



International Urban Cooperation (IUC)

City-to-City Cooperation Program



Birmingham (USA) – Padova (Italy)

24/09/2020



A European Union
Programme



Veneto
ADAPT

Veneto ADAPT project

International Urban Cooperation program
24/09/2020

Coordinatore Partner



COMUNE DI PADOVA
SETTORE AMBIENTE
e TERRITORIO



AGENDE 21 LOCALI ITALIANE



Città metropolitana
di Venezia



I
U
V
A
V
PLANNING
CLIMATE
CHANGE



CITTÀ DI TREVISO



Unione Comuni
Medio Brenta



Gon il contributo dello strumento finanziario
LIFE della Commissione Europea
With the contribution of the LIFE financial
instrument of the European Community

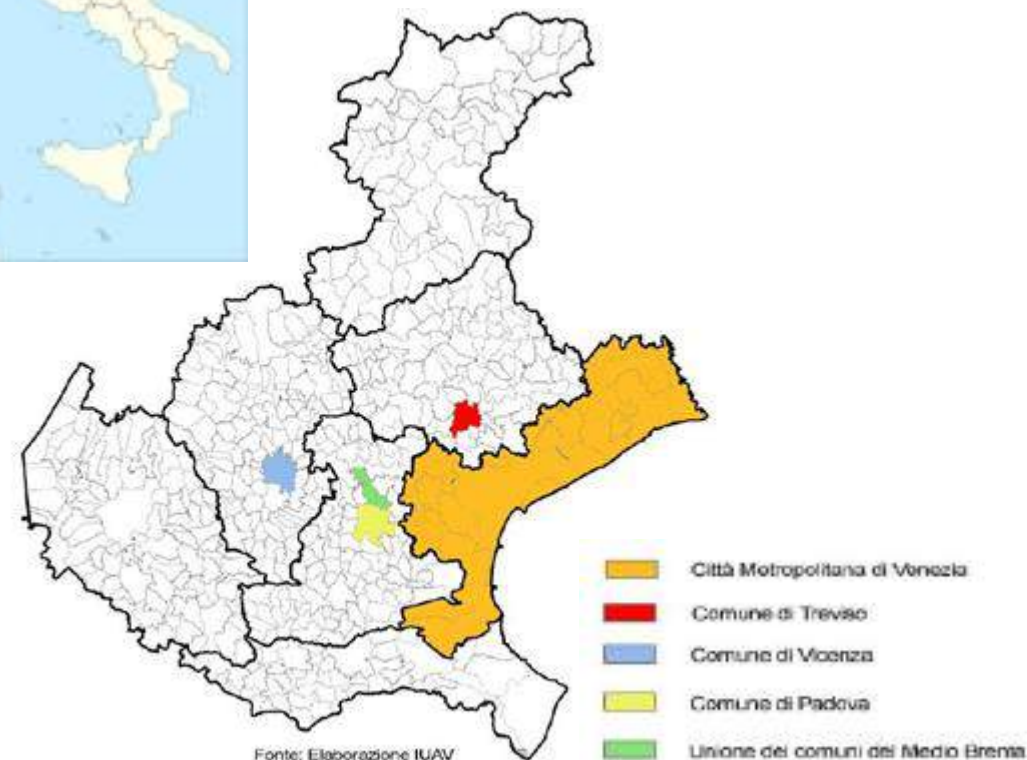
Veneto Adapt project

Project duration: 2017 - 2021

Cofinanced by LIFE programme (EU programme)

The project involves a conurbation of about 3.5 million people, in Veneto region, and is focused on Las of different sizes: 3 Cities, 1 Metropolitan City, 1 group of small-medium size municipalities.

Partners: City of Padova (LP), National Coordination of Local Agenda 21, Metropolitan City of Venezia, University IUAV Venezia, SOGESCA srl, Mun. of Treviso, Union of Municipalities around Brenta river, Mun. of Vicenza.



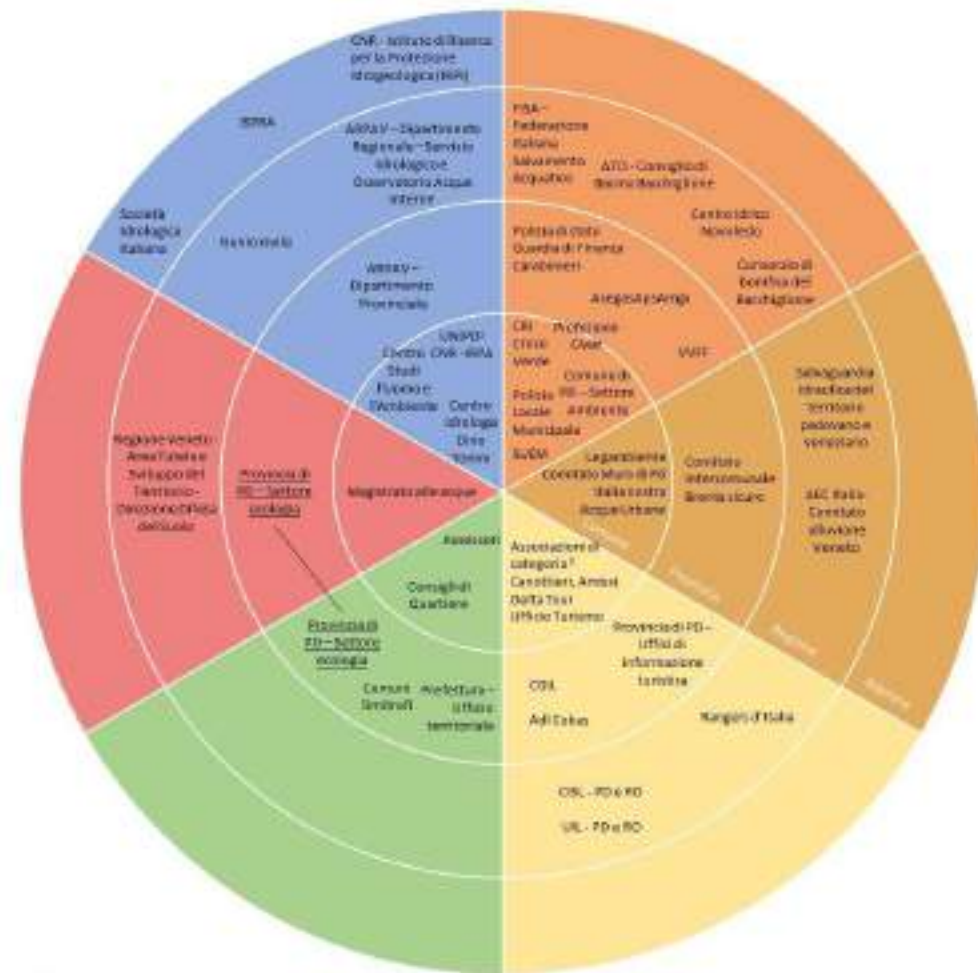
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The process

1. Survey for the **evaluation of the adaptive capacity** (awareness, decision-making approach, memory of past events, risk measurement, citizen training)
2. **Governance analysis:** institutions and authorities involved in the management of extreme events
3. **Analysis of plans and codes in force** (existing instruments, strategies, measures)
4. **Analysis of vulnerabilities and risks** (ICT, remote sensing, GIS tools, satellite imagery)
5. Identification of adaptation measures and definition of a **Sustainable Energy and Climate Action Plan** and monitoring

Governance Map – Acqua – Padova



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The SECAP: a new way of thinking

Mitigation vs adaptation



Mitigation aims to limit the causes of climate change



Adaptation aims to limit the effects of climate change



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The SECAP: a new way of thinking Mitigation vs adaptation



Mitigation puts energy at the center
with a multi-sectoral approach



Adaptation focuses on all
environmental components with a
multi-sector approach



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The SECAP: a new way of thinking

Mitigation vs adaptation



Mitigation aims to manage global challenges



Adaptation aims to manage local challenges



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The SECAP: a new way of thinking Mitigation vs adaptation



Mitigation is based on deterministic models



Adaptation is based on probabilistic models



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The SECAP: a new way of thinking

Mitigation vs adaptation



Mitigation generates positive cash flows



Adaptation avoids negative cash flows



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The SECAP: a new way of thinking Mitigation vs adaptation



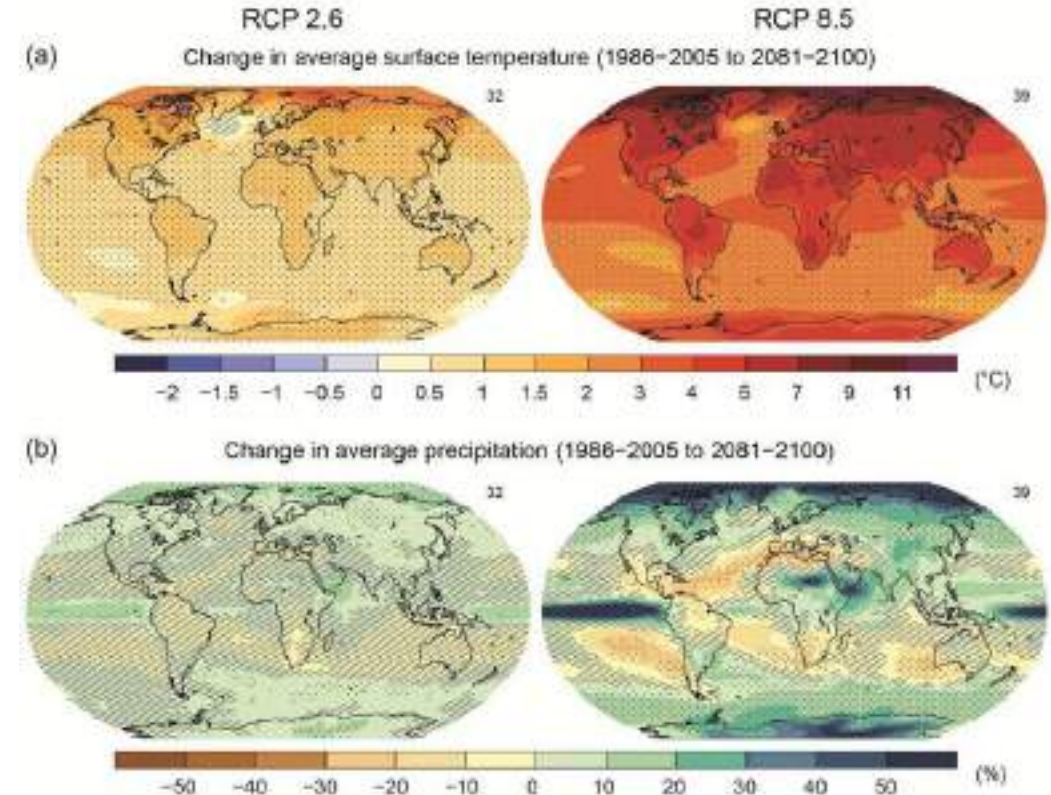
2030 Climate and Energy Framework



Mitigation is based on medium-short time horizons (2030)



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Adaptation is based on medium-long time horizons (2050-2100)



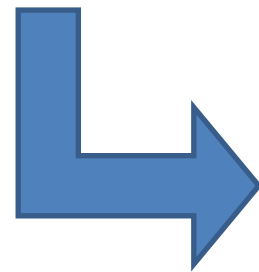
The climatic trends

To analyze the main challenges for the Municipality in facing the climate change, we focused our attention to the main climatic trends:

- > temperatures (max, min, average)
- > precipitations (max, min, average)

We used some of the WHO indexes

<https://www.who.int/heli/tools/en/>



Data from Padova

Hot days = +0.5 days/year

Tropical nights = +0.8 days/year

Frost days = - 0.8days/year

Rainfalls have not a significant pattern but extreme events are getting more intense and droughts are getting longer



The extreme climate events

- >Heat waves
- >Strong winds
- >Heavy precipitations/downburst

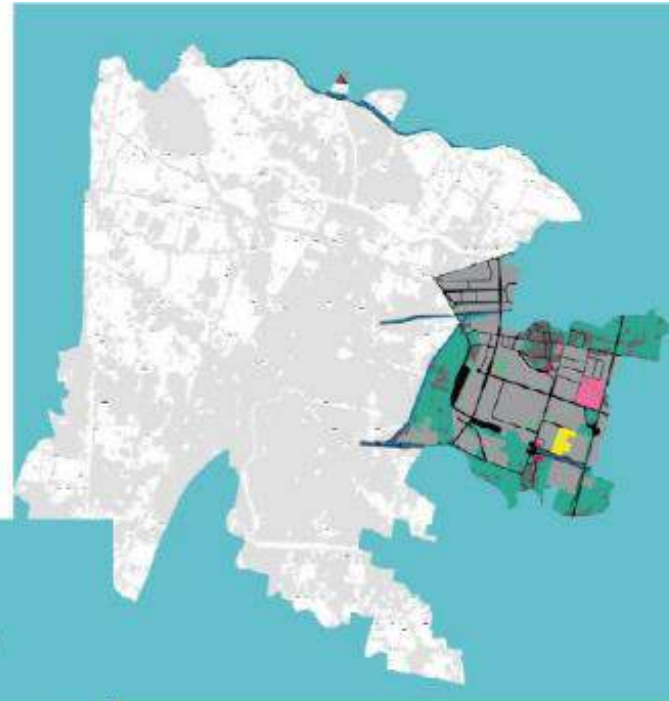
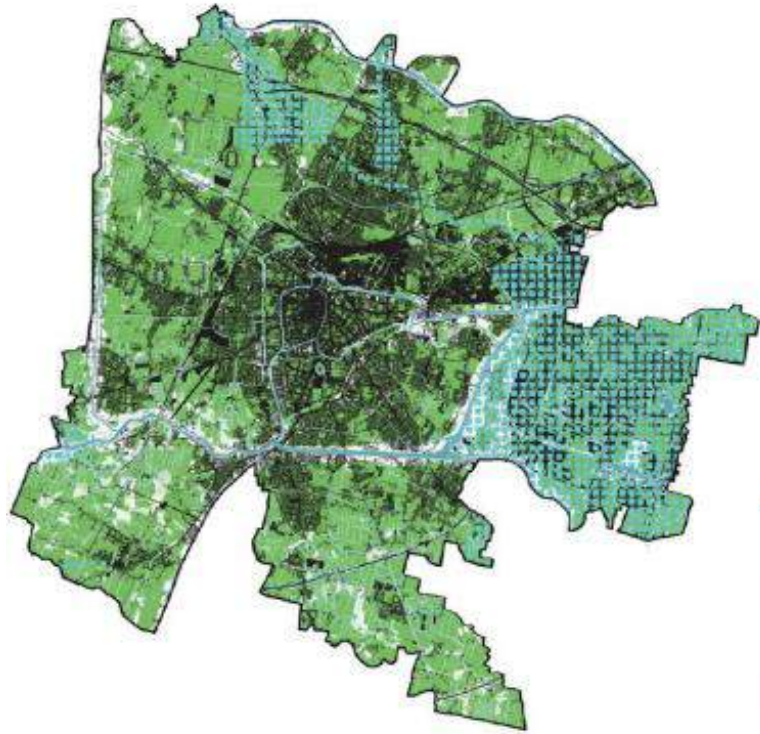


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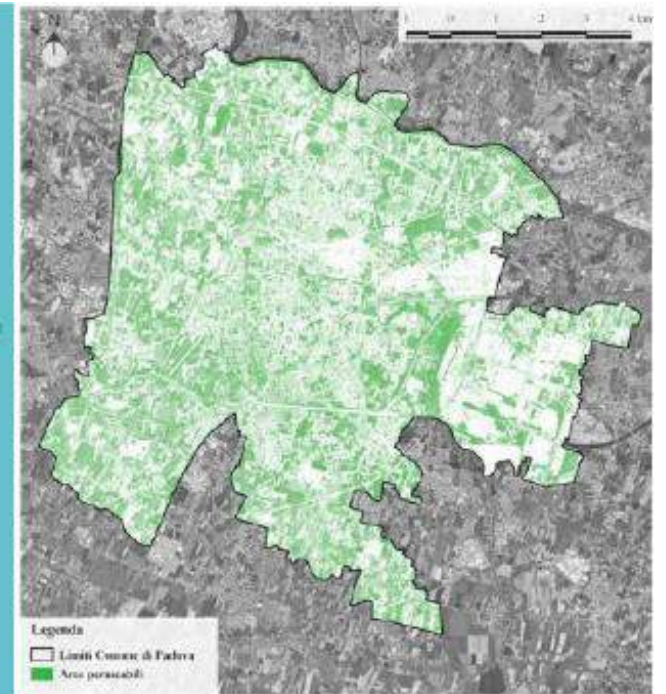


Veneto
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Vulnerability – risk of flooding



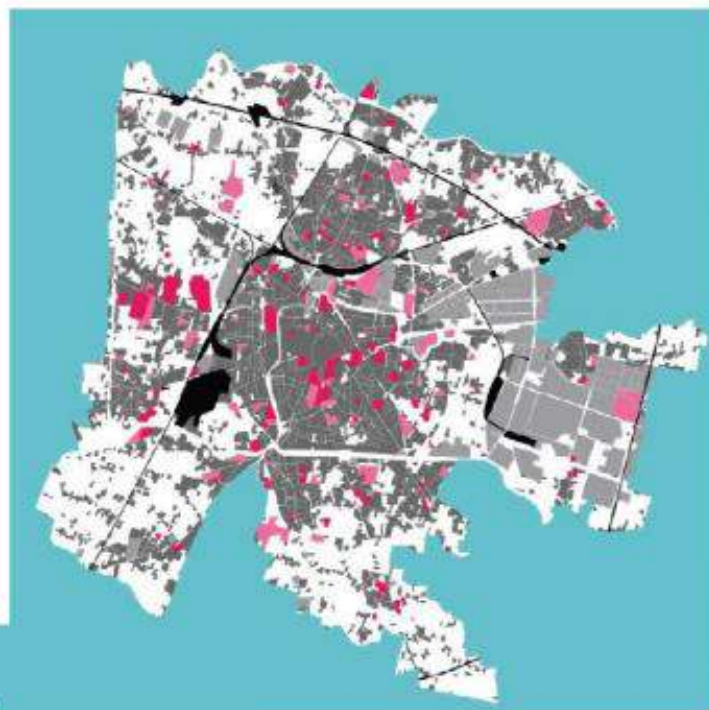
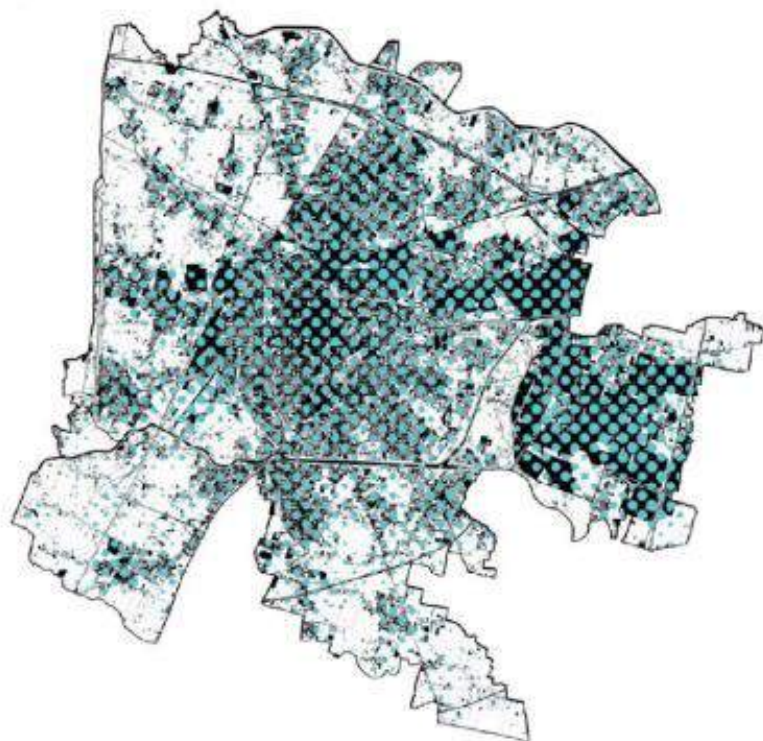
- Acqua
- Agricoltura e verde
- Altro
- Cave
- Commercio e servizi ricreativi
- Edifici
- Industria
- Protezione Civile e Soccorso
- Rifiuti
- Trasporti



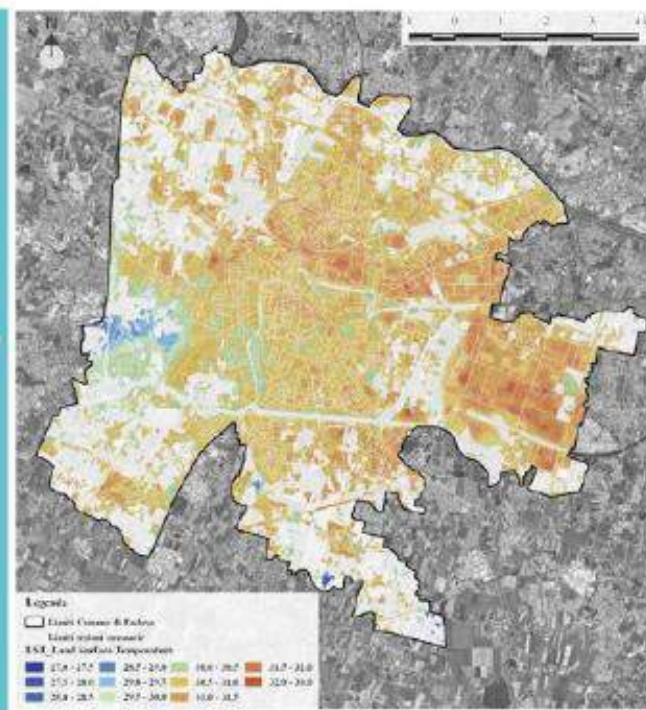
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Vulnerability – urban heat island



- Acqua
- Commercio e servizi ricreativi
- Edifici
- Industria
- Protezione Civile o Soccorso
- Trasporti



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Drafting an Adaptation Action Plan

The project identified a list of 6 key actions which all the Cities must include in their Action Plans

- **Update of the Local Building Code:** fixing rules and providing incentives to boost the investments of citizens in green roofs, green facades, water tanks, permeable surfaces, hydraulic invariance
- **Reduction of the hydraulic risks:** drafting the Water Plan for risk reduction; planning hydraulic works; installing draining surfaces
- **Review of the Civil Protection Action Plan:** including new climatic risks, such as heat waves, identifying people at risk and emergency measures



Drafting an Adaptation Action Plan

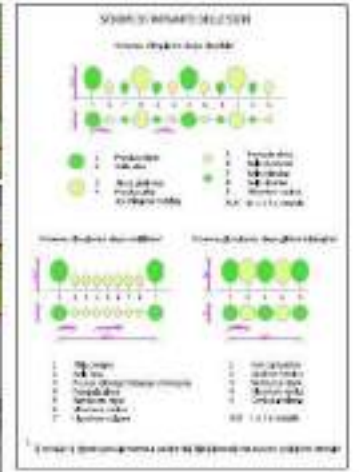
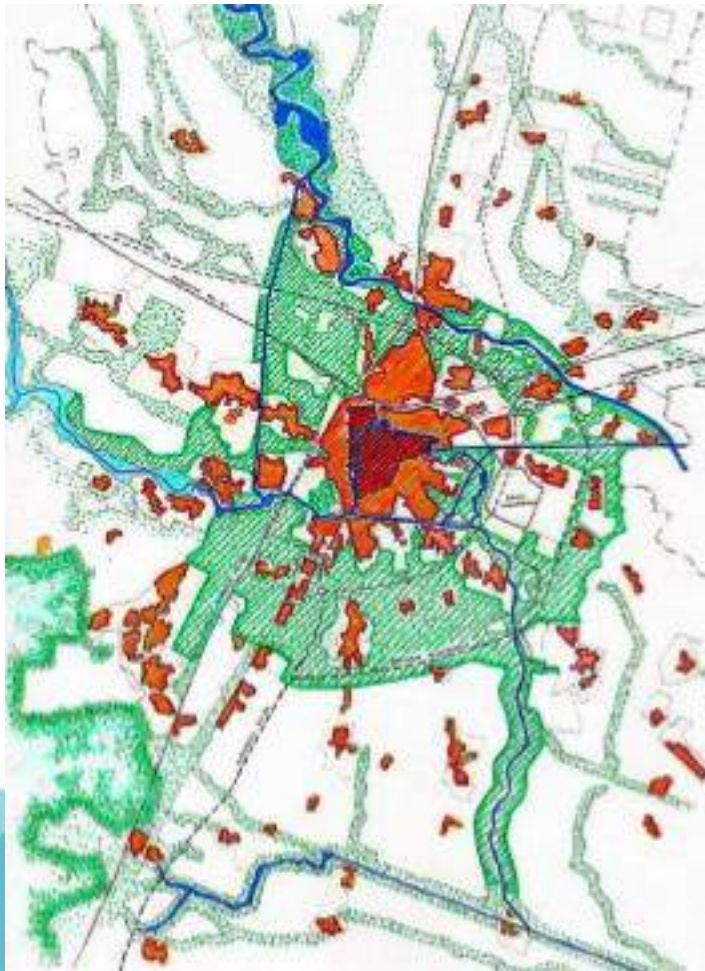
The project identified a list of 6 key actions which all the Cities must include in their Action Plans

- **Urban Forestry: increase the number of trees and green areas** to mitigate the UHI effect and to promote the drainage and absorption of urban run-off. The board must give precise indications of planting in terms of areas, quantities and species.
- **Institution of the Chief Resilience Officer:** municipal officer with special tasks, to integrate new adaptation measures in the action plan, to coordinate the implementation of measures, to sign new letter of intents with private bodies to co-operate in this field
- **Monitoring the climatic data:** using indexes from WHO to evaluate the main trends at regional level



Creating a green belt

The Municipality is realizing a pilot action, creating a new green area close to the historical city center and implementing some Nature-Based Solutions. This area has a crucial role for water management.



COMUNE DI PADOVA

Settore Lavori Pubblici

PARCO DEL BASSO ISONZO
Opere finalizzate alla realizzazione parco agricolo - 2° lotto

Progetto Esecutivo
Importo complessivo € 200.000,00

Progetto	Aut. C.A.P.	Aut. C.A.P.	Aut. C.A.P.
Aut. C.A.P.	Aut. C.A.P.	Aut. C.A.P.	Aut. C.A.P.
Aut. C.A.P.	Aut. C.A.P.	Aut. C.A.P.	Aut. C.A.P.
Aut. C.A.P.	Aut. C.A.P.	Aut. C.A.P.	Aut. C.A.P.



Implementation of a Pilot action



Hydraulic works

- Recovery and accommodation of existing ditches
- New artefacts/ hydraulic adjustment



Plantings

- Reconstruction of riparian vegetation
- Planting new hedges and rows
- Short-cycle, multi-specific and polycyclic grove construction

Landscape protection

- Reconstruction of the Padua agricultural landscape
- Choice of specific tree and shrub essences (e.g. salix alba calf, morus alba and nigra, etc.)



Monitoring the Action Plan

The SECAP is going to be monitored with a special focus on the social and economic impacts of climate change:

- damages to private/public buildings, to industrial and economic activities and to infrastructures;
- economic losses due to the interruption of public services (i.e. public transports);
- injuries and health problems affecting people, with a special attention to elderly people and childrens and those living in the high risk zones;
- increase of energy and water consumptions (water demand in agriculture and industrial processes, energy demand for cooling systems, etc.).

A list of indicators will be defined. Main references:

- ❖ World Bank
- ❖ Guidelines of the Covenant of Mayors
- ❖ Agenda 2030 (SDGs)
- ❖ National Census Indicators



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