



Forestàrni!

Forestami

The **Municipality of Milan**, the **Metropolitan City of Milan**, the **North Milan Park** and the **South Milan Agricultural Park** are collaborating through a Memorandum of Understanding with the **Polytechnic of Milan**, under the scientific direction of Stefano Boeri, to build a **strategic vision on the role of green areas in the Milanese Metropolitan Area**, to collect, implement and enhancing the main green, permeable and tree-lined systems - and the related vital spheres - **within the perimeter of the Great Metropolitan Park by 2030**

GOALS

- **Mitigate the effects of climate change** (heatwaves and floods) and offer the city new ecosystem services of resilience.
- **Reduce** the average **air pollution condition** (30 μg / m^3 of $\text{Pm } 2.5$ particulates, 3 times the WHO safety level).
- **Reduce energy consumption** dictated by air conditioning, setting an 80% reduction in greenhouse gas emissions by 2050 (Net-zero emissions 2050, C40 Cities).
- **Reduce the "heat island" effect.**
- **Ensure inclusion** and **social cohesion** through community projects for the redevelopment of the suburbs.
- **Increase green and blue infrastructures** and ecological connections between the different parts of the Metropolitan Area.
- Significantly **increase the number and biodiversity** of plant and fauna living species.
- **Promote synergies between public and private** on forestry projects.
- **Enhance the heritage** of metropolitan greenery.

CRITICAL POINTS

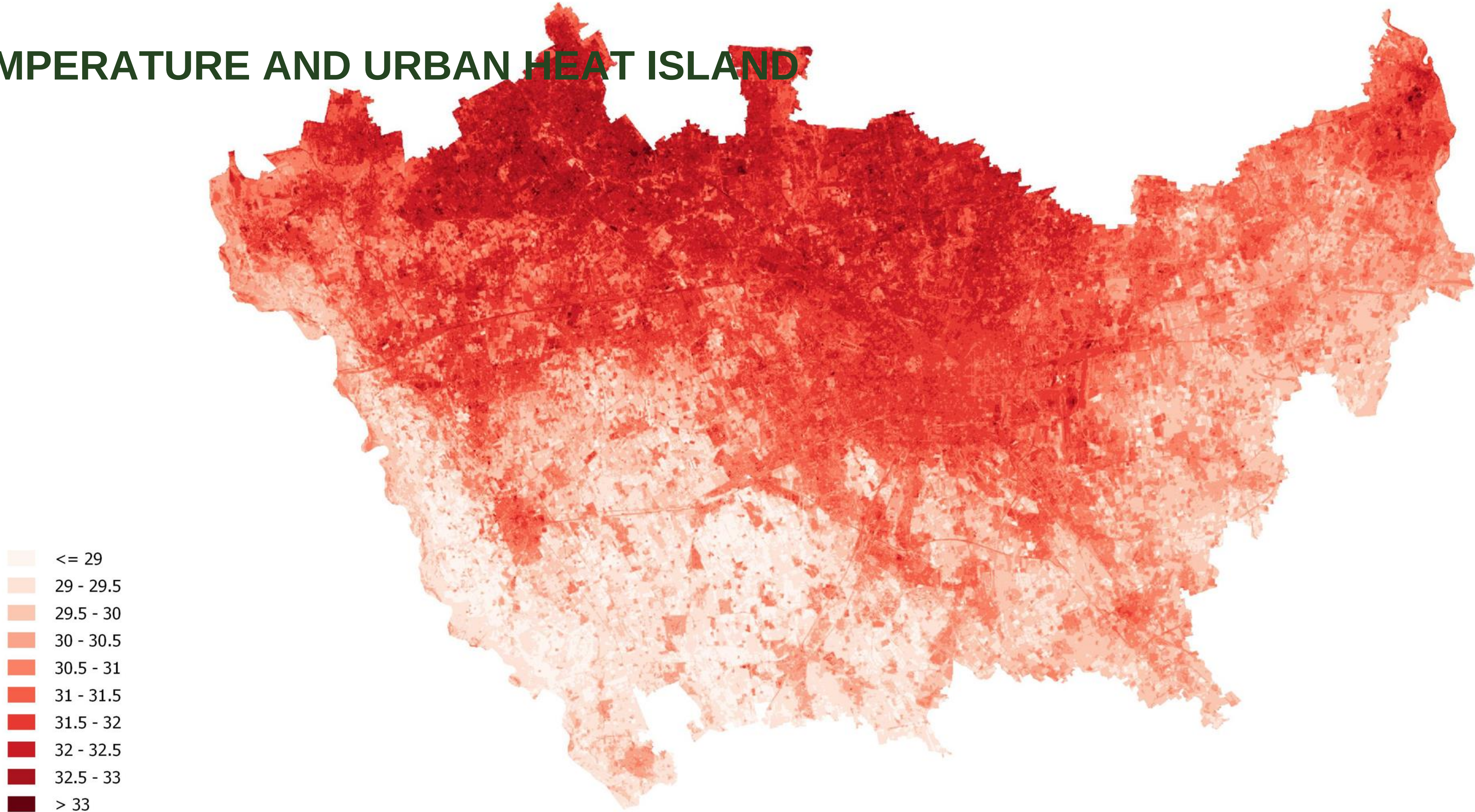
- To improve green surfaces, **AREAS** must be found available to host new plantings. These areas can be public or private, they can be permeable or they can be transformed through demineralization projects.
- To increase green areas, **NEW FINANCING MODELS** need to be implemented that can support the planting and maintenance of new plants and shrubs.
- To increase the green areas, it is necessary to create **NEW GOVERNANCE MODELS** in order to manage planted areas in the long term
- To guarantee long-term forestry interventions, **MAINTENANCE COSTS** should be controlled and considered.

MAPPING

developed by: POLITECNICO DI MILANO - LABSIMURB

- Temperature & Urban Heat Island
- Surface Runoff
- Imperviousness
- Tree Canopy

TEMPERATURE AND URBAN HEAT ISLAND

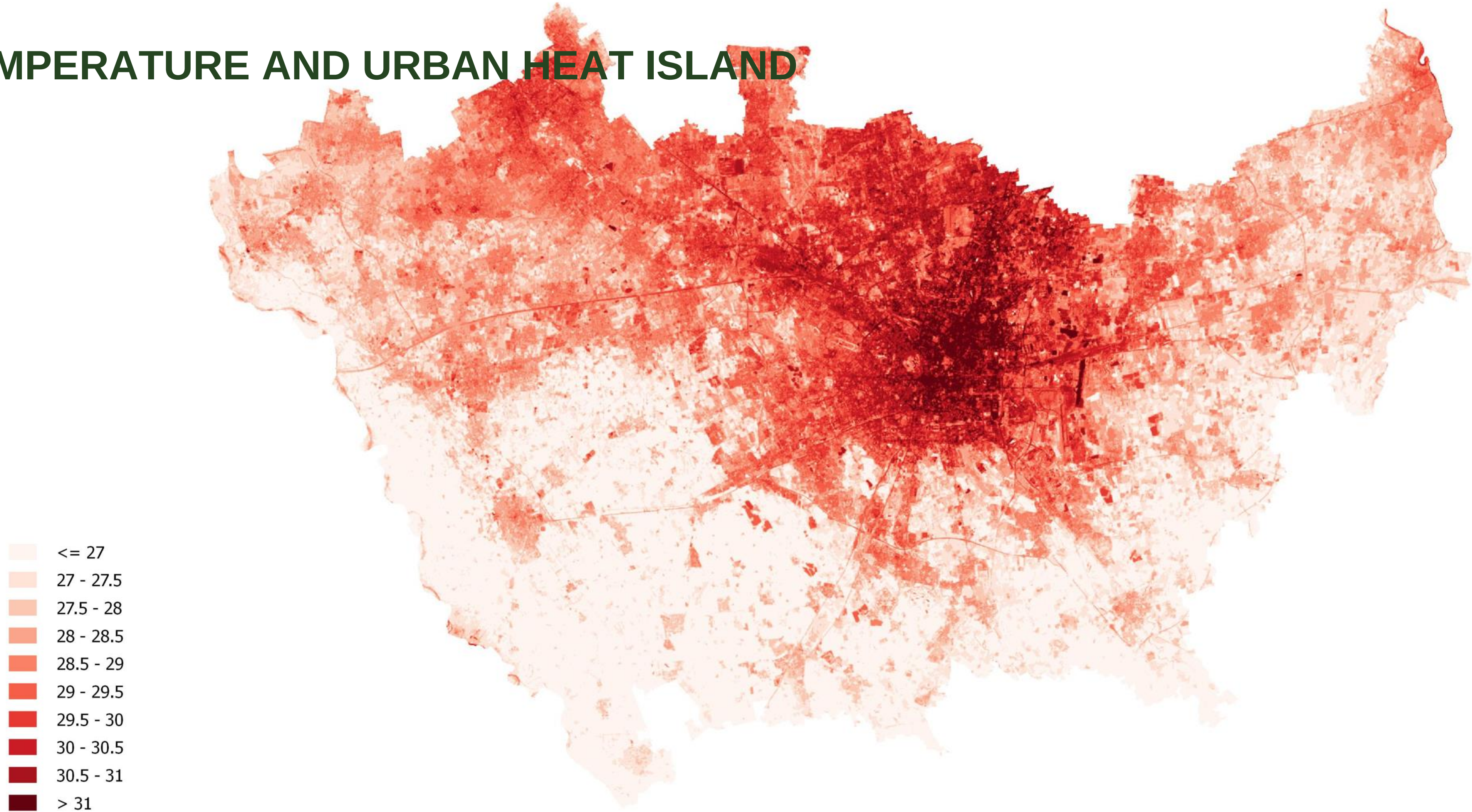


Temperature Map (NSAT)
August 4th, 10.30

Courtesy of: Metropolitan City of Milan Cariplo Foundation
Elaboration: Urban Simulation Laboratory Fausto Curti - Polytechnic of Milan



TEMPERATURE AND URBAN HEAT ISLAND

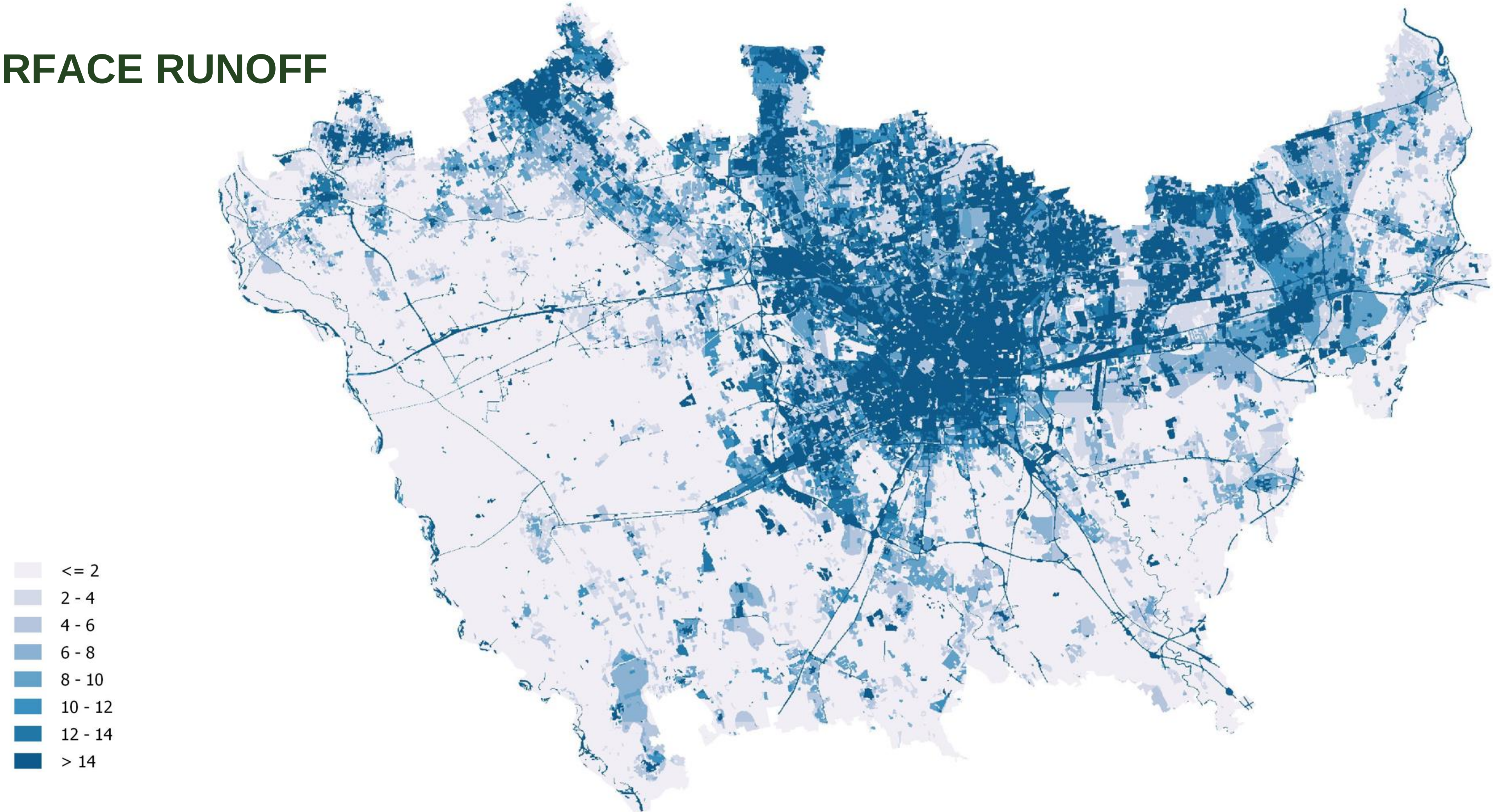


Temperature Map (NSAT)
August 4th, 21.30

Courtesy of: Metropolitan City of Milan Cariplo Foundation
Elaboration: Urban Simulation Laboratory Fausto Curti - Polytechnic of Milan



SURFACE RUNOFF

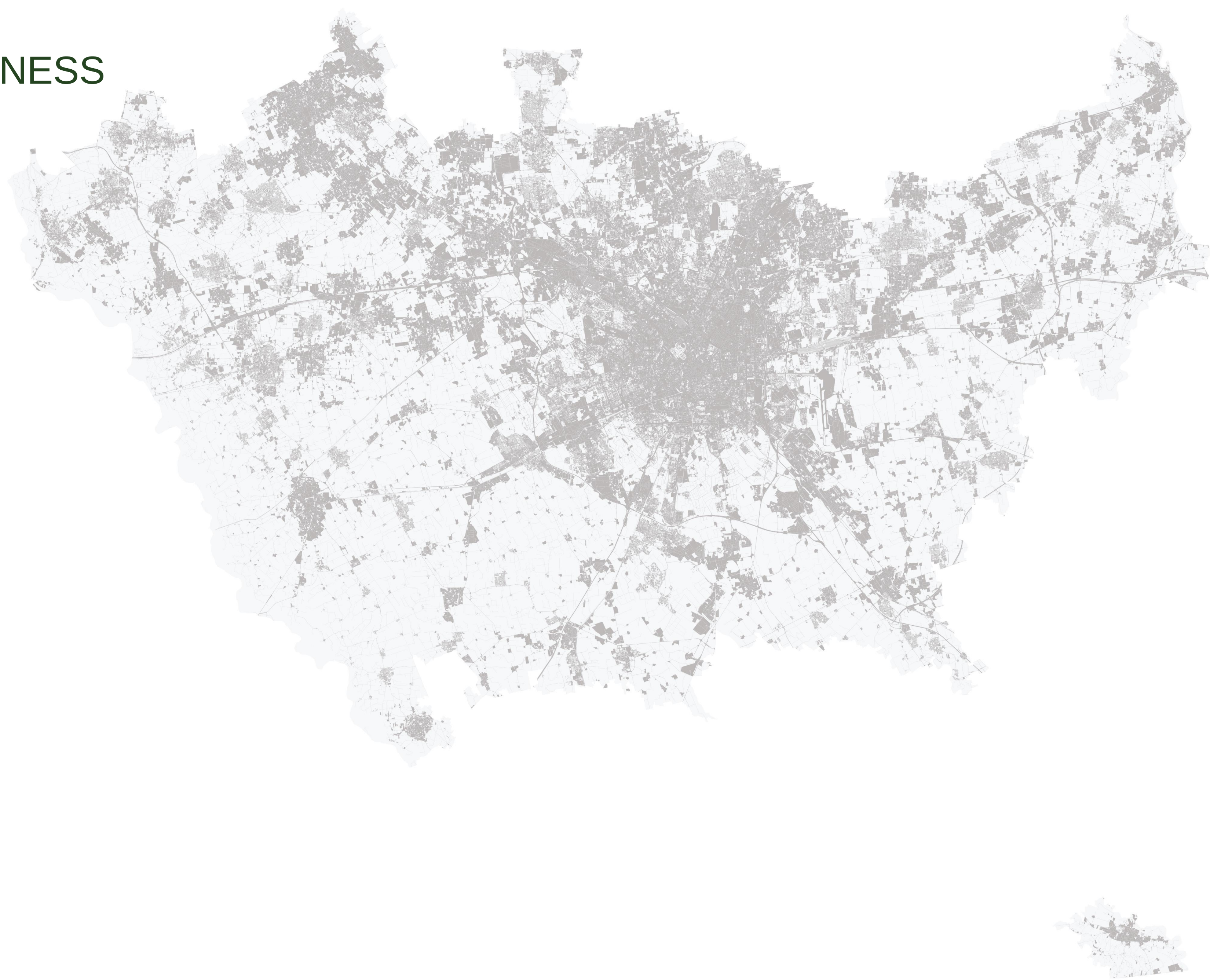


Potential surface runoff
November 5, 2017

Courtesy of: Metropolitan City of Milan Cariplo Foundation
Elaboration: Urban Simulation Laboratory Fausto Curti - Polytechnic of Milan

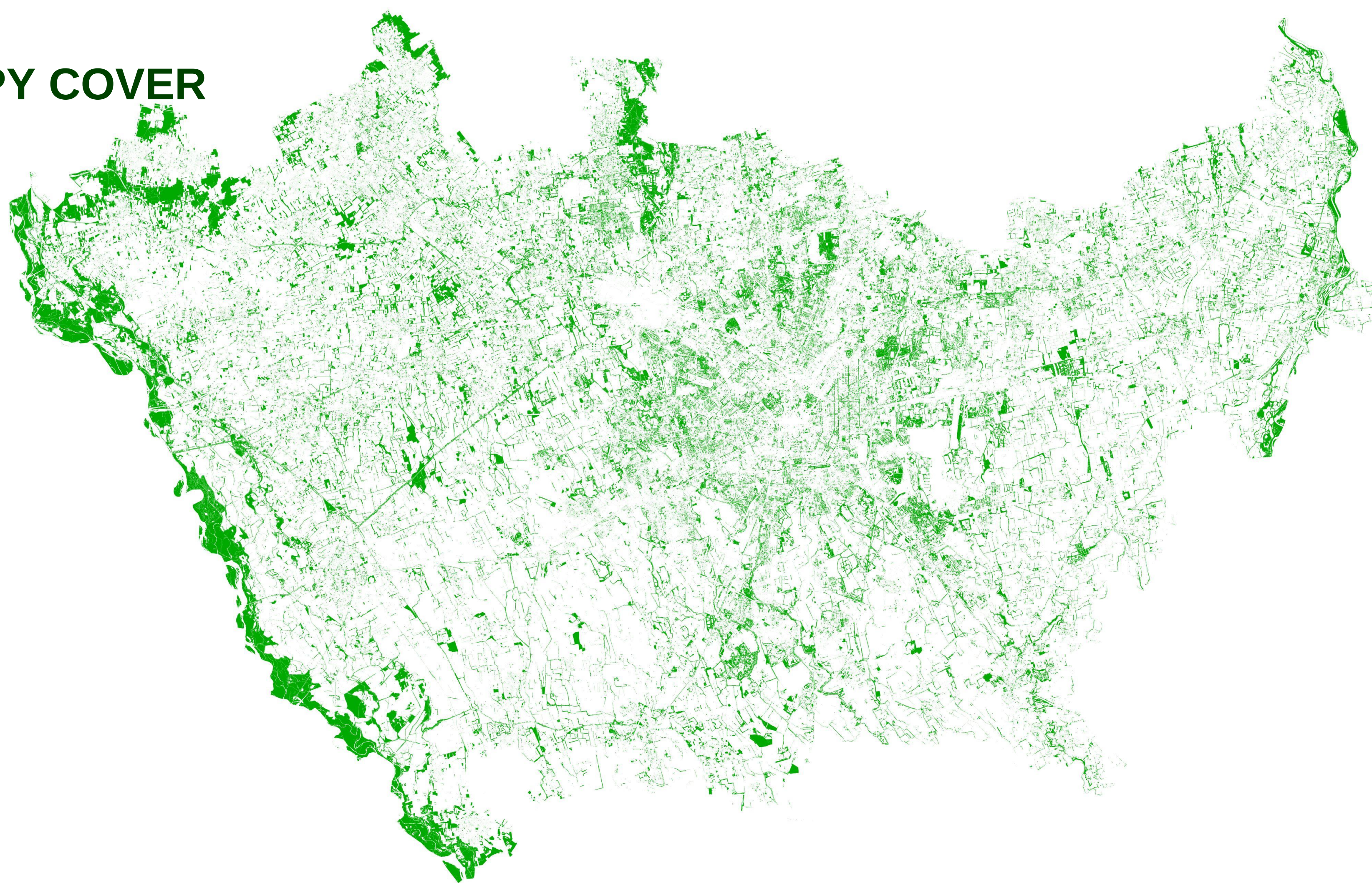


IMPERVIOUSNESS



Courtesy of: Metropolitan City of Milan Cariplo Foundation
Elaboration: Urban Simulation Laboratory Fausto Curti - Polytechnic of Milan

TREE CANOPY COVER



**The estimate Tree Canopy
cover in the metropolitan city
of Milan is: 16%**

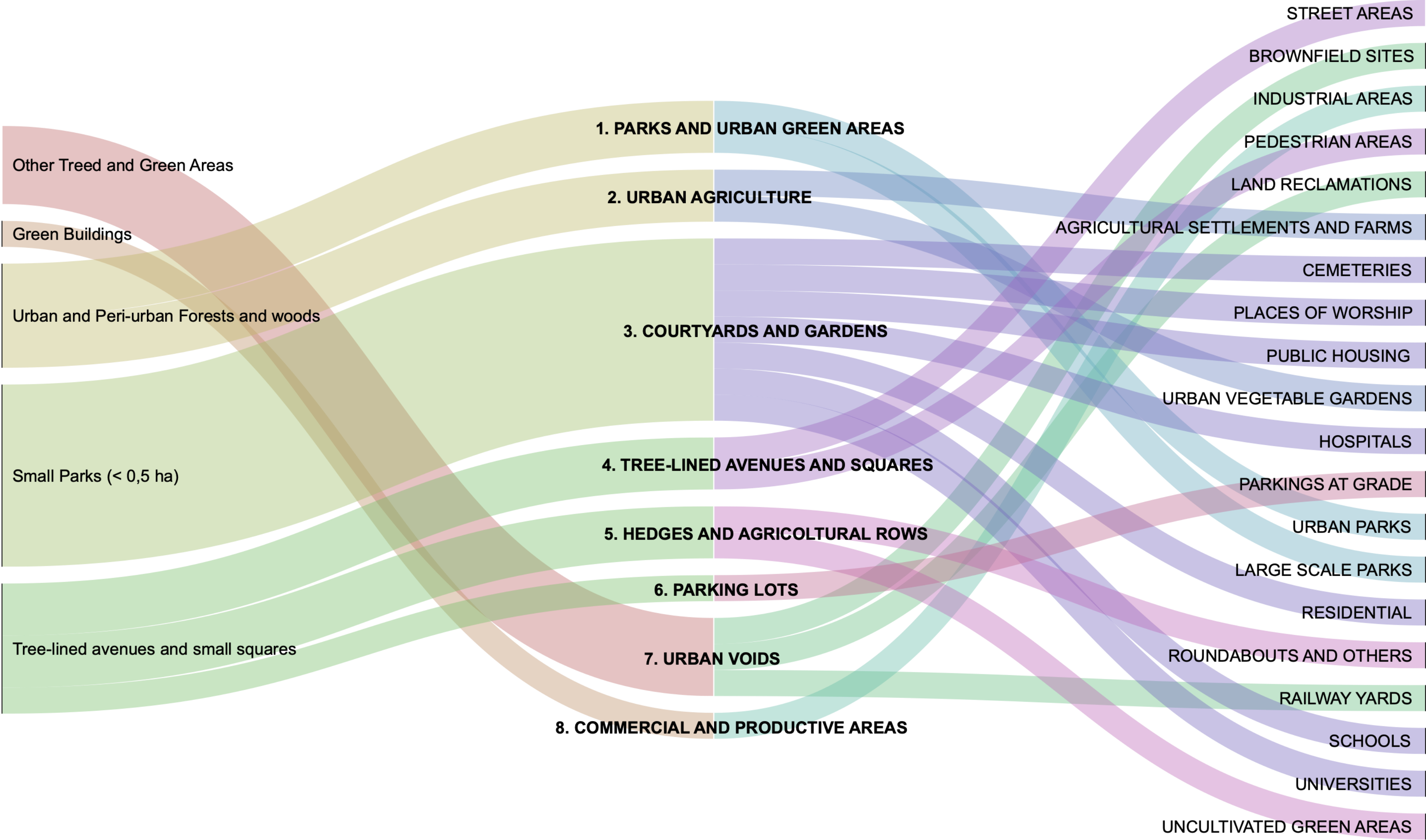
STRATEGIES

- Increase **green and permeable areas** by reducing the parking areas.
- **Increase the share of green roofs in the city of Milan by 90%**, transforming all flat roofs into green surfaces.
- **Reclaim polluted soils with trees and shrubs.** The disused areas of the freight yards occupy an area of approximately 1 million and 250 thousand square meters.
- Promote the transformation of condominium courtyards, school courtyards and urban empty spaces into **green oases**.
- Promote **urban gardens** everywhere and strengthen **urban agriculture**.
- Create a **network of green and blue** corridors to connect parks, woods and green architecture.
- Create an **orbital forest** in the metropolitan city.

FAO Urban forestry typologies

Forestami Focus

Areas of interest



Forestami



FONDAZIONE
FALCK



SISTEMI URBANI
GRUPPO FERROVIE DELLO STATO ITALIANE

FORESTAMI FOCUS PROJECTS

1. PARKS AND URBAN GREEN AREAS

2.URBAN AGRICULTURE

2.1 Urban Vegetable gardens

2.2 Agricultural Settlements and farms

3. COURTYARDS AND GARDENS

3.1 Schools

3.2 University

3.3 Public Housing

3.4 Hospitals

3.5 Places of Worship

3.6 Cemeteries

3.7 Residential

4. TREE-LINED AVENUES AND SQUARES

5. HEDGES AND AGRICULTURAL ROWS

6. PARKING LOTS

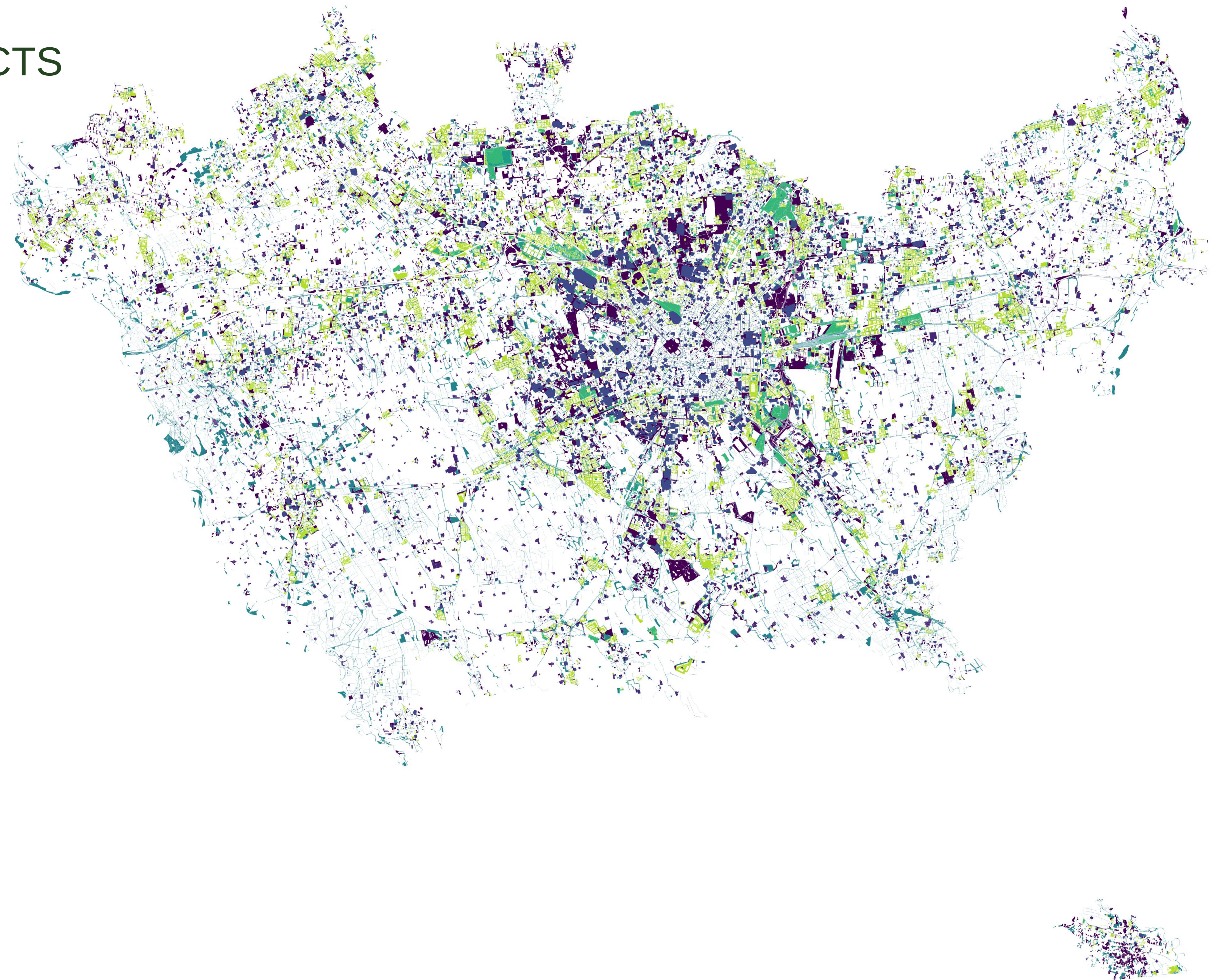
7. URBAN VOIDS

7.1 Brownfield areas

7.2 Unused Railway Yards

7.3 Remediations

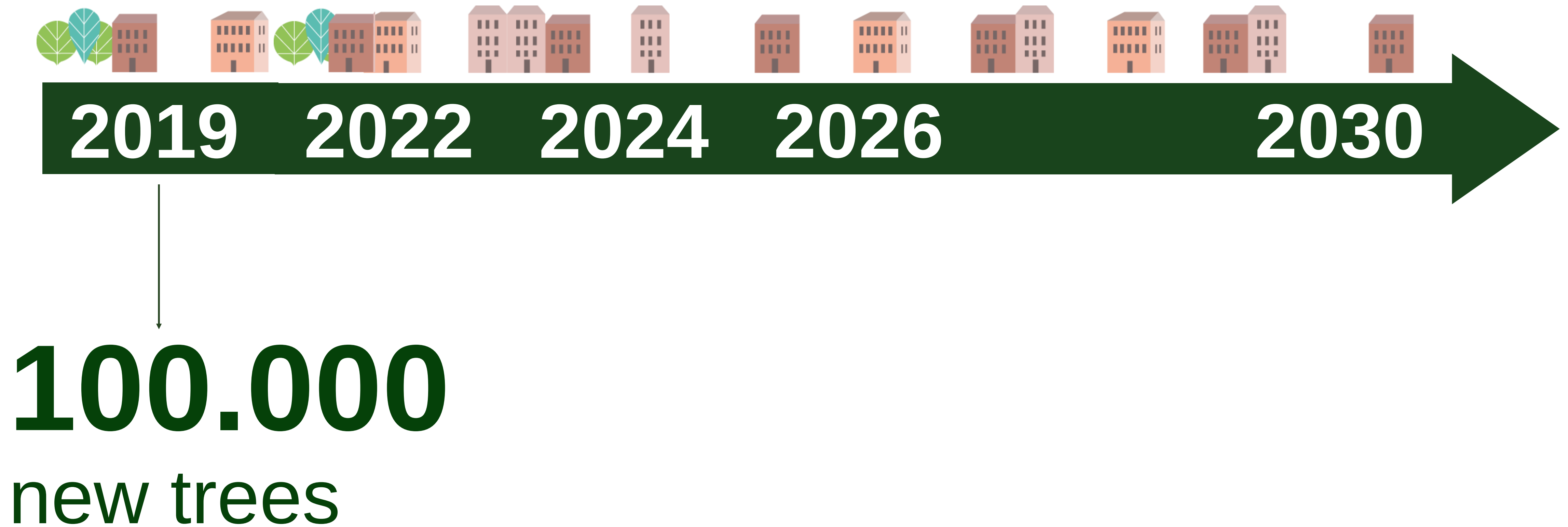
8. COMMERCIAL AND PRODUCTION AREAS



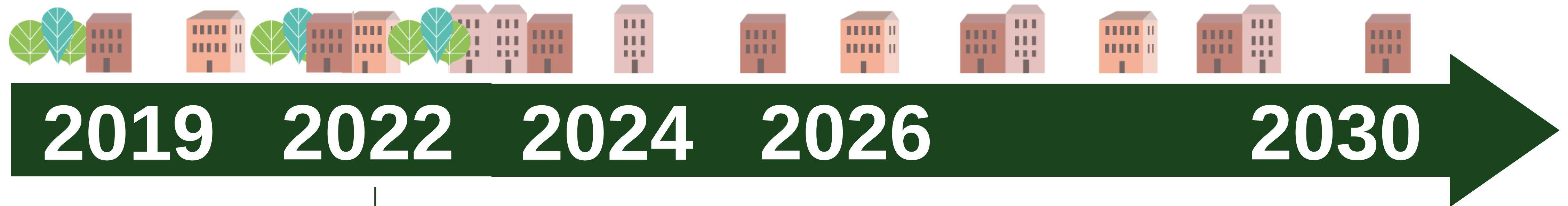
WHEN?

TIMELINE

TIMELINE



TIMELINE



400.000
new trees

TIMELINE



1.200.000
new trees

TIMELINE



2.000.000
new trees

TIMELINE



3 million
new trees

SACRAMENTO / USA
23,6%
tree canopy cover
Source : Tree Foundation

VANCOUVER / Canada
25,9%
tree canopy cover
Source : Vancouver City Council

GENEVA / Swiss
21,4%
tree canopy cover
Source : Geneva City Council

AMSTERDAM / Netherlands
20,6%
tree canopy cover
Source : Amsterdam City Council

SINGAPORE / Singapore
29,3%
tree canopy cover
Source : Singapore Government

DURBAN / South Africa
23,7%
tree canopy cover
Source : Green City Index

FRANKFURT / Germany
21,5%
tree canopy cover
Source : Frankfurt European City of Trees 2014

SYDNEY / Australia
25,9%
tree canopy cover
Source : Sydney City Council

CAMBRIDGE / United States
25,3%
tree canopy cover
Source : Green Cambridge

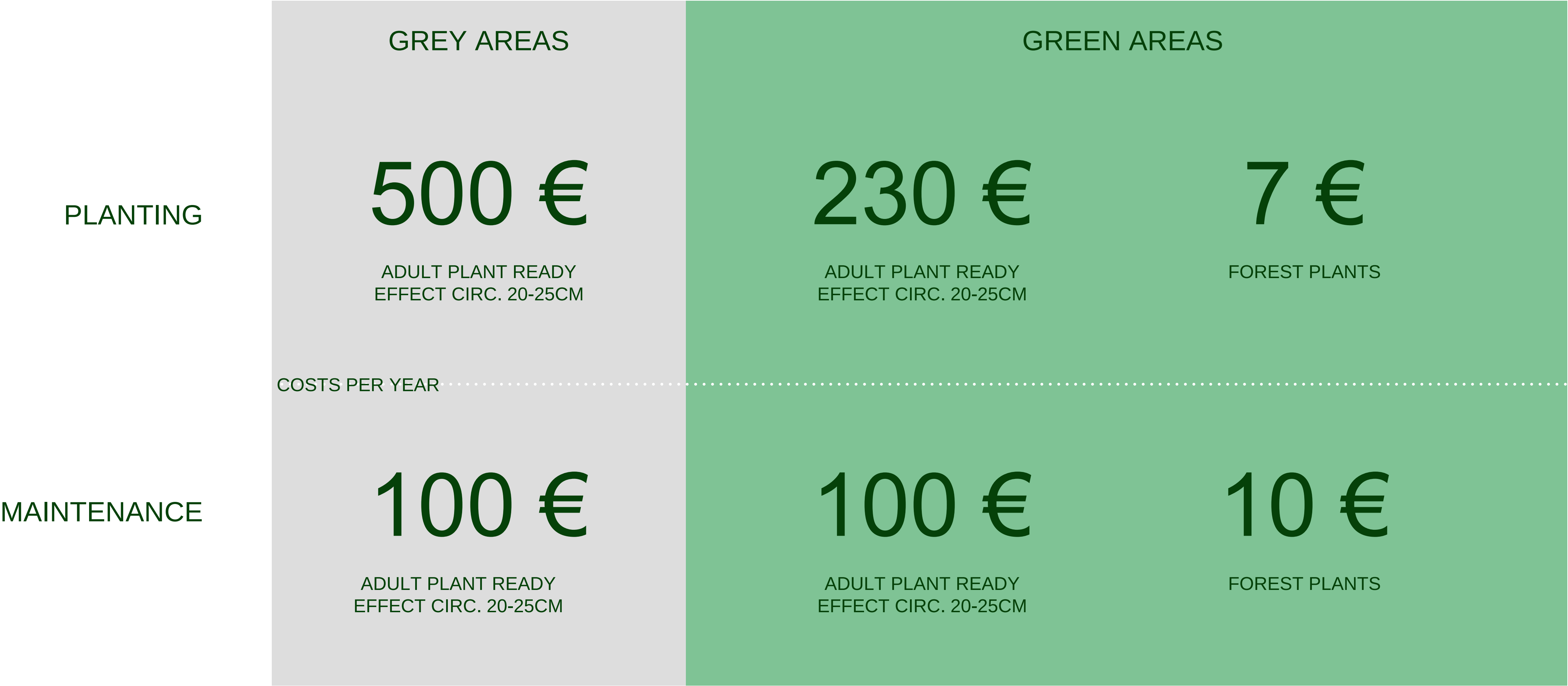
JOHANNESBURG / South Africa
23,6%
tree canopy cover
Source : Johannesburg City Council



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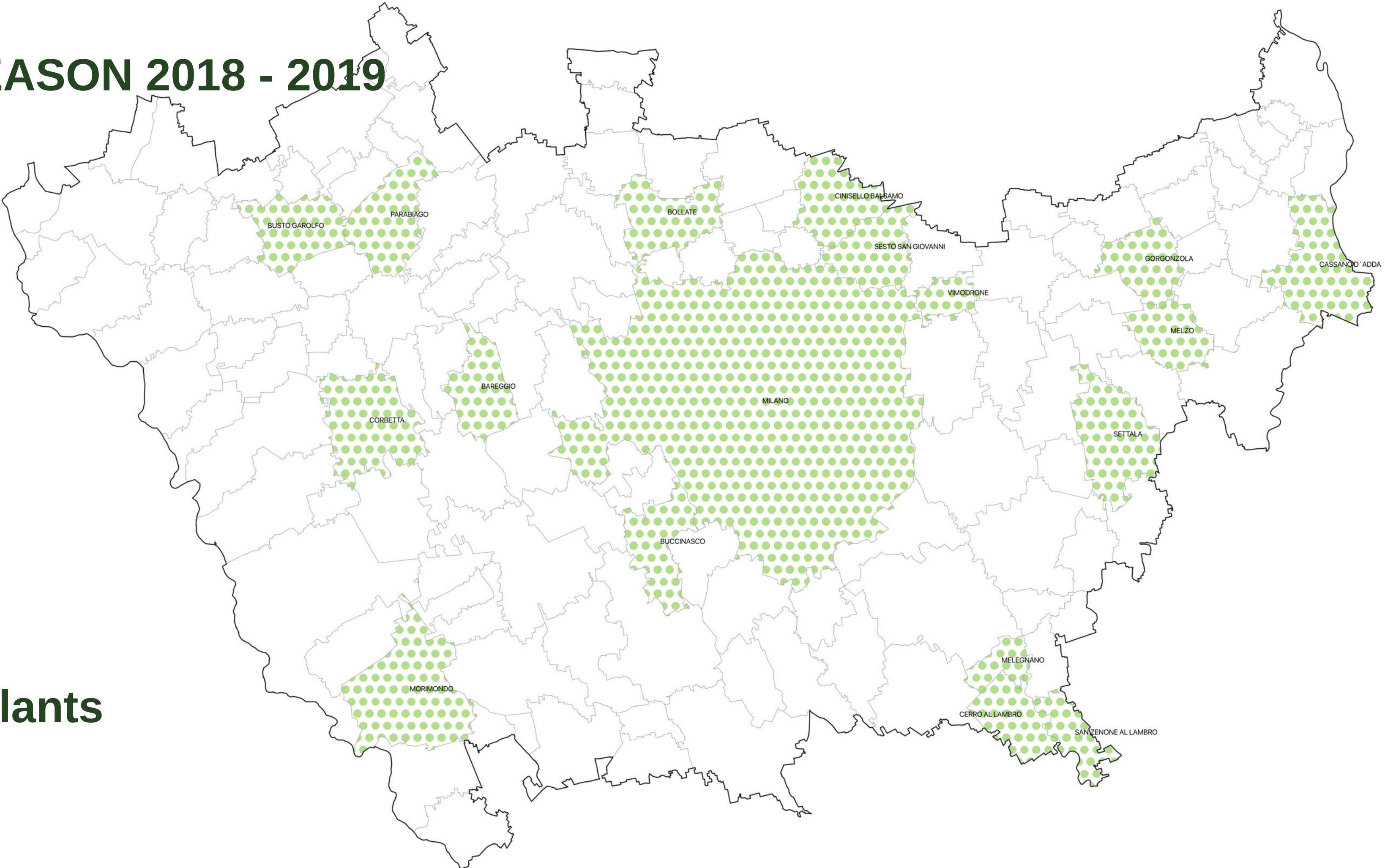


PLANTING AND MAINTENANCE COSTS PER SINGLE TREE



PLANTING SEASON 2018 - 2019

84.563
trees, forest plants
and shrubs



MUNICIPALITIES:

- BAREGGIO
- BOLLATE
- CINISELLO BALSAMO
- GORGONZOLA
- MELEGNANO
- MILANO
- PARABIAGO
- SAN ZENONE AL LAMBRO
- SESTO SAN GIOVANNI
- SETTALA
- VIMODRONE
- BUCCINASCO
- BUSTO GAROLFO
- CASSANO D'ADDA
- CERRO AL LAMBRO
- CORBETTA
- MELZO
- MORIMONDO



Municipality of Bollate



Green area in via Zandonai

Parco Nord Milano



Municipality of Pieve Emanuele



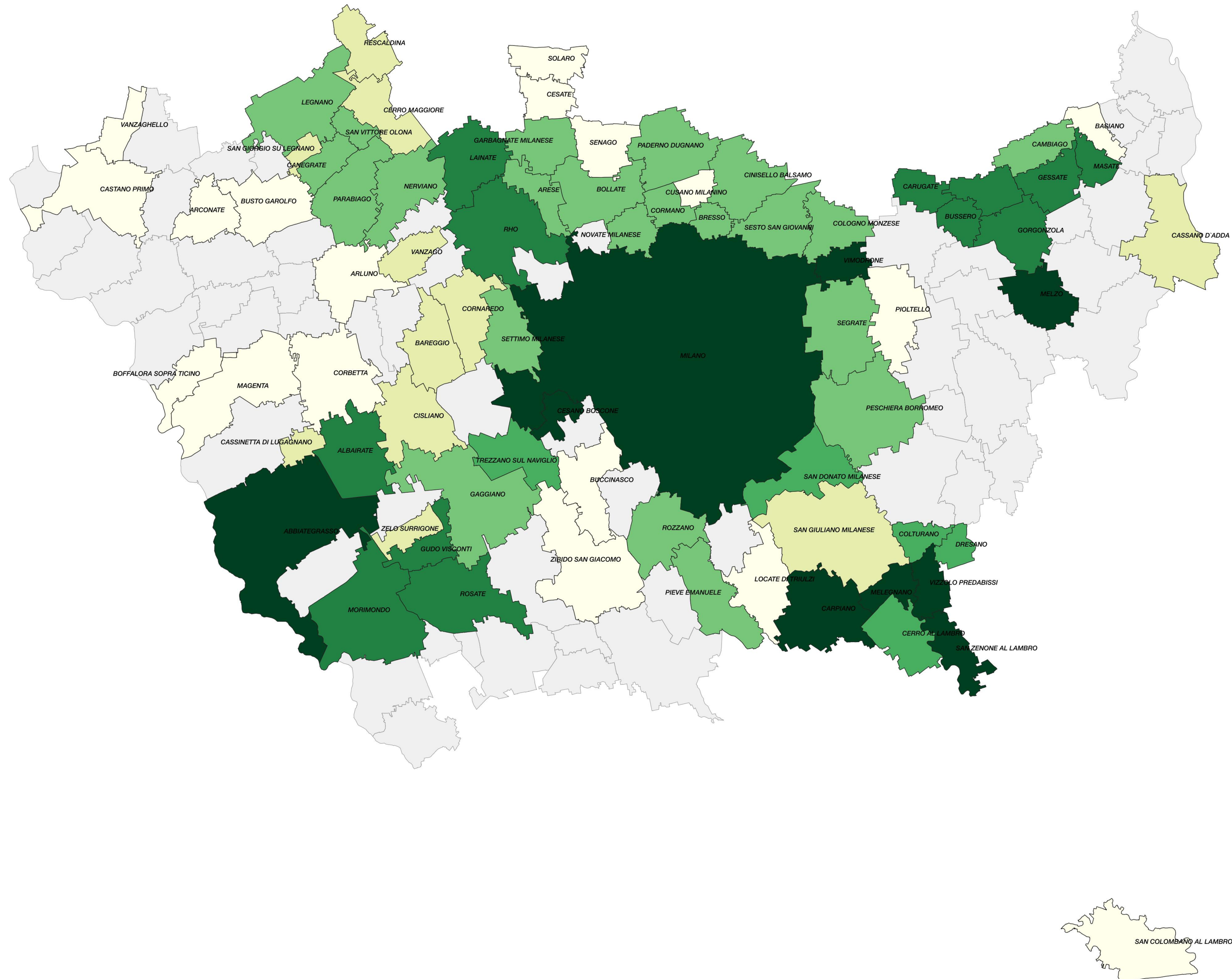
Municipality of Parabiago



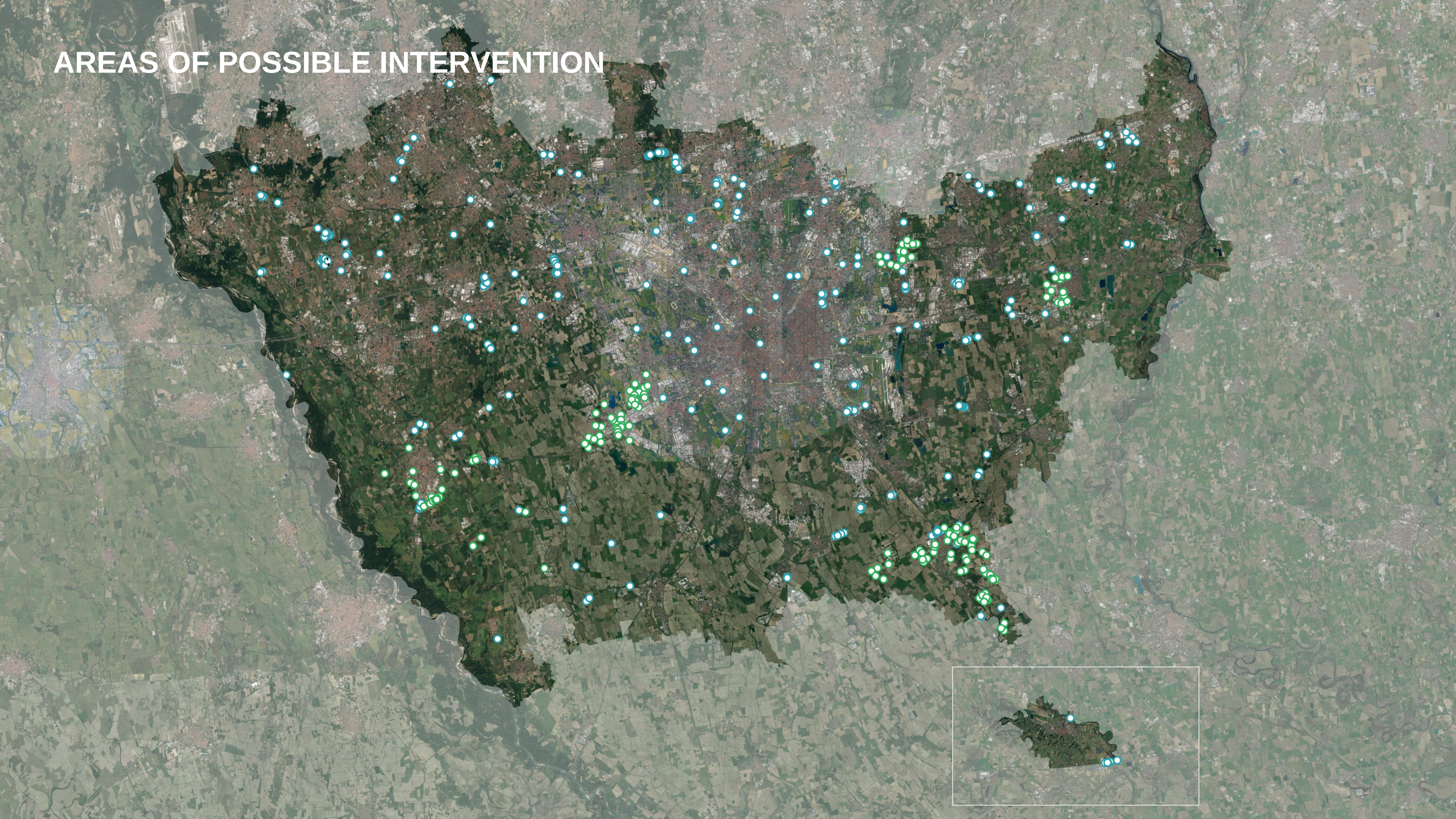
Municipality of Milan



STATE OF RELATIONS WITH THE METROPOLITAN MUNICIPALITIES



AREAS OF POSSIBLE INTERVENTION





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