
Summary of the ‘Local Training Academy on Urban Climate Change Adaptation’ within the context of the EU Adaptation Urban Partnership, taken place in Genova (Italy) on November 22, 2019

6/12/2019

Trainer: Sergio Castellari,

Email: sergio.castellari@eea.europa.eu

Background and Objective:

The Climate Adaptation Partnership is one of currently 14 Partnerships under the Urban Agenda of the EU, launched through the Pact of Amsterdam in 2016. The Urban Agenda forms a multi-level governance collaboration between Member States, cities, the European Commission and other stakeholders. Its main goal is to stimulate growth, liveability and innovation in the cities of Europe and to identify and successfully tackle social challenges.

The Climate Adaptation Partnership’s main focus is to anticipate the adverse effects of climate change and take appropriate action to prevent or minimise the damage it can cause to urban areas. To do so, it has developed an Action Plan to operationalise suggested policy and governance solutions for the identified key bottlenecks hindering successful climate adaptation. It consists of 10 Actions under the Urban Agenda objectives of Better Regulation, Better Funding and Better Knowledge. The latter one includes the Action “Training academy for politicians on adaptation”, led by the Council of European Municipalities and Regions (CEMR) in collaboration with EUROCITIES and the cities of Glasgow, Genova, Loulé, Potenza and Trondheim.

The purpose of the academies organized within this Action is to provide information to local politicians and to assist them in their decision-making on issues related to climate adaptation. This Local Academy took place in **Genova (Italy)** at the *Genova Municipality Main Building* on **November 22, 2019**. The trainer was Sergio Castellari (*European Environment Agency*) supported by Stefania Manca (*Municipality of Genova*) and Eva Baños de Guisasaola (*CEMR*).



Around 40 people joined the training.

Training approach:

The duration of the training was 1.5 hour and consisted of a presentation (in Italian language) by the trainer and interactions with the audience in the form of hand raisings and Q&A. Some participants posed questions and others shared their experience and thoughts, thus enriching the general

presentation. By this approach, the training became lively and up to the needs of the audience; although, time and transportation problems¹ had constrained this training.

The training offered information on:

- *The European Environment Agency (role and activities)*
- *What is the “global warming” - presentation of key indicators of climate change and main impacts in Europe (on going and projected)*
- *The economic costs of disasters due to hydro-meteo-climatic extreme events in Europe*
- *What is climate change adaptation?*
- *The policy framework for adaptation in Europe and Italy*
- *The cities: “a battle field” where we fight climate change impacts*
- *How is urban climate change adaptation?*
- *Some good practices*
- *Financing*
- *Urban climate change adaptation in Italy*
- *How is the planning and implementation of adaptation?*
- *In practice what we can do to adapt in a city?*
- *For those who want to learn more ...*



• **Summary of the contents of training and discussion:**

¹ The day before the training event the main highway crossing the whole Liguria Region suffered of an interruption (a partial damage to a bridge) due to an extreme event.

Fighting climate change is a double challenge for our society. First, the future climate change impacts can only be prevented by early, deep cuts of greenhouse gas (GHG) emissions. The Paris Agreement, adopted in December 2015 and entered into force in November 2016, has set its main objective of reducing GHG emissions and land use change to keep global average temperature increase well below 2°C compared to pre-industrial levels and to pursue efforts to limit the temperature increase even further to 1.5°C. Beyond 1.5°C change, the risk of dangerous and unpredictable climate change increases significantly and costs of adaptation escalate (see *IPCC 1.5 Special Report, 2018*).

Second, with climate change already happening, societies face the parallel challenge of having to adapt to its impacts as a certain degree of climate change is inevitable throughout this century and beyond, even if global mitigation efforts over the next decades prove successful. In fact, the Paris Agreement further aims to strengthen the ability of countries to deal with the impacts of climate change by setting, for the first time in the UN climate change negotiations, a global objective for climate change adaptation.

Adaptation aims at reducing the risk and damage from current and future harmful impacts cost-effectively or exploiting potential benefits. Adaptation action has become an unavoidable and indispensable complement to mitigation action.

The impacts of climate change in Europe are already significant (see EEA Report '*Climate change, impacts and vulnerability in Europe 2016 - An indicator-based report*', 2017). Climate change affect and will affect Europe's natural environment and nearly all sectors of society and the economy. Among the most vulnerable areas in Europe are the following:

- Southern Europe/Mediterranean area;
- Mountain areas, in particular the Alps;
- Coastal zones;
- Densely populated floodplains.

In Europe, nearly 73% of the population live in urban areas and this is projected to increase to over 80% by 2050. Climate change affects almost all components of cities – their environment, economy and society. This raises new, complex challenges for urban planning and management. For example, impacts such as heatwaves can produce in urban settlements a cascade of impacts: droughts, water shortage, increased pollution, degradation of ecosystems, thermal discomfort and premature death due to heat. Hence all quality of life in the cities can be affected from climate change impacts. Cities themselves can worsen the situation due to unplanned urbanization and location in high-risk prone areas.

The impacts of climate change, experienced by cities in Europe, differ based on their geographical location and their specific vulnerabilities, but in South Europe the cities in coastal areas, floodplains and mountains can be very vulnerable to several impacts.

At the EU policy level the following initiatives are relevant for the climate change adaptation at urban level:

1. the '*EU Adaptation Strategy*' - It includes Priority Action 3 'Promoting adaptation action by cities' in order to engage urban municipalities in taking action to adapt to climate change;

2. the *'Covenant of Mayors for Climate and Energy'* – It covers both adaptation and mitigation actions for municipalities. So far this it has been signed by hundreds of cities across the EU. This EU-funded initiative joined forces with the international *Compact of Mayors* and became *Global Covenant of Mayors for Climate and Energy* in 2016. It is an international alliance of cities and local governments with a shared long-term vision of promoting and supporting voluntary action to combat climate change and move to a low emission, resilient society.
3. The *'Urban Agenda for the EU'* – It calls for a better coordination between the numerous EU policies relevant to urban areas. Climate change adaptation is one of the priority themes addressed under this framework. The *Partnership on Climate Adaptation* under the Urban Agenda for the EU, consisting of cities, countries and EU-level institutions, have devised an Action Plan aiming at better regulation, better funding and better knowledge of adaptation to climate change in urban areas.

Finally, climate change adaptation at urban level is a complex crosscutting approach, which requires coherent governance, solid knowledge base and clear well-planned and implemented actions.

Cities can implement three main different types of *'adaptation options'*, which are the following:

1. **'soft measures'** (regulations, standards, incentives, behaviour change);
2. **'grey measures'** (technical infrastructures and building design);
3. **'green and blue measures, nature-based solutions'** (parks, gardens, wetlands, open water, green roofs and facades, trees).

Often these options are mixed in the urban areas to find the most effective combination for the specific location. Many of these adaptation solutions can be:

1. **'low cost solutions'**, e.g. change of behaviour, information, change of planning regulations;
2. **'medium cost solutions'**, e.g. nature-based solutions;
3. **'high cost solutions'**, e.g. technical defences, like dykes.

Furthermore, the municipalities can conduct adaptation actions such as:

- **'No-regret actions'** - cost-effective under current climate conditions and with no hard trade-offs with other policy objectives (e.g. smart management of water resources, no building in high risk areas);
- **'Low-regret actions'** - relatively low cost and with quite large benefits under projected future climates (e.g. promotion the creation and preservation of space to address biodiversity goals);
- **'Win-win actions'** - contribute to climate change adaptation whilst also having other social, economic and environmental policy benefits, including those relating to mitigation.

Generally, the cities now tend to implement nature-based solutions for adaptation, because of multiple additional benefits and usually lower costs than grey solutions.

Cities can choose among *'different strategies'* to deal with climate change impacts:

1. **'Coping with the extreme events'**: responding to the damage arising from a disaster and recovery afterwards. This can be effective if the event is expected to be very rarely or to

protect against a remaining risk from other adaptation measures.

2. **'Incremental adaptation'**: it builds on existing adaptation measures and known solutions by improving incrementally these, and increasing their capacity to avoid any damage under future levels of risk. Incremental adaptation measures are usually well proven and include business as usual technologies, such as dykes, sewage systems, air condition.

Both approaches aim to maintain or regain the city's current level of operational activities. Both are also based on proven knowledge gained over time. These two approaches can be adequate for many short- and medium-term challenges dealing with climate change impacts.

However, these approaches can be challenged and fail by large magnitude of expected climate change impacts, and their upgrade and maintenance come at very high cost.

Hence another kind of adaptation can be needed:

3. **'Transformative adaptation'**: it is more adequate for long-term and larger impacts of climate change. It follows a broader and systemic approach trying to integrate adaptation with other aspects of urban development and turns the challenge into an opportunity, capitalising on many additional, non-climatic benefits. It aims to organize the cities differently, with the opportunity to function better and improve quality of life. Example for urban flood management is the following: instead of keeping flood water away, making the city functioning with flood water, e.g. building elevated ground floors, and resilient infrastructures, providing additional space and temporarily storage capacity for storm water. Many nature-based solutions are in this category.

There are different sources for financing urban adaptation measures:

- *Governmental sources* (e.g. municipal, regional and national funds, funding programmes, grants of national or European institutions);
- *Banks and other financial institutions* offer loans or green bonds;
- *Private stakeholders* (e.g. foundations, municipal associations, house or business owners financing measures on their own properties).

Finally, there are various city networks and associations active in Europe that provide capacity building and support on urban adaptation. The *Urban Adaptation Map Viewer* of the *European Climate Adaptation Platform (Climate-ADAPT)* provides an overview of European cities participating in various adaptation initiatives.

At the end of the training session Stefania Manca moderated a open discussion with the participants where Sergio Castellari answered to various questions.

The training session provided a good overview of the main elements of urban climate change adaptation and motivated the participants to acquire more information on these issues. Therefore, this component should be ensured also in future trainings. More time dedicated to this session could improve the training even more by allowing:

- *break-out groups* (focus groups) to increase the two-way interaction;
- *separated training sessions on specific subtopics* to provide a more calibrated contribution to the participants.

Information sources for Italian stakeholders:

General:

- [IPCC report 1.5](#): on the impacts of global warming of 1.5 °C above pre-industrial levels (2018)
- [Summary for Policymakers – IPCC report 1.5](#) (in ITALIAN)
- [Climate-ADAPT](#): The European Climate Adaptation Platform (guidance, reports, maps, data, case studies)
- EEA Report '[Climate change, impacts and vulnerability in Europe 2016](#)' (2017)

EU Policies:

- [Strategia dell'UE di adattamento ai cambiamenti climatici](#) (in ITALIAN)
- [EU Urban Agenda Climate Adaptation Partnership](#)
- [Covenant of Mayors for Climate and Energy Europe](#)

Knowledge base and policy on climate change adaptation in Italy (in ITALIAN):

- [Technical-scientific reports supporting the Italian Strategy of climate change adaptation](#)
- [Italian Strategy of climate change adaptation “Strategia Nazionale di Adattamento ai cambiamenti climatici”](#)

Maps

[Urban Adaptation Map Viewer](#) – interactive maps on cities vulnerability to climate change impacts and adaptation action

Financing

- [Financing urban adaptation to climate change](#) EEA report 2/2107 with case studies
- [Funding options](#) – overview on different options by the Covenant of Mayors