BLUE-GREEN CITIES IN THE SPOTLIGHT: GHENT

Discover how Ghent is working towards a climate robust city through the implementation of Blue-Green Infrastucture (BGI) and social innovation.

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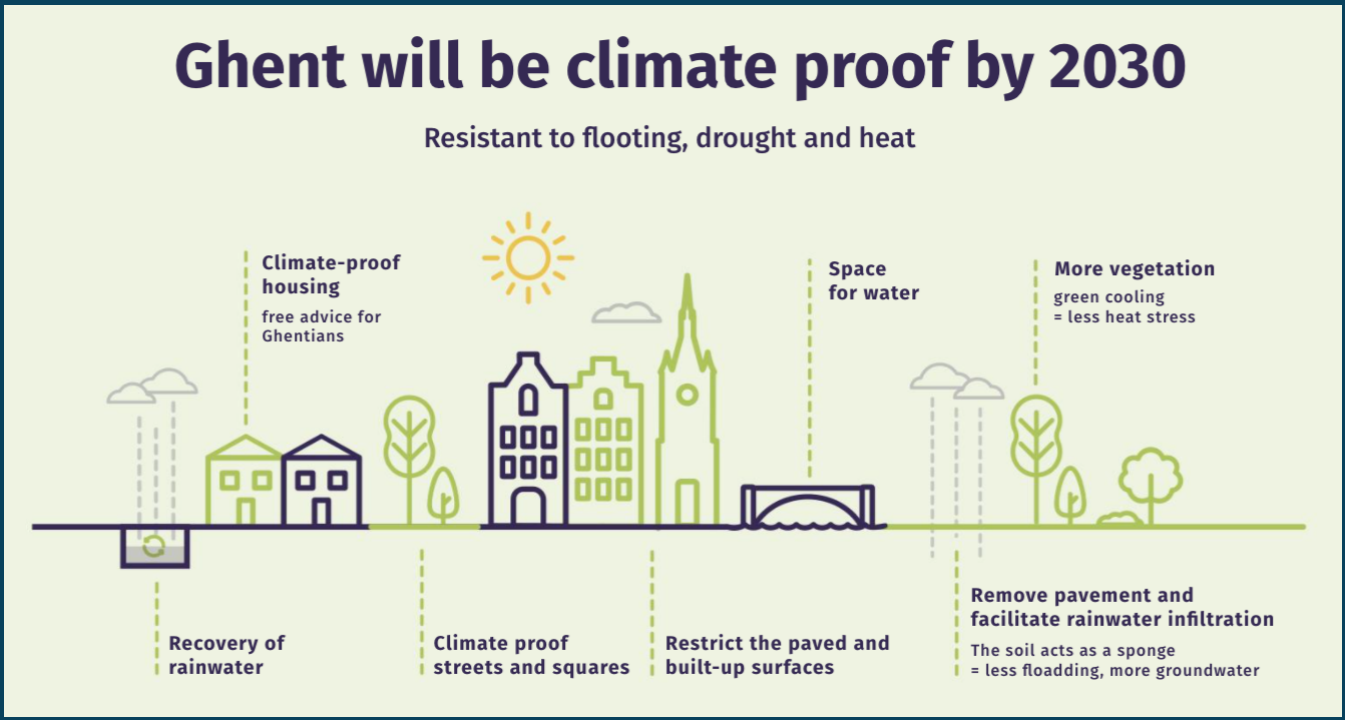
The Belgian city of Ghent is located in the industrial heart of Europe, which provides prosperity but also brings with it environmental challenges. In the past, the city has suffered from high concentrations of fine dust particles, contaminated soils and waterways, and its large forests were almost entirely obsolete. Fortunately, these trends have been reversed over the last few decades and the city has become more liveable, thanks to greening public spaces and reducing the number of cars in the city centre. Not only has the city tackled its soil contamination problem, but new green urban areas are also improving biodiversity in the city and acting as climate buffers - lowering heat stress and providing more space for water infiltration. Besides these two main functions, the green areas play an important recreational role in citizen wellbeing.

Ghent is actively planning for the expected effects of climate change (e.g extreme heat, heavy downpours, long-lasting droughts, rising sea levels) to ensure that by 2030, the city is climate robust. Efforts to make the city climate robust are illustrated in Ghent's 2020-2025 Climate Plan.

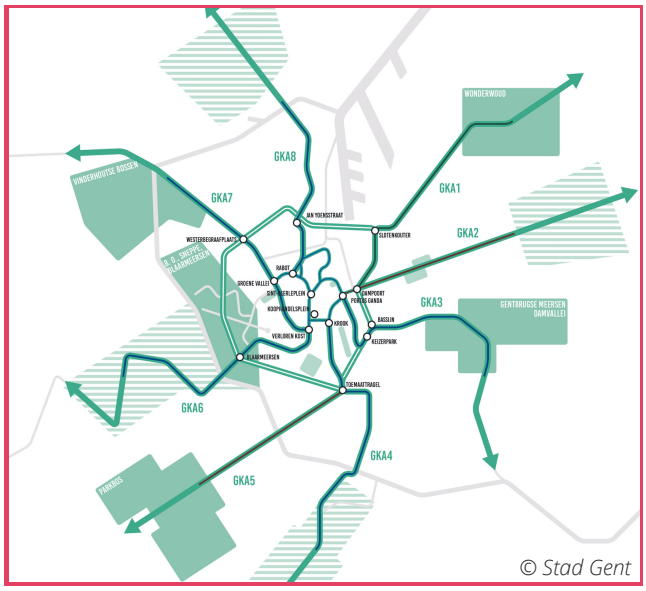


Ghent's 2020-2025 Climate Plan

The following projects illustrate how Ghent is working towards a green climate-robust city.

The Green Climate Axes Vision

The city of Ghent is working on the realisation of **8 green climate axes** that connect the outer city with the inner city. This blue-green system *(see image to the right)* includes 8 axes, an inner-city system, a green recreational ring and green nodes at the crossing points of the several elements within the system.



A general vision and action plan for realising these axes is complete and has already been approved by the city council.

The vision consists of:

- a map of the 8 green climate axes
- 6 spatial targets:
  - Planting as many trees as possible to reduce heat stress and increase biodiversity.
  - Lowering pavements to create space for water infiltration.
  - Protecting existing green spaces and building new high-quality green spaces.
  - Prioritising pedestrians and cyclists.
  - Reducing the number of cars on the road and parking spaces.
  - Making public services accessible through the green climate axes.

BEFORE: street example

AFTER: street example

The vision was established through a collaboration between many city services: service for urban planning, service for roads and waterways, service for mobility, greenery service, service for climate and environment, the city architect and policymakers.

The next step is to translate the general vision into a structure map for each green climate axis and to make a design plan for each segment (area).

Detail of a structure map (part of green climate axis 7)

For more illustrations, visit the BEGIN website.

Manual for designing a climate robust city (public domain)

The city of Ghent is working on a manual with a vision and guidelines for designing climate robust public domain like streets and squares – **the Integral Plan for Public Domain (IPOD IV).**

The general vision has been developed by an external contractor and the process of political validation is ongoing. The technical guidelines have been crafted by the city and a new external contractor will be hired to answer some of the city's key technical questions. This process is estimated to be completed by the end of 2023.

The manual consists of:

- A general vision with **'ambition images'** to inspire citizens, as well as private developers.
- **Technical guidelines** for some climate-robust elements like street gardens or infiltration systems like bioswales.
- **A decision tree** that indicates where we can implement each climate-robust element.

Depaving the Toeffaertstraat (street) in Gentbrugge (private domain)

In 2017, the city of Ghent worked on a communication strategy to encourage Gentians to depave their private outdoor space and make it greener. By replacing tiles with greenery, the soil can more easily absorb rainwater and replenish the groundwater level, preventing sewers from becoming overloaded. This also ensures stones do not retain heat for too long.

The city started with a pilot project focusing on depaving citizens' front gardens.

In 2018, the city of Ghent wanted to determine which obstacles were preventing citizens from wanting to depave their gardens. They started to ask themselves the following questions:

- *Are citizens aware of the importance of climate change?*
- *Do they realise and accept that they too have a responsibility to solve climate issues?*
- *Do they know what they can do themselves?*
- *Do they want to help?*
- *Do they think it's expensive?*
- *What other factors play a role in the decision?*
- *How can we help to diminish these obstacles?*

Around the same time, Gents Milieufront (GMF), an environmental organisation in Ghent was looking for new ways to help with the greening of the city. One inhabitant of the Toeffaertstraat

in Gentbrugge, a residential area, asked GMF if they could help to “green up” their privately owned but publicly laid out part of the street. The inhabitants have no front garden in the traditional sense, but they each own a strip of pavement in front of their house. GMF thought this was a fantastic idea, and with a citizens budget provided by the city, the ‘Geveltuinbrigade’ from **GMF constructed over 700 facade gardens between 2018 and 2019 and many more are in the pipeline – at least 700 between 2020 and 2021.**

Photos: © Stad Gent

Project's main objectives:

- Depaving as much as possible on the front garden strips of the Toefaaertstraat.
- Analyse the different steps people have to take to depave their private land.
- Test which steps the city can support by information, practical guidance, financial support, etc.

Project's main outcomes:

- 14 families from the Désiré Toeffaertstraat in Gentbrugge participated in the project to transform their façade or paved front garden into a ‘green gem’.
- 6 families chose to create a green front yard, 8 others chose a green wall on the facade of their house.
- In total 77 m2 was depaved on the Toeffaertstraat.

Ghent, looking ahead

As the principles of climate adaptation are now basic guidelines for public domain design, many projects *(see below)* have been planned for the coming years. As well as these, major sewage infrastructure projects have been planned for up to 2030, to reduce the risk of pluvial flooding.

CURRENT SITUATION: 2021

FUTURE SITUATION: 2025

Ankerslaan (Ledeberg/Gentbrugge) - Less soil consolidation, more green

Hertstraat (Inner City) - Street trees, water permeable foot ways

Nekkersberglaan - less soil consolidation, more green

One of Ghent's key projects is the climate robust design and rebuild of the Kettingplein square. The Kettingplein is a traffic-free square, and at the moment completely covered in stone. Ghent wants to transform it into a climate robust square with a focus on water storage and thermal comfort. Through a participatory project with local residents, a design has been created which would transform the square into an intimate, green recreational space. This involves greening the square - *with a variety of plants that will prevent flooding during downpours* - capturing and infiltrating rainwater from roofs, and optimising the space for both pedestrians and cyclists.

Climate robust (preliminary) design for the 'Kettingplein' square

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Ghent's story supports BEGIN's 4 recommendations for successful BGI implementation.
For further information read the **BEGIN Policy Brief** at: baxcompany.com/begin-policy-brief/