NET ZERO CITIES

Creating, implementing, and iterating your Climate Action Plan

October 16, 2024

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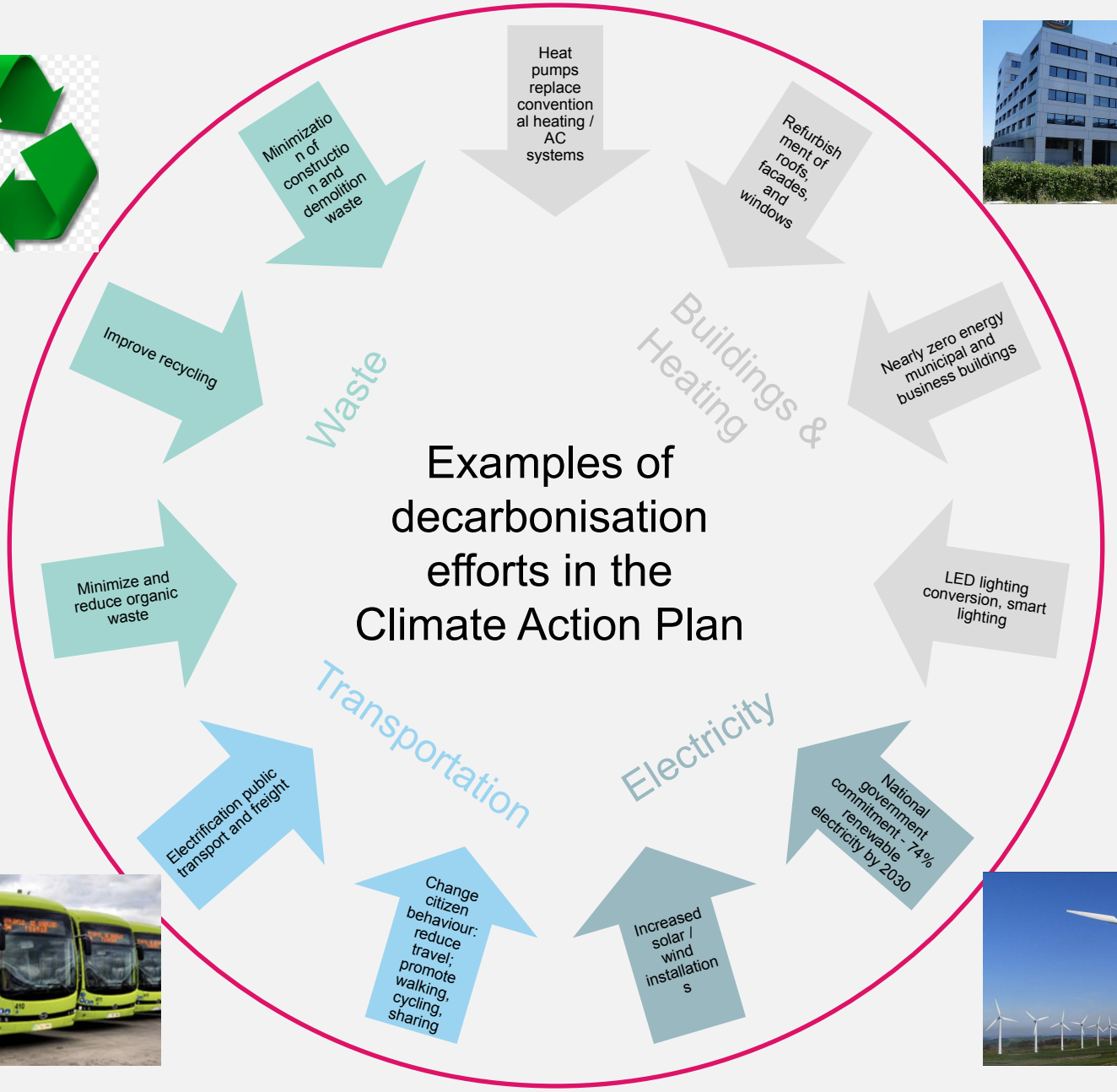
Introduction

NetZeroCities was established to help cities create and implement climate action plans to reach net-zero.
The EU-wide goal is a 55% carbon reduction by 2030 and carbon neutrality by 2050. NetZeroPlanner is a tool to help cities create the roadmap to net-zero success.

The steps cities take to reach net-zero:

Climate Action Plans (CAP)	Model Impacts	Investment Planning	Strategic Plans	CAP Iteration
Climate Action Plans map out decarbonisation efforts to be implemented through 2030 to move each city to climate neutrality.	NetZeroPlanner allows cities to reflect and analyse the decarbonisation and financial effects of each city's Climate Action Plan.	Cities adjust model inputs and assumptions as necessary to maximize the financial and carbon return on investment (ROI) aligned with the funding available for Climate Action Plan projects.	NetZeroPlanner model provides outputs necessary to complete the Climate Action Plan which is agreed by city and national leaders and represents city commitments to move toward net-zero.	Evaluation and iteration of results of Climate Action Plan implementation. Learning and adjustment to ensure net-zero success by 2030.

You can find the template for Climate Action Plan that NZC Mission cities have used here as a reference.



- **NetZeroPlanner has been developed to assist cities in creating an economic case that backs up their Climate Action Plan**

An economic case is the foundation of a city's Climate Action Plan

An economic case:

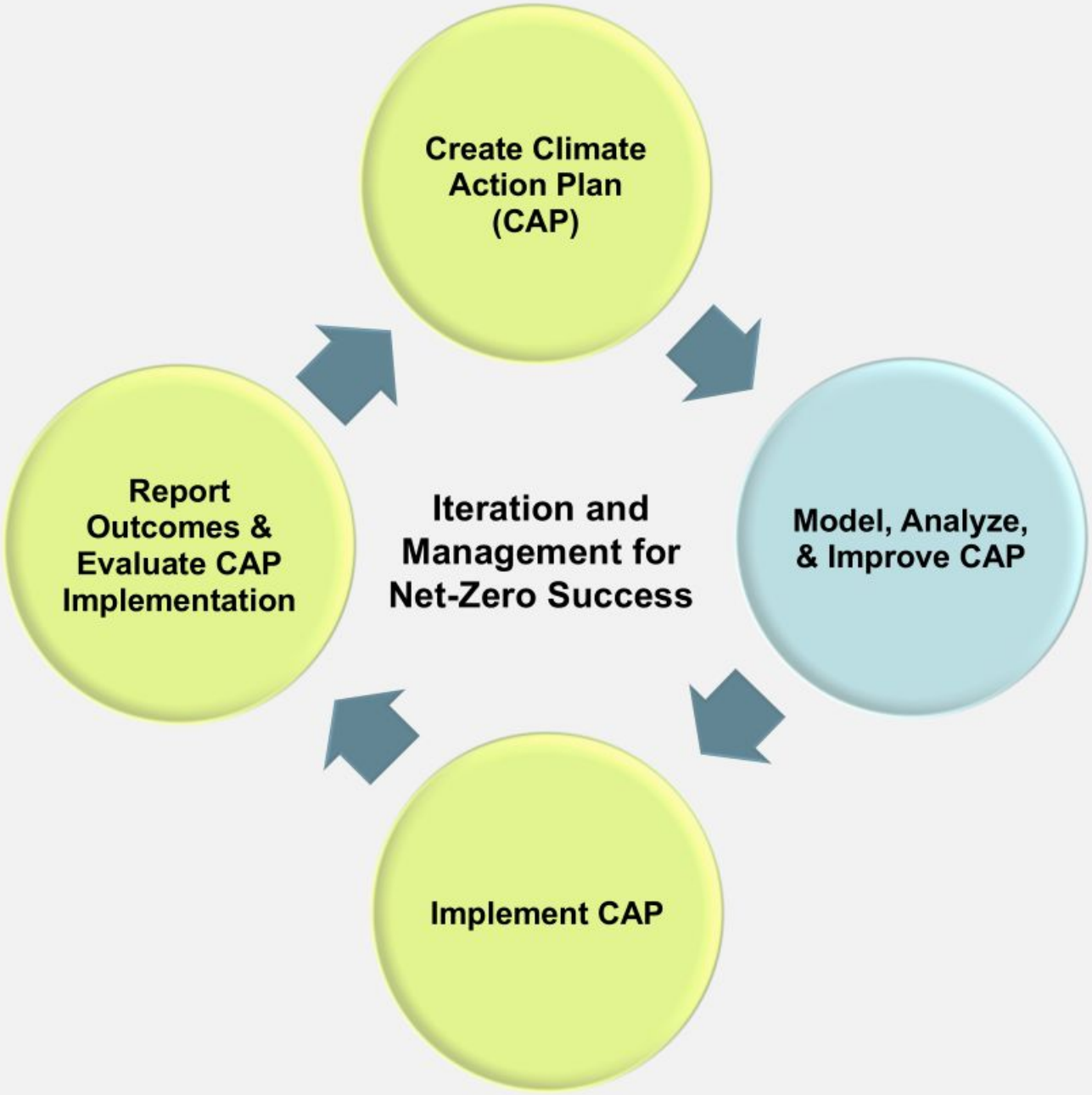
- Allows cities to analyse the costs and benefits of projects in the Climate Action Plan to maximize decarbonisation benefits per Euro invested.
- Breaks down the decarbonisation impacts along with the costs and benefits of the Climate Action Plan by sector and sub-sector to allow for assessment and prioritization of projects so that limited city budgets can be directed to projects with the highest monetary and carbon Return on Investment (ROI).
- Monetizes co-benefits to get a full picture of the advantages of decarbonisation and a more accurate calculation of ROI.
- Decarbonisation impacts and costs / benefits are also separated by stakeholder group to assess investments that are the responsibility and are controlled by the city versus those that will need to be made by citizens and businesses.

- **NetZeroPlanner is a tool that supports a process for creation of an economic case. Through this process, cities validate and improve upon their Climate Action Plans.**

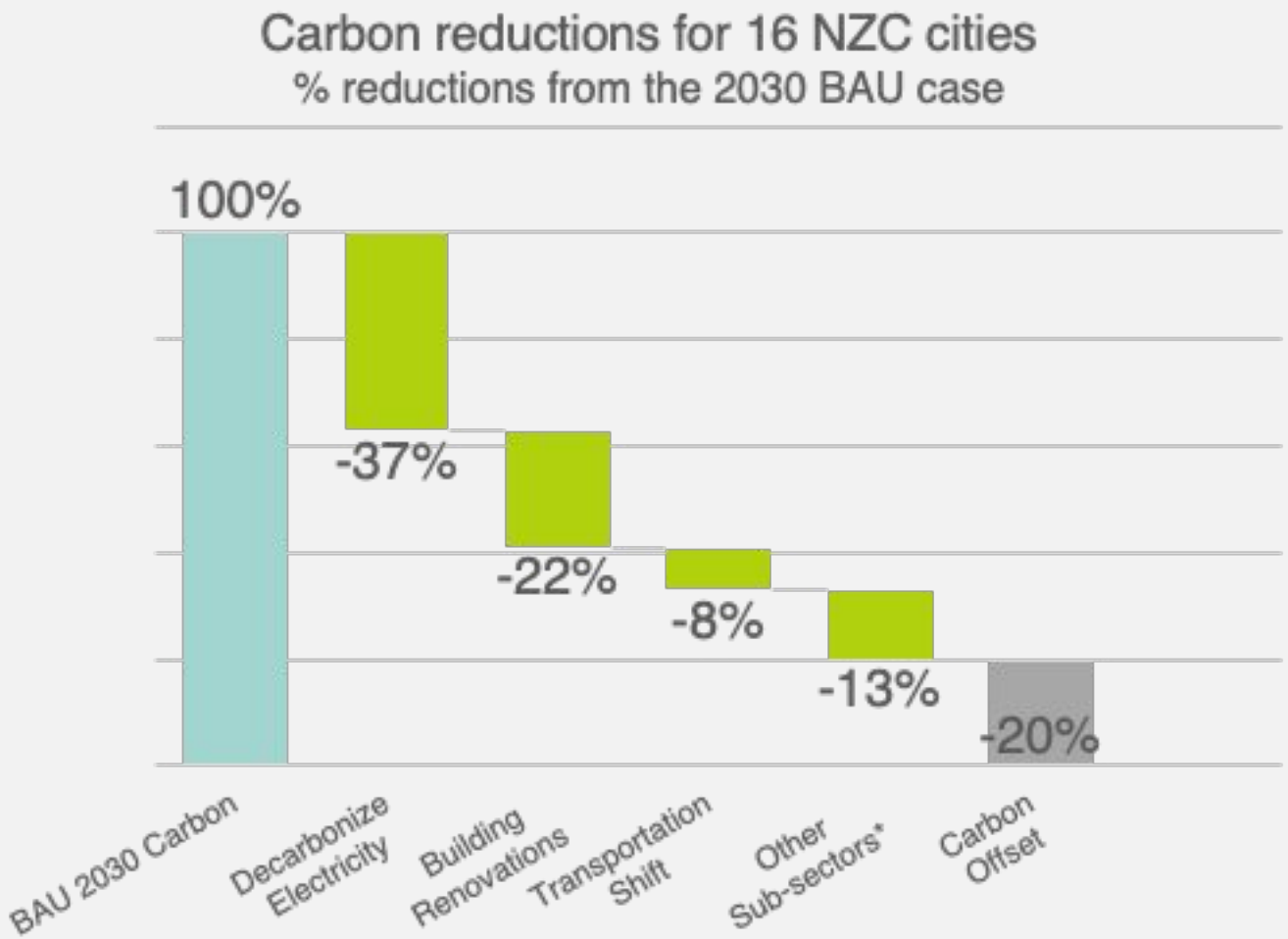
NetZeroPlanner supports Climate Action Planning

- **NetZeroPlanner produces an economic case which serves as the analytical foundation and roadmap for the Climate Action Plan**
  - It provides a validation point to ensure that the Climate Action Plan does in fact achieve net-zero over time.
  - Previous cases show that over 90% of decarbonisation investments will not be made by the city but will instead be made by citizens and businesses. An economic case provides the analysis for cities to strategize on the policies, incentives, and supports that will be needed to motivate citizens and businesses to decarbonise.
  - In concert with the city finance team, investments that are the responsibility of the city are compared to the budget to determine any shortfalls. An economic case is the first step in investment planning as the city works to find funding to fill those gaps or adjusts the Climate Action Plan to reduce cost.
  - Economic case analysis should be used iteratively to represent the Climate Action Plan and inform any changes required to achieve net-zero goals and fit within funding limitations. It should also be adjusted ongoing if the results of the Climate Action Plan are falling short of forecasted decarbonisation goals.

By modeling the impacts of your Climate Action Plan, NetZeroPlanner allows you to run scenarios to improve your plan before you begin implementation



Review of cities across Europe shows which levers drive majority of decarbonisation in Climate Action Plans



* Other sub-sectors include: Increased car-pooling, Optimized logistics, New energy-efficient buildings, and increased waste recycling)

Main insights of the review:

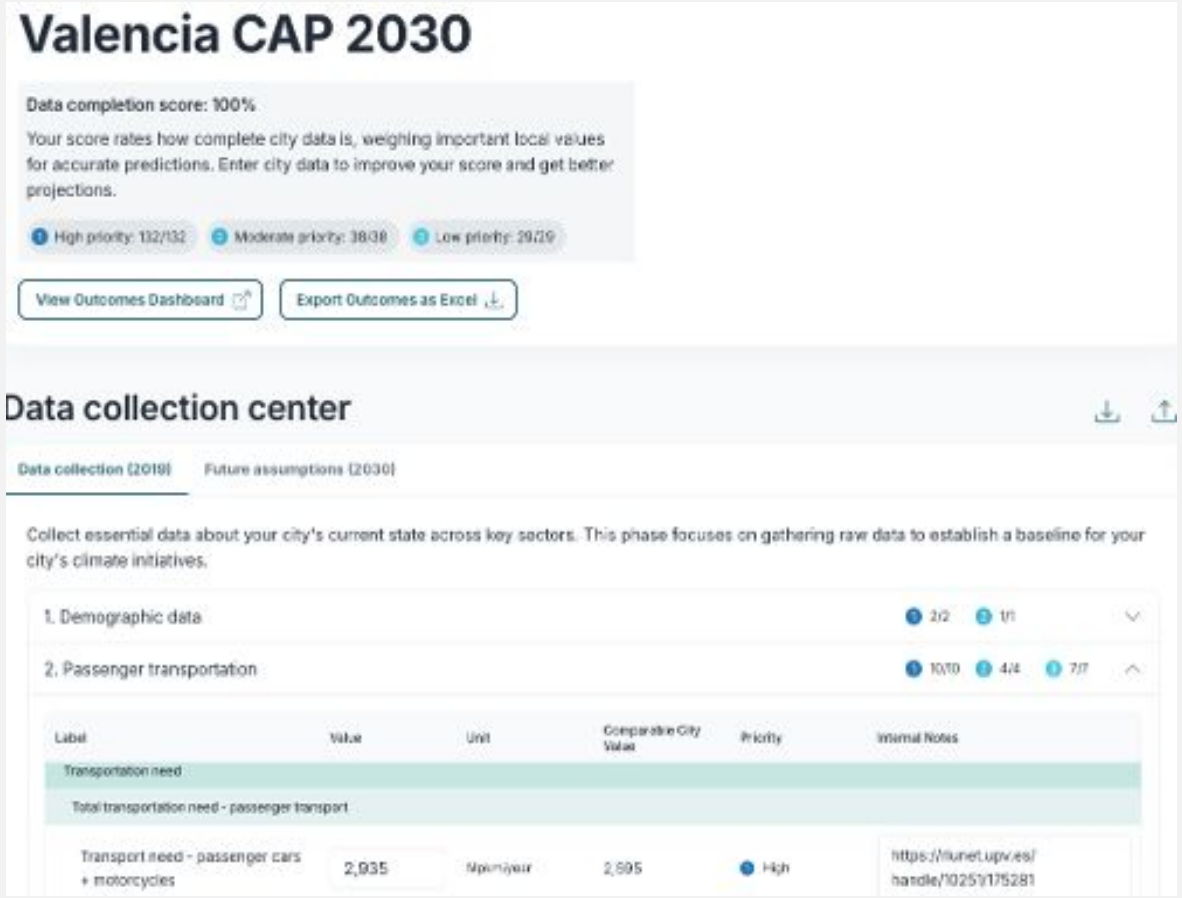
- 37% of the total reduction comes from decarbonizing the electrical grid.
    - Cities have limited control over utilities, so they depend on the successful implementation of regional and national plans for the shift to renewables. Implementation of local renewables can speed this transition.
- 22% of the total reduction comes from building renovations.
    - Optimistic assumptions of over 3X increase in annual renovation rates could pose a risk in city CAPs.
- 8% of the total carbon reduction comes from ambitious targets for a 27% reduction in motorized trips and a 27% shift from cars trips to public transportation.
    - The shift to electric vehicles reduces carbon another 6%.

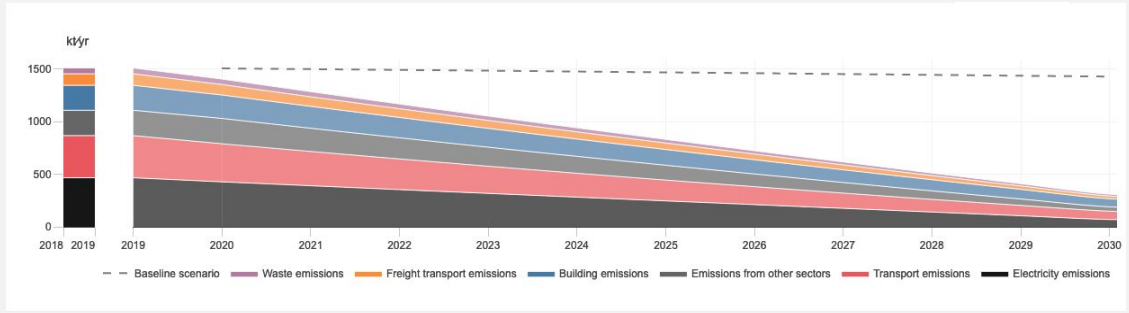
Benefits of using NetZeroPlanner

- The tool is **free for cities to use**.
- It produces both carbon and financial analysis tables that can be downloaded in Excel format for inclusion in city Climate Action Plans.
- NetZeroPlanner can be used for **"what-if" analysis and updated easily over time**, so the Climate Action Plan becomes a working document and roadmap to help the city achieve its goals (see Module 4: Learning and Plan Iteration).
- Calculating Return on Investment **including co-benefits** helps to make the case to city leaders for allocations of limited budget resources. It also helps citizens and businesses understand the returns they can expect from the substantial decarbonisation investments that will be required of them. (More on co-benefits in Module 2: Module overview.)
- It provides high level backup to support incremental investment planning and provide guidance on the financing necessary to fill budget shortfalls.
- It can serve to bridge the **communication gap** between city climate teams and city finance departments, so they can work together to make sure the Climate Action Plan is properly funded.
- A consistent analytical approach allows for the **comparison of results across cities** improving accuracy and highlighting decarbonisation best practices to be shared (the Portal group of this learning program can be used to exchange results and discuss among cities).

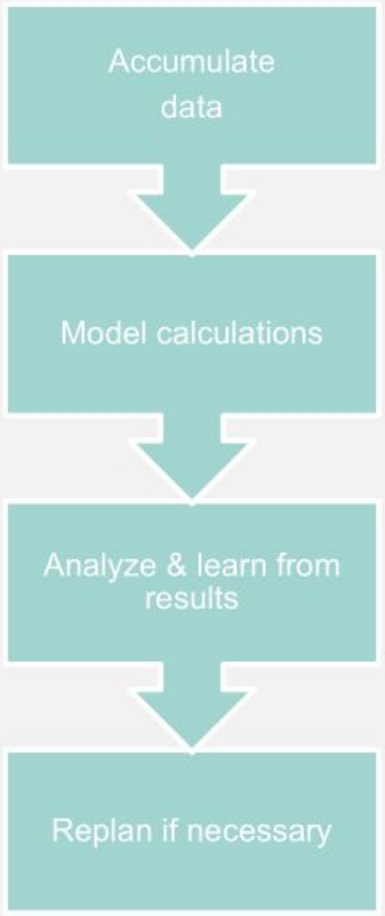
NetZeroPlanner user flow

Cities access the tool through the NZC portal





Dashboard shows plan results versus baseline by sector and sub-sector.

Process for progress management and CCC iteration through monitoring, learning, and adjustment

- **Getting the most accurate inputs for the NZP data input sheet is critical to getting the most accurate progress report of carbon results:**
  - Accumulate city data for 20 main levers for years 2022 and 2023 (data input sheet similar to original model - some data provided by city and some provided by NZC).
  - Use economic model to calculate 2022 and 2023 actuals by sector. Compare to original Climate Action Plan by sector.
  - Calculate volume and rate variances to plan by sector. Analyze positive and negative variances to highlight which sectors and levers are ahead or behind plan.
  - Align key actions in Climate Action Plan with sectors to learn what actions are having the largest effect on decarbonization and which actions need to be replanned.
  - Adjust implementation or replan as necessary to stay on path to carbon neutrality