



The Veneto ADAPT project: Central Veneto cities adapting to Climate Change

ADAPTtoCLIMATE Conference
19th April 2021

Coordinator Partner



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

The 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.



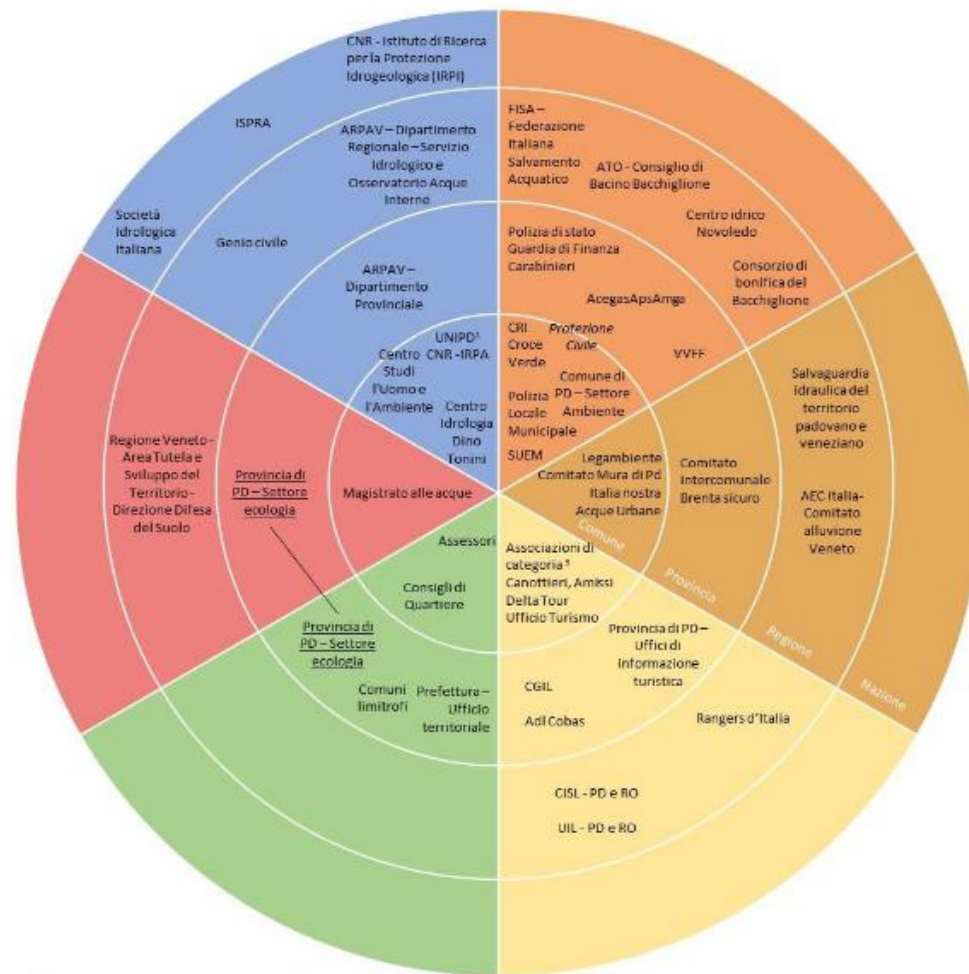
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The process

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 (SECAP)** and monitoring

Governance Map – Acqua – Padova



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The climatic trends

To analyze the main challenges for the Municipalities 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/>



E.g. 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



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The extreme climate events

The analysis outlined the extreme climate events the Central Veneto Region is facing and those which are worsening and becoming more and more risky:

- Heat waves
- Strong winds
- Heavy precipitations/downburst



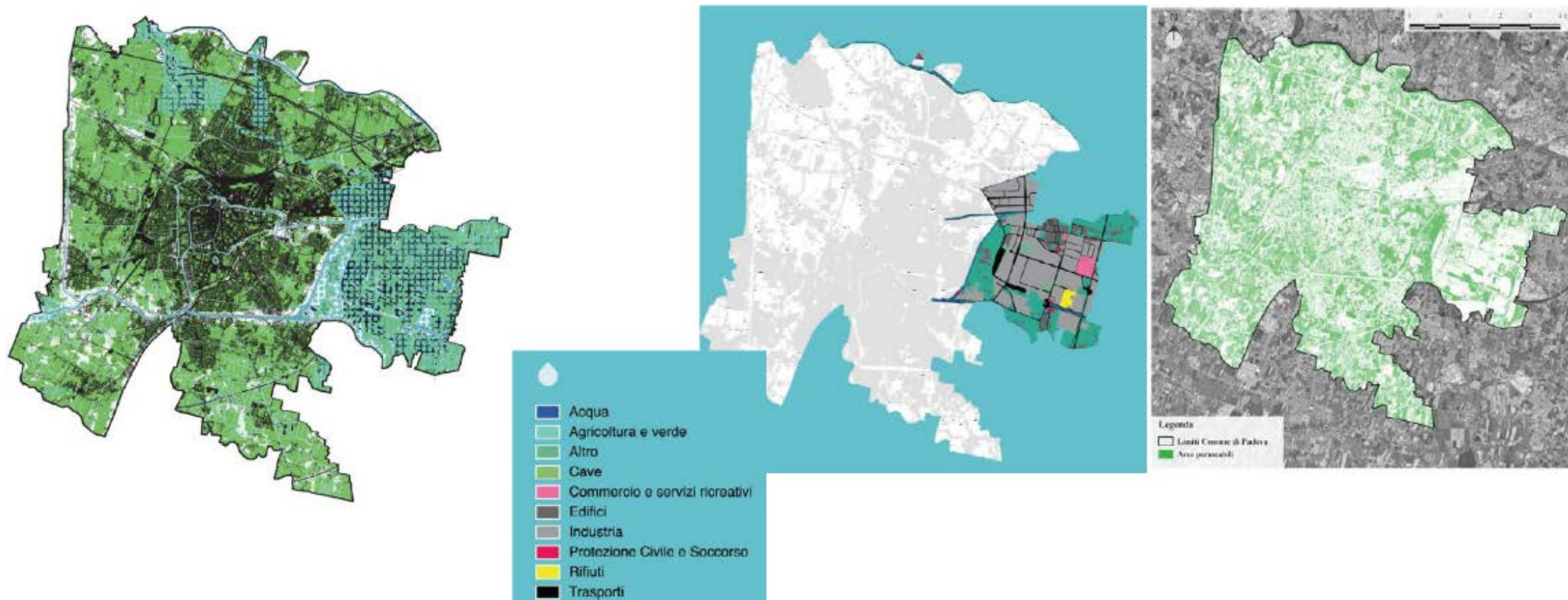
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Vulnerability analysis – risk of flooding



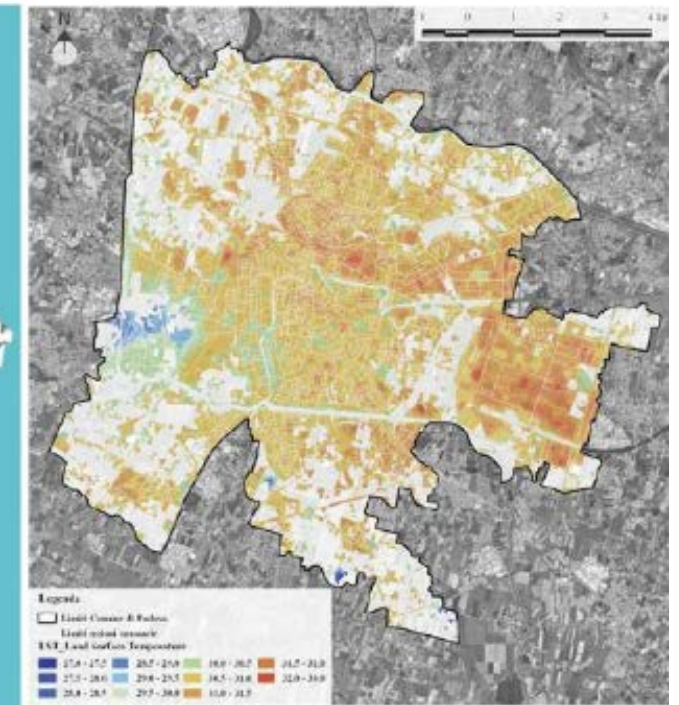
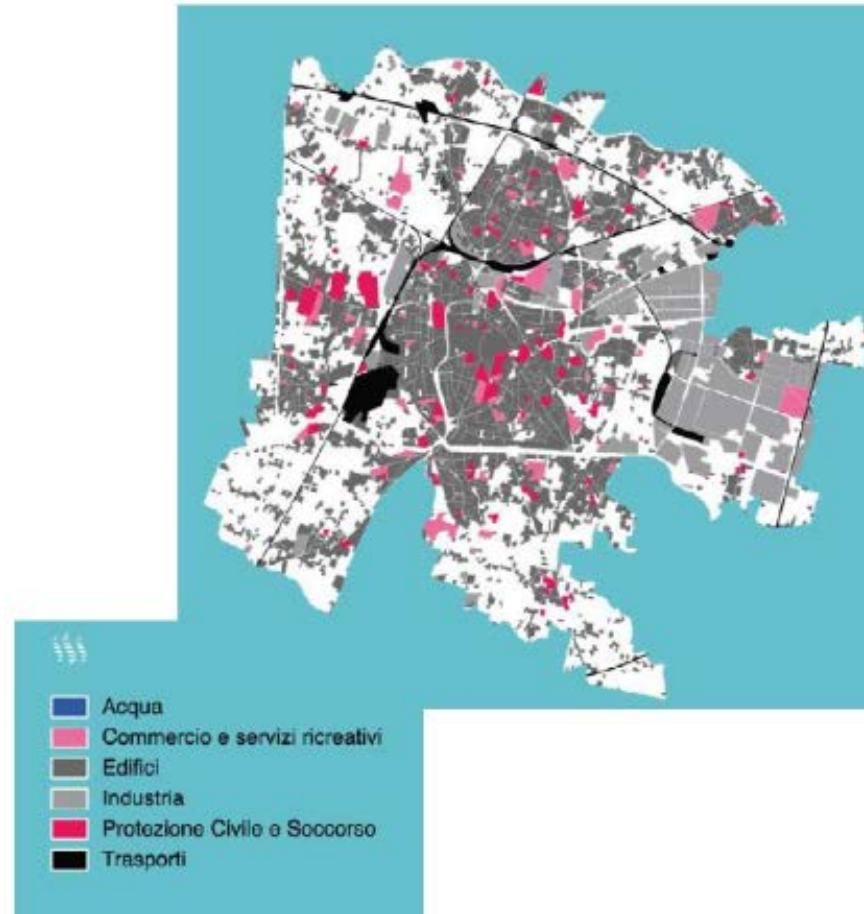
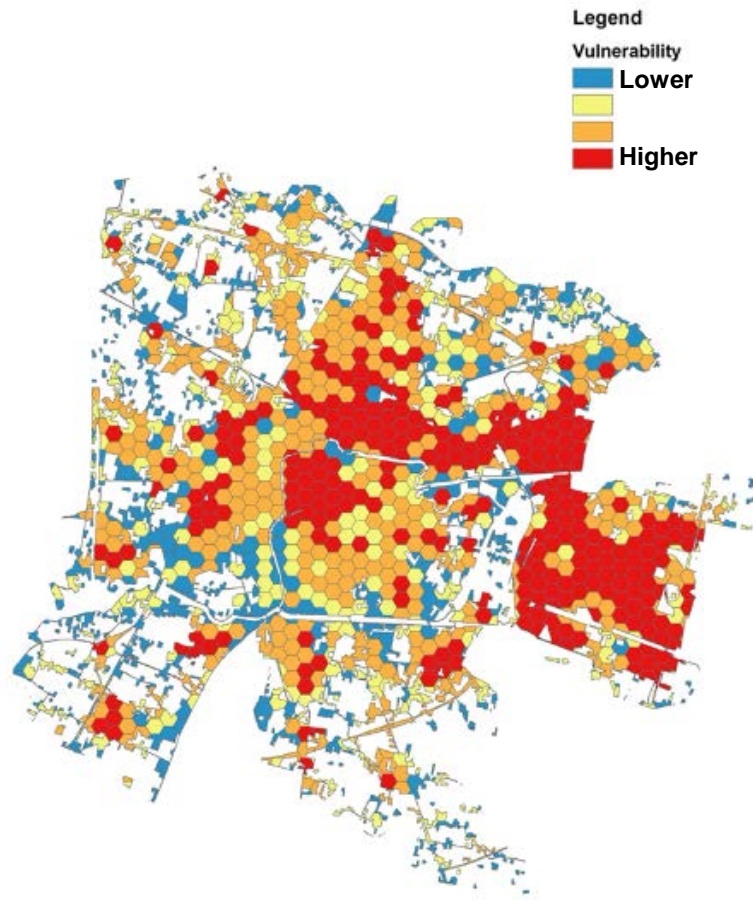
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Vulnerability analysis – urban heat islands



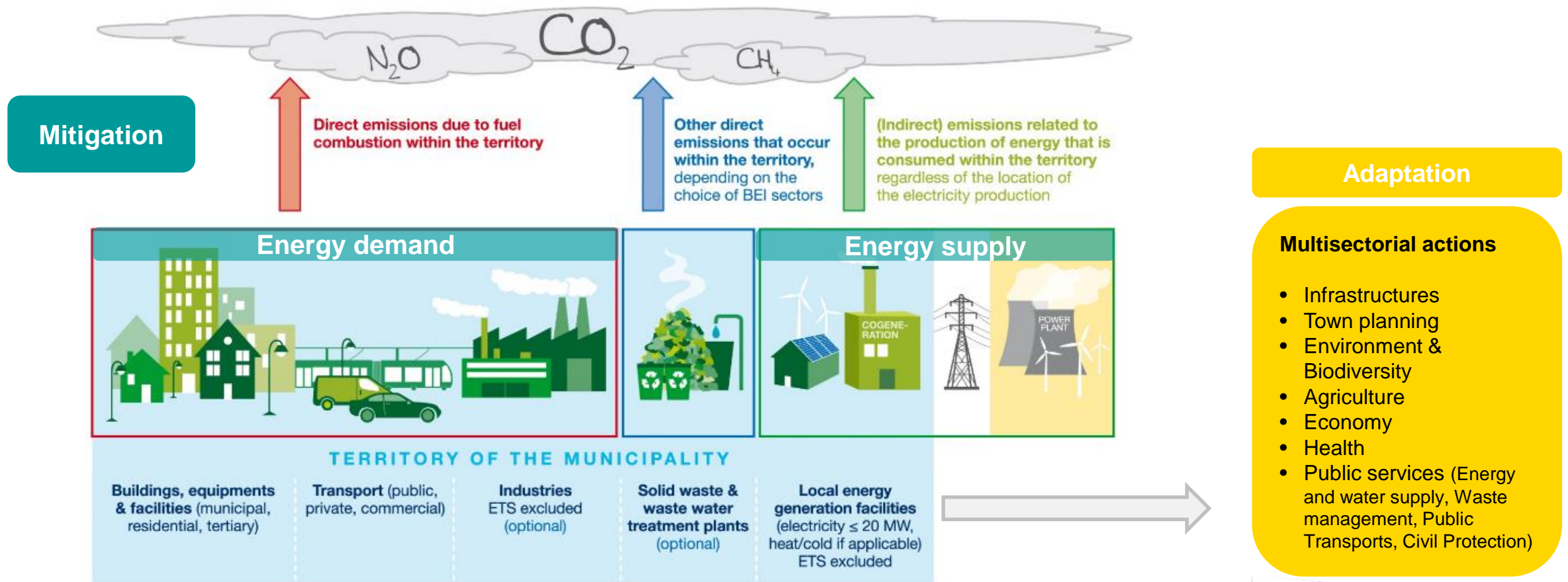
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Integrating mitigation and adaptation



The Action Plan

The Action Plan for Sustainable Energy and Climate is the programmatic tool that outlines the municipality's sustainability strategy with a horizon of 2030. It deals with both mitigation and adaptation. It has been developed in 6 macro-areas, which group homogeneous actions by scope of intervention.



15 actions



19 actions



10 actions



23 actions



16 actions



33 actions

Multi-sectoral interventions, from RES to sustainable mobility
83 actions for climate change mitigation

33 Specific measures
for adaptation



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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

1. **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
2. **Reduction of the hydraulic risks:** drafting the Water Plan for risk reduction; planning hydraulic works; installing draining surfaces
3. **Review of the Civil Protection Action Plan:** including new climatic risks, such as heat waves, identifying people at risk and emergency measures



Update of the Building Codes



Reduction of hydraulic risks



Civil Protection Action Plan



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Drafting an adaptation action plan

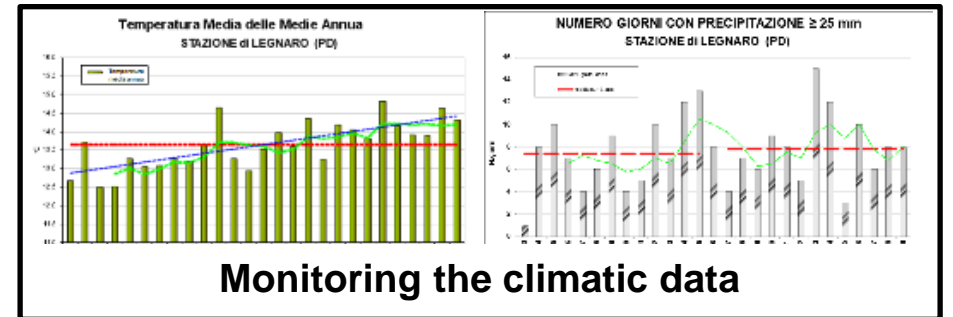
4. **Urban Forestry: increase the number of trees and green areas** to mitigate the UHI effect and to promote the drainage and absorption of urban run-off. The board must give precise indications of planting in terms of areas, quantities and species.
5. **Institution of the Chief Resilience Officer:** 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
6. **Monitoring the climatic data:** using indexes from WHO to evaluate the main trends at regional level



Urban Forestry



Chief Resilience Officer



Monitoring the climatic data



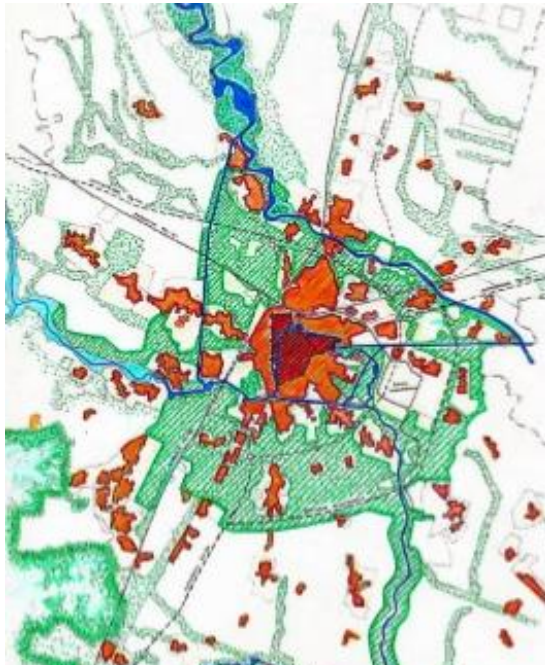
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Implementation of pilot actions

The Municipalities are realizing pilot actions, creating a new green areas, implementing some Nature-Based Solutions, reducing the hydraulic risk.



The Green Belt of the Municipality of Padova



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Implementation of pilot actions



01

Hydraulic works

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

02

Plantings

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

03

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.)



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Monitoring of 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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