly older than its Spanish counterpart and has had in place its own climate actions financing dashboard for several years (Stockholm Environment Institute, 2026). An established reliance on tools that were already existing when NZP was first launched could help explain the low number of respondents from certain countries in both surveys.

Quite interestingly, the main use of the tool has not significantly shifted between the two surveys. The caveat that NZP has undergone significant maintenance between the two surveys should also be kept in mind. In addition, the pool of the respondents is not overlapping: the group of respondents to the first survey is only a subset of respondents in the second one. The respondents of the first survey indicated that they were making use of NetZeroPlanner mostly to track the progress of their Climate Action Plan (60%), rather than to create one (40%). These ratios are substantially unaltered among the respondents to the second survey, also accounting for the share of respondents that indicated that they make use of the tool to serve both purposes. On average, the second survey reveals a much lower degree of use of

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NZP for both purposes. The results in Figure 1 and in Figure 5 reveal that only one respondent makes a “High Use” of the tool, while this answer was the most popular one among the respondents using the tool for climate and financial planning in the previous survey.

While the questions across the two surveys are not completely identical, they touch upon comparable features of the tool and still make a comparison worth.

To begin with, while the possibility to access comparable city values to populate missing information was overwhelmingly perceived as a useful feature in the first survey, with all the respondents indicating that they found this “Very useful”, the results from Figure 2 reveals that the perception among the respondents of the second survey was more negative. Again, the respondents to the first survey represent only a small subset of the respondents to the second one, and the platform has undergone significant updates between the two surveys. Any comparison should be made with this in mind. Accessing financial considerations of the climate actions, which had respondents split between “Useful” (50%) and “Very useful” (50%) in the previous survey is another feature that is perceived significantly worse in the second one, with at least three respondents indicating that they don’t find this feature useful (Figure 2). Finally, the possibility to export the results in an Excel file is the only feature that shows a more positive attitude among the respondents of the second survey than among those of the first one.

As far as the experience with using NZP to track and monitor the progress along the Climate Action Plan is concerned, the use of the visuals to provide a synthetic, intuitive understanding of the situation is significantly more appreciated by the users in the second survey than in the first one (Figure 6). The possibility to use the results of the tool to prioritize and steer further climate actions was judged to be useful by the respondents of the previous survey but shows more extreme values in the second one, with several respondents finding it “Very useful” but also a significant number indicating that the feature is “Not useful”.

Lastly, it is noteworthy to mention that several of the respondents in the first survey reported that they found some of the terminology used in the data entry phase confusing. In the open comments section, they specifically asked for better aligned and better explained data entry processes. While mentions of issues of accessibility and availability of data at the municipal level persist in the results from the second survey, no respondent indicated that they found the terminology employed confusing. While it is not possible to draw causal conclusions given the different populations of respondents, it is reasonable to assume that the terminology used in the current version of NZP is better understood by the users. Other additional features of the portal, not strictly pertaining to its main role as a support tool for urban climate action planning, that the users struggled with included challenges in accessing the tool and being granted editing permissions. While these aspects do not prevent the tool from working effectively, they are not mentioned in the second survey, potentially suggesting an improved user experience.

Overall, the comparison between the results of the two surveys reveals a wider spread of responses in the second survey, which could be expected given the higher number of respondents. Several factors prevent the possibility of establishing a causal relationship between the changes that NZP has undergone between the two surveys and the different distributions of the answers on similar topics. To begin with, the set of respondents is not the same. The respondents of the first survey constitute a subset of the respondents in the second one, but represent only a marginal group. Some of the questions were phrased slightly differently, which could have an impact on how the respondents’ understanding of the topic addressed. It should, however, be noticed that some of the issues that were raised in the first survey, pertaining for instance to the use of certain terms that made it difficult to fully understand what was expected of the users, do not find any mention in the second dataset. While it is not possible to establish a causal relationship between the most recent update of NZP and the answers in the second survey, one could assume that an overall better user experience may have been achieved.

The comparison between the two surveys suggests a broader and more heterogeneous user base over time, alongside some improvements in usability and understanding of the tool. At the same time, several recurring challenges remain, particularly those linked to data availability, transparency, and the interaction between model outputs and local planning practices.

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4.2 Recommendations for future improvements

In addition to the two user surveys developed in 2025 and 2026 by UPM and SEI, NetZeroPlanner has also benefitted from other feedback sources. For example, Annex 2 details feedback provided by CCC reviewers, which primarily refers to the use of the initial Excel-based economic model by 42 Mission cities that employed it to elaborate their CCC.

The aim of this section is to provide an overview of what was collected across all these feedback sources – user surveys and CCC reviews - and highlight the remaining challenges and recommendations for future improvements.

Figure 10 provides a synthetic representation of the NZP development, version updates, and various feedback gathering efforts. The user surveys are represented in orange. The feedback gathered from CCC reviews is reflected by review "windows" (with each window providing feedback to successive cohorts of Mission Cities who had submitted CCCs for review), represented in green. It should be noted that Windows 1-4 took place before the online version of the economic model was made available to cities.

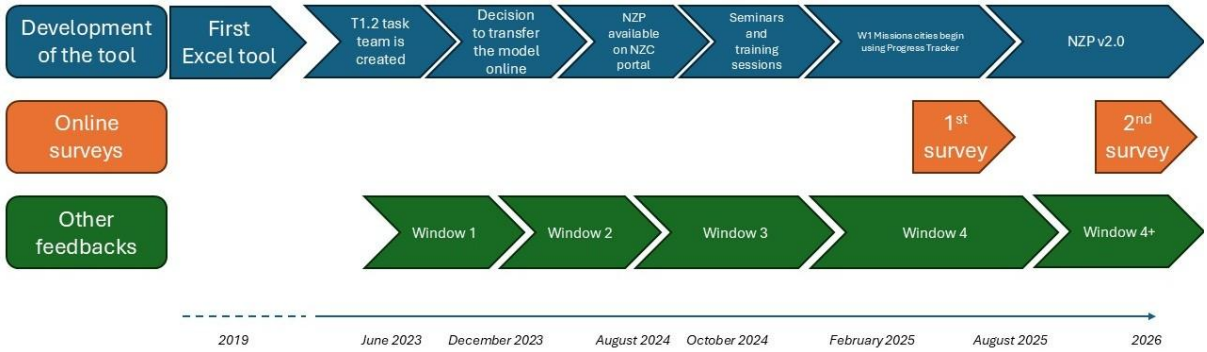


Figure 10 Timeline of the collection of feedback and of the development of the tool

The feedback collected through the Climate City Contract review process largely echoes themes identified through user surveys, while placing greater emphasis on the interpretation, credibility, and use of model based results in formal planning documents. Together, these insights highlight both the value of NetZeroPlanner as a shared analytical reference and the importance of clearly communicating its scope, assumptions, and limitations.

Comparisons across different feedback waves were undertaken with caution, given that NZP was deployed in multiple versions. Early users were primarily exposed to the original Excel-based version, which was subsequently replicated in an online tool accessible via the NetZeroCities portal and later updated to version V2. Despite these differences, several themes remain consistent across all feedback sources and model versions. Most notably, users repeatedly highlight the difficulty of obtaining and inputting the data required to populate the model, alongside a demand for greater methodological transparency.

Efforts to address data availability constraints have included the introduction of comparable city values; however, it remains unclear to what extent users are confident in this feature. Concerns regarding transparency are largely linked to discrepancies observed when comparing NZP outputs with results from alternative sources. The planned enhancements in NZP V3 - particularly the provision of more detailed methodological information - are intended to address these concerns, facilitate reconciliation of divergent results, and strengthen user confidence in the tool's outputs.

The remaining priorities to be addressed beyond Version 3 of NetZeroPlanner are outlined below.

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4.2.1 Improve the visibility of model´s computation methodology

As far as the methods being currently employed in NZC are concerned, the feedback across user surveys as well as by CCC reviews (Annex 2) reveal a need for increased transparency behind how the different emissions scenarios, and in particular the Business-as-usual (BAU) one, are computed. The perceived lack of transparency may decrease the reliability of the estimates and prevent the user from making efficient use of the information. The need for transparency emerged in particular in the situations that some cities experienced where the computation of the baseline scenario produced results that were significantly different from what the cities had computed for themselves or had obtained through a third party. By being unable to understand how NZP results are produced, the reviewers pointed out it is difficult to reconcile these differences. The divergences may end up undermining confidence in both data sources and preventing cities from making decisions. This feedback pairs with one that was also collected in the 2026 survey, even though this one concerns the transparency behind the financial results of NZP. This feedback on the need to provide clarity and transparency on how the results are produced is still relevant for the version of NZP that is available at the time of writing (V.2) and will be partially addressed with the planned release of V3 in May 2026. Together with these, the values of some of the variables employed in the computation will be updated. Should discrepancies with other models persist, the increased transparency will help the users understand where they originated from.

4.2.2 Address sectoral coverage gaps

While the initial economic model underpinning NZP's development predates Climate City Contracts (CCCs), NZP has been primarily developed within NetZeroCities to support the elaboration of CCCs, which report emissions across specific GHG sectors. The vast majority of NZP users are currently Mission Cities that have developed a CCC, as well as other cities seeking to replicate the CCC approach. Nevertheless, NZP's GHG computations are not yet fully aligned with CCC sector classifications. In particular, the model does not include a breakdown of emissions from Industrial Processes and Product Use (IPPU) or from Agriculture, Forestry and Other Land Use (AFOLU). These emissions, together with emission differences in the Buildings and Transport sectors relative to other inventories used in CCCs, are aggregated in NZP under the residual category "other", which is not included in decarbonisation scenarios.

The suggestion to include additional GHG emission sectors in NZP emerges consistently from both the February 2026 survey and the CCC reviews (Annex 2). IPPU and AFOLU are key components of CCC baseline and monitoring inventories, yet they remain absent from the sectoral structure represented in NZP. CCC reviews further indicate that the waste sector, although included in the model, produces significant discrepancies between city-reported estimates and NZP calculations. In addition, emissions from airports and harbours are currently excluded from NZP, despite their relevance for cities pursuing climate neutrality, such as Mission Cities.

These issues are not addressed in the forthcoming NZP Version 3 update. To better serve its core user base -namely, cities aiming for climate neutrality- future developments of NZP should incorporate a more comprehensive sectoral breakdown aligned with CCC GHG inventories and user needs.

4.2.3 Keep cost assumptions updated and develop options for including implementation costs

Several cities reported significant discrepancies between results obtained from NZP and those produced internally or provided by third-party sources. This could be due to several factors, such as outdated cost assumptions and the exclusion of implementation costs from NZP computations. CCC reviews also highlight that incremental costing methodology makes it difficult to properly assess financial impact. Another issue raised by users concerns the fact that financial outputs are provided as aggregate estimates, without the possibility of adopting a bottom-up approach that reflects local conditions and specific project plans.

The inclusion of updated cost assumptions in NZP Version V3 may partially help address concerns regarding divergences between NZP outputs and alternative estimates. However, neither the inclusion

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of total CAPEX and OPEX, implementation costs nor the development of a bottom-up modelling approach will not be incorporated in V3. Incorporating all contextual features required to reflect every individual project and local conditions would substantially increase model complexity and could ultimately limit its usability and adoption by municipalities. Future model versions should, at the very least, aim for periodically updated cost assumptions.

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Annex 1: NetZeroPlanner User Survey 2026

1. General information on the city

1.1 On behalf of which city are you completing the following survey?

1.2 What is your role in the municipal administration?

1.3 What do you use NetZeroPlanner for?

Creating a new Climate Action Plan ☐

Tracking the progress of your plan ☐

Both of the above ☐

2. a. Creating a new Climate Action Plan and Climate Investment Plan

a. *To what extent have you made use of the Net Zero Platform in designing your city's Climate Action Plan and/or Climate Investment Plan?*

Low use ☐ ☐ ☐ ☐ *High use*

b. *How would you rate the following in the design of your climate action plan and/or climate investment plan in your city*

	Not useful	*Somehow useful*	*Useful*	*Very useful*	*Not Relevant (N/A)*
Possibility to tailor the analysis to your city through the data input	☐	☐	☐	☐	☐
Using fallback comparable city values if city's own values are not available	☐	☐	☐	☐	☐
Financial considerations of the investments e.g. Net Present Value	☐	☐	☐	☐	☐
Possibility to plot the emission trends by sector and subsector in the plan	☐	☐	☐	☐	☐
Possibility to download the results of the analysis in an Excel format	☐	☐	☐	☐	☐

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c. *What do you think about the emission scopes covered in NetZeroPlanner with regards to your needs?*

Low use ☐ ☐ ☐ ☐ *High use*

d. *Is there any way you think the tool could be furthered developed to enhance its utility in helping a city draft its Climate Action Plan?*

e. *While using NetZeroPlanner, how easy has it been in doing the following acti?*

	Very difficult	*Somehow difficult*	*Easy*	*Very easy*	*Not Relevant (N/A)*
Collecting your city's data for NetZeroPlanner's input	☐	☐	☐	☐	☐
Making use of the fallback comparable city values	☐	☐	☐	☐	☐
Understanding the trajectory of your city's emissions in the plan	☐	☐	☐	☐	☐
Identifying sectors to prioritize	☐	☐	☐	☐	☐

f. *What aspects of the Net Zero Planner could be changed, if any, to improve your user exeprience?*

g. *How would you rate your experience with the support tools?*

	Not useful	*Somewhat useful*	*Useful*	*Very useful*	*Not relevant*
The Support button and the associated Q&A	☐	☐	☐	☐	☐
The Quick Start guide	☐	☐	☐	☐	☐
The Learning Community: "NetZeroPlanner: Building a Strong Economic Case"	☐	☐	☐	☐	☐
Dedicated technical support form	☐	☐	☐	☐	☐

h. *Do you have any other thoughts to share on your experience in using NetZeroPlanner to create your city's Climate Action Plan and/or Climate Investment Plan?*

2. b. Tracking the progress

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a. *To what extent have you made use of NetZeroPlatform in tracking the progress of your city's Climate Action Plan and/or Climate Investment Plan?*

Low use ☐ ☐ ☐ ☐ *High use*

b. *How would you rate the following NZP features in support of results reporting and implementation of your Climate Action Plan in your city?*

	Not useful	*Somehow useful*	*Useful*	*Very useful*	*Not Relevant (N/A)*
Possibility to tailor the analysis to your city through the Additional Historical Data section	☐	☐	☐	☐	☐
Visual intuition of the progress through the graphs	☐	☐	☐	☐	☐
Use the results to inform the decisions on future actions in your city	☐	☐	☐	☐	☐
Support the mandate for further climate action in the city	☐	☐	☐	☐	☐
Sectoral and sub-sectoral breakdowns	☐	☐	☐	☐	☐

c. *Is there any aspect that you would like to see improved or added to increase the usefulness of Net Zero Planner for progress tracking?*

d. *While using NetZeroPlanner, how easy has it been in doing the following activities?*

	Very difficult	*Somehow difficult*	*Easy*	*Very easy*	*Not Relevant (N/A)*
Collecting your city's historical data to monitor the progress	☐	☐	☐	☐	☐
Identifying and monitoring trends in emissions through the graphs	☐	☐	☐	☐	☐
Interpreting the results of the monitoring	☐	☐	☐	☐	☐
Identify and understand the deviations from the plan	☐	☐	☐	☐	☐
Identify sectors to prioritize	☐	☐	☐	☐	☐

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Understanding the drivers behind the results	☐	☐	☐	☐	☐

e. *What aspects of the Net Zero Planner could be changed, if any, to make one's experience more comfortable?*

f. *How would you rate your experience with the support tools?*

	Not useful	*Somewhat useful*	*Useful*	*Very useful*	*Not relevant*
The Support button and the associated Q&A	☐	☐	☐	☐	☐
The Quick Start guide	☐	☐	☐	☐	☐
The Learning Community: "NetZeroPlanner: Building a Strong Economic Case"	☐	☐	☐	☐	☐
Dedicated technical support form	☐	☐	☐	☐	☐

g. *Do you have any other thoughts to share on your experience in using NetZeroPlanner to monitor the progress in your city's Climate Action Plan and/or Climate Investment Plan?*

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Annex 2: NetZeroPlanner feedback from the CCC review process and NetZeroPlanner improvements

Prepared by ICLEI Europe

Overview

This annex synthesises findings on the use of the Excel-based economic model preceding Net Zero Planner (NZP) - referred to across city documents as the "Economic Model", "NZC economic model", "NetZeroCities economic model" or "NetZeroCities NetZeroPlanner" - across all four Windows of the CCC review process. These inputs reflect the first stage of tool maturity and different stakeholder profiles from the survey presented in sections 2 and 3 of this deliverable – i.e., CCC reviewers as opposed to model users. As the tool has evolved over time, the feedback presented in this annex should be interpreted in light of the early, Excel-based version of the tool .

The analysis draws on 92 city Detailed Results Review documents and the associated Consensus Meeting Notes for each batch, covering cities from across the EU and beyond that submitted CCCs for independent review by the European Commission, JRC, EIB and partner organisations.

Dates of CCC review windows

CCC Review windows	Feedback letters shared	CCC review consensus meetings
Window 1	06.10.2023	August 29th, 2023 August 30th, 2023
Window 2	27.02.2024	January 15th, 2024 January 16th, 2024 February 8th, 2024 February 9th, 2024
Window 3	07.10.2024	July 1st , 2024 July 2nd, 2024 July 11th, 2024 September 11th, 2024
Window 4		January 16th, 2025 January 17th, 2025, March 7th, 2025 March 10th, 2025 March 4th, 2025 April 4th, 2025 April 7th, 2025 April 14th, 2025 June 24th, 2025 June 25th, 2025 September 8th, 2025
Window 4 +		December 1st, 2025

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General Findings across Windows 1-4

The model is referenced in 35 of the 92 cities reviewed (38%), with usage increasing in absolute terms across Windows despite a dip in proportional adoption in W2 and W3. The tool is used primarily as a Business-as-Usual (BAU) scenario builder and emissions quantification framework, with a growing secondary role in Investment Plan development.

The most consistent finding across all four Windows is that methodological transparency is insufficient. Reviewers repeatedly asked cities to clarify BAU assumptions, emission factors and sectoral coverage, concerns that have moved from individual review recommendations to a programme-level issue, with JRC formally requesting engagement with the team behind the Economic Model during the W3 Consensus process. A related structural problem is the disconnect between model-driven targets and bottom-up action portfolios. This was formally categorised by JRC in W2. By W4, new concerns have emerged around the model's suitability for investment feasibility assessment, and a small but

growing number of advanced cities are explicitly opting out of NZP in favour of their own more detailed methodologies.

The findings below are organised thematically in a table. They draw on evidence from individual city reviews and Consensus Meeting Notes across all four Windows and are intended to inform the ongoing development of NZP as a programme-wide tool. The column labelled “Status” indicates the extent to which these

✓ **Yes** = directly addressed by V3 **~ Partial** = partially addressed ✗ **No** = not yet addressed

Feedback from CCC Reviews (Windows 1–4)	Addressed in NZP V3 (release May 2026)	Status
Methodological Transparency		
Opacity of BAU scenario construction: reviewers across all four Windows repeatedly asked cities to clarify what policies are factored in, what demographic trends are assumed, whether default or local data are used, and what emission factors underpin calculations.	Model calculations will be visualised, making the methodology behind BAU scenarios transparent. Financial and GHG inputs and assumptions are also being updated.	✓ **Yes**
Cities running parallel GPC-based and NZC model inventories (e.g. Trondheim, Wroclaw W4) produce diverging figures with no clear explanation of the difference, undermining confidence in both. Warsaw explicitly acknowledged the model 'provides a large-scale approximation based on several assumptions and a mix of city data and averaged indicators.'	Visualisation of model calculations will help cities and reviewers understand why NZP outputs differ from city inventories. Updated inputs will reduce some divergences.	**~ Partial**
Sectoral Coverage Gaps		
IPPU and AFOLU are structurally excluded from the NZP model across all Windows.	*Not explicitly addressed in V3. Updated GHG inputs may improve related assumptions, but the structural exclusion of IPPU and AFOLU is not resolved.*	✗ **No**
Several cities modelled CO_2 only, omitting F-gases and other GHGs. Aviation and ports are also structurally excluded from the model. Reviewers consistently asked whether all gases were included.	*Not explicitly addressed in V3*	✗ **No**
Waste sector figures from NZP frequently diverge from city inventory data.	Waste figures are being updated as part of the GHG inputs and assumptions refresh.	✓ **Yes**
Inventory inconsistencies between NZP and city-level data were not always explained or resolved:	Updated GHG inputs and assumptions should partially reduce divergences. Additional error flagging will improve input accuracy. Calculation visualisations will help cities identify the source of discrepancies.	**~ Partial**
Investment & Financial Use		

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The model is used for Investment Plan development (CAPEX, OPEX, NPV, ROI, co-benefits). Updated inputs and calculation transparency will improve the reliability of these outputs.	Financial inputs and assumptions are being updated; model calculations will be visualised, directly improving the reliability and interpretability of Investment Plan outputs.	✓ **Yes**
Incremental costing methodology makes it impossible to properly assess financial impact.	*The incremental costing methodology concern is not addressed in the V3 release notes.*	✗ **No**
Over-reliance on the model outputs without local adaptation and contextualisation. Reviewers recommended a more bottom-up approach to ground model outputs in local conditions.	*No V3 feature directly addresses over-reliance. This is a guidance and practice issue rather than a tool issue.*	✗ **No**
Conflicting investment estimates when cities run parallel models, undermining credibility.	Calculation visualisations may help cities understand and reconcile model differences, but no specific guidance on handling parallel model outputs is noted in V3.	~ **Partial**
Action Planning & the Model–Data Disconnect		
Persistent structural tension across all Windows: cities produce NZP-driven BAU pathways and targets, but bottom-up action portfolios frequently fail to match in volume or sectoral attribution. JRC formally categorised three distinct patterns of misalignment at the W2 Batch 2 Consensus Meeting.	*No V3 feature directly addresses the structural disconnect between model-driven targets and bottom-up action portfolios.*	✗ **No**
Questionable or unrealistic model assumptions: a city produced a BAU where emissions rose in 2030 despite significant renewable growth; some cases presented a risk of double-counting reductions.	Updated GHG inputs and assumptions address the currency of model data. Calculation visualisations will make assumptions more transparent, reducing this risk.	~ **Partial**
Model-driven priorities misaligned with real decarbonisation needs: some cities used economic return as the primary basis for sector selection, which did not reflect where emissions reductions were most needed. Reviewers asked cities to move 'beyond economic model'	Updated inputs and assumptions improve the accuracy of the model's sector-level outputs, which should reduce, but cannot eliminate, the risk of economic-return bias in sector selection.	~ **Partial**
Tool Versus Programme Dynamics		
Cities opting out: advanced cities with existing methodologies appear less likely to adopt NZP.	*Increased model sophistication may address the opt-out pattern over time.*	~ **Partial**
Tool adoption may narrow municipal planning ownership.	Usability improvements and calculation transparency may help cities engage with NZP more confidently and on their own terms, potentially reducing the sense of reduced agency.	~ **Partial**

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